

DE FOREST
PHONOFILM

PARTS CATALOG

Catalog of Spare and Replacement Parts and Accessories for DE FOREST PHONOFILM ATTACHMENTS and also for the Electrical and Acoustical Equipment Used in Conjunction with DE FOREST PHONOFILM ATTACHMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

PHONOFILM PARTS CATALOG

NUMBER

1990-

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DE FOREST

PHONOFILM

PARTS CATALOG

SECTION A

Spare and Replacement Parts
for DE FOREST PHONO-
FILM ATTACHMENTS
Adaptable to Simplex and
Powers Motion Picture
Projectors.



GENERAL TALKING PICTURES CORPORATION

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IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * .”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

PHONOFILM PARTS CATALOG

IT IS the earnest desire of the GENERAL TALKING PICTURES CORPORATION to aid users of DE FOREST PHONOFILM in maintaining such equipments in the very best possible operating condition so as to provide maximum "high-quality" results.

PHONOFILM equipment, like all other equipment utilized for the reproduction of talking motion pictures, must be correctly installed and given simple daily attention and tests by the projectionist; must be kept properly lubricated and cared for the same as any other high grade mechanism or equipment such as automobiles, radio-receivers, aeroplanes, etc. in order to provide their maximum usefulness.

In addition to the normal care given DE FOREST PHONOFILM equipment in its daily maintenance and operation it is of equal importance to the exhibitor, who would insure continual high quality operation of such equipment, to have available for immediate repair and replacement the most important parts of the DE FOREST PHONOFILM equipment, such as photo-cells, vacuum tubes, speaker units, speaker field rectifier units, battery charger bulbs, pilot lamps and exciting lamps, etc. and such mechanical parts of the equipment as are subject to usual wear in the ordinary and reasonable use of the equipment.

It is the function of this "parts-catalog" to make available to users of DE FOREST PHONOFILM equipment, a listing of spare and replacement parts and accessories in accordance with the assemblies of which they are component parts, both with reference to the PHONOFILM ATTACHMENT itself and with reference to the electrical and acoustical equipment used in conjunction with the PHONOFILM ATTACHMENT.

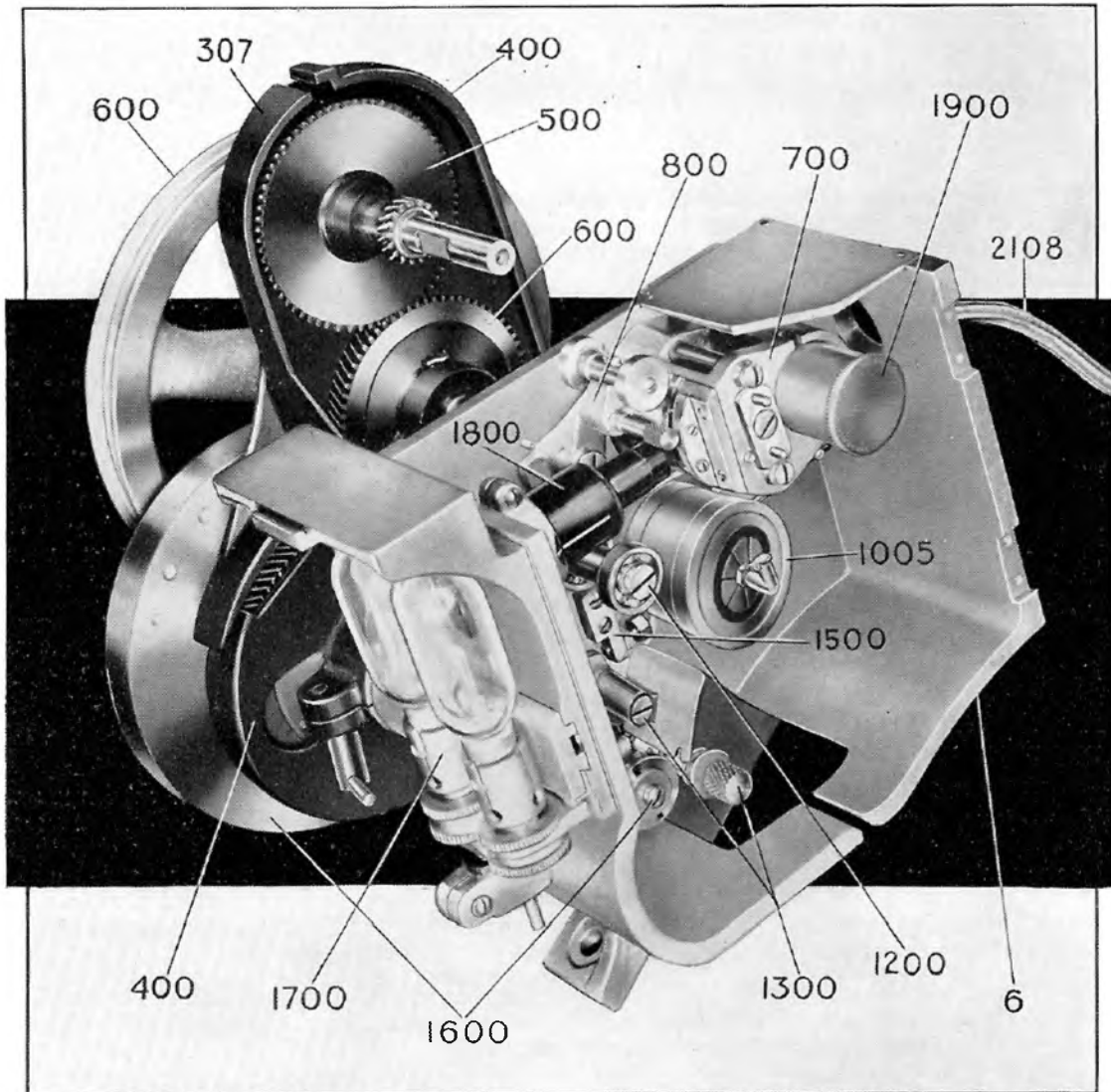
The catalog has been made as simple and convenient as possible for the exhibitor and his projectionists. Illustrations picture complete assemblies as well as individual parts and the listing of assemblies and parts are shown directly following the illustrations. The catalog numbers are designated the same in the illustrations and in the descriptive copy. In the descriptive matter, reference is always made to associated component parts and in using the catalog one should always read such references, as well as the catalog part numbers, listing such individual parts.

The catalog in its entirety is issued in sections as indicated below, and in each section the sheets are in loose-leaf form allowing the insertion of additional catalog sheets in their proper section and position as issued in the future.

- Section A: Phonofilm Attachments (adaptable to Simplex and Powers motion picture projectors).**
- Section B: Accessories for use with Phonofilm Attachments.**
- Section C: Amplifiers, Power Supply and Control Panels, etc.**
- Section D: Equalizers, Faders, Speaker-controls, etc.**
- Section E: Batteries, Battery Chargers, etc.**
- Section F: Loud speakers (including speaker field rectifiers, auto-transformers, etc., used with such acoustical equipment).**
- Section G: Tubes (including exciting lamps, rectifier tubes, etc.).**
- Section H: Auxiliary Electrical Equipment and Instruments.**

It is the desire and recommendation of the GENERAL TALKING PICTURES CORPORATION that users of DE FOREST PHONOFILM equipments use this parts catalog in aiding themselves and their projectionists in securing the materials and parts that should be available in the projection room as spare and replacement parts and accessories.

The exhibitors' cooperation is desired and requested in every way, in order to aid in the maintenance of the "high-standard-of-quality-reproduction" achieved with DE FOREST PHONOFILM equipment.



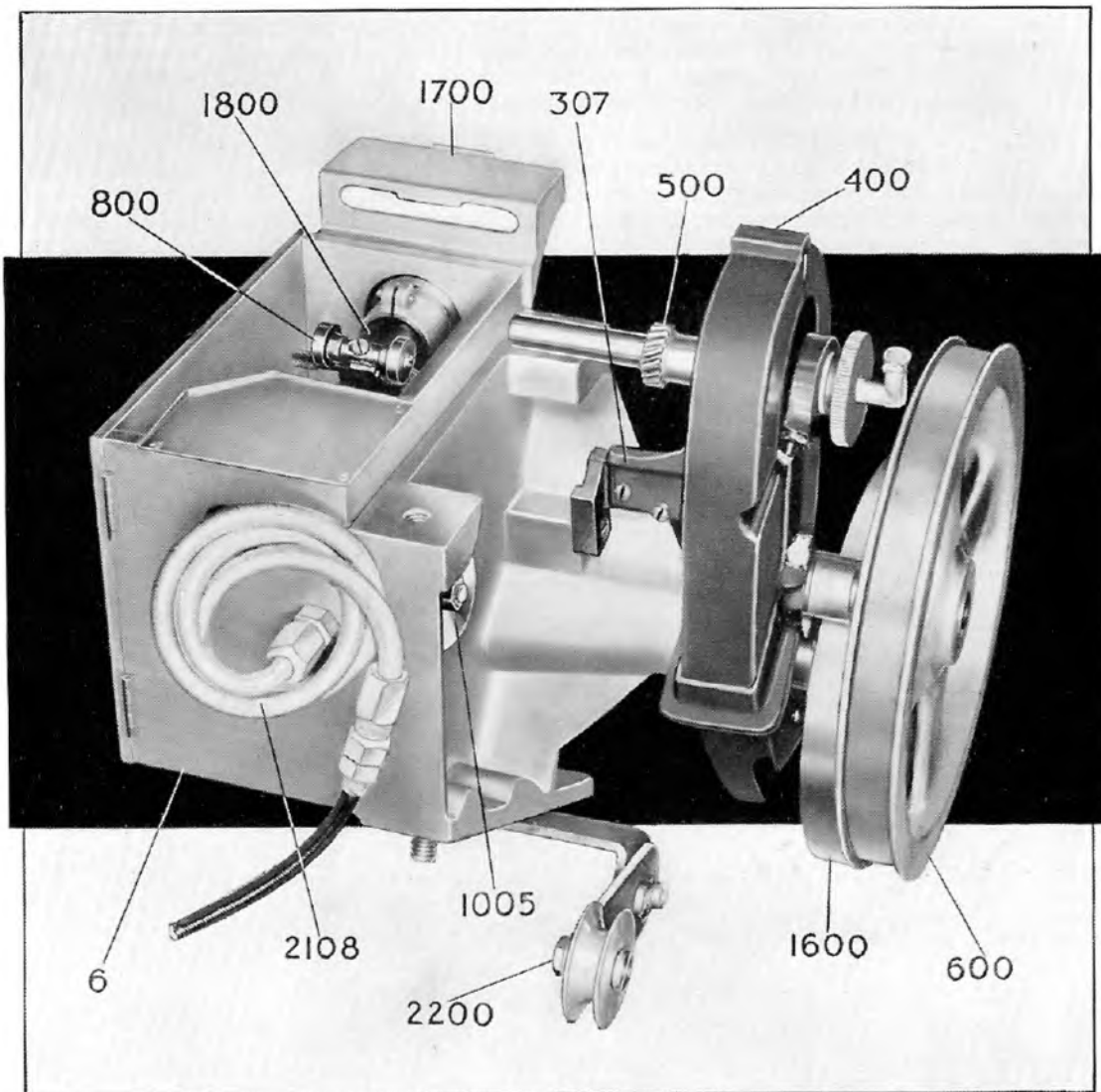
Oblique front view of the complete PHONOFILM ATTACHMENT "6" without door, adaptable to Simplex motion picture projectors and showing the interior of the attachment and numerically designating the major assemblies.

PHONOFILM ATTACHMENT "6" AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENT ADAPTABLE TO SIMPLEX MOTION PICTURE PROJECTORS

PHONOFILM ATTACHMENTS adaptable to Simplex motion picture projectors are considered standard. The list of spare and replacement parts cataloged is complete as regards assemblies but does not list all parts used in complete assemblies.

The above illustration, and the illustration on page A-5 of a complete PHONOFILM ATTACHMENT "6" designates the major assemblies and includes all of the assemblies that can be clearly seen in the illustrations. These assemblies include:

- 307—GEAR GUARD ASSEMBLY
- 400—TRANSMISSION ARM ASSEMBLY
- 500—SIMPLEX PINION ASSEMBLY



Oblique rear view of the complete PHONOFILM ATTACHMENT "6" adaptable to Simplex motion picture projectors, illustrating and designating the major assemblies including those not shown in the oblique front view as illustrated on page A-4.

- 600—INTERMEDIATE DRIVE ASSEMBLY
- 700—SLIT BLOCK ASSEMBLY
- 800—SLIT BLOCK ROLLER ASSEMBLY
- 1005—COMPENSATING ROLLER ASSEMBLY
- 1200—INTERMEDIATE ROLLER ASSEMBLY
- 1300—SPROCKET ROLLER ASSEMBLY
- 1500—ROLLER ADJUSTMENT ASSEMBLY
- 1600—SPROCKET DRIVE ASSEMBLY
- 1700—EXCITING LAMP HOUSING ASSEMBLY
- 1800—OPTICAL SYSTEM
- 1900—PHOTO-CELL ASSEMBLY
- 2108—PHOTO-CELL CABLE ASSEMBLY
- 2200—TAKE-UP IDLER PULLEY ASSEMBLY

The individual parts that go to make up all of the major assemblies of a PHONOFILM ATTACHMENT are illustrated and described on the following pages.

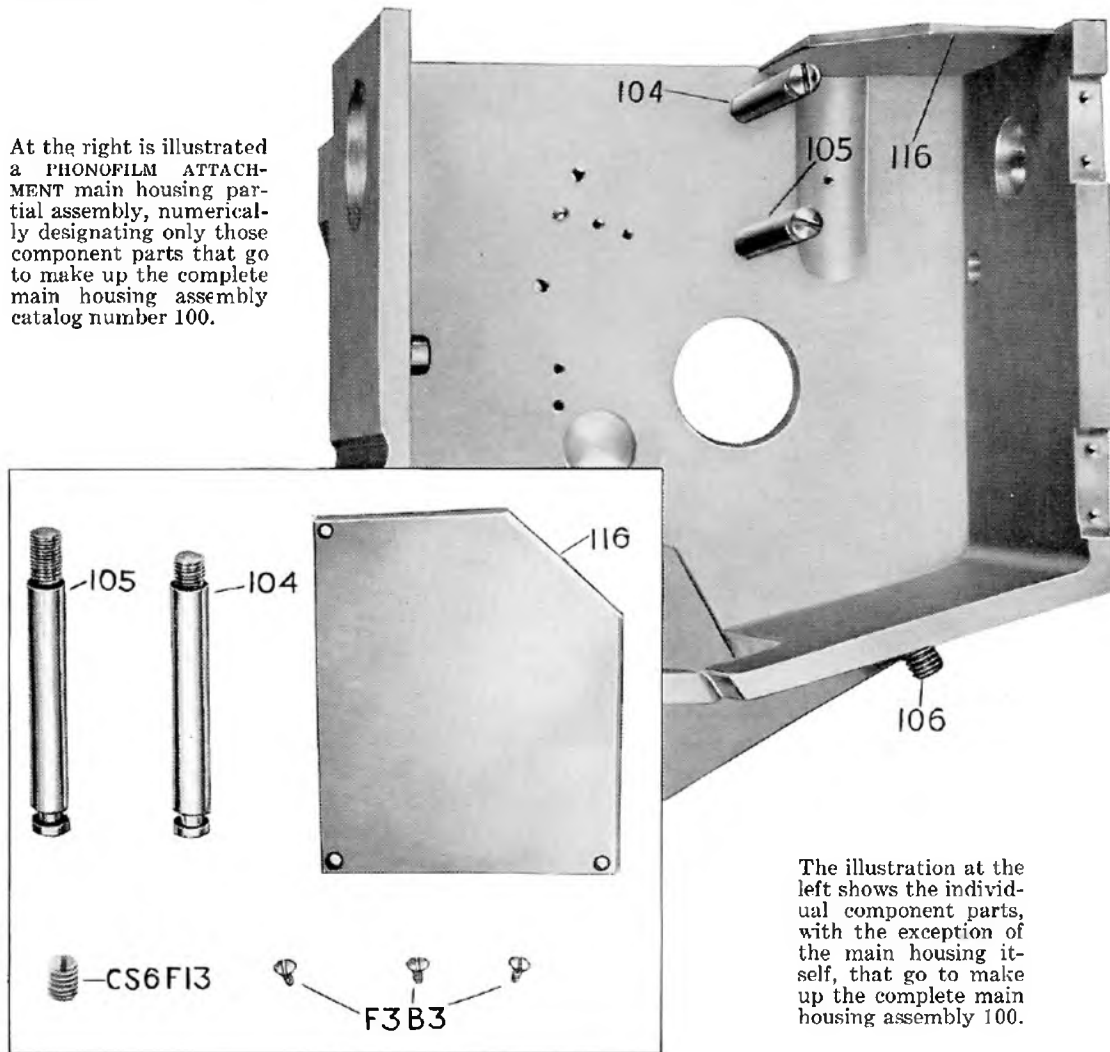
Please note that in the above illustrations, assemblies 100, 200, 900, 1400, and 2000, or the main housing assembly, the door assembly, the slit-block roller catch assembly, the sprocket roller catch assembly, and the photo-cell receptacle assembly are not shown or designated. Details with respect to these assemblies will be found, however, in the individual listing of the assemblies and their component parts.

PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors are to a large extent identical with the attachment adaptable to the Simplex projector, and in the listing of spare and replacement parts for PHONOFILM ATTACHMENTS for Powers projectors, the parts listed which are the same as for the PHONOFILM ATTACHMENT for the Simplex projector will carry the same part or catalog numbers; parts that are special for the PHONOFILM ATTACHMENT for the Powers projector will of course carry individual and distinct numbers.

**6 COMPLETE PHONOFILM ATTACHMENT (Code Word—ABACA)
FOR SIMPLEX MOTION PICTURE PROJECTORS**

COMPLETE PHONOFILM ATTACHMENTS 6 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION

At the right is illustrated a PHONOFILM ATTACHMENT main housing partial assembly, numerically designating only those component parts that go to make up the complete main housing assembly catalog number 100.



The illustration at the left shows the individual component parts, with the exception of the main housing itself, that go to make up the complete main housing assembly 100.

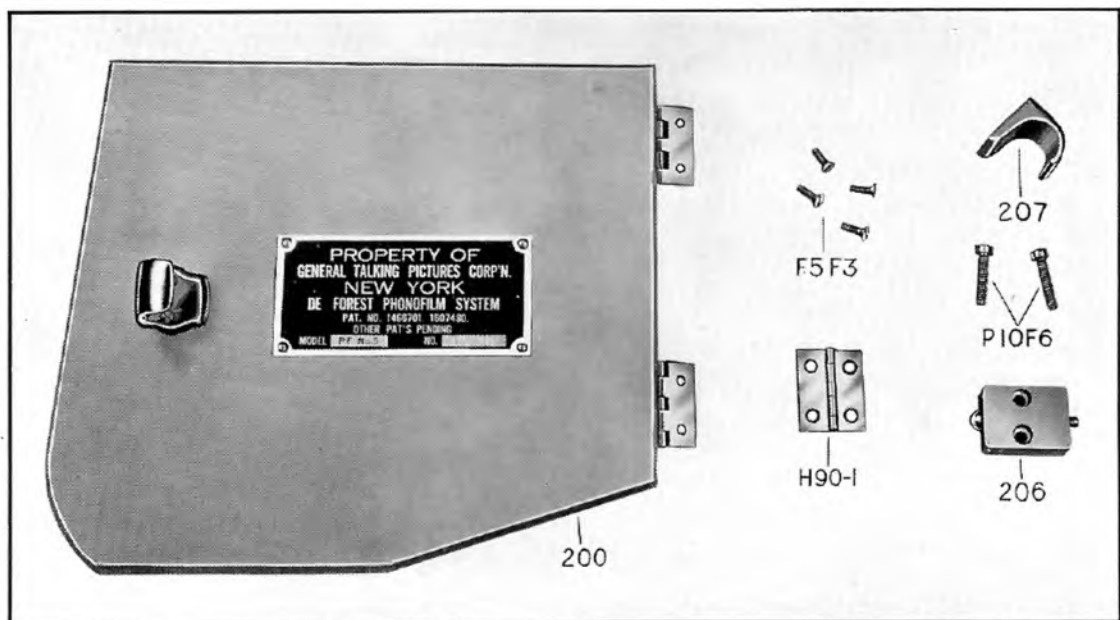
MAIN HOUSING ASSEMBLY

100 MAIN HOUSING ASSEMBLY (Code Word—ABELE)

The main housing assembly 100 is not sold as a spare or replacement part and will never need to be replaced except in cases of serious injury, fire, etc. Under such emergency conditions it is necessary to replace the complete PHONOFILM ATTACHMENT

and if such replacement is necessary communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, N. Y. C., N. Y.

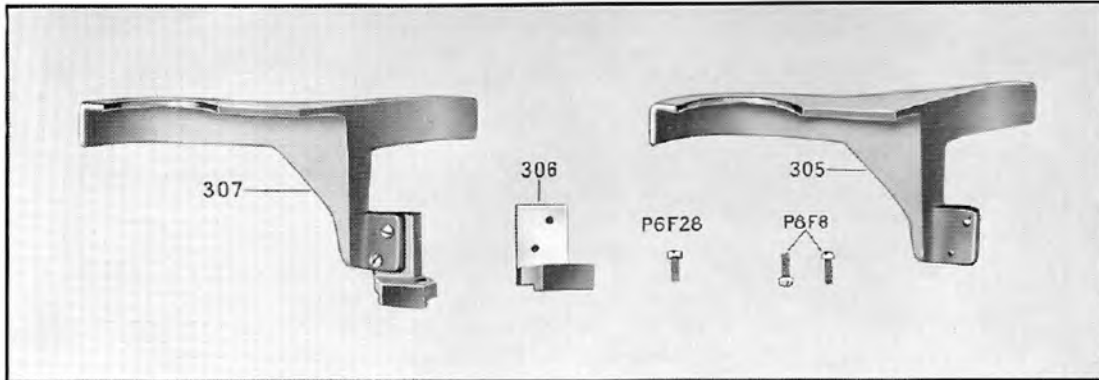
104	SLIT BLOCK MOUNTING ROD . . . (Short—Code Word— ABIDE)	\$0.75
105	SLIT BLOCK MOUNTING ROD . . . (Long—Code Word— ABIEL)	\$0.75
106	LOWER MAGAZINE MOUNTING SCREW (Code Word— ABIHU) See note under CS6F13 below.	\$0.50
CS6F13	SET SCREW (Code Word— ABNER) Set screw CS6F13 is used to permanently secure lower magazine mounting screw 106 in the main housing and it is recommended that they both be ordered together.	\$0.10
116	DRIP PAN (Code Word— ABOVE) See note under F3B3 below.	\$2.40
F3B3	MACHINE SCREWS (3 required—Code Word— ABSEN) Drip pan 116 and machine screws F3B3 should be ordered together as the machine screws are for fastening the drip pan to the main housing.	\$0.05
HC14F15	CAP SCREW (Code Word— BEDIM) See note under HC24F15 below.	\$0.05
HC24F15	CAP SCREWS (2 required—Code Word— BEFIT) Cap screws HC14F15 and HC24F15 although not shown in the above illustration on page A-6 are supplied with the original PHONOFILM ATTACHMENT and as spare and replacement parts. Cap screw HC14F15 is used to secure the lower film magazine to the bottom of PHONOFILM ATTACHMENT . Cap screws HC24F15 are not used for securing the PHONOFILM ATTACHMENT proper but are used to secure the Simplex projector head to the Simplex base, the cap screws being more convenient to use than the screws usually used for the same purpose.	\$0.15
OC93-1	OIL CUPS (2 required—Code Word— ABUKO) The two oil cups OC93-1, although not illustrated in the photographs on pages A-4, A-5 or A-6 are mounted in the main housing to provide lubrication for the sprocket drive assembly 1600. The oil cups do not screw into the main housing as they are "push-type" oil cups and fit securely into holes in the main housing.	\$0.20



DOOR ASSEMBLY

200	DOOR ASSEMBLY (Code Word— ABTEA) Door assembly is complete with lock, lift handle and hinges, but does not include machine screws for attaching door to main housing. See note under F5F3 below.	\$6.75
206	DOOR LOCK ASSEMBLY (Code Word— ABUZE) See note under P10F6 below.	\$1.50

P10F6	MACHINE SCREWS (2 required—Code Word— ABYDE) These two machine screws are used to fasten both door lock assembly 206 and lift handle 207 to door. See note under lift handle 207.	\$0.05
207	LIFT HANDLE (Code Word— ABYSS) Lift handle 207 is fastened to the door by the same two machine screws P10F6 that also fasten the door lock assembly 206 to the door.	\$0.50
H90-1	DOOR HINGE (2 required—Code Word— ACATE) See note under F5F3 below.	\$0.15
F5F3	MACHINE SCREWS (4 required—Code Word— ACCIT) Machine screws F5F3 are for attaching door hinge to door and to main housing. Four are required for each hinge.	\$0.05



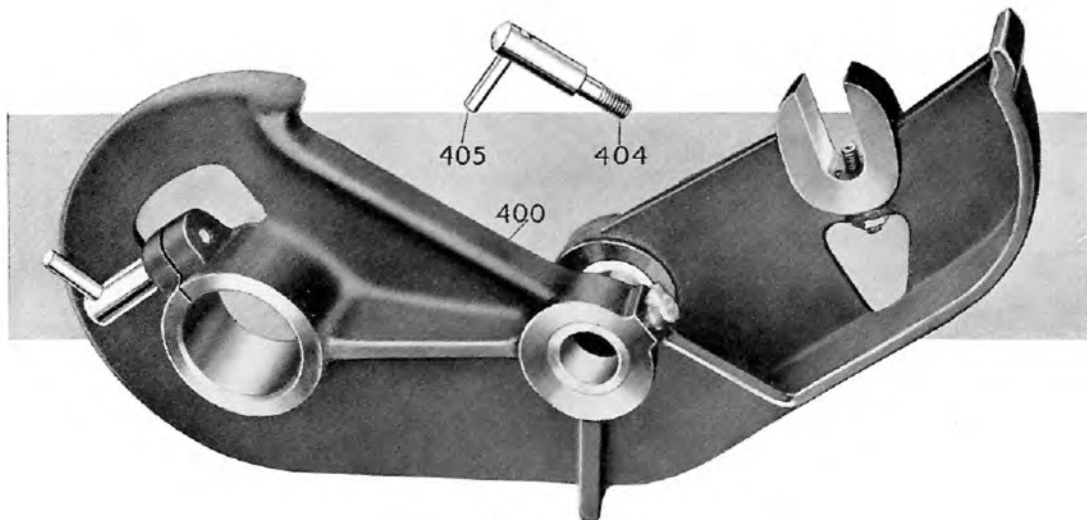
GEAR GUARD ASSEMBLY

307	GEAR GUARD ASSEMBLY (Code Word— ACCRA) See note under P6F28 below.	\$3.65
306	GEAR GUARD BRACKET (Code Word— ACEAE) See note under P8F6 below.	\$1.50
305	GEAR GUARD (Code Word— ACHIN) See note under P8F8 below.	\$2.00
P8F8	MACHINE SCREWS (2 required—Code Word— ACINU) Two machine screws P8F8 are used for fastening gear guard 305 to gear guard bracket 306 and these machine screws should be ordered when ordering either the gear guard or the gear guard bracket.	\$0.05
P6F28	MACHINE SCREW (Code Word— ABOMA) Gear guard assembly 307 is secured to the main housing of the PHONOFILM ATTACHMENT by means of machine screw P6F28 and when ordering the gear guard assembly the machine screw should also be ordered.	\$0.05

TRANSMISSION ARM ASSEMBLY

(Please see illustration on top of page A-9)

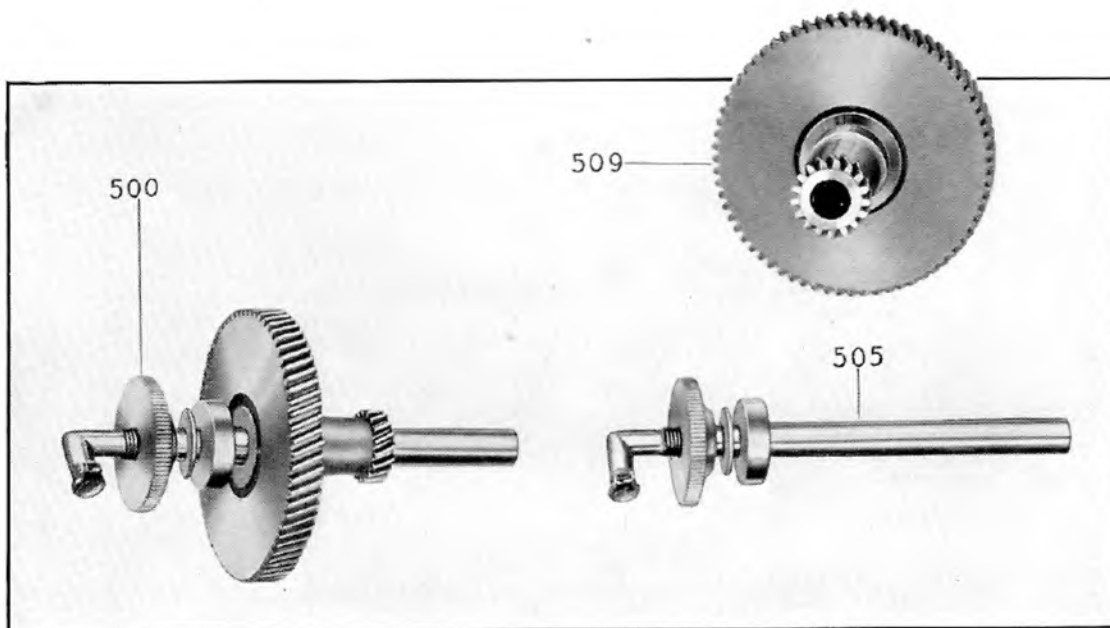
400	TRANSMISSION ARM ASSEMBLY (Code Word— ACITY) Complete with transmission arm lock screw 404, transmission arm lock screw pin 405, oil cups OC93-1, set screw RS12F28 and hexagon nut FN75F28.	\$32.50
404	TRANSMISSION ARM LOCK SCREW (Code Word— ACOCK) See note under 405 below.	\$0.75
405	TRANSMISSION ARM LOCK SCREW PIN (Code Word— ACORN) It is recommended that transmission arm lock screw 404 and transmission arm lock screw pin 405 are ordered together as the lock screw pin serves as a lever for adjusting the transmission arm lock screw.	\$0.15



RS12F28 SET SCREW (Code Word—ABUYO) \$0.05
 See note under FN75F28 below.

FN75F28 HEXAGON NUT (Code Word—ABOUT) \$0.05
 Set screw RS12F28 and hexagon nut FN75F28 are not numerically designated in the illustration above, but are clearly shown in the right center portion of the picture. They are used to secure the correct adjustment of the transmission arm assembly 400 with relation to the Simplex pinion assembly 500. Both the set screw and the hexagon nut should be ordered together.

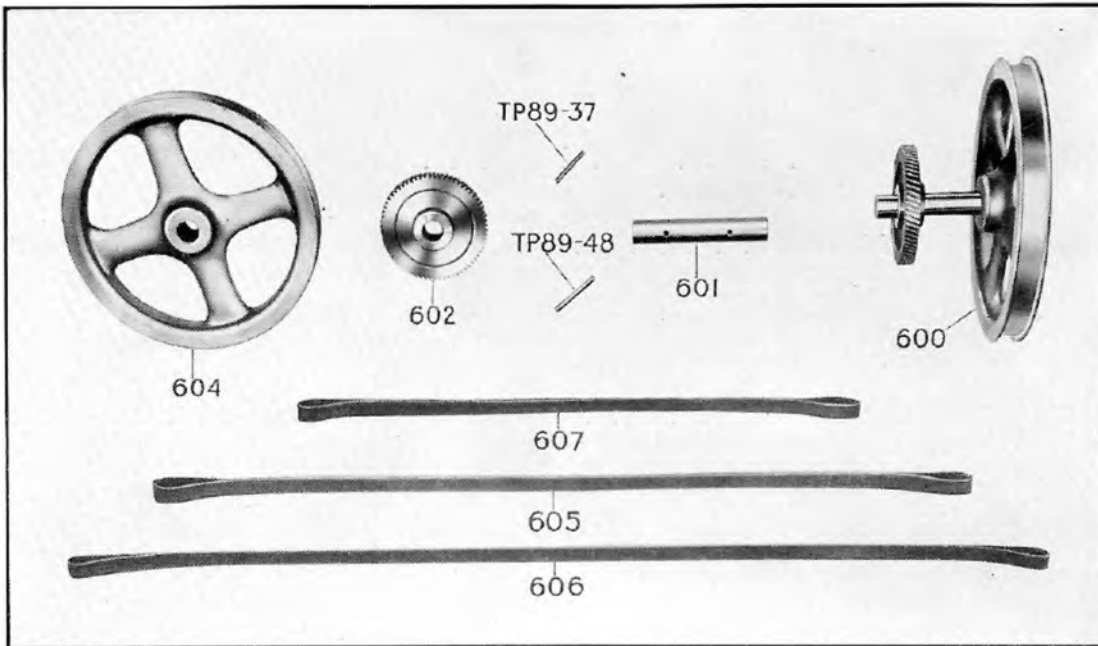
OC93-1 OIL CUPS (2 required—Code Word—ABUKO) \$0.20
 The oil cups OC93-1 are not numerically designated in the illustration above but one of them is clearly shown in the picture on the top of the transmission arm adjacent to one side of the bearing for the intermediate drive assembly 600, and the second oil cup is used in exactly the same relative position for lubrication of the opposite bearing for the intermediate drive assembly 600. The oil cups do not screw into the transmission arm assembly 400 as they are "push-type" oil cups and fit securely into the holes in the transmission arm provided for them.



SIMPLEX PINION ASSEMBLY

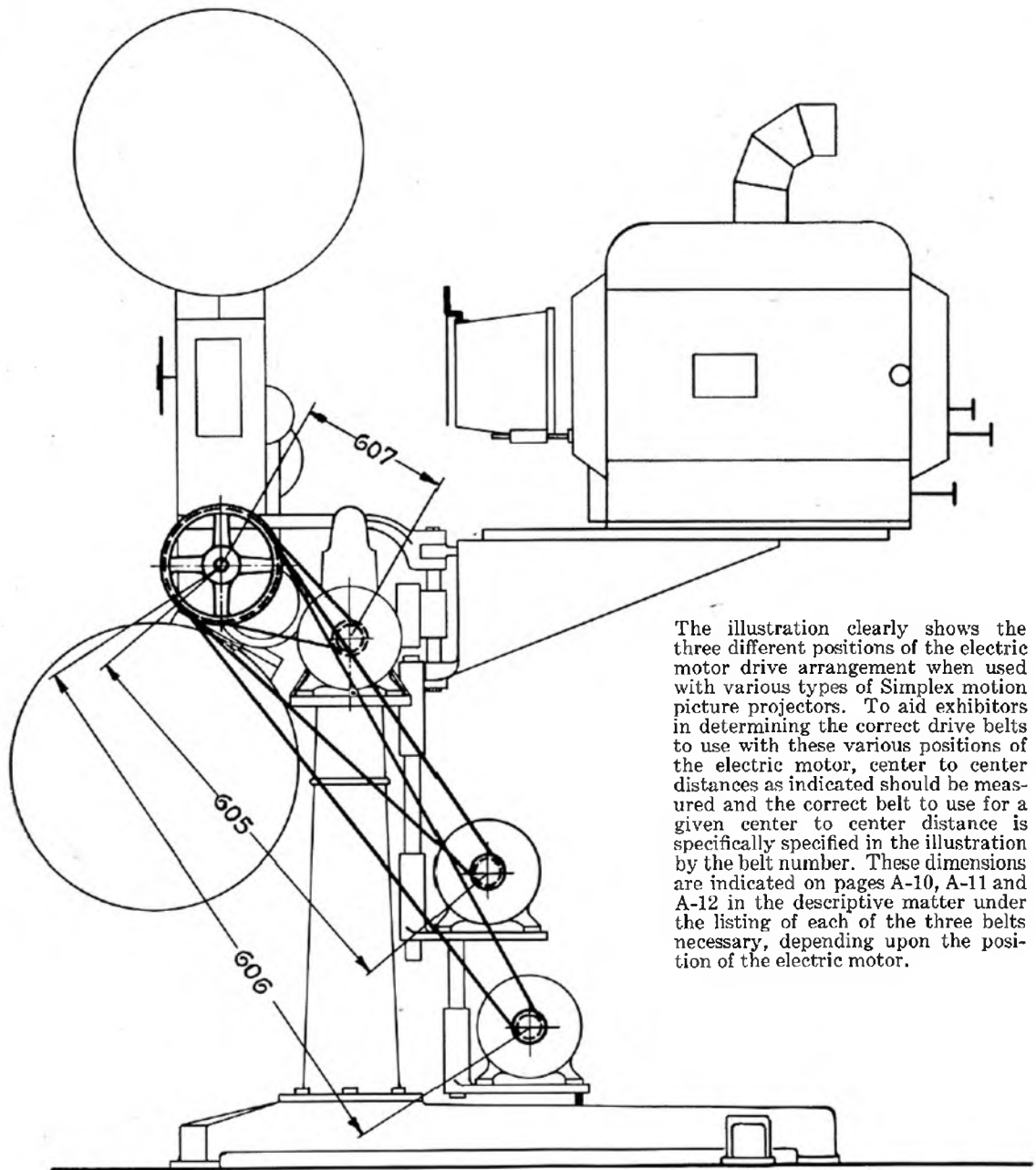
(Please see illustration on bottom of page A-9)

- | | | |
|---|---|----------------|
| 500 | SIMPLEX PINION ASSEMBLY (Code Word— ACRID) | \$30.00 |
| 505 | SIMPLEX PINION SHAFT ASSEMBLY (Code Word— ACTIN) | \$13.50 |
| The oil cup shown in the illustration is not supplied separately as it is securely soldered into the simplex pinion shaft. | | |
| 509 | UPPER DRIVE GEAR ASSEMBLY (Code Word— ACUTE) | \$16.50 |
| The upper drive gear assembly 509 is of an improved construction. In this improved construction the spiral cut steel gear and its extended portion acts as a hub for the micarta gear. The micarta gear and the steel gear are not supplied separately as the micarta gear blank and the extended portion of the steel gear, acting as a hub for the micarta gear, are assembled very accurately at the factory, and the teeth in the micarta gear blank are generated after the assembly has been made. This construction provides extreme concentricity of both the spiral drive gear and the micarta gear. | | |



INTERMEDIATE DRIVE ASSEMBLY

- | | | |
|---|---|----------------|
| 600 | INTERMEDIATE DRIVE ASSEMBLY (Code Word— ACTON) | \$17.25 |
| 601 | INTERMEDIATE GEAR SHAFT (Code Word— ALAIS) | \$1.75 |
| 602 | INTERMEDIATE GEAR (Code Word— ACTOR) | \$7.50 |
| See note under TP89-37 below. | | |
| TP89-37 | TAPER PIN (Code Word— ACITE) | \$0.05 |
| It is recommended that the intermediate gear 602 and taper pin TP89-37 be ordered together as the taper pin is used for securing the intermediate gear to the intermediate gear shaft. | | |
| 604 | INTERMEDIATE DRIVE PULLEY (Code Word— ADAGE) | \$6.75 |
| See note under TP89-48 below. | | |
| TP89-48 | TAPER PIN (Code Word— ADAMS) | \$0.05 |
| It is recommended that intermediate drive pulley 604 and taper pin TP89-48 be ordered together as the taper pin is used for securing the intermediate drive pulley to the intermediate gear shaft. | | |
| 607 | DRIVE BELT (Code Word— ADANA) | \$1.00 |
| Suitable for use with PHONOFILM ATTACHMENT G and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 9 inches to 10 ³ / ₄ inches. See note under 606 below. | | |



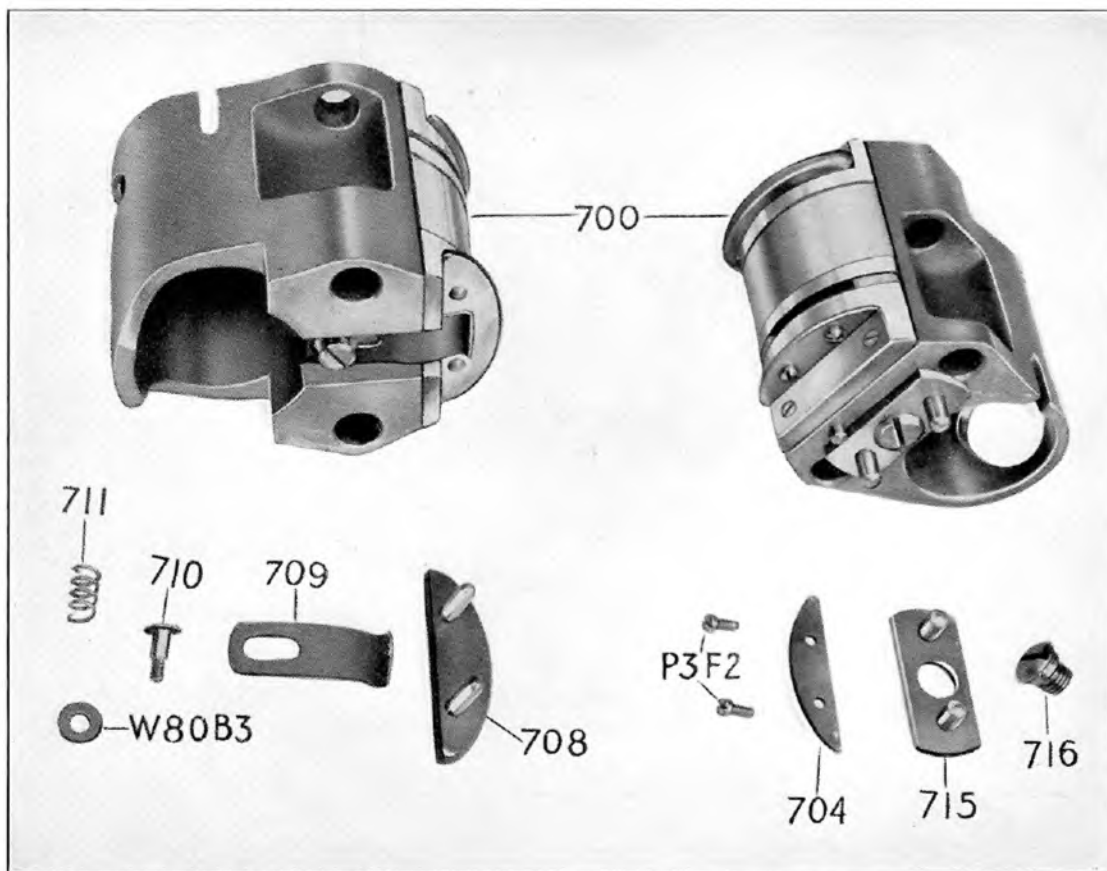
The illustration clearly shows the three different positions of the electric motor drive arrangement when used with various types of Simplex motion picture projectors. To aid exhibitors in determining the correct drive belts to use with these various positions of the electric motor, center to center distances as indicated should be measured and the correct belt to use for a given center to center distance is specifically specified in the illustration by the belt number. These dimensions are indicated on pages A-10, A-11 and A-12 in the descriptive matter under the listing of each of the three belts necessary, depending upon the position of the electric motor.

- 605 DRIVE BELT (Code Word—ADAPT) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 23 1/2 inches to 26 1/2 inches. See note under 606 below.
- 606 DRIVE BELT (Code Word—ACERB) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 27 1/8 inches to 33 1/8 inches.
 The three drive belts 605, 606 and 607 are supplied with complete PHONOFILM ATTACHMENTS adaptable to Simplex projectors in order to provide the proper length belts for driving the intermediate drive assembly 600 from the electric motor.
 In order to aid users of PHONOFILM ATTACHMENTS in ordering spare and replacement drive belts for use with Simplex motion picture projectors, the line drawing illustration shows the three possible positions of the electric motor with relationship to the

PHONOFILM ATTACHMENT, depending upon which type of Simplex projector the PHONOFILM ATTACHMENT is to be used with. The center to center distances are indicated between the electric motor drive shaft and the intermediate gear shaft 602 (upon which is mounted intermediate drive pulley 604) by reference to drive belt catalog numbers. If the motor drive is mounted high up on the projector base and relatively close to the intermediate drive pulley 604, it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between 9 inches and $10\frac{3}{4}$ inches and for this measurement drive belt 607 should be ordered.

If the drive motor is mounted on an underslung motor bracket it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $23\frac{1}{2}$ inches and $26\frac{1}{2}$ inches and for this measurement drive belt 605 should be ordered.

As indicated in the line drawing illustration, Simplex projector bases may have two different types of underslung motor brackets, one of them allowing the motor to set considerably lower than the other. For projectors equipped with this low underslung motor base it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $27\frac{7}{8}$ inches and $33\frac{1}{8}$ inches and for this measurement drive belt 606 should be ordered.



SLIT BLOCK ASSEMBLY

700 SLIT BLOCK ASSEMBLY (Code Word—ADAYS) \$39.50

When inspection of the slit block reveals excessive wear, an order should be placed for a new complete slit block assembly 700 which will be invoiced to you at \$39.50. Immediately upon receipt of the new complete slit block assembly, return the worn complete slit block assembly direct to the GENERAL TALKING PICTURES CORPORATION, Executive offices, 218 West 42nd Street, New York City, and upon receipt of the worn slit block a credit will be issued for \$10.00, making the net cost of the new complete slit block assembly, \$29.50.

The slit block assembly 700 is supplied complete except for the parts listed below which are supplied separately.

Please note that the slit block shoe is not supplied as a separate part as it is necessary to assemble the slit block body and the slit block shoe very accurately at the factory, and to verify that the assembly produces the desired results.

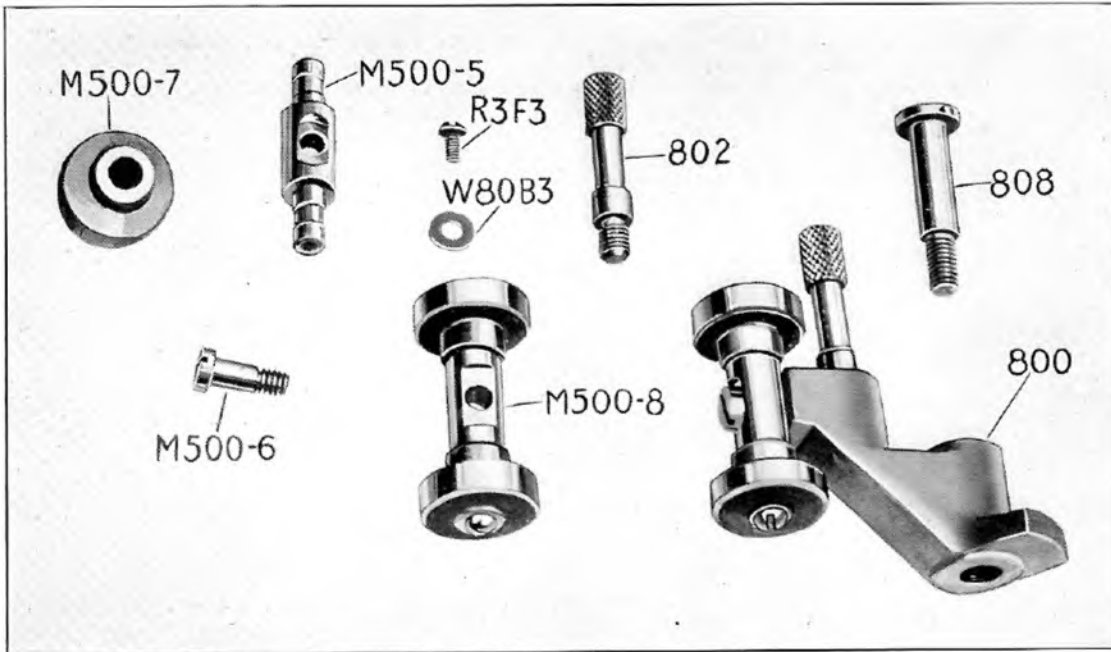
That portion of the slit block 700, or in particular the slit block shoe, which comes in contact with the film as it travels through the PHONOFILM ATTACHMENT is of course subject to wear in normal operation and use. Every engineering precaution, both in the design and in the choice of materials, has been taken to reduce such wear to a minimum. The slit block shoe is hardened and ground to extremely accurate dimensions and the shape of the shoe itself is such as to obtain the desired high quality characteristics of reproduction with minimum wear.

704	MOUNTED SIDE PLATE (Code Word—ADDAX)	\$1.25
	The mounted side plate 704 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the mounted side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under P3F2 below.	
P3F2	MACHINE SCREWS (2 required—Code Word—ADDER)	\$0.05
	It is recommended that mounted side plate 704 and machine screws P3F2 be purchased together as machine screws are used for securing the mounted side plate to the slit block body.	
708	MOVABLE SIDE PLATE ASSEMBLY . . . (Code Word—ADDLE)	\$2.25
	The movable side plate 708 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the movable side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under W80B3 below.	
709	SLIT BLOCK SIDE PLATE SPRING . . . (Code Word—ADELA)	\$0.65
	See note under W80B3 below.	
710	SHOULDER SCREW (Code Word—ADENI)	\$0.40
	See note under W80B3 below.	
711	SLIT BLOCK SPIRAL SPRING (Code Word—ADEPT)	\$0.15
	It is important that the tension of the slit block spiral spring be maintained so that the movable side plate assembly 708 be held against the edge of the film and yet maintain the correct pressure to allow for irregularities in the width of the film and yet maintain the correct position of the film "sound-track" with respect to the slit block. Two springs, slit block side plate spring 709 and slit block spiral spring 711, are used to maintain the correct pressure against the movable side plate assembly 708. If the tension of the spiral spring, or of the side plate spring, is incorrect and does not allow the required movement of the movable side plate assembly 708, or are not of sufficient tension to keep the movable side plate assembly in its correct position, both springs should be replaced with new ones. See note under W80B3 below.	
W80B3	WASHER (Code Word—ADFIN)	\$0.05
	It is recommended that slit block side plate spring 709, shoulder screw 710, slit block spiral spring 711, and washer W80B3 be ordered together, as they are assembled together in attaching the slit block side plate assembly to the slit block body.	
715	LOCK PLATE ASSEMBLY (Code Word—ADHIB)	\$1.00
	See note under 716 below.	
716	LOCK PLATE SHOULDER SCREW (Code Word—ADIEL)	\$0.40
	Lock plate assembly 715 and lock plate shoulder screw 716 should be ordered together as the shoulder screw is used to fasten the lock plate assembly to the slit block body.	

SLIT BLOCK ROLLER ASSEMBLY

(Please see illustration on top of page A-14)

800	SLIT BLOCK ROLLER ASSEMBLY (Code Word—ADIOS)	\$10.50
	Slit block roller assembly 800 is complete with slit block roller screw 808 which is used to attach the roller assembly to the main housing.	
802	SLIT BLOCK ROLLER KNOB (Code Word—ADLIB)	\$0.75
M500-8	ROLLER ASSEMBLY (Code Word—ADLOC)	\$4.50
	See note under M500-6 below.	
M500-5	ROLLER SHAFT (Code Word—ADMIT)	\$2.00
	The roller shaft M500-5 should ordinarily be replaced at the same time that the rollers M500-7 are replaced as the shaft supports the rollers and is subject to the same conditions of wear in operation as are the rollers.	
M500-6	ROLLER SHOULDER SCREW (Code Word—ADOBE)	\$0.40
	Roller assembly M500-8 should be ordered together with roller shoulder screw M500-6 as the shoulder screw is used for securing the roller assembly to the slit block roller arm.	

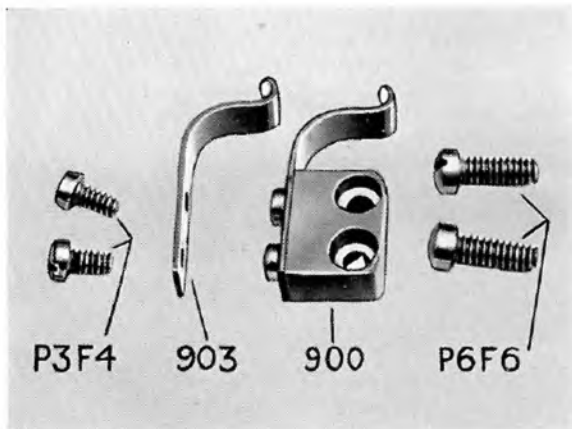


- M500-7 ROLLER** (Code Word—**ADORE**) **\$1.25**
 In accordance with the notation under the listing of roller shaft M500-5 above, it is desirable to replace the rollers M500-7 at the same time that the roller shaft M500-5 is replaced, as both the roller shaft and the rollers are subject to the same conditions of wear in operation. See note under W80B3 below.
- R3F3 MACHINE SCREW** (Code Word—**ADOWA**) **\$0.05**
 See note under W80B3 below.
- W80B3 WASHER** (Code Word—**ADFIN**) **\$0.05**
 Roller M500-7, machine screw R3F3 and washer W80B3 should be ordered together as the screw and washer are used to fasten the roller to the roller shaft M500-5.
- 808 SLIT BLOCK ROLLER SCREW** (Code Word—**ADRIF**) **\$0.75**

SLIT BLOCK ROLLER CATCH ASSEMBLY

- 900 SLIT BLOCK ROLLER CATCH ASSEMBLY** (Code Word—**ADULT**) **\$1.75**
 See note under P6F6 below.
- P6F6 MACHINE SCREWS** (2 required—Code Word—**AEGIR**) **\$0.05**

Machine screws P6F6 should be ordered together with slit block roller catch assembly as the screws are used to attach the roller catch assembly 900 to the main housing.



- 903 CATCH SPRING** (Code Word—**ADUSK**) **\$0.50**
 The slit block roller catch assembly 900 serves to hold the slit block roller arm assembly 800 in its correct position because of the tension of the catch spring 903. The spring accordingly should be replaced whenever the tension of the spring is insufficient to hold the slit block roller arm assembly in its correct position. See note under P3F4 below.

- P3F4 MACHINE SCREWS** (2 required—Code Word—**AEGLE**) **\$0.05**
 Machine screws P3F4 should be ordered together with catch spring 903 as the screws are for attaching the spring to the slit block roller catch block.



COMPENSATING ROLLER ASSEMBLY

1005 COMPENSATING ROLLER ASSEMBLY (Code Word—AEMIA)

Compensating roller assembly 1005 is not supplied as an individual assembly but is supplied in complete new PHONOFILM ATTACHMENTS. If you are desirous of utilizing a PHONOFILM ATTACHMENT in which the compensating roller assembly 1005 is a component part, communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City. This compensating roller assembly, as a component part of a complete PHONOFILM ATTACHMENT, is an extremely important part, as through its action it insures improved reproduction of both speech and music when reproduced from "sound-on-film" motion pictures.

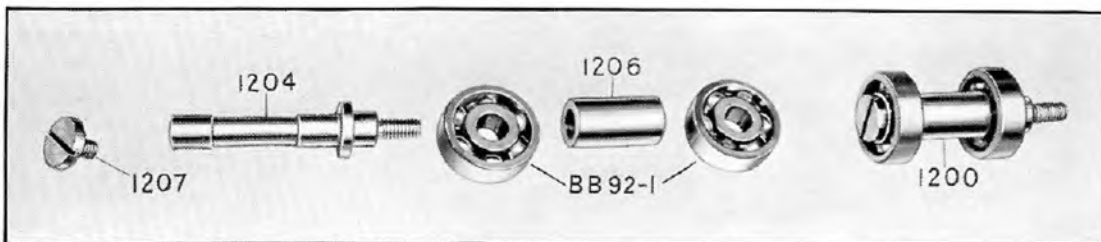
The compensating roller is so designed as to absolutely insure a smooth and completely uniform gliding movement of the sound-film past the slit block assembly 700 in which the photo-cell 1900 is inserted.

Such uniformity of motion of the film is accomplished by the compensating roller due to the use of a roller of relatively large diameter mechanically balanced and under a uniform tension, the roller being capable of movement as may be necessary to compensate for irregularities in tension or speed and yet restrained from excessive movement; the freedom of movement of the roller and its associated tension device being such as to compensate for irregularity of mechanical motion of the various driving elements within the PHONOFILM ATTACHMENT and thus eliminate irregularity of mechanical motion being imparted directly to the film.

From a mechanical engineering point of view, the major purpose of the PHONOFILM ATTACHMENT is to provide such a uniform movement of the film past the photo-cell and it is believed that the perfection of design and its attendant results achieved in the compensating roller provides a PHONOFILM ATTACHMENT very nearly approaching mechanical perfection and completely and practically solving a problem which has been a very serious one and which has previously limited the attainment of the mechanical perfection now available in PHONOFILM ATTACHMENTS.

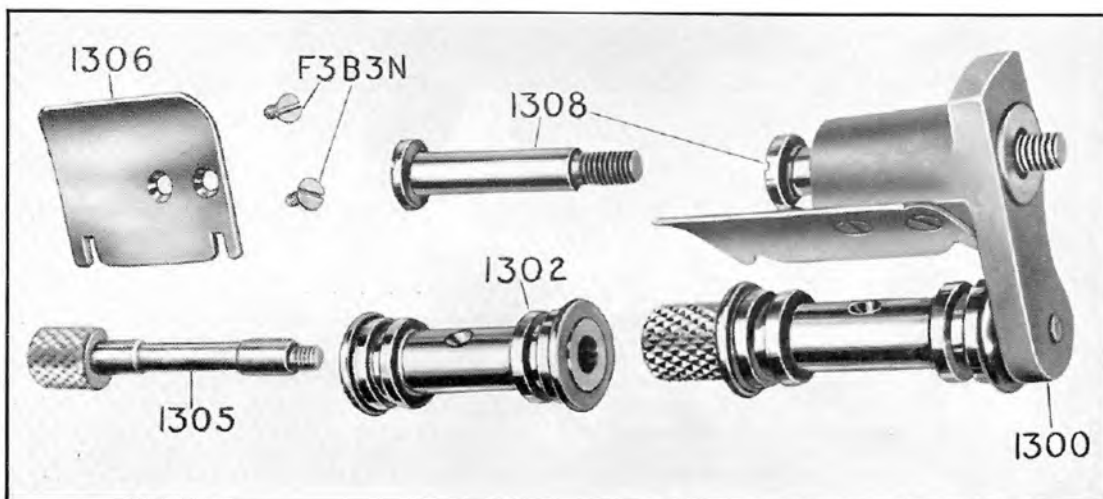
The compensating roller consists of a very few parts. Its operation is completely silent. Its construction is sturdy and fool-proof and the entire PHONOFILM ATTACHMENT is greatly simplified in its mechanical construction and by the use of such a device.

By the simplification of the PHONOFILM ATTACHMENT, obviously the use of the compensating roller increases the simplicity of threading of the sound-film through the ATTACHMENT and decreases the possibility of film breakage or injury.



INTERMEDIATE ROLLER ASSEMBLY

1200	INTERMEDIATE ROLLER ASSEMBLY . . . (Code Word—AFIRE)	\$8.00
1204	ROLLER SHAFT (Code Word—AFRIT)	\$1.75
BB92-1	BALL BEARINGS (2 required—Code Word—AFTER)	\$2.50
	Ball bearings BB92-1 are of course subject to wear and should be replaced if the wear becomes excessive or in any sense detrimental to the uniform motion of the film through the PHONOFILM ATTACHMENT.	
1206	BALL BEARING SPACER (Code Word—AGAIN)	\$0.75
1207	CLAMPING SCREW (Code Word—AGAMA)	\$0.50

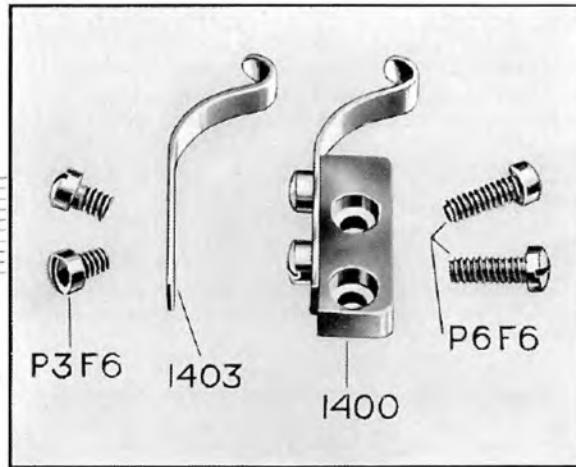


SPROCKET ROLLER ASSEMBLY

1300	SPROCKET ROLLER ASSEMBLY (Code Word—AGAPE)	\$10.50
	Complete with roller mounting screw 1308.	
1302	SPROCKET ROLLER (Code Word—AGENT)	\$3.00
	See note under 1305 below.	
1305	SPROCKET ROLLER SHAFT ASSEMBLY (Code Word—AGGER)	\$1.00
	The sprocket roller shaft assembly 1305 should be ordered together with the sprocket roller 1302 as the shaft assembly is used to secure the roller to the sprocket roller arm, and is subject to the same conditions of wear in operation.	
1306	STRIPPER (Code Word—AGAST)	\$1.10
	See note under F3B3N below.	
F3B3N	MACHINE SCREWS (2 required—Code Word—AGLET)	\$0.05

Machine screws F3B3N should be ordered together with stripper 1306 as the machine screws are used for fastening the stripper to the roller arm.

1308 ROLLER MOUNTING SCREW (Code Word—AGLOW) \$0.75



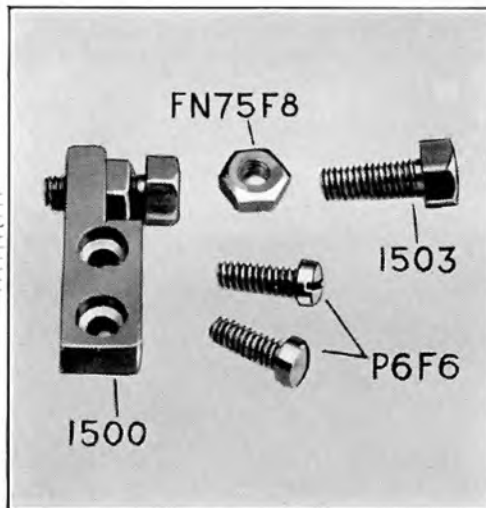
SPROCKET ROLLER CATCH ASSEMBLY

1400 SPROCKET ROLLER CATCH ASSEMBLY (Code Word—AGNES) \$1.75
See note under P6F6 below.

P6F6 MACHINE SCREWS (2 required—Code Word—AEGIR) \$0.05
Machine screws P6F6 should be ordered together with sprocket roller catch assembly 1400 as the machine screws are used for attaching the sprocket roller catch assembly to the main housing.

1403 SPROCKET ROLLER CATCH SPRING . (Code Word—AGONE) \$0.50
The sprocket roller catch assembly 1400 is used to hold the sprocket roller assembly 1300 in its correct position because of the tension of the sprocket roller catch spring 1403 against the sprocket roller assembly. Whenever the tension of the sprocket roller catch spring is insufficient to hold the sprocket roller assembly in its correct positions the spring should be ordered and replaced. See note under P3F6 below.

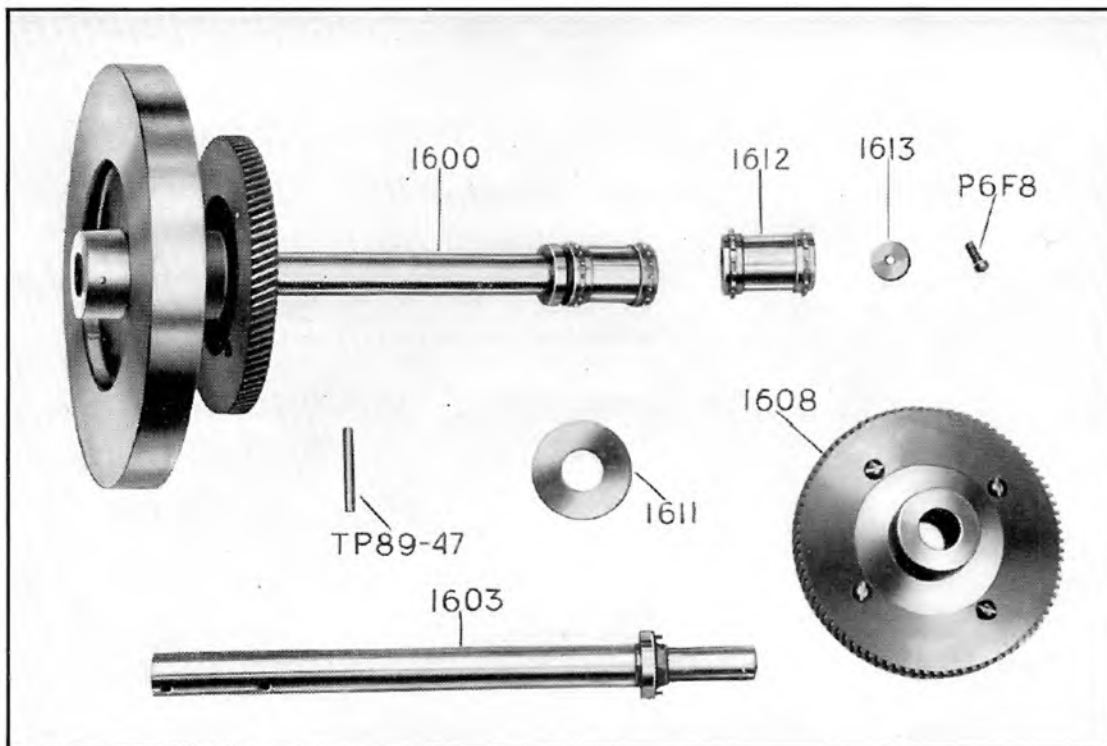
P3F6 MACHINE SCREWS (2 required—Code Word—AGOOD) \$0.05
Machine screws P3F6 should be ordered together with sprocket roller catch spring 1403, as the machine screws are used for attaching the sprocket roller catch spring to the sprocket roller catch block.



ROLLER ADJUSTMENT ASSEMBLY

(See illustration on bottom of page A-17)

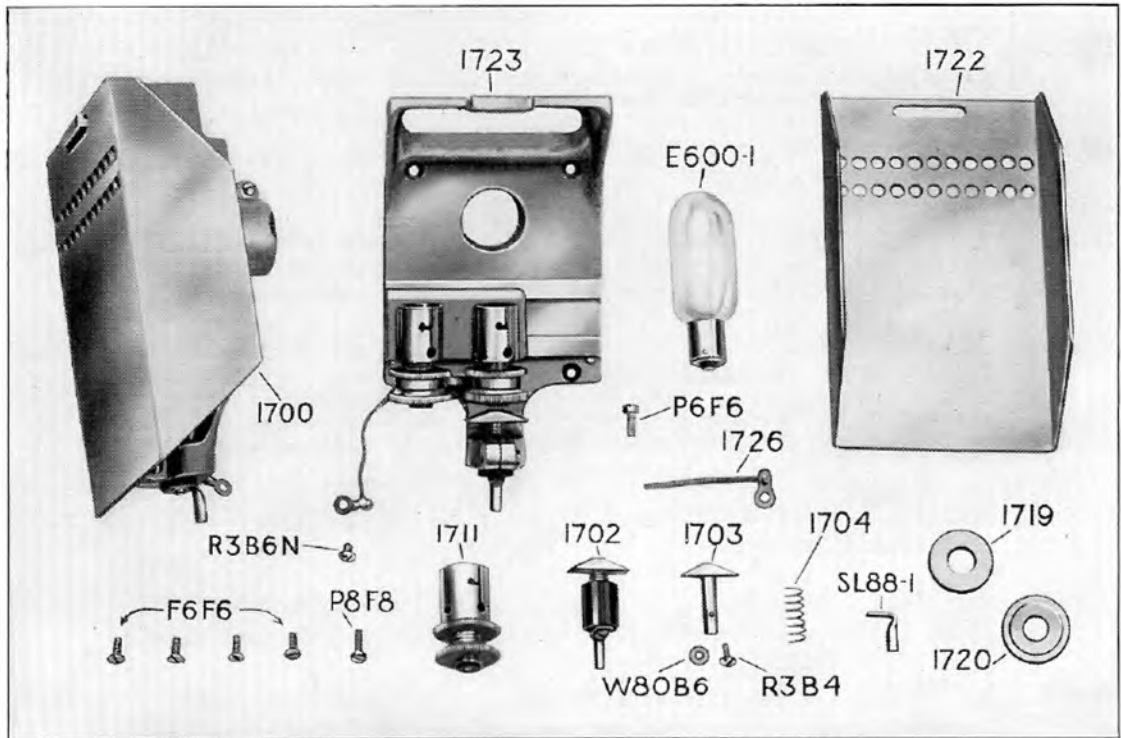
1500	ROLLER ADJUSTMENT ASSEMBLY (Code Word—AGORA)	\$1.50
	See note under P6F6 below.	
P6F6	MACHINE SCREWS (2 required—Code Word—AEGIR)	\$0.05
	Machine screws P6F6 should be ordered together with roller adjustment assembly 1500 as the screws are used for attaching the assembly to the main housing.	
1503	ROLLER ADJUSTMENT SCREW (Code Word—AGRAM)	\$0.35
	See note under FN75F28 below.	
FN75F28	HEXAGON NUT (Code Word—ABOUT)	\$0.05
	Hexagon nut FN75F28 should be ordered together with roller adjustment screw 1503 as the hexagon nut is used as a lock nut to permanently secure the correct adjustment of the roller adjustment screw.	



SPROCKET DRIVE ASSEMBLY

1600	SPROCKET DRIVE ASSEMBLY (Code Word—AGUAS)	\$69.80
1603	SPROCKET SHAFT ASSEMBLY (Code Word—AHEAD)	\$16.50
1608	SPROCKET SHAFT GEAR ASSEMBLY (Code Word—AHIND)	\$15.00
	The sprocket shaft gear assembly 1608 is only supplied complete as the micarta gear blank is assembled to the gear hub previous to generating the gear. The removal of the gear hub from the gear after the generation of the teeth in the gear blank would not insure the desired and necessary accuracy of the completed sprocket shaft gear assembly. See note under TP89-47 below.	
TP89-47	TAPER PIN (Code Word—AHMED)	\$0.05
	Taper pin TP89-47 should be ordered together with sprocket shaft gear assembly 1608 as the taper pin is used for securing the assembly to the sprocket shaft.	

- 1611 THRUST WASHER (Code Word—AHOLD) \$0.60**
 This thrust washer is not just an ordinary washer but is carefully surfaced and ground on each side to an accurate dimension in order to insure the correct position of the sprocket shaft assembly in its bearing in the main housing.
- 1612 FILM SPROCKET (Code Word—AHULL) \$12.50**
 The film sprocket 1612 is the drive member in the complete PHONOFILM ATTACHMENT which causes the film to travel smoothly through the PHONOFILM ATTACHMENT mechanism. This film sprocket is manufactured with extreme accuracy being held to dimensions of plus or minus one ten-thousandth of an inch. Particular attention should be given to the condition of the film sprocket and if the teeth are under-cut due to long and severe use, the film sprocket should be replaced with a new one.
 The film sprocket 1612 should not be confused with the ordinary film sprockets available, which are usually not made of the most suitable materials or with the accuracy held to the dimensions and tolerances necessary to produce a film sprocket suitable for use in a PHONOFILM ATTACHMENT. See note under P6F8 below.
- 1613 SPROCKET WASHER (Code Word—AIDIN) \$0.10**
 See note under P6F8 below.
- P6F8 MACHINE SCREW (Code Word—AILSA) \$0.05**
 Machine screw P6F8 and sprocket washer 1613 should be ordered together with the film sprocket 1612 as the machine screw and washer are used for securing the film sprocket to the end of the sprocket shaft.



EXCITING LAMP HOUSING ASSEMBLY

- 1700 EXCITING LAMP HOUSING ASSEMBLY (Code Word—AINCE) \$36.50**
 With exciting lamp housing cover 1722 but without exciting lamps E300-1. See note under F6F6 below.
- 1723 EXCITING LAMP HOUSING ASSEMBLY (Code Word—AISHA) \$34.25**
 Without exciting lamp housing cover 1722 and without exciting lamps E600-1. See note under F6F6 below.
- F6F6 MACHINE SCREWS (4 required—Code Word—AISLE) \$0.05**
 Machine screws F6F6 should be ordered together with either the exciting lamp housing with cover 1700 or with the exciting lamp housing without cover 1723, as the machine screws are used for attaching the housing assembly to the main housing of the PHONOFILM ATTACHMENT.

1702	MASTER CONTACT PLUNGER ASSEMBLY (Code Word—AITCH) See note under P8F8 below.	\$1.75
P8F8	MACHINE SCREW (Code Word—ACINU) This machine screw is used for securing a permanent adjustment of the master contact plunger assembly 1702 in its proper position in the lamp housing so that perfect electrical contact will be made to the exciting lamp socket assemblies 1711.	\$0.05
1703	MASTER CONTACT PLUNGER (Code Word—AIVER)	\$1.10
1704	MASTER CONTACT SPIRAL SPRING . . . (Code Word—AKBAR)	\$0.10
SL88-1	SOLDERING LUG (Code Word—AKRON) See note under R3B4 below.	\$0.05
W80B6	WASHER (Code Word—ALACK) See note under R3B4 below.	\$0.05
R3B4	MACHINE SCREW (Code Word—ALAKE) Machine screw R3B4 and washer W80B6 should be ordered together with soldering lug SL88-1 as the machine screw and washer are used for attaching the soldering lug to the master contact plunger 1703.	\$0.05
1711	EXCITING LAMP SOCKET ASSEMBLY . (Code Word—ALAMO) Complete with 1719 and 1720 upper and lower socket lock nuts. For exciting lamp E600-1. See note under 1720 below.	\$2.50
1719	UPPER SOCKET LOCK NUT (Code Word—ALAND) See note under 1720 below.	\$0.45
1720	LOWER SOCKET LOCK NUT (Code Word—ALARM) The upper and lower socket lock nuts 1719 and 1720 are used for securing the proper adjustment of the lamp socket assemblies 1711 in the lamp housing assembly.	\$0.60
P6F6	MACHINE SCREW (Code Word—AEGIR) Machine screw P6F6 is used to secure the optical system 1800 in its correct adjustment in the exciting lamp housing assembly. See page B-5 of section "B" of this parts-catalog for details and price of the optical system microscope 5350 which is used with particular advantage in making the correct adjustment of optical system 1800.	\$0.05
1726	GROUND WIRE ASSEMBLY (Code Word—ALATE) See note under R3B6N below.	\$0.25
R3B6N	MACHINE SCREW (Code Word—ALVIN) Machine screw R3B6N is used for fastening the ground wire assembly terminal to the main housing assembly.	\$0.05
E600-1	EXCITING LAMP (Carton of (6) Six) . . . (Code Word—YELDE) Please note that by purchasing exciting lamps E600-1 in cartons of six the cost is \$1.25 each instead of \$1.45 as when purchased individually, or a saving of \$0.20 each. Two exciting lamps E600-1 are used in each PHONOFILM ATTACHMENT. A sliding bracket carrying the exciting lamps permits using either lamp at will, thus making it possible to quickly shift from a burnt-out lamp to a good one, if a lamp should burn-out during the running of a sound film. A number of spare exciting lamps should always be in the projection booth for replacement in emergencies. Exciting lamps used with DE FOREST PHONOFILM ATTACHMENTS are particularly rugged in construction, capable of long life and provide correct illumination characteristics as required by the photo-cell assembly 1900. All exciting lamps are carefully inspected and tested before shipment and only those lamps meeting the rigid engineering test specifications of the Engineering Division are supplied to exhibitors. See page G-5 and G-6 of section "G" of this parts-catalog for more detailed description of the merits of exciting lamps E600-1.	\$1.25
1722	EXCITING LAMP HOUSING COVER . . . (Code Word—ALDEA)	\$2.25

DE FOREST

PHONOFILM

PARTS CATALOG

Catalog of Spare and Replacement Parts and Accessories for DE FOREST PHONOFILM ATTACHMENTS and also for the Electrical and Acoustical Equipment Used in Conjunction with DE FOREST PHONOFILM ATTACHMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

PHONOFILM PARTS CATALOG

NUMBER

1990-

THIS PHONOFILM PARTS CATALOG BEARING THE ABOVE SERIAL NUMBER IS THE PROPERTY OF THE GENERAL TALKING PICTURES CORPORATION, EXECUTIVE OFFICES, 218 WEST 42ND STREET, NEW YORK CITY, N. Y., AND IS LOANED TO LESSEE EXHIBITORS UNDER THE TERMS AND CONDITIONS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION.

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DE FOREST

PHONOFILM

PARTS CATALOG

SECTION A

Spare and Replacement Parts
for DE FOREST PHONO-
FILM ATTACHMENTS
Adaptable to Simplex and
Powers Motion Picture
Projectors.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * .”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

PHONOFILM PARTS CATALOG

IT IS the earnest desire of the GENERAL TALKING PICTURES CORPORATION to aid users of DE FOREST PHONOFILM in maintaining such equipments in the very best possible operating condition so as to provide maximum "high-quality" results.

PHONOFILM equipment, like all other equipment utilized for the reproduction of talking motion pictures, must be correctly installed and given simple daily attention and tests by the projectionist; must be kept properly lubricated and cared for the same as any other high grade mechanism or equipment such as automobiles, radio-receivers, aeroplanes, etc. in order to provide their maximum usefulness.

In addition to the normal care given DE FOREST PHONOFILM equipment in its daily maintenance and operation it is of equal importance to the exhibitor, who would insure continual high quality operation of such equipment, to have available for immediate repair and replacement the most important parts of the DE FOREST PHONOFILM equipment, such as photo-cells, vacuum tubes, speaker units, speaker field rectifier units, battery charger bulbs, pilot lamps and exciting lamps, etc. and such mechanical parts of the equipment as are subject to usual wear in the ordinary and reasonable use of the equipment.

It is the function of this "parts-catalog" to make available to users of DE FOREST PHONOFILM equipment, a listing of spare and replacement parts and accessories in accordance with the assemblies of which they are component parts, both with reference to the PHONOFILM ATTACHMENT itself and with reference to the electrical and acoustical equipment used in conjunction with the PHONOFILM ATTACHMENT.

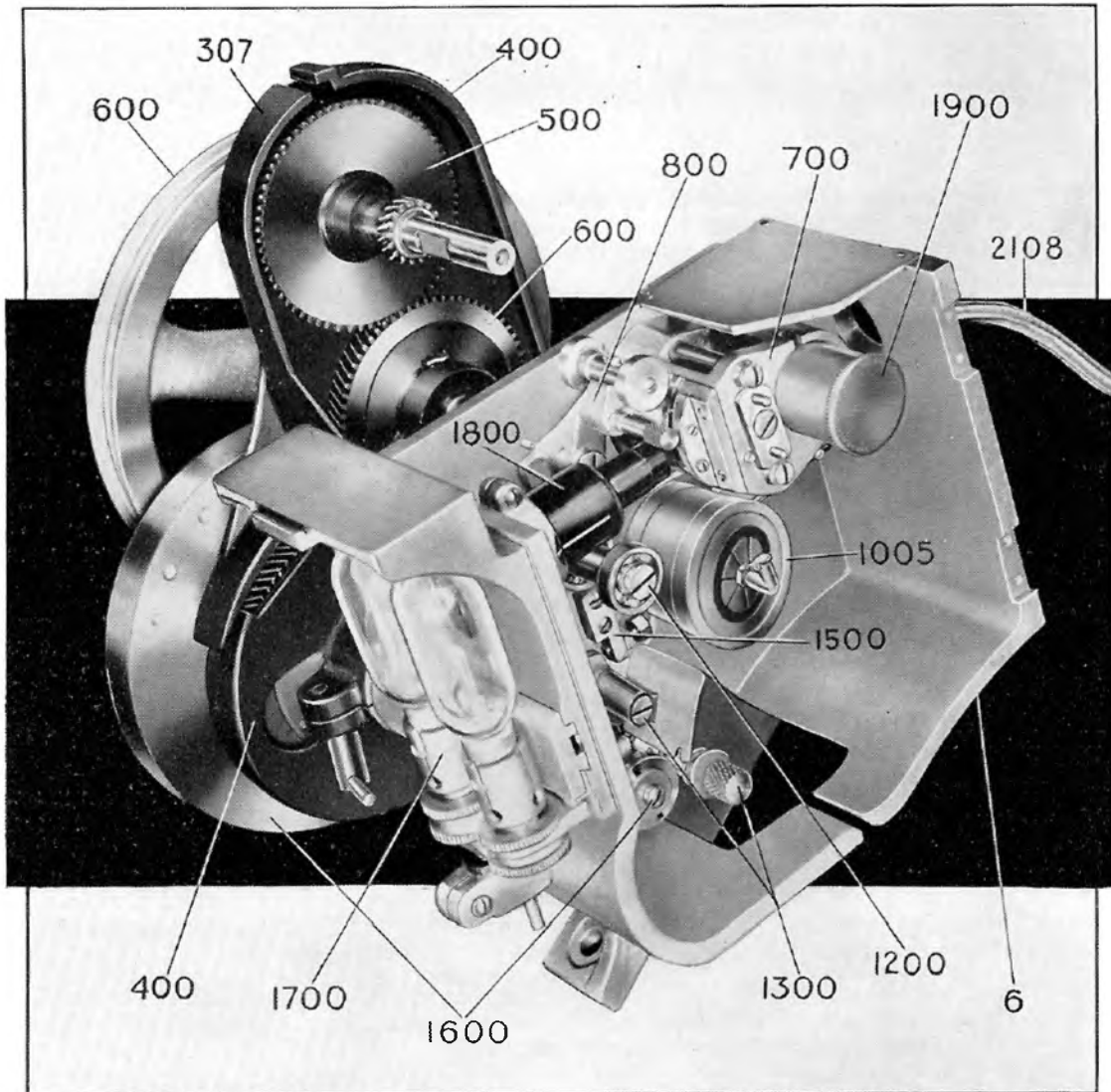
The catalog has been made as simple and convenient as possible for the exhibitor and his projectionists. Illustrations picture complete assemblies as well as individual parts and the listing of assemblies and parts are shown directly following the illustrations. The catalog numbers are designated the same in the illustrations and in the descriptive copy. In the descriptive matter, reference is always made to associated component parts and in using the catalog one should always read such references, as well as the catalog part numbers, listing such individual parts.

The catalog in its entirety is issued in sections as indicated below, and in each section the sheets are in loose-leaf form allowing the insertion of additional catalog sheets in their proper section and position as issued in the future.

- Section A: Phonofilm Attachments (adaptable to Simplex and Powers motion picture projectors).**
- Section B: Accessories for use with Phonofilm Attachments.**
- Section C: Amplifiers, Power Supply and Control Panels, etc.**
- Section D: Equalizers, Faders, Speaker-controls, etc.**
- Section E: Batteries, Battery Chargers, etc.**
- Section F: Loud speakers (including speaker field rectifiers, auto-transformers, etc., used with such acoustical equipment).**
- Section G: Tubes (including exciting lamps, rectifier tubes, etc.).**
- Section H: Auxiliary Electrical Equipment and Instruments.**

It is the desire and recommendation of the GENERAL TALKING PICTURES CORPORATION that users of DE FOREST PHONOFILM equipments use this parts catalog in aiding themselves and their projectionists in securing the materials and parts that should be available in the projection room as spare and replacement parts and accessories.

The exhibitors' cooperation is desired and requested in every way, in order to aid in the maintenance of the "high-standard-of-quality-reproduction" achieved with DE FOREST PHONOFILM equipment.



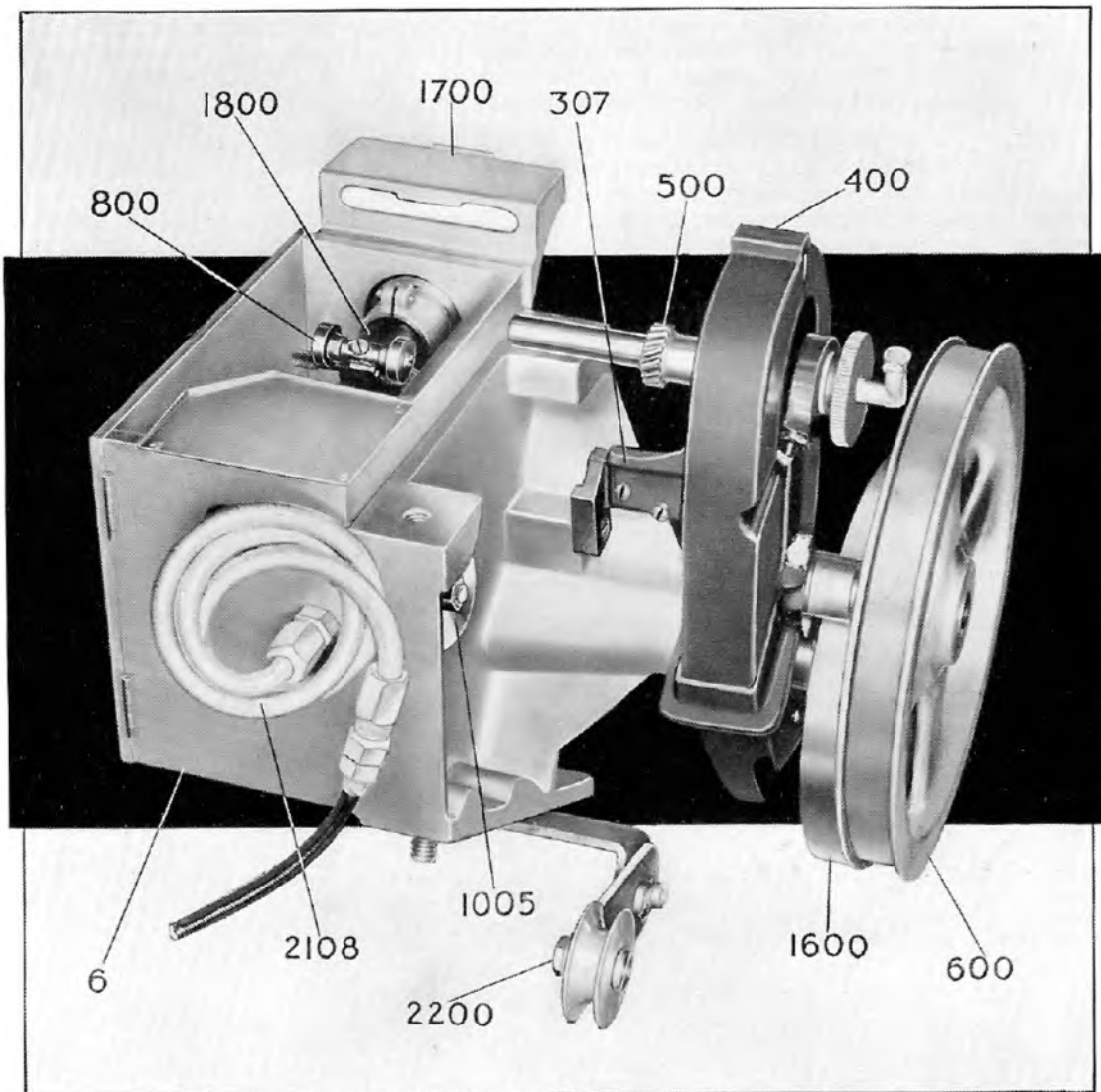
Oblique front view of the complete PHONOFILM ATTACHMENT "6" without door, adaptable to Simplex motion picture projectors and showing the interior of the attachment and numerically designating the major assemblies.

PHONOFILM ATTACHMENT "6" AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENT ADAPTABLE TO SIMPLEX MOTION PICTURE PROJECTORS

PHONOFILM ATTACHMENTS adaptable to Simplex motion picture projectors are considered standard. The list of spare and replacement parts cataloged is complete as regards assemblies but does not list all parts used in complete assemblies.

The above illustration, and the illustration on page A-5 of a complete PHONOFILM ATTACHMENT "6" designates the major assemblies and includes all of the assemblies that can be clearly seen in the illustrations. These assemblies include:

- 307—GEAR GUARD ASSEMBLY
- 400—TRANSMISSION ARM ASSEMBLY
- 500—SIMPLEX PINION ASSEMBLY



Oblique rear view of the complete PHONOFILM ATTACHMENT "6" adaptable to Simplex motion picture projectors, illustrating and designating the major assemblies including those not shown in the oblique front view as illustrated on page A-4.

- 600—INTERMEDIATE DRIVE ASSEMBLY
- 700—SLIT BLOCK ASSEMBLY
- 800—SLIT BLOCK ROLLER ASSEMBLY
- 1005—COMPENSATING ROLLER ASSEMBLY
- 1200—INTERMEDIATE ROLLER ASSEMBLY
- 1300—SPROCKET ROLLER ASSEMBLY
- 1500—ROLLER ADJUSTMENT ASSEMBLY
- 1600—SPROCKET DRIVE ASSEMBLY
- 1700—EXCITING LAMP HOUSING ASSEMBLY
- 1800—OPTICAL SYSTEM
- 1900—PHOTO-CELL ASSEMBLY
- 2108—PHOTO-CELL CABLE ASSEMBLY
- 2200—TAKE-UP IDLER PULLEY ASSEMBLY

The individual parts that go to make up all of the major assemblies of a PHONOFILM ATTACHMENT are illustrated and described on the following pages.

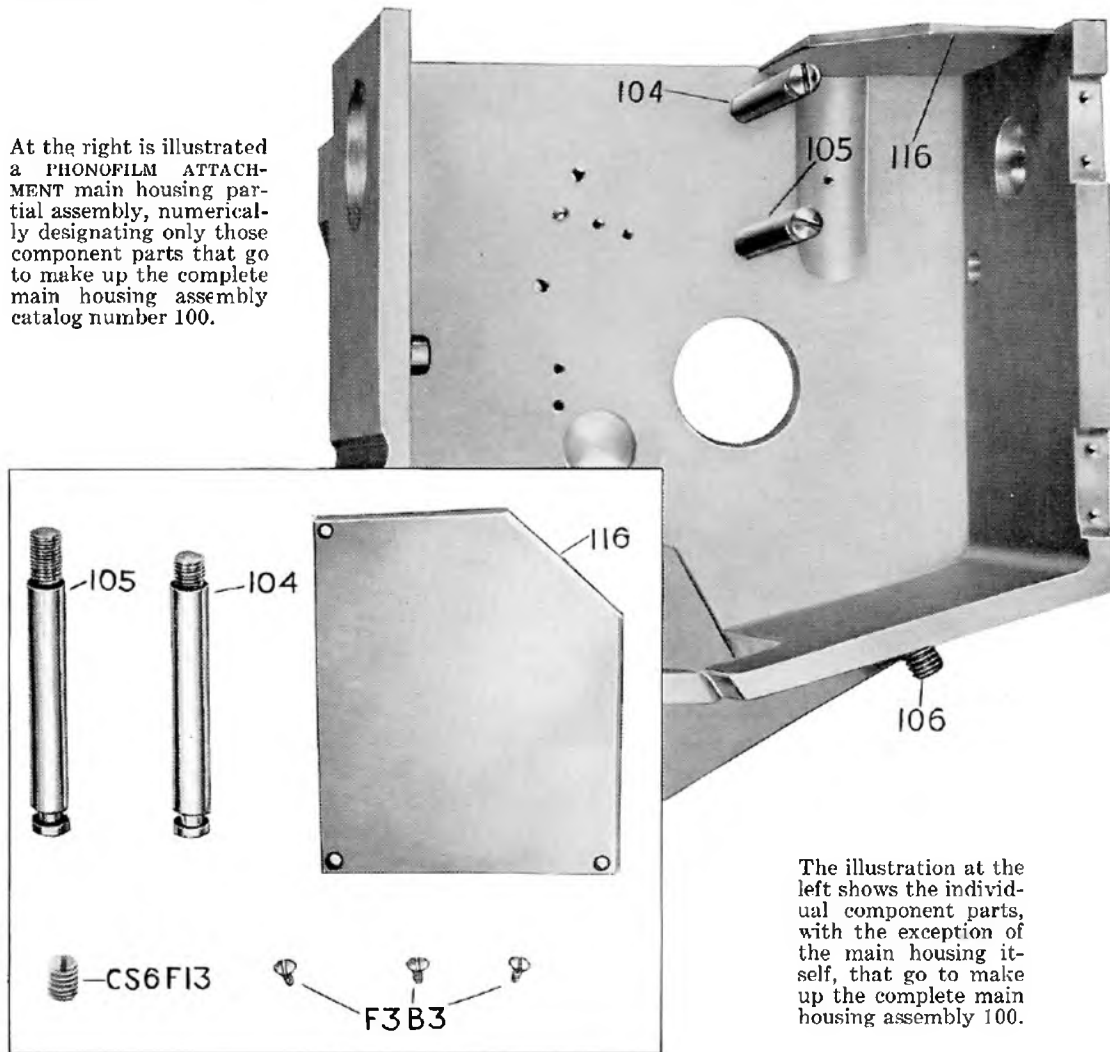
Please note that in the above illustrations, assemblies 100, 200, 900, 1400, and 2000, or the main housing assembly, the door assembly, the slit-block roller catch assembly, the sprocket roller catch assembly, and the photo-cell receptacle assembly are not shown or designated. Details with respect to these assemblies will be found, however, in the individual listing of the assemblies and their component parts.

PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors are to a large extent identical with the attachment adaptable to the Simplex projector, and in the listing of spare and replacement parts for PHONOFILM ATTACHMENTS for Powers projectors, the parts listed which are the same as for the PHONOFILM ATTACHMENT for the Simplex projector will carry the same part or catalog numbers; parts that are special for the PHONOFILM ATTACHMENT for the Powers projector will of course carry individual and distinct numbers.

**6 COMPLETE PHONOFILM ATTACHMENT (Code Word—ABACA)
FOR SIMPLEX MOTION PICTURE PROJECTORS**

COMPLETE PHONOFILM ATTACHMENTS 6 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION

At the right is illustrated a PHONOFILM ATTACHMENT main housing partial assembly, numerically designating only those component parts that go to make up the complete main housing assembly catalog number 100.



The illustration at the left shows the individual component parts, with the exception of the main housing itself, that go to make up the complete main housing assembly 100.

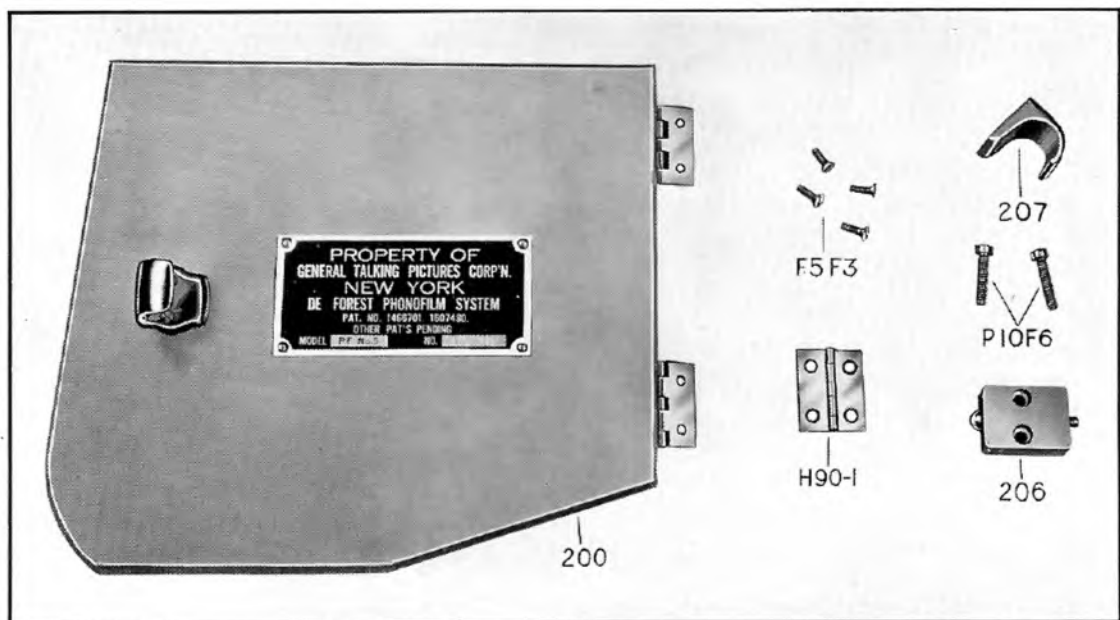
MAIN HOUSING ASSEMBLY

100 MAIN HOUSING ASSEMBLY (Code Word—ABELE)

The main housing assembly 100 is not sold as a spare or replacement part and will never need to be replaced except in cases of serious injury, fire, etc. Under such emergency conditions it is necessary to replace the complete PHONOFILM ATTACHMENT

and if such replacement is necessary communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, N. Y. C., N. Y.

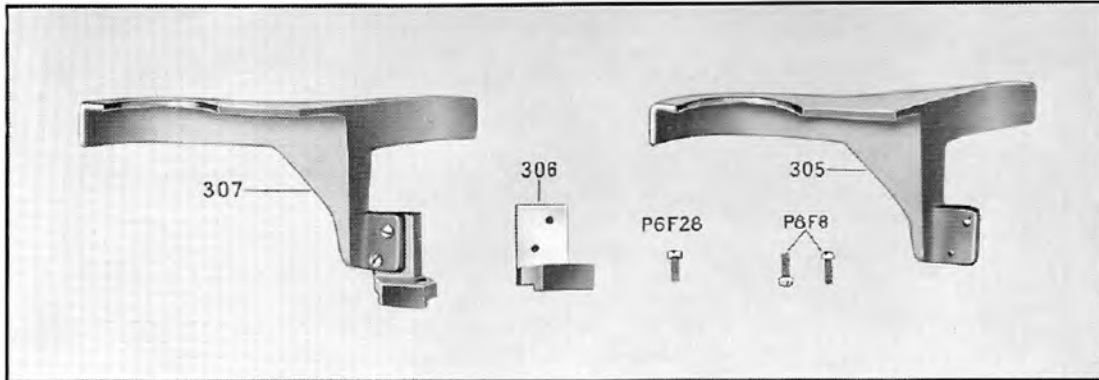
104	SLIT BLOCK MOUNTING ROD . . . (Short—Code Word— ABIDE)	\$0.75
105	SLIT BLOCK MOUNTING ROD . . . (Long—Code Word— ABIEL)	\$0.75
106	LOWER MAGAZINE MOUNTING SCREW (Code Word— ABIHU) See note under CS6F13 below.	\$0.50
CS6F13	SET SCREW (Code Word— ABNER) Set screw CS6F13 is used to permanently secure lower magazine mounting screw 106 in the main housing and it is recommended that they both be ordered together.	\$0.10
116	DRIP PAN (Code Word— ABOVE) See note under F3B3 below.	\$2.40
F3B3	MACHINE SCREWS (3 required—Code Word— ABSEN) Drip pan 116 and machine screws F3B3 should be ordered together as the machine screws are for fastening the drip pan to the main housing.	\$0.05
HC14F15	CAP SCREW (Code Word— BEDIM) See note under HC24F15 below.	\$0.05
HC24F15	CAP SCREWS (2 required—Code Word— BEFIT) Cap screws HC14F15 and HC24F15 although not shown in the above illustration on page A-6 are supplied with the original PHONOFILM ATTACHMENT and as spare and replacement parts. Cap screw HC14F15 is used to secure the lower film magazine to the bottom of PHONOFILM ATTACHMENT . Cap screws HC24F15 are not used for securing the PHONOFILM ATTACHMENT proper but are used to secure the Simplex projector head to the Simplex base, the cap screws being more convenient to use than the screws usually used for the same purpose.	\$0.15
OC93-1	OIL CUPS (2 required—Code Word— ABUKO) The two oil cups OC93-1, although not illustrated in the photographs on pages A-4, A-5 or A-6 are mounted in the main housing to provide lubrication for the sprocket drive assembly 1600. The oil cups do not screw into the main housing as they are "push-type" oil cups and fit securely into holes in the main housing.	\$0.20



DOOR ASSEMBLY

200	DOOR ASSEMBLY (Code Word— ABTEA) Door assembly is complete with lock, lift handle and hinges, but does not include machine screws for attaching door to main housing. See note under F5F3 below.	\$6.75
206	DOOR LOCK ASSEMBLY (Code Word— ABUZE) See note under P10F6 below.	\$1.50

- P10F6 MACHINE SCREWS** (2 required—Code Word—**ABYDE**) **\$0.05**
These two machine screws are used to fasten both door lock assembly 206 and lift handle 207 to door. See note under lift handle 207.
- 207 LIFT HANDLE** (Code Word—**ABYSS**) **\$0.50**
Lift handle 207 is fastened to the door by the same two machine screws P10F6 that also fasten the door lock assembly 206 to the door.
- H90-1 DOOR HINGE** (2 required—Code Word—**ACATE**) **\$0.15**
See note under F5F3 below.
- F5F3 MACHINE SCREWS** (4 required—Code Word—**ACCIT**) **\$0.05**
Machine screws F5F3 are for attaching door hinge to door and to main housing. Four are required for each hinge.



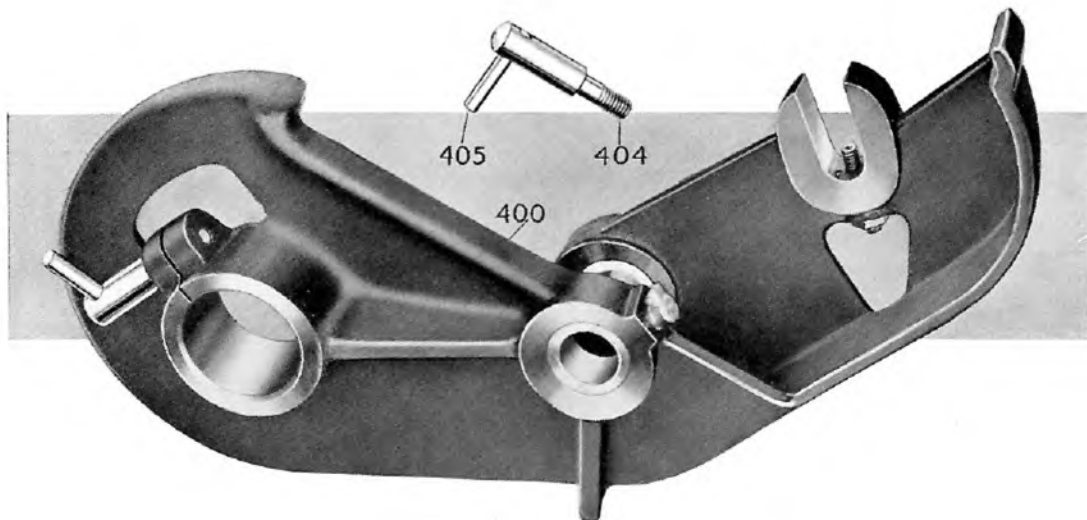
GEAR GUARD ASSEMBLY

- 307 GEAR GUARD ASSEMBLY** (Code Word—**ACCRA**) **\$3.65**
See note under P6F28 below.
- 306 GEAR GUARD BRACKET** (Code Word—**ACEAE**) **\$1.50**
See note under P8F6 below.
- 305 GEAR GUARD** (Code Word—**ACHIN**) **\$2.00**
See note under P8F8 below.
- P8F8 MACHINE SCREWS** (2 required—Code Word—**ACINU**) **\$0.05**
Two machine screws P8F8 are used for fastening gear guard 305 to gear guard bracket 306 and these machine screws should be ordered when ordering either the gear guard or the gear guard bracket.
- P6F28 MACHINE SCREW** (Code Word—**ABOMA**) **\$0.05**
Gear guard assembly 307 is secured to the main housing of the PHONOFILM ATTACHMENT by means of machine screw P6F28 and when ordering the gear guard assembly the machine screw should also be ordered.

TRANSMISSION ARM ASSEMBLY

(Please see illustration on top of page A-9)

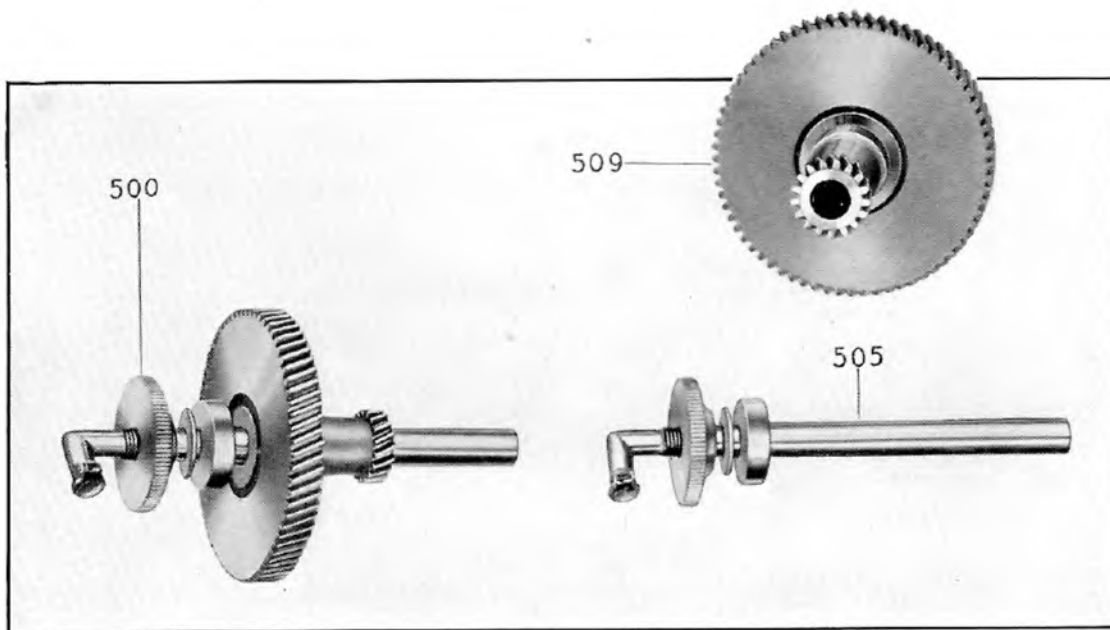
- 400 TRANSMISSION ARM ASSEMBLY** (Code Word—**ACITY**) **\$32.50**
Complete with transmission arm lock screw 404, transmission arm lock screw pin 405, oil cups OC93-1, set screw RS12F28 and hexagon nut FN75F28.
- 404 TRANSMISSION ARM LOCK SCREW** (Code Word—**ACOCK**) **\$0.75**
See note under 405 below.
- 405 TRANSMISSION ARM LOCK SCREW PIN** (Code Word—**ACORN**) **\$0.15**
It is recommended that transmission arm lock screw 404 and transmission arm lock screw pin 405 are ordered together as the lock screw pin serves as a lever for adjusting the transmission arm lock screw.



RS12F28 SET SCREW (Code Word—ABUYO) \$0.05
 See note under FN75F28 below.

FN75F28 HEXAGON NUT (Code Word—ABOUT) \$0.05
 Set screw RS12F28 and hexagon nut FN75F28 are not numerically designated in the illustration above, but are clearly shown in the right center portion of the picture. They are used to secure the correct adjustment of the transmission arm assembly 400 with relation to the Simplex pinion assembly 500. Both the set screw and the hexagon nut should be ordered together.

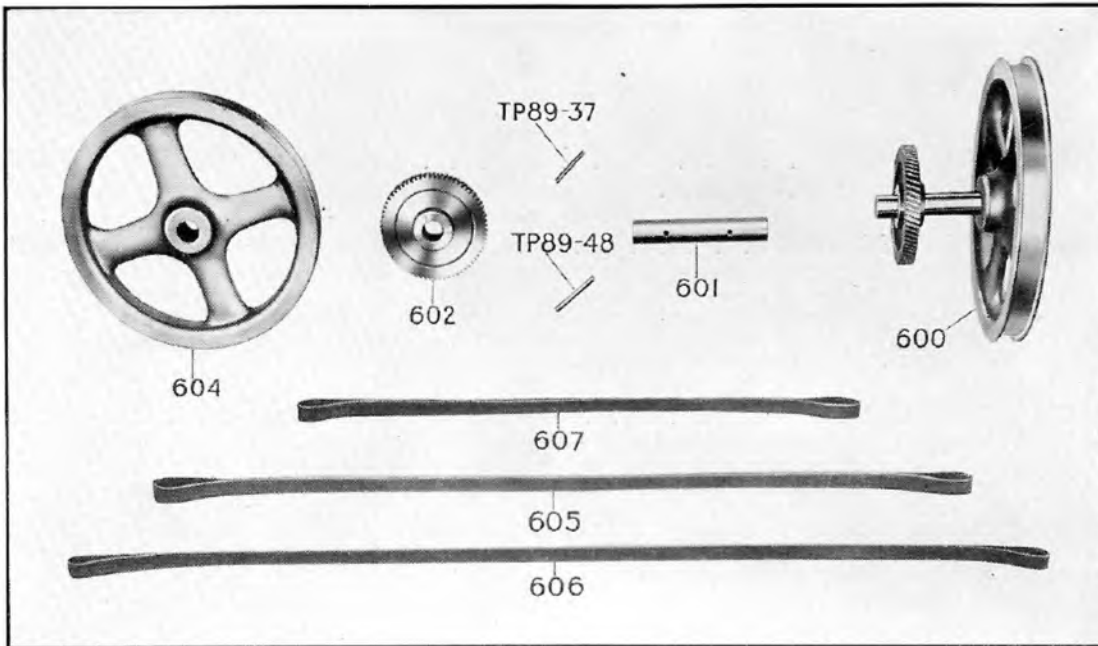
OC93-1 OIL CUPS (2 required—Code Word—ABUKO) \$0.20
 The oil cups OC93-1 are not numerically designated in the illustration above but one of them is clearly shown in the picture on the top of the transmission arm adjacent to one side of the bearing for the intermediate drive assembly 600, and the second oil cup is used in exactly the same relative position for lubrication of the opposite bearing for the intermediate drive assembly 600. The oil cups do not screw into the transmission arm assembly 400 as they are "push-type" oil cups and fit securely into the holes in the transmission arm provided for them.



SIMPLEX PINION ASSEMBLY

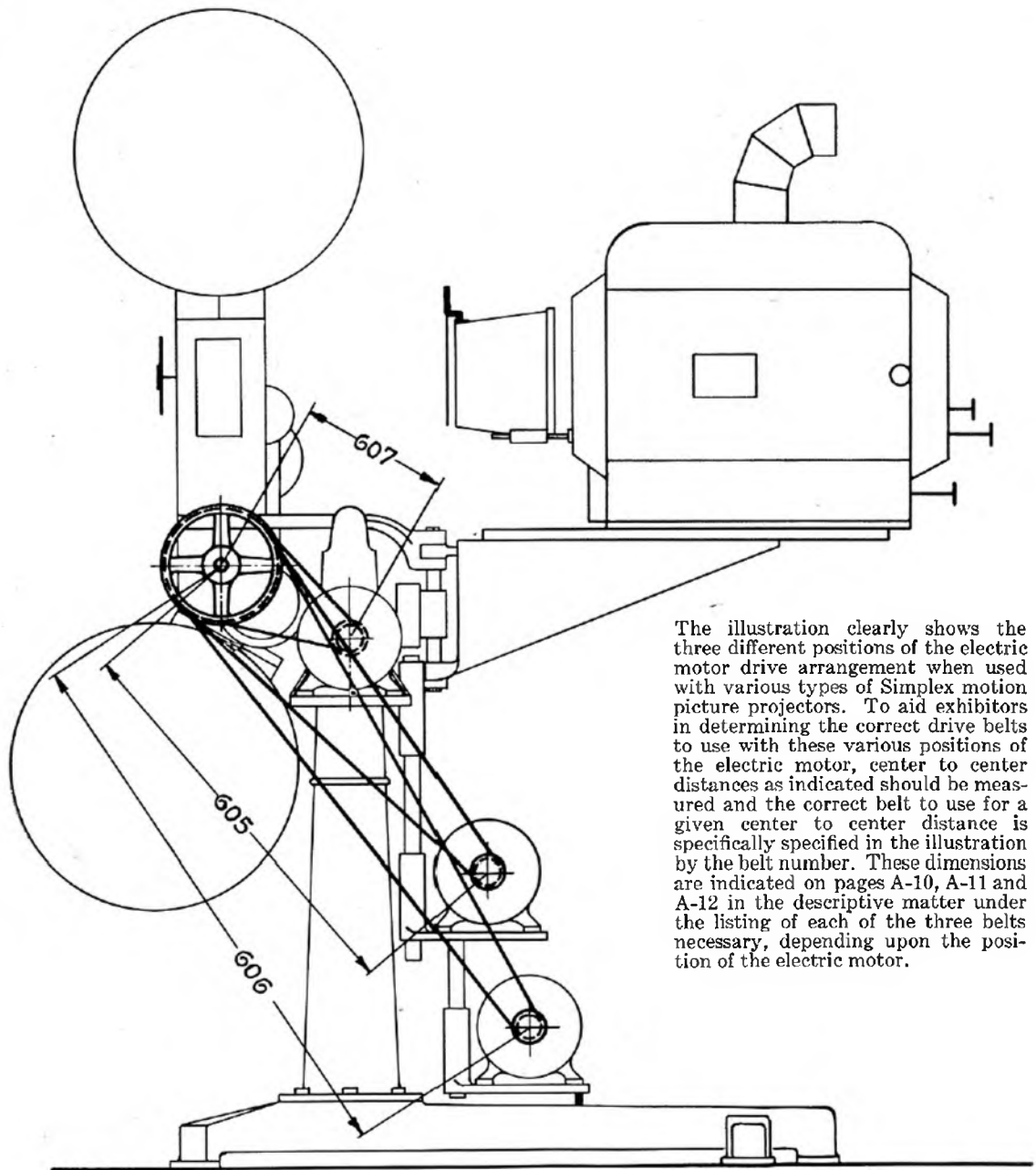
(Please see illustration on bottom of page A-9)

- | | | |
|---|---|----------------|
| 500 | SIMPLEX PINION ASSEMBLY (Code Word— ACRID) | \$30.00 |
| 505 | SIMPLEX PINION SHAFT ASSEMBLY (Code Word— ACTIN) | \$13.50 |
| The oil cup shown in the illustration is not supplied separately as it is securely soldered into the simplex pinion shaft. | | |
| 509 | UPPER DRIVE GEAR ASSEMBLY (Code Word— ACUTE) | \$16.50 |
| The upper drive gear assembly 509 is of an improved construction. In this improved construction the spiral cut steel gear and its extended portion acts as a hub for the micarta gear. The micarta gear and the steel gear are not supplied separately as the micarta gear blank and the extended portion of the steel gear, acting as a hub for the micarta gear, are assembled very accurately at the factory, and the teeth in the micarta gear blank are generated after the assembly has been made. This construction provides extreme concentricity of both the spiral drive gear and the micarta gear. | | |



INTERMEDIATE DRIVE ASSEMBLY

- | | | |
|---|---|----------------|
| 600 | INTERMEDIATE DRIVE ASSEMBLY (Code Word— ACTON) | \$17.25 |
| 601 | INTERMEDIATE GEAR SHAFT (Code Word— ALAIS) | \$1.75 |
| 602 | INTERMEDIATE GEAR (Code Word— ACTOR) | \$7.50 |
| See note under TP89-37 below. | | |
| TP89-37 | TAPER PIN (Code Word— ACITE) | \$0.05 |
| It is recommended that the intermediate gear 602 and taper pin TP89-37 be ordered together as the taper pin is used for securing the intermediate gear to the intermediate gear shaft. | | |
| 604 | INTERMEDIATE DRIVE PULLEY (Code Word— ADAGE) | \$6.75 |
| See note under TP89-48 below. | | |
| TP89-48 | TAPER PIN (Code Word— ADAMS) | \$0.05 |
| It is recommended that intermediate drive pulley 604 and taper pin TP89-48 be ordered together as the taper pin is used for securing the intermediate drive pulley to the intermediate gear shaft. | | |
| 607 | DRIVE BELT (Code Word— ADANA) | \$1.00 |
| Suitable for use with PHONOFILM ATTACHMENT G and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 9 inches to 10 ³ / ₄ inches. See note under 606 below. | | |



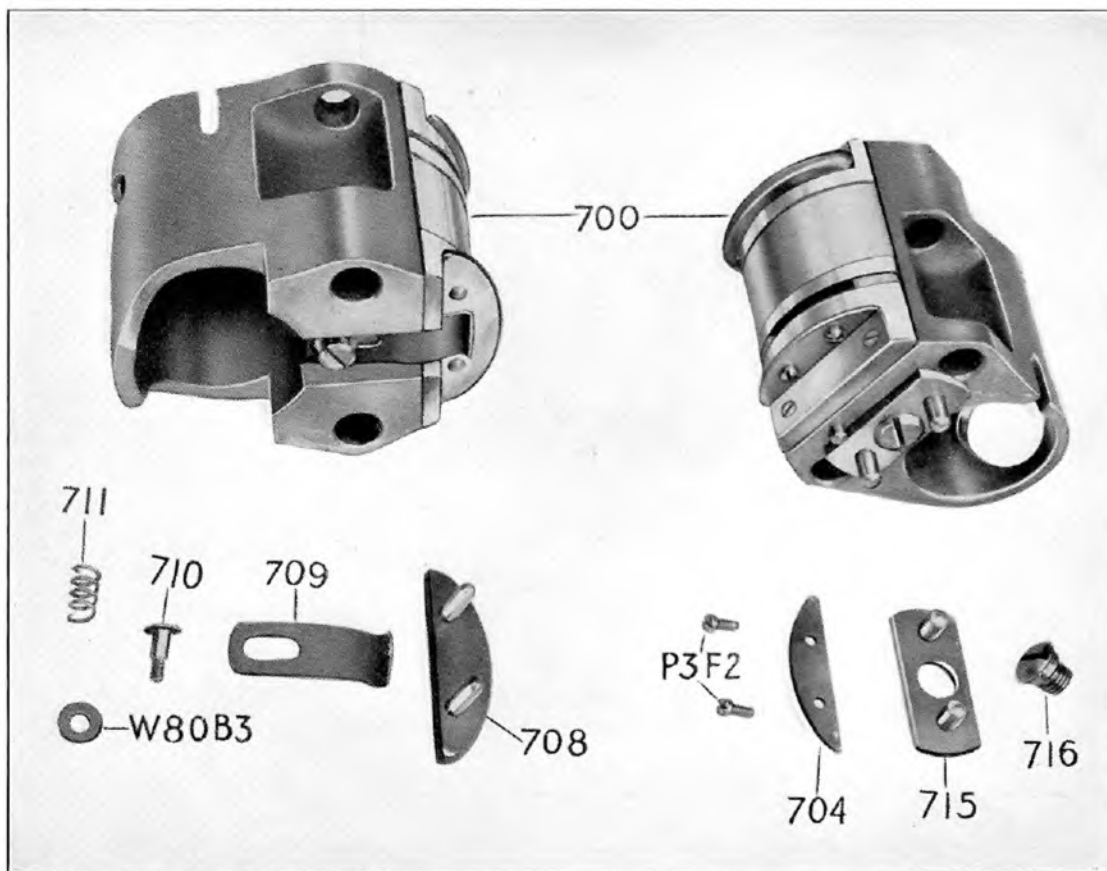
The illustration clearly shows the three different positions of the electric motor drive arrangement when used with various types of Simplex motion picture projectors. To aid exhibitors in determining the correct drive belts to use with these various positions of the electric motor, center to center distances as indicated should be measured and the correct belt to use for a given center to center distance is specifically specified in the illustration by the belt number. These dimensions are indicated on pages A-10, A-11 and A-12 in the descriptive matter under the listing of each of the three belts necessary, depending upon the position of the electric motor.

- 605 DRIVE BELT (Code Word—ADAPT) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 23 1/2 inches to 26 1/2 inches. See note under 606 below.
- 606 DRIVE BELT (Code Word—ACERB) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 27 1/8 inches to 33 1/8 inches.
 The three drive belts 605, 606 and 607 are supplied with complete PHONOFILM ATTACHMENTS adaptable to Simplex projectors in order to provide the proper length belts for driving the intermediate drive assembly 600 from the electric motor.
 In order to aid users of PHONOFILM ATTACHMENTS in ordering spare and replacement drive belts for use with Simplex motion picture projectors, the line drawing illustration shows the three possible positions of the electric motor with relationship to the

PHONOFILM ATTACHMENT, depending upon which type of Simplex projector the PHONOFILM ATTACHMENT is to be used with. The center to center distances are indicated between the electric motor drive shaft and the intermediate gear shaft 602 (upon which is mounted intermediate drive pulley 604) by reference to drive belt catalog numbers. If the motor drive is mounted high up on the projector base and relatively close to the intermediate drive pulley 604, it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between 9 inches and $10\frac{3}{4}$ inches and for this measurement drive belt 607 should be ordered.

If the drive motor is mounted on an underslung motor bracket it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $23\frac{1}{2}$ inches and $26\frac{1}{2}$ inches and for this measurement drive belt 605 should be ordered.

As indicated in the line drawing illustration, Simplex projector bases may have two different types of underslung motor brackets, one of them allowing the motor to set considerably lower than the other. For projectors equipped with this low underslung motor base it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $27\frac{7}{8}$ inches and $33\frac{1}{8}$ inches and for this measurement drive belt 606 should be ordered.



SLIT BLOCK ASSEMBLY

700 SLIT BLOCK ASSEMBLY (Code Word—ADAYS) \$39.50

When inspection of the slit block reveals excessive wear, an order should be placed for a new complete slit block assembly 700 which will be invoiced to you at \$39.50. Immediately upon receipt of the new complete slit block assembly, return the worn complete slit block assembly direct to the GENERAL TALKING PICTURES CORPORATION, Executive offices, 218 West 42nd Street, New York City, and upon receipt of the worn slit block a credit will be issued for \$10.00, making the net cost of the new complete slit block assembly, \$29.50.

The slit block assembly 700 is supplied complete except for the parts listed below which are supplied separately.

Please note that the slit block shoe is not supplied as a separate part as it is necessary to assemble the slit block body and the slit block shoe very accurately at the factory, and to verify that the assembly produces the desired results.

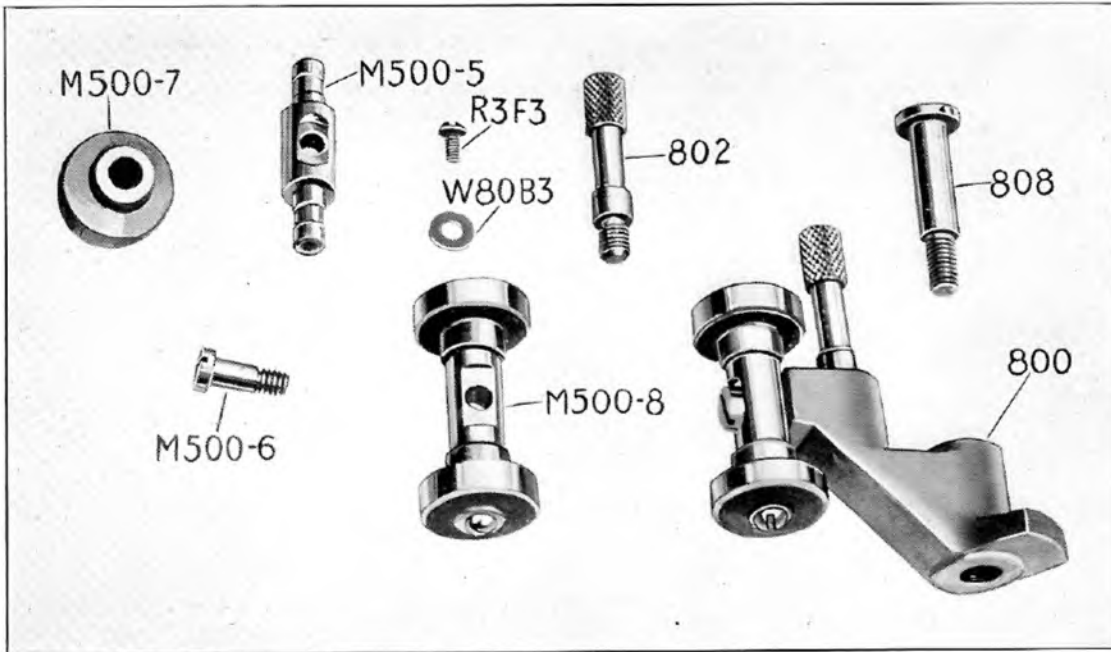
That portion of the slit block 700, or in particular the slit block shoe, which comes in contact with the film as it travels through the PHONOFILM ATTACHMENT is of course subject to wear in normal operation and use. Every engineering precaution, both in the design and in the choice of materials, has been taken to reduce such wear to a minimum. The slit block shoe is hardened and ground to extremely accurate dimensions and the shape of the shoe itself is such as to obtain the desired high quality characteristics of reproduction with minimum wear.

704	MOUNTED SIDE PLATE (Code Word—ADDAX)	\$1.25
	The mounted side plate 704 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the mounted side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under P3F2 below.	
P3F2	MACHINE SCREWS (2 required—Code Word—ADDER)	\$0.05
	It is recommended that mounted side plate 704 and machine screws P3F2 be purchased together as machine screws are used for securing the mounted side plate to the slit block body.	
708	MOVABLE SIDE PLATE ASSEMBLY . . . (Code Word—ADDLE)	\$2.25
	The movable side plate 708 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the movable side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under W80B3 below.	
709	SLIT BLOCK SIDE PLATE SPRING . . . (Code Word—ADELA)	\$0.65
	See note under W80B3 below.	
710	SHOULDER SCREW (Code Word—ADENI)	\$0.40
	See note under W80B3 below.	
711	SLIT BLOCK SPIRAL SPRING (Code Word—ADEPT)	\$0.15
	It is important that the tension of the slit block spiral spring be maintained so that the movable side plate assembly 708 be held against the edge of the film and yet maintain the correct pressure to allow for irregularities in the width of the film and yet maintain the correct position of the film "sound-track" with respect to the slit block. Two springs, slit block side plate spring 709 and slit block spiral spring 711, are used to maintain the correct pressure against the movable side plate assembly 708. If the tension of the spiral spring, or of the side plate spring, is incorrect and does not allow the required movement of the movable side plate assembly 708, or are not of sufficient tension to keep the movable side plate assembly in its correct position, both springs should be replaced with new ones. See note under W80B3 below.	
W80B3	WASHER (Code Word—ADFIN)	\$0.05
	It is recommended that slit block side plate spring 709, shoulder screw 710, slit block spiral spring 711, and washer W80B3 be ordered together, as they are assembled together in attaching the slit block side plate assembly to the slit block body.	
715	LOCK PLATE ASSEMBLY (Code Word—ADHIB)	\$1.00
	See note under 716 below.	
716	LOCK PLATE SHOULDER SCREW (Code Word—ADIEL)	\$0.40
	Lock plate assembly 715 and lock plate shoulder screw 716 should be ordered together as the shoulder screw is used to fasten the lock plate assembly to the slit block body.	

SLIT BLOCK ROLLER ASSEMBLY

(Please see illustration on top of page A-14)

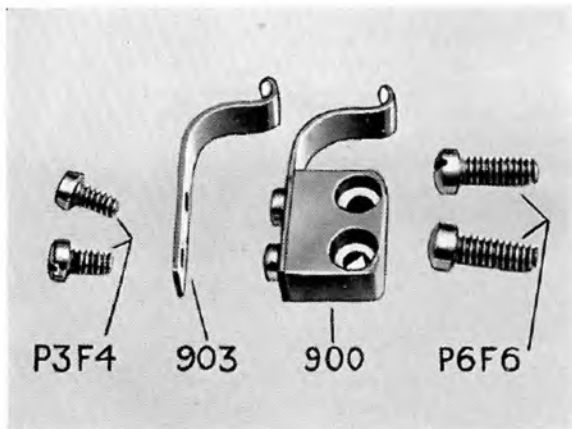
800	SLIT BLOCK ROLLER ASSEMBLY (Code Word—ADIOS)	\$10.50
	Slit block roller assembly 800 is complete with slit block roller screw 808 which is used to attach the roller assembly to the main housing.	
802	SLIT BLOCK ROLLER KNOB (Code Word—ADLIB)	\$0.75
M500-8	ROLLER ASSEMBLY (Code Word—ADLOC)	\$4.50
	See note under M500-6 below.	
M500-5	ROLLER SHAFT (Code Word—ADMIT)	\$2.00
	The roller shaft M500-5 should ordinarily be replaced at the same time that the rollers M500-7 are replaced as the shaft supports the rollers and is subject to the same conditions of wear in operation as are the rollers.	
M500-6	ROLLER SHOULDER SCREW (Code Word—ADOBE)	\$0.40
	Roller assembly M500-8 should be ordered together with roller shoulder screw M500-6 as the shoulder screw is used for securing the roller assembly to the slit block roller arm.	



- M500-7 ROLLER** (Code Word—**ADORE**) **\$1.25**
 In accordance with the notation under the listing of roller shaft M500-5 above, it is desirable to replace the rollers M500-7 at the same time that the roller shaft M500-5 is replaced, as both the roller shaft and the rollers are subject to the same conditions of wear in operation. See note under W80B3 below.
- R3F3 MACHINE SCREW** (Code Word—**ADOWA**) **\$0.05**
 See note under W80B3 below.
- W80B3 WASHER** (Code Word—**ADFIN**) **\$0.05**
 Roller M500-7, machine screw R3F3 and washer W80B3 should be ordered together as the screw and washer are used to fasten the roller to the roller shaft M500-5.
- 808 SLIT BLOCK ROLLER SCREW** (Code Word—**ADRIF**) **\$0.75**

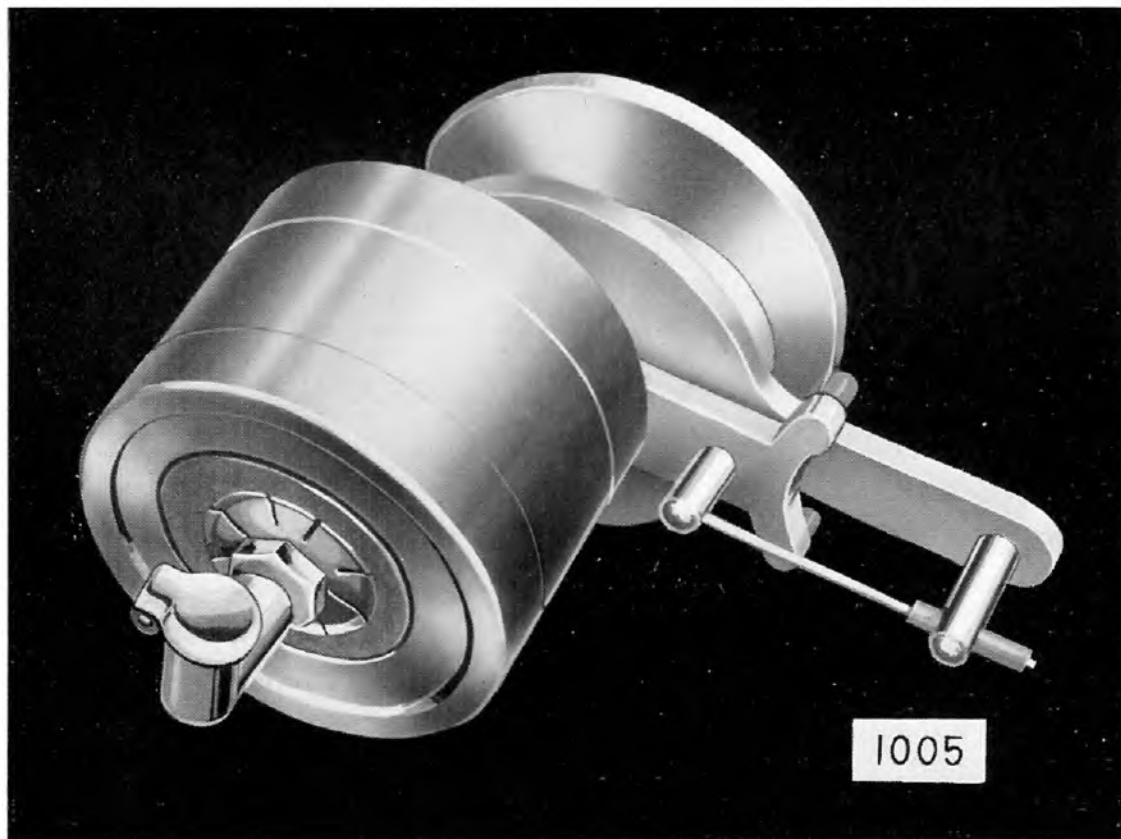
SLIT BLOCK ROLLER CATCH ASSEMBLY

- 900 SLIT BLOCK ROLLER CATCH ASSEMBLY** (Code Word—**ADULT**) **\$1.75**
 See note under P6F6 below.
- P6F6 MACHINE SCREWS** (2 required—Code Word—**AEGIR**) **\$0.05**
 Machine screws P6F6 should be ordered together with slit block roller catch assembly as the screws are used to attach the roller catch assembly 900 to the main housing.



- 903 CATCH SPRING** (Code Word—**ADUSK**) **\$0.50**
 The slit block roller catch assembly 900 serves to hold the slit block roller arm assembly 800 in its correct position because of the tension of the catch spring 903. The spring accordingly should be replaced whenever the tension of the spring is insufficient to hold the slit block roller arm assembly in its correct position. See note under P3F4 below.

- P3F4 MACHINE SCREWS** (2 required—Code Word—**AEGLE**) **\$0.05**
 Machine screws P3F4 should be ordered together with catch spring 903 as the screws are for attaching the spring to the slit block roller catch block.



COMPENSATING ROLLER ASSEMBLY

1005 COMPENSATING ROLLER ASSEMBLY (Code Word—AEMIA)

Compensating roller assembly 1005 is not supplied as an individual assembly but is supplied in complete new PHONOFILM ATTACHMENTS. If you are desirous of utilizing a PHONOFILM ATTACHMENT in which the compensating roller assembly 1005 is a component part, communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City. This compensating roller assembly, as a component part of a complete PHONOFILM ATTACHMENT, is an extremely important part, as through its action it insures improved reproduction of both speech and music when reproduced from "sound-on-film" motion pictures.

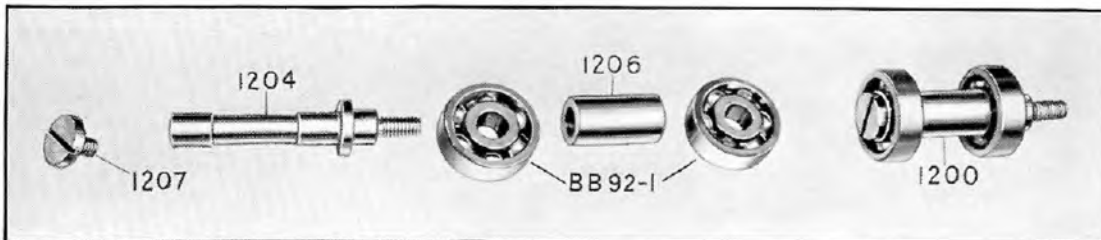
The compensating roller is so designed as to absolutely insure a smooth and completely uniform gliding movement of the sound-film past the slit block assembly 700 in which the photo-cell 1900 is inserted.

Such uniformity of motion of the film is accomplished by the compensating roller due to the use of a roller of relatively large diameter mechanically balanced and under a uniform tension, the roller being capable of movement as may be necessary to compensate for irregularities in tension or speed and yet restrained from excessive movement; the freedom of movement of the roller and its associated tension device being such as to compensate for irregularity of mechanical motion of the various driving elements within the PHONOFILM ATTACHMENT and thus eliminate irregularity of mechanical motion being imparted directly to the film.

From a mechanical engineering point of view, the major purpose of the PHONOFILM ATTACHMENT is to provide such a uniform movement of the film past the photo-cell and it is believed that the perfection of design and its attendant results achieved in the compensating roller provides a PHONOFILM ATTACHMENT very nearly approaching mechanical perfection and completely and practically solving a problem which has been a very serious one and which has previously limited the attainment of the mechanical perfection now available in PHONOFILM ATTACHMENTS.

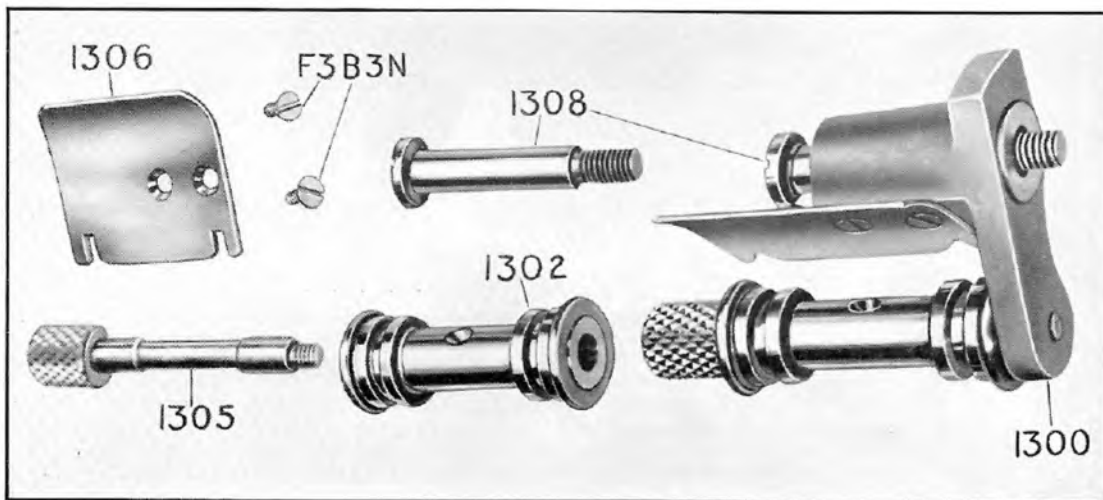
The compensating roller consists of a very few parts. Its operation is completely silent. Its construction is sturdy and fool-proof and the entire PHONOFILM ATTACHMENT is greatly simplified in its mechanical construction and by the use of such a device.

By the simplification of the PHONOFILM ATTACHMENT, obviously the use of the compensating roller increases the simplicity of threading of the sound-film through the ATTACHMENT and decreases the possibility of film breakage or injury.



INTERMEDIATE ROLLER ASSEMBLY

1200	INTERMEDIATE ROLLER ASSEMBLY . . . (Code Word—AFIRE)	\$8.00
1204	ROLLER SHAFT (Code Word—AFRIT)	\$1.75
BB92-1	BALL BEARINGS (2 required—Code Word—AFTER)	\$2.50
	Ball bearings BB92-1 are of course subject to wear and should be replaced if the wear becomes excessive or in any sense detrimental to the uniform motion of the film through the PHONOFILM ATTACHMENT.	
1206	BALL BEARING SPACER (Code Word—AGAIN)	\$0.75
1207	CLAMPING SCREW (Code Word—AGAMA)	\$0.50

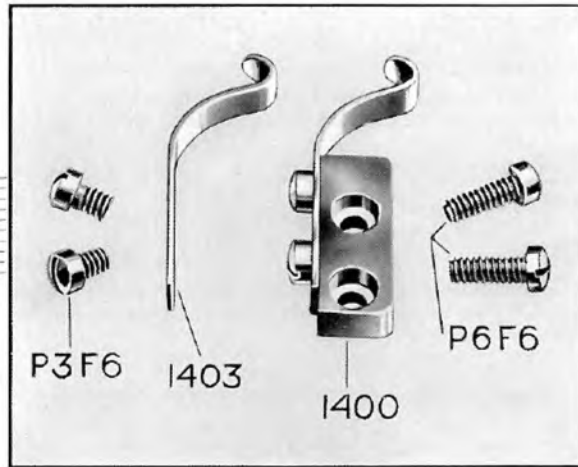


SPROCKET ROLLER ASSEMBLY

1300	SPROCKET ROLLER ASSEMBLY (Code Word—AGAPE)	\$10.50
	Complete with roller mounting screw 1308.	
1302	SPROCKET ROLLER (Code Word—AGENT)	\$3.00
	See note under 1305 below.	
1305	SPROCKET ROLLER SHAFT ASSEMBLY (Code Word—AGGER)	\$1.00
	The sprocket roller shaft assembly 1305 should be ordered together with the sprocket roller 1302 as the shaft assembly is used to secure the roller to the sprocket roller arm, and is subject to the same conditions of wear in operation.	
1306	STRIPPER (Code Word—AGAST)	\$1.10
	See note under F3B3N below.	
F3B3N	MACHINE SCREWS (2 required—Code Word—AGLET)	\$0.05

Machine screws F3B3N should be ordered together with stripper 1306 as the machine screws are used for fastening the stripper to the roller arm.

1308 ROLLER MOUNTING SCREW (Code Word—AGLOW) \$0.75



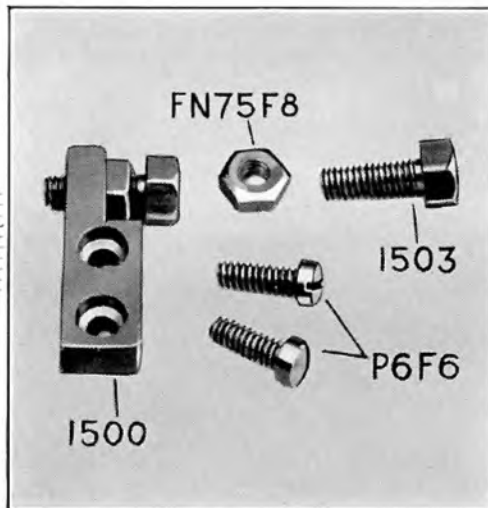
SPROCKET ROLLER CATCH ASSEMBLY

1400 SPROCKET ROLLER CATCH ASSEMBLY (Code Word—AGNES) \$1.75
See note under P6F6 below.

P6F6 MACHINE SCREWS (2 required—Code Word—AEGIR) \$0.05
Machine screws P6F6 should be ordered together with sprocket roller catch assembly 1400 as the machine screws are used for attaching the sprocket roller catch assembly to the main housing.

1403 SPROCKET ROLLER CATCH SPRING . (Code Word—AGONE) \$0.50
The sprocket roller catch assembly 1400 is used to hold the sprocket roller assembly 1300 in its correct position because of the tension of the sprocket roller catch spring 1403 against the sprocket roller assembly. Whenever the tension of the sprocket roller catch spring is insufficient to hold the sprocket roller assembly in its correct positions the spring should be ordered and replaced. See note under P3F6 below.

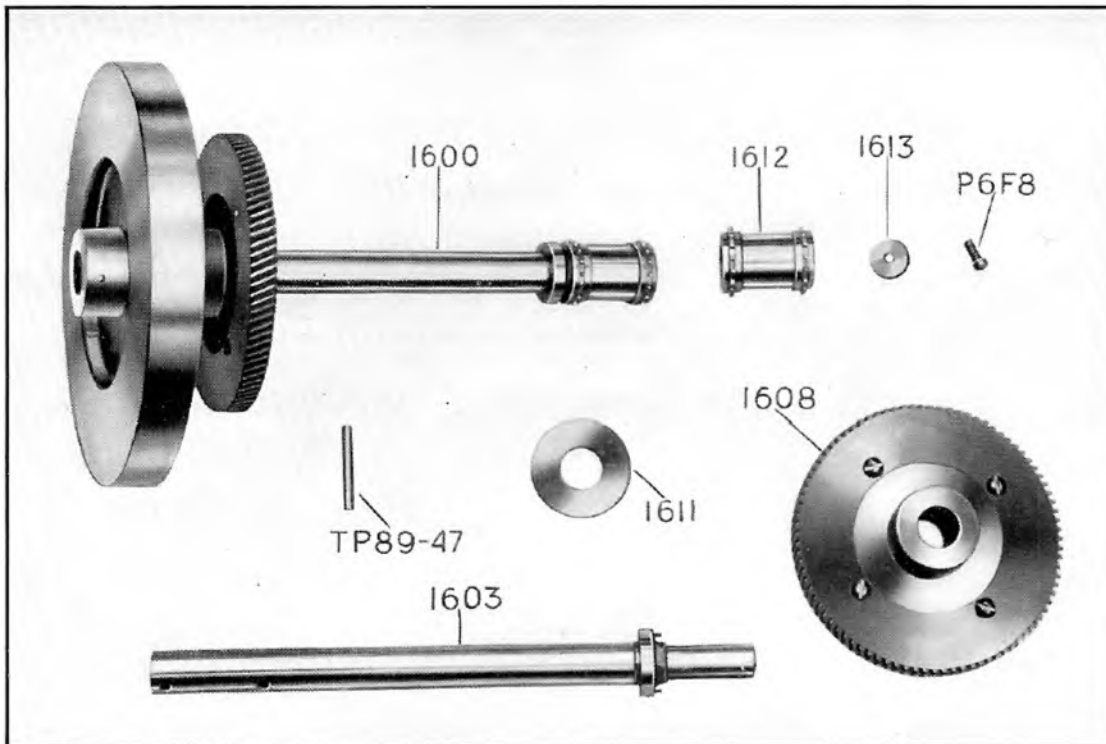
P3F6 MACHINE SCREWS (2 required—Code Word—AGOOD) \$0.05
Machine screws P3F6 should be ordered together with sprocket roller catch spring 1403, as the machine screws are used for attaching the sprocket roller catch spring to the sprocket roller catch block.



ROLLER ADJUSTMENT ASSEMBLY

(See illustration on bottom of page A-17)

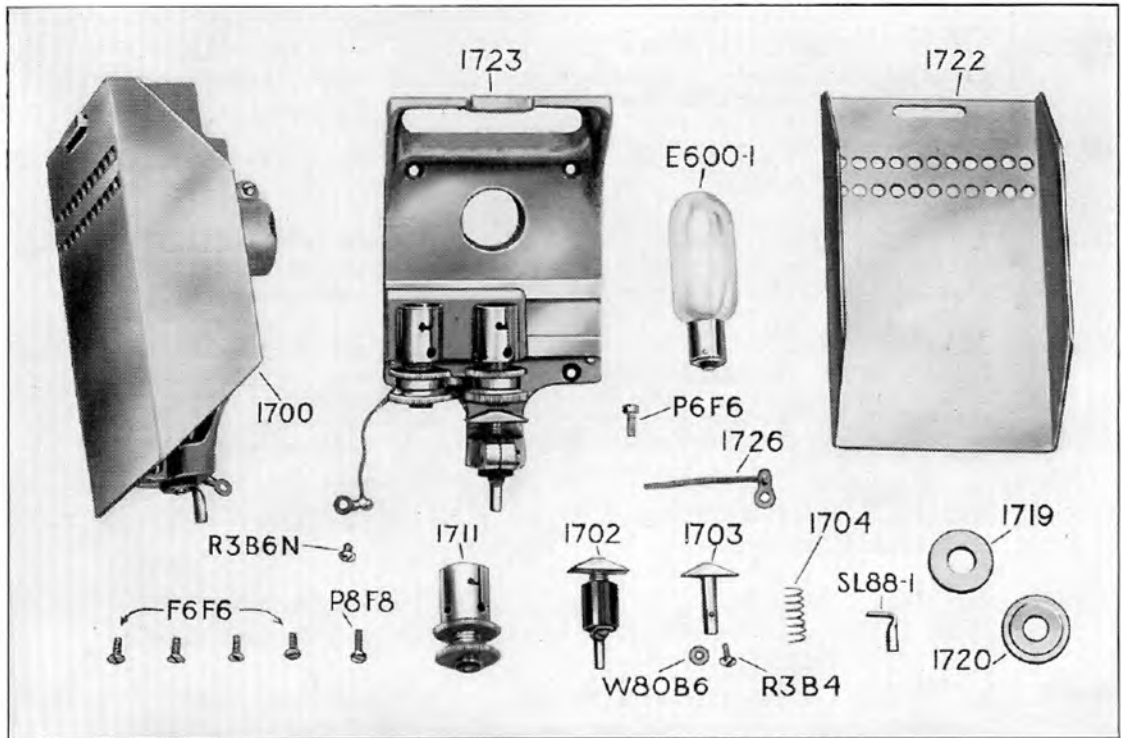
1500	ROLLER ADJUSTMENT ASSEMBLY (Code Word—AGORA)	\$1.50
	See note under P6F6 below.	
P6F6	MACHINE SCREWS (2 required—Code Word—AEGIR)	\$0.05
	Machine screws P6F6 should be ordered together with roller adjustment assembly 1500 as the screws are used for attaching the assembly to the main housing.	
1503	ROLLER ADJUSTMENT SCREW (Code Word—AGRAM)	\$0.35
	See note under FN75F28 below.	
FN75F28	HEXAGON NUT (Code Word—ABOUT)	\$0.05
	Hexagon nut FN75F28 should be ordered together with roller adjustment screw 1503 as the hexagon nut is used as a lock nut to permanently secure the correct adjustment of the roller adjustment screw.	



SPROCKET DRIVE ASSEMBLY

1600	SPROCKET DRIVE ASSEMBLY (Code Word—AGUAS)	\$69.80
1603	SPROCKET SHAFT ASSEMBLY (Code Word—AHEAD)	\$16.50
1608	SPROCKET SHAFT GEAR ASSEMBLY (Code Word—AHIND)	\$15.00
	The sprocket shaft gear assembly 1608 is only supplied complete as the micarta gear blank is assembled to the gear hub previous to generating the gear. The removal of the gear hub from the gear after the generation of the teeth in the gear blank would not insure the desired and necessary accuracy of the completed sprocket shaft gear assembly. See note under TP89-47 below.	
TP89-47	TAPER PIN (Code Word—AHMED)	\$0.05
	Taper pin TP89-47 should be ordered together with sprocket shaft gear assembly 1608 as the taper pin is used for securing the assembly to the sprocket shaft.	

- 1611 **THRUST WASHER** (Code Word—**AHOLD**) **\$0.60**
 This thrust washer is not just an ordinary washer but is carefully surfaced and ground on each side to an accurate dimension in order to insure the correct position of the sprocket shaft assembly in its bearing in the main housing.
- 1612 **FILM SPROCKET** (Code Word—**AHULL**) **\$12.50**
 The film sprocket 1612 is the drive member in the complete **PHONOFILM ATTACHMENT** which causes the film to travel smoothly through the **PHONOFILM ATTACHMENT** mechanism. This film sprocket is manufactured with extreme accuracy being held to dimensions of plus or minus one ten-thousandth of an inch. Particular attention should be given to the condition of the film sprocket and if the teeth are under-cut due to long and severe use, the film sprocket should be replaced with a new one.
 The film sprocket 1612 should not be confused with the ordinary film sprockets available, which are usually not made of the most suitable materials or with the accuracy held to the dimensions and tolerances necessary to produce a film sprocket suitable for use in a **PHONOFILM ATTACHMENT**. See note under P6F8 below.
- 1613 **SPROCKET WASHER** (Code Word—**AIDIN**) **\$0.10**
 See note under P6F8 below.
- P6F8 **MACHINE SCREW** (Code Word—**AILSA**) **\$0.05**
 Machine screw P6F8 and sprocket washer 1613 should be ordered together with the film sprocket 1612 as the machine screw and washer are used for securing the film sprocket to the end of the sprocket shaft.



EXCITING LAMP HOUSING ASSEMBLY

- 1700 **EXCITING LAMP HOUSING ASSEMBLY** (Code Word—**AINCE**) **\$36.50**
 With exciting lamp housing cover 1722 but without exciting lamps E300-1. See note under F6F6 below.
- 1723 **EXCITING LAMP HOUSING ASSEMBLY** (Code Word—**AISHA**) **\$34.25**
 Without exciting lamp housing cover 1722 and without exciting lamps E600-1. See note under F6F6 below.
- F6F6 **MACHINE SCREWS** (4 required—Code Word—**AISLE**) **\$0.05**
 Machine screws F6F6 should be ordered together with either the exciting lamp housing with cover 1700 or with the exciting lamp housing without cover 1723, as the machine screws are used for attaching the housing assembly to the main housing of the **PHONOFILM ATTACHMENT**.

1702	MASTER CONTACT PLUNGER ASSEMBLY (Code Word—AITCH)	\$1.75
	See note under P8F8 below.	
P8F8	MACHINE SCREW (Code Word—ACINU)	\$0.05
	This machine screw is used for securing a permanent adjustment of the master contact plunger assembly 1702 in its proper position in the lamp housing so that perfect electrical contact will be made to the exciting lamp socket assemblies 1711.	
1703	MASTER CONTACT PLUNGER (Code Word—AIVER)	\$1.10
1704	MASTER CONTACT SPIRAL SPRING . . . (Code Word—AKBAR)	\$0.10
SL88-1	SOLDERING LUG (Code Word—AKRON)	\$0.05
	See note under R3B4 below.	
W80B6	WASHER (Code Word—ALACK)	\$0.05
	See note under R3B4 below.	
R3B4	MACHINE SCREW (Code Word—ALAKE)	\$0.05
	Machine screw R3B4 and washer W80B6 should be ordered together with soldering lug SL88-1 as the machine screw and washer are used for attaching the soldering lug to the master contact plunger 1703.	
1711	EXCITING LAMP SOCKET ASSEMBLY . (Code Word—ALAMO)	\$2.50
	Complete with 1719 and 1720 upper and lower socket lock nuts. For exciting lamp E600-1. See note under 1720 below.	
1719	UPPER SOCKET LOCK NUT (Code Word—ALAND)	\$0.45
	See note under 1720 below.	
1720	LOWER SOCKET LOCK NUT (Code Word—ALARM)	\$0.60
	The upper and lower socket lock nuts 1719 and 1720 are used for securing the proper adjustment of the lamp socket assemblies 1711 in the lamp housing assembly.	
P6F6	MACHINE SCREW (Code Word—AEGIR)	\$0.05
	Machine screw P6F6 is used to secure the optical system 1800 in its correct adjustment in the exciting lamp housing assembly. See page B-5 of section "B" of this parts-catalog for details and price of the optical system microscope 5350 which is used with particular advantage in making the correct adjustment of optical system 1800.	
1726	GROUND WIRE ASSEMBLY (Code Word—ALATE)	\$0.25
	See note under R3B6N below.	
R3B6N	MACHINE SCREW (Code Word—ALVIN)	\$0.05
	Machine screw R3B6N is used for fastening the ground wire assembly terminal to the main housing assembly.	
E600-1	EXCITING LAMP (Carton of (6) Six) . . . (Code Word—YELDE)	\$1.25
	Please note that by purchasing exciting lamps E600-1 in cartons of six the cost is \$1.25 each instead of \$1.45 as when purchased individually, or a saving of \$0.20 each.	
	Two exciting lamps E600-1 are used in each PHONOFILM ATTACHMENT. A sliding bracket carrying the exciting lamps permits using either lamp at will, thus making it possible to quickly shift from a burnt-out lamp to a good one, if a lamp should burn-out during the running of a sound film.	
	A number of spare exciting lamps should always be in the projection booth for replacement in emergencies. Exciting lamps used with DE FOREST PHONOFILM ATTACHMENTS are particularly rugged in construction, capable of long life and provide correct illumination characteristics as required by the photo-cell assembly 1900. All exciting lamps are carefully inspected and tested before shipment and only those lamps meeting the rigid engineering test specifications of the Engineering Division are supplied to exhibitors.	
	See page G-5 and G-6 of section "G" of this parts-catalog for more detailed description of the merits of exciting lamps E600-1.	
1722	EXCITING LAMP HOUSING COVER . . . (Code Word—ALDEA)	\$2.25

DE FOREST
PHONOFILM

PARTS CATALOG

Catalog of Spare and Replacement Parts and Accessories for DE FOREST PHONOFILM ATTACHMENTS and also for the Electrical and Acoustical Equipment Used in Conjunction with DE FOREST PHONOFILM ATTACHMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

PHONOFILM PARTS CATALOG

NUMBER

1990-

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DE FOREST

PHONOFILM

PARTS CATALOG

SECTION A

Spare and Replacement Parts
for DE FOREST PHONO-
FILM ATTACHMENTS
Adaptable to Simplex and
Powers Motion Picture
Projectors.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * .”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

PHONOFILM PARTS CATALOG

IT IS the earnest desire of the GENERAL TALKING PICTURES CORPORATION to aid users of DE FOREST PHONOFILM in maintaining such equipments in the very best possible operating condition so as to provide maximum "high-quality" results.

PHONOFILM equipment, like all other equipment utilized for the reproduction of talking motion pictures, must be correctly installed and given simple daily attention and tests by the projectionist; must be kept properly lubricated and cared for the same as any other high grade mechanism or equipment such as automobiles, radio-receivers, aeroplanes, etc. in order to provide their maximum usefulness.

In addition to the normal care given DE FOREST PHONOFILM equipment in its daily maintenance and operation it is of equal importance to the exhibitor, who would insure continual high quality operation of such equipment, to have available for immediate repair and replacement the most important parts of the DE FOREST PHONOFILM equipment, such as photo-cells, vacuum tubes, speaker units, speaker field rectifier units, battery charger bulbs, pilot lamps and exciting lamps, etc. and such mechanical parts of the equipment as are subject to usual wear in the ordinary and reasonable use of the equipment.

It is the function of this "parts-catalog" to make available to users of DE FOREST PHONOFILM equipment, a listing of spare and replacement parts and accessories in accordance with the assemblies of which they are component parts, both with reference to the PHONOFILM ATTACHMENT itself and with reference to the electrical and acoustical equipment used in conjunction with the PHONOFILM ATTACHMENT.

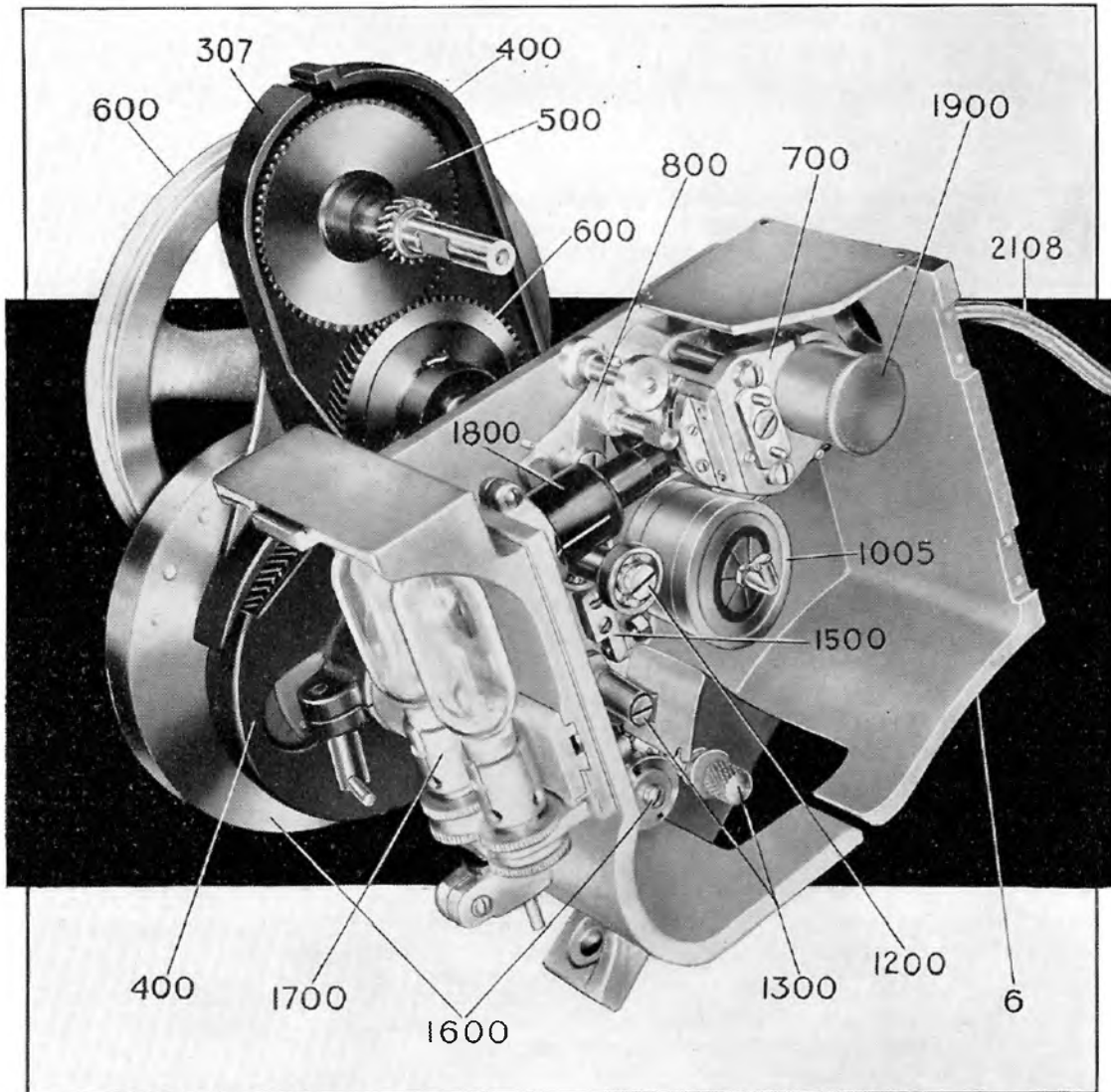
The catalog has been made as simple and convenient as possible for the exhibitor and his projectionists. Illustrations picture complete assemblies as well as individual parts and the listing of assemblies and parts are shown directly following the illustrations. The catalog numbers are designated the same in the illustrations and in the descriptive copy. In the descriptive matter, reference is always made to associated component parts and in using the catalog one should always read such references, as well as the catalog part numbers, listing such individual parts.

The catalog in its entirety is issued in sections as indicated below, and in each section the sheets are in loose-leaf form allowing the insertion of additional catalog sheets in their proper section and position as issued in the future.

- Section A: Phonofilm Attachments (adaptable to Simplex and Powers motion picture projectors).**
- Section B: Accessories for use with Phonofilm Attachments.**
- Section C: Amplifiers, Power Supply and Control Panels, etc.**
- Section D: Equalizers, Faders, Speaker-controls, etc.**
- Section E: Batteries, Battery Chargers, etc.**
- Section F: Loud speakers (including speaker field rectifiers, auto-transformers, etc., used with such acoustical equipment).**
- Section G: Tubes (including exciting lamps, rectifier tubes, etc.).**
- Section H: Auxiliary Electrical Equipment and Instruments.**

It is the desire and recommendation of the GENERAL TALKING PICTURES CORPORATION that users of DE FOREST PHONOFILM equipments use this parts catalog in aiding themselves and their projectionists in securing the materials and parts that should be available in the projection room as spare and replacement parts and accessories.

The exhibitors' cooperation is desired and requested in every way, in order to aid in the maintenance of the "high-standard-of-quality-reproduction" achieved with DE FOREST PHONOFILM equipment.



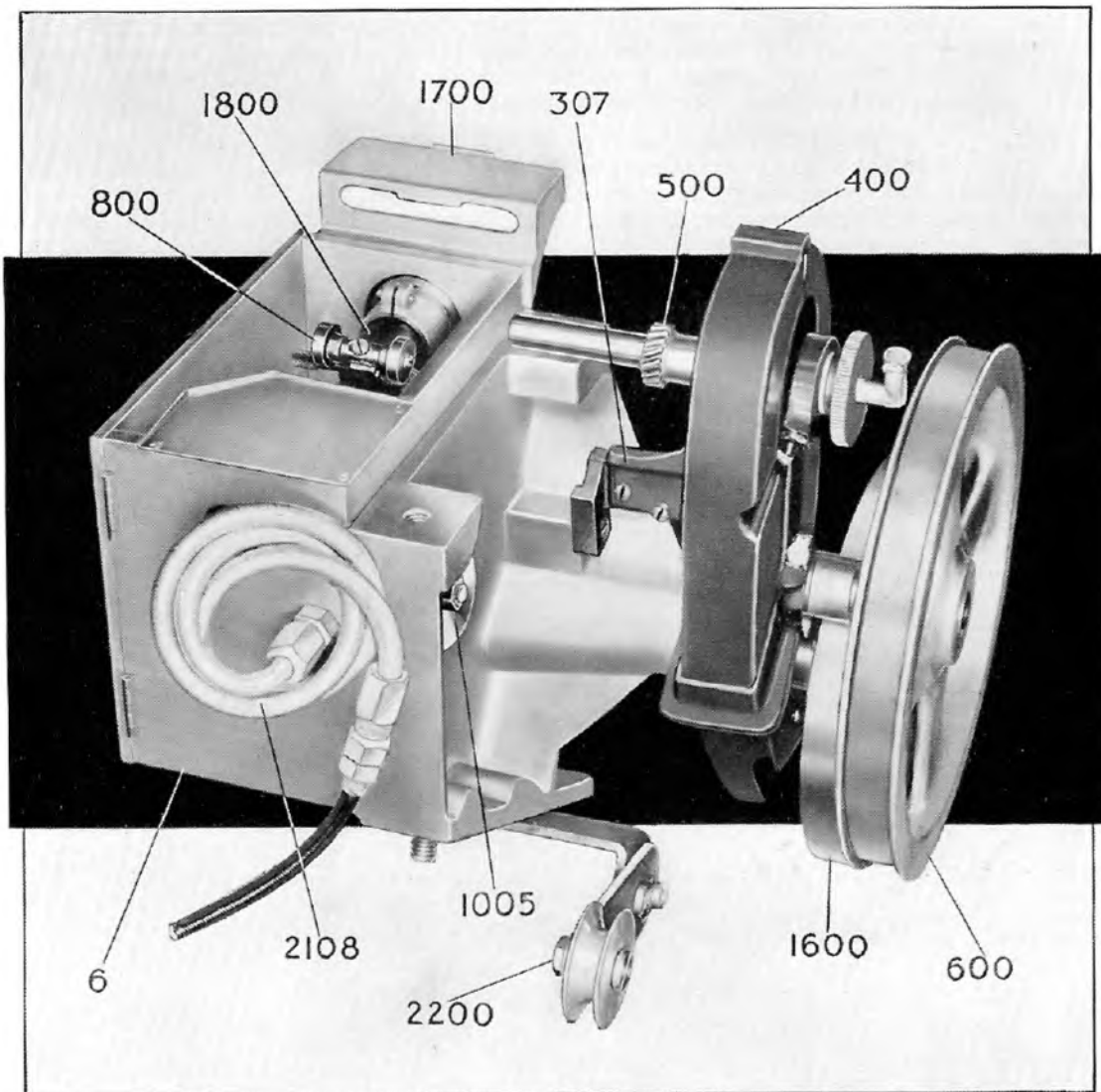
Oblique front view of the complete PHONOFILM ATTACHMENT "6" without door, adaptable to Simplex motion picture projectors and showing the interior of the attachment and numerically designating the major assemblies.

PHONOFILM ATTACHMENT "6" AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENT ADAPTABLE TO SIMPLEX MOTION PICTURE PROJECTORS

PHONOFILM ATTACHMENTS adaptable to Simplex motion picture projectors are considered standard. The list of spare and replacement parts cataloged is complete as regards assemblies but does not list all parts used in complete assemblies.

The above illustration, and the illustration on page A-5 of a complete PHONOFILM ATTACHMENT "6" designates the major assemblies and includes all of the assemblies that can be clearly seen in the illustrations. These assemblies include:

- 307—GEAR GUARD ASSEMBLY
- 400—TRANSMISSION ARM ASSEMBLY
- 500—SIMPLEX PINION ASSEMBLY



Oblique rear view of the complete PHONOFILM ATTACHMENT "6" adaptable to Simplex motion picture projectors, illustrating and designating the major assemblies including those not shown in the oblique front view as illustrated on page A-4.

- 600—INTERMEDIATE DRIVE ASSEMBLY
- 700—SLIT BLOCK ASSEMBLY
- 800—SLIT BLOCK ROLLER ASSEMBLY
- 1005—COMPENSATING ROLLER ASSEMBLY
- 1200—INTERMEDIATE ROLLER ASSEMBLY
- 1300—SPROCKET ROLLER ASSEMBLY
- 1500—ROLLER ADJUSTMENT ASSEMBLY
- 1600—SPROCKET DRIVE ASSEMBLY
- 1700—EXCITING LAMP HOUSING ASSEMBLY
- 1800—OPTICAL SYSTEM
- 1900—PHOTO-CELL ASSEMBLY
- 2108—PHOTO-CELL CABLE ASSEMBLY
- 2200—TAKE-UP IDLER PULLEY ASSEMBLY

The individual parts that go to make up all of the major assemblies of a PHONOFILM ATTACHMENT are illustrated and described on the following pages.

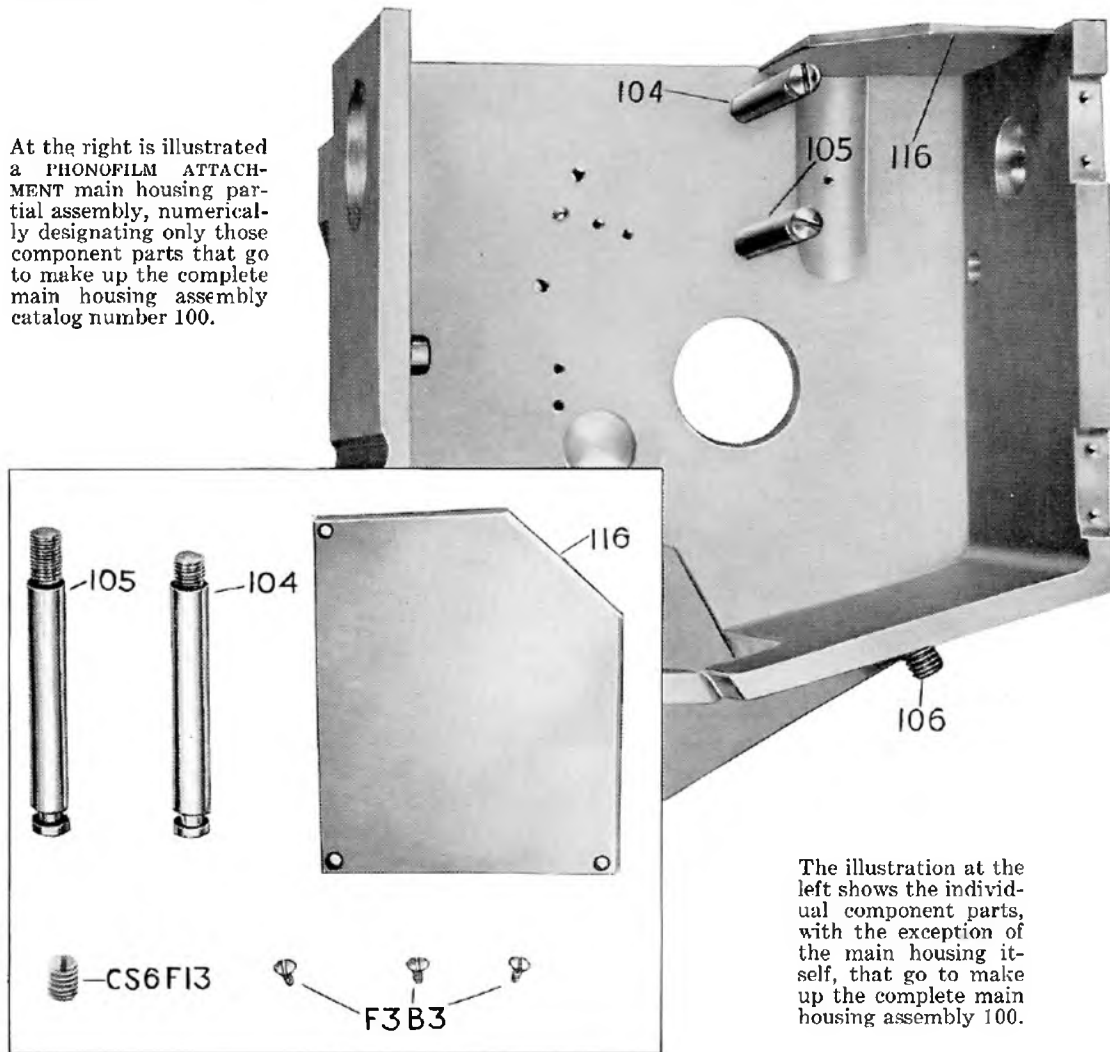
Please note that in the above illustrations, assemblies 100, 200, 900, 1400, and 2000, or the main housing assembly, the door assembly, the slit-block roller catch assembly, the sprocket roller catch assembly, and the photo-cell receptacle assembly are not shown or designated. Details with respect to these assemblies will be found, however, in the individual listing of the assemblies and their component parts.

PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors are to a large extent identical with the attachment adaptable to the Simplex projector, and in the listing of spare and replacement parts for PHONOFILM ATTACHMENTS for Powers projectors, the parts listed which are the same as for the PHONOFILM ATTACHMENT for the Simplex projector will carry the same part or catalog numbers; parts that are special for the PHONOFILM ATTACHMENT for the Powers projector will of course carry individual and distinct numbers.

**6 COMPLETE PHONOFILM ATTACHMENT (Code Word—ABACA)
FOR SIMPLEX MOTION PICTURE PROJECTORS**

COMPLETE PHONOFILM ATTACHMENTS 6 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION

At the right is illustrated a PHONOFILM ATTACHMENT main housing partial assembly, numerically designating only those component parts that go to make up the complete main housing assembly catalog number 100.



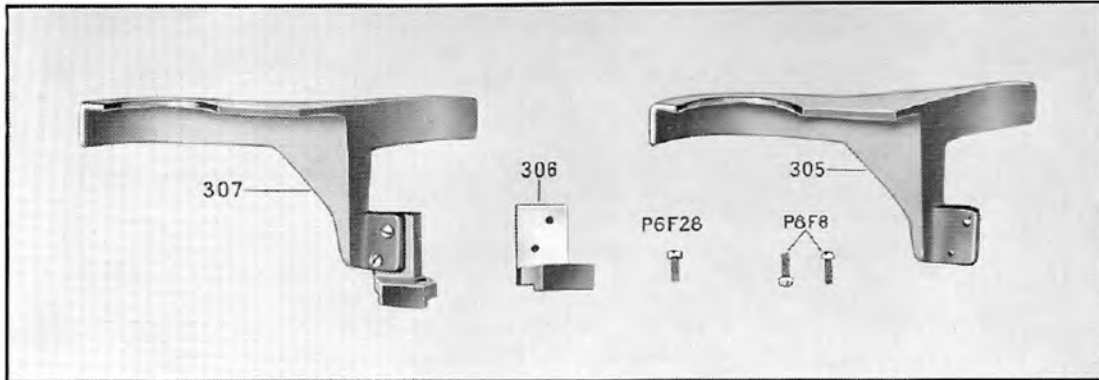
The illustration at the left shows the individual component parts, with the exception of the main housing itself, that go to make up the complete main housing assembly 100.

MAIN HOUSING ASSEMBLY

100 MAIN HOUSING ASSEMBLY (Code Word—ABELE)

The main housing assembly 100 is not sold as a spare or replacement part and will never need to be replaced except in cases of serious injury, fire, etc. Under such emergency conditions it is necessary to replace the complete PHONOFILM ATTACHMENT

P10F6	MACHINE SCREWS (2 required—Code Word— ABYDE) These two machine screws are used to fasten both door lock assembly 206 and lift handle 207 to door. See note under lift handle 207.	\$0.05
207	LIFT HANDLE (Code Word— ABYSS) Lift handle 207 is fastened to the door by the same two machine screws P10F6 that also fasten the door lock assembly 206 to the door.	\$0.50
H90-1	DOOR HINGE (2 required—Code Word— ACATE) See note under F5F3 below.	\$0.15
F5F3	MACHINE SCREWS (4 required—Code Word— ACCIT) Machine screws F5F3 are for attaching door hinge to door and to main housing. Four are required for each hinge.	\$0.05



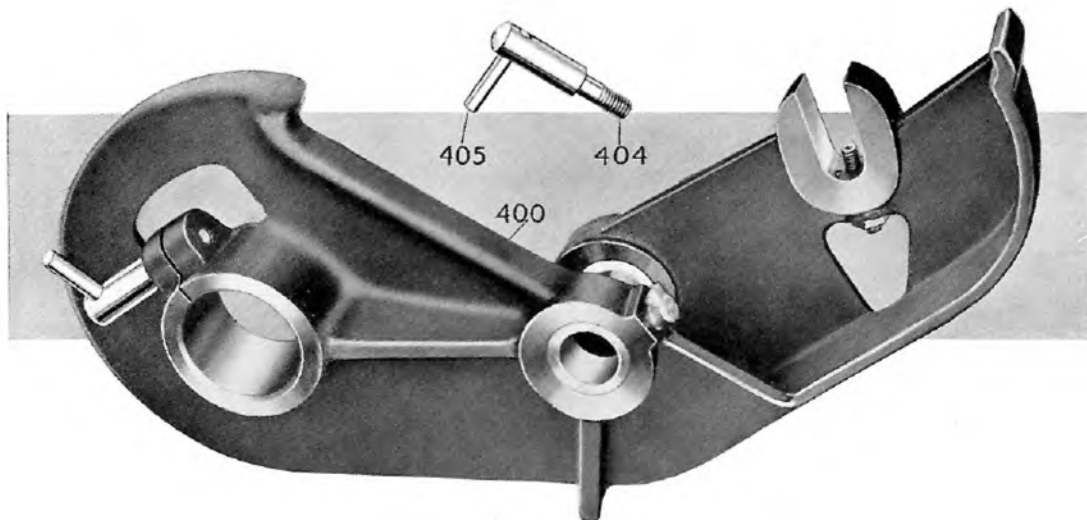
GEAR GUARD ASSEMBLY

307	GEAR GUARD ASSEMBLY (Code Word— ACCRA) See note under P6F28 below.	\$3.65
306	GEAR GUARD BRACKET (Code Word— ACEAE) See note under P8F6 below.	\$1.50
305	GEAR GUARD (Code Word— ACHIN) See note under P8F8 below.	\$2.00
P8F8	MACHINE SCREWS (2 required—Code Word— ACINU) Two machine screws P8F8 are used for fastening gear guard 305 to gear guard bracket 306 and these machine screws should be ordered when ordering either the gear guard or the gear guard bracket.	\$0.05
P6F28	MACHINE SCREW (Code Word— ABOMA) Gear guard assembly 307 is secured to the main housing of the PHONOFILM ATTACHMENT by means of machine screw P6F28 and when ordering the gear guard assembly the machine screw should also be ordered.	\$0.05

TRANSMISSION ARM ASSEMBLY

(Please see illustration on top of page A-9)

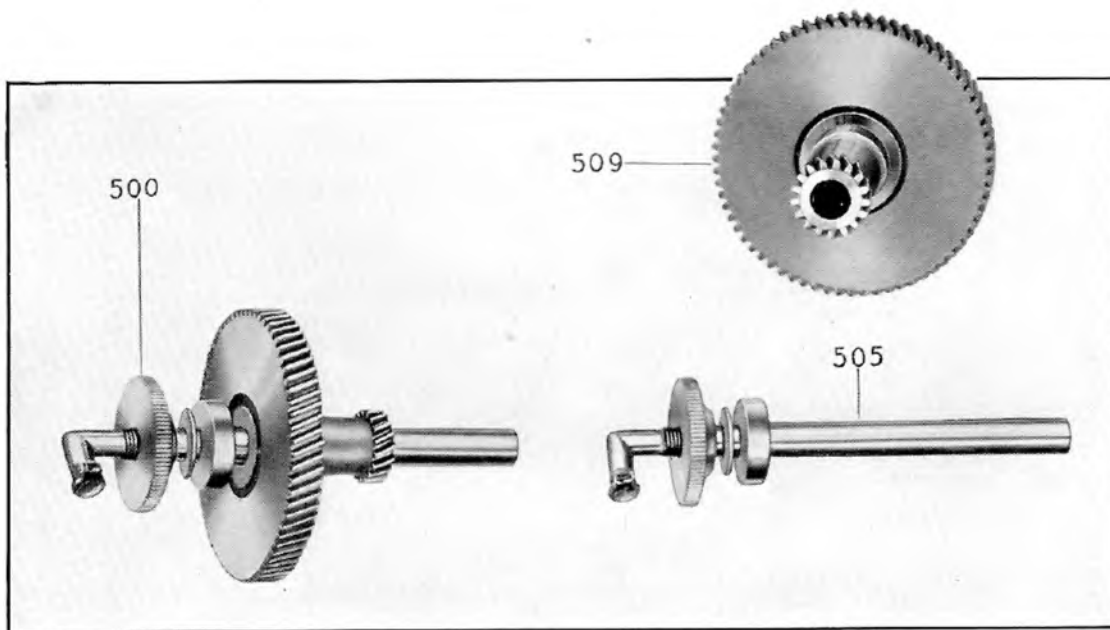
400	TRANSMISSION ARM ASSEMBLY (Code Word— ACITY) Complete with transmission arm lock screw 404, transmission arm lock screw pin 405, oil cups OC93-1, set screw RS12F28 and hexagon nut FN75F28.	\$32.50
404	TRANSMISSION ARM LOCK SCREW (Code Word— ACOCK) See note under 405 below.	\$0.75
405	TRANSMISSION ARM LOCK SCREW PIN (Code Word— ACORN) It is recommended that transmission arm lock screw 404 and transmission arm lock screw pin 405 are ordered together as the lock screw pin serves as a lever for adjusting the transmission arm lock screw.	\$0.15



RS12F28 SET SCREW (Code Word—ABUYO) \$0.05
 See note under FN75F28 below.

FN75F28 HEXAGON NUT (Code Word—ABOUT) \$0.05
 Set screw RS12F28 and hexagon nut FN75F28 are not numerically designated in the illustration above, but are clearly shown in the right center portion of the picture. They are used to secure the correct adjustment of the transmission arm assembly 400 with relation to the Simplex pinion assembly 500. Both the set screw and the hexagon nut should be ordered together.

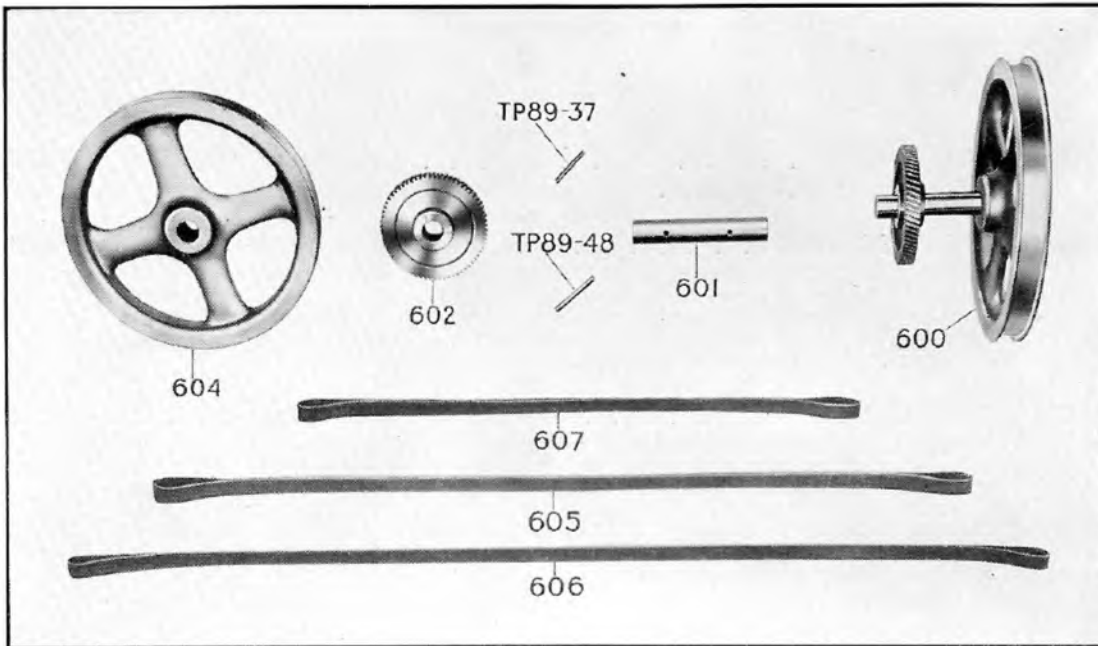
OC93-1 OIL CUPS (2 required—Code Word—ABUKO) \$0.20
 The oil cups OC93-1 are not numerically designated in the illustration above but one of them is clearly shown in the picture on the top of the transmission arm adjacent to one side of the bearing for the intermediate drive assembly 600, and the second oil cup is used in exactly the same relative position for lubrication of the opposite bearing for the intermediate drive assembly 600. The oil cups do not screw into the transmission arm assembly 400 as they are "push-type" oil cups and fit securely into the holes in the transmission arm provided for them.



SIMPLEX PINION ASSEMBLY

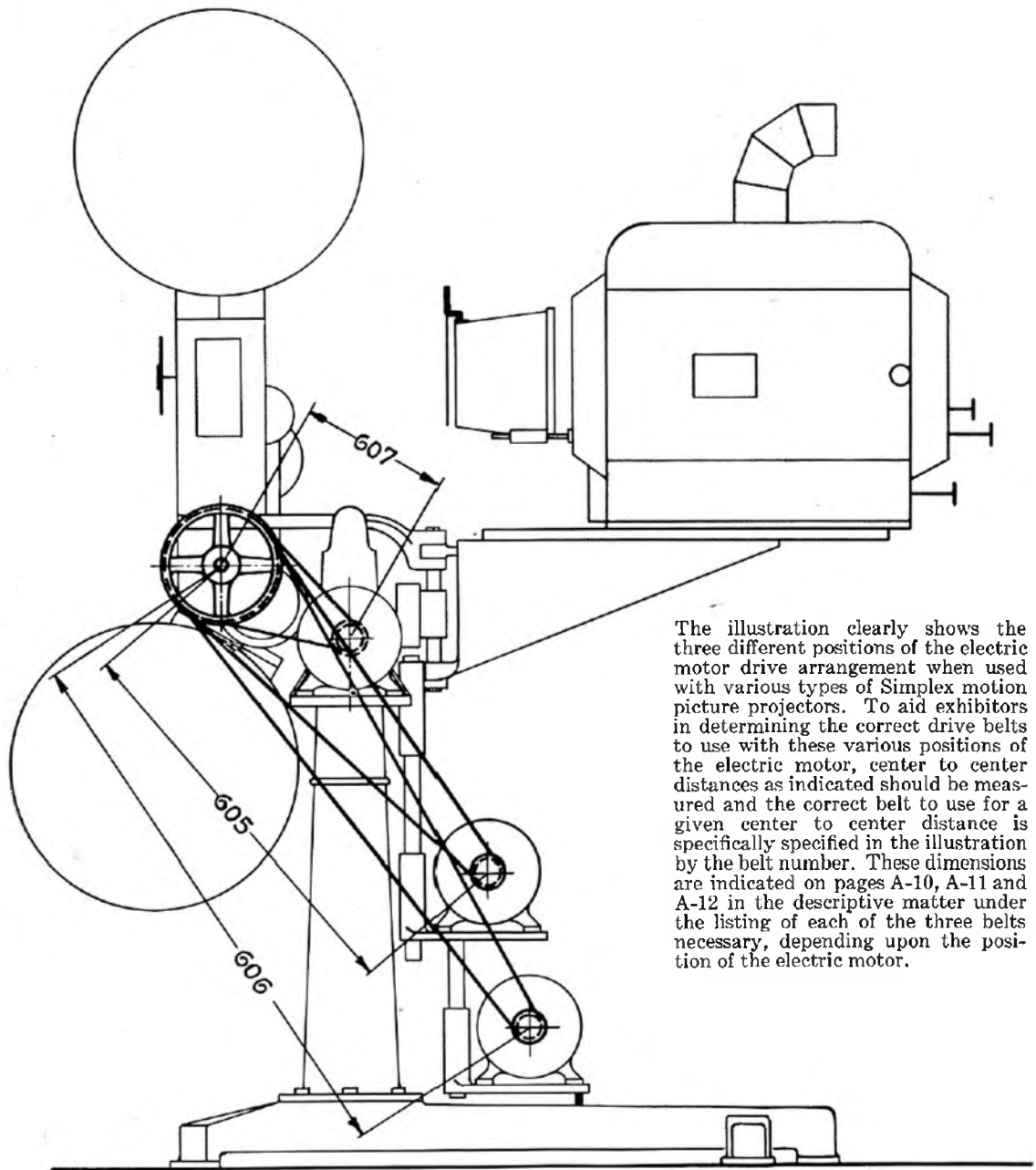
(Please see illustration on bottom of page A-9)

- | | | |
|------------|---|----------------|
| 500 | SIMPLEX PINION ASSEMBLY (Code Word— ACRID) | \$30.00 |
| 505 | SIMPLEX PINION SHAFT ASSEMBLY (Code Word— ACTIN) | \$13.50 |
| | The oil cup shown in the illustration is not supplied separately as it is securely soldered into the simplex pinion shaft. | |
| 509 | UPPER DRIVE GEAR ASSEMBLY (Code Word— ACUTE) | \$16.50 |
| | The upper drive gear assembly 509 is of an improved construction. In this improved construction the spiral cut steel gear and its extended portion acts as a hub for the micarta gear. The micarta gear and the steel gear are not supplied separately as the micarta gear blank and the extended portion of the steel gear, acting as a hub for the micarta gear, are assembled very accurately at the factory, and the teeth in the micarta gear blank are generated after the assembly has been made. This construction provides extreme concentricity of both the spiral drive gear and the micarta gear. | |



INTERMEDIATE DRIVE ASSEMBLY

- | | | |
|----------------|---|----------------|
| 600 | INTERMEDIATE DRIVE ASSEMBLY (Code Word— ACTON) | \$17.25 |
| 601 | INTERMEDIATE GEAR SHAFT (Code Word— ALAIS) | \$1.75 |
| 602 | INTERMEDIATE GEAR (Code Word— ACTOR) | \$7.50 |
| | See note under TP89-37 below. | |
| TP89-37 | TAPER PIN (Code Word— ACITE) | \$0.05 |
| | It is recommended that the intermediate gear 602 and taper pin TP89-37 be ordered together as the taper pin is used for securing the intermediate gear to the intermediate gear shaft. | |
| 604 | INTERMEDIATE DRIVE PULLEY (Code Word— ADAGE) | \$6.75 |
| | See note under TP89-48 below. | |
| TP89-48 | TAPER PIN (Code Word— ADAMS) | \$0.05 |
| | It is recommended that intermediate drive pulley 604 and taper pin TP89-48 be ordered together as the taper pin is used for securing the intermediate drive pulley to the intermediate gear shaft. | |
| 607 | DRIVE BELT (Code Word— ADANA) | \$1.00 |
| | Suitable for use with PHONOFILM ATTACHMENT G and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 9 inches to 10 ³ / ₄ inches. See note under 606 below. | |



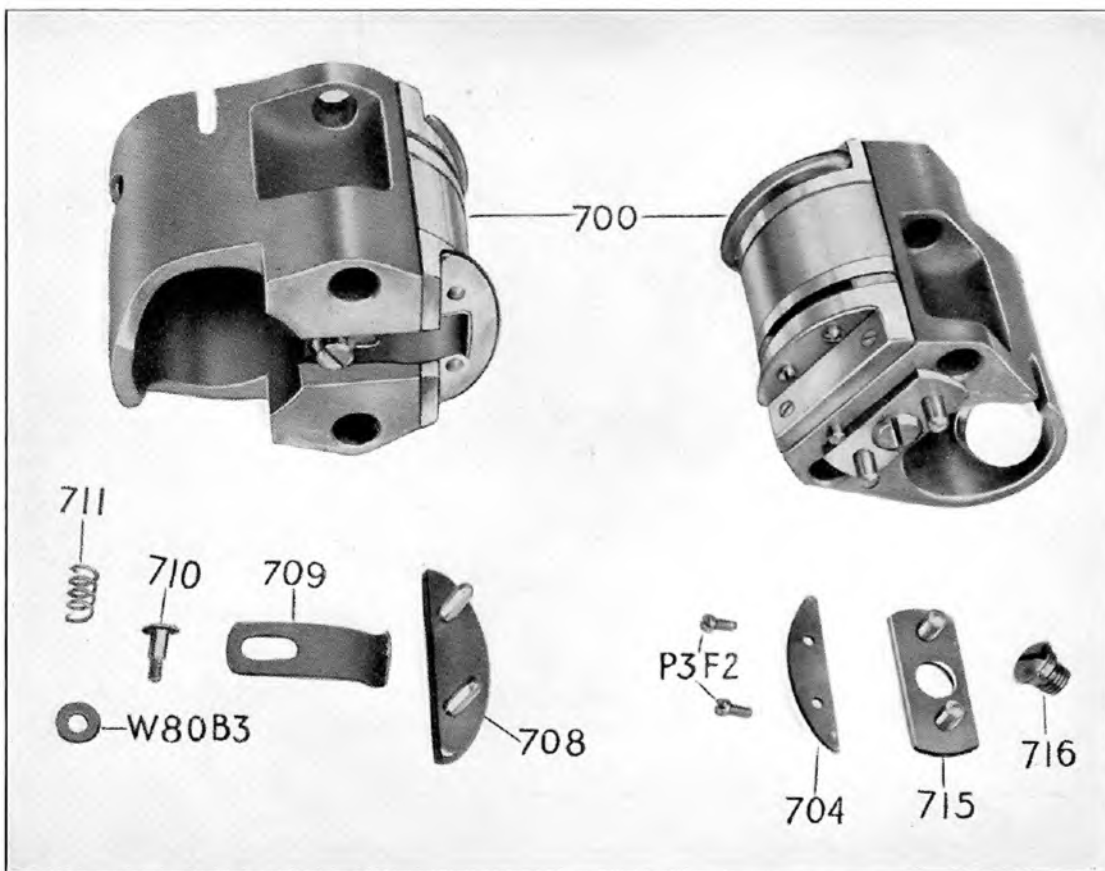
The illustration clearly shows the three different positions of the electric motor drive arrangement when used with various types of Simplex motion picture projectors. To aid exhibitors in determining the correct drive belts to use with these various positions of the electric motor, center to center distances as indicated should be measured and the correct belt to use for a given center to center distance is specifically specified in the illustration by the belt number. These dimensions are indicated on pages A-10, A-11 and A-12 in the descriptive matter under the listing of each of the three belts necessary, depending upon the position of the electric motor.

- 605 DRIVE BELT (Code Word—ADAPT) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 23 1/2 inches to 26 1/2 inches. See note under 606 below.
- 606 DRIVE BELT (Code Word—ACERB) \$1.00**
 Suitable for use with PHONOFILM ATTACHMENT 6 and Simplex projectors when the center to center distance between the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the electric motor drive shaft is 27 1/8 inches to 33 1/8 inches.
 The three drive belts 605, 606 and 607 are supplied with complete PHONOFILM ATTACHMENTS adaptable to Simplex projectors in order to provide the proper length belts for driving the intermediate drive assembly 600 from the electric motor.
 In order to aid users of PHONOFILM ATTACHMENTS in ordering spare and replacement drive belts for use with Simplex motion picture projectors, the line drawing illustration shows the three possible positions of the electric motor with relationship to the

PHONOFILM ATTACHMENT, depending upon which type of Simplex projector the PHONOFILM ATTACHMENT is to be used with. The center to center distances are indicated between the electric motor drive shaft and the intermediate gear shaft 602 (upon which is mounted intermediate drive pulley 604) by reference to drive belt catalog numbers. If the motor drive is mounted high up on the projector base and relatively close to the intermediate drive pulley 604, it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between 9 inches and $10\frac{3}{4}$ inches and for this measurement drive belt 607 should be ordered.

If the drive motor is mounted on an underslung motor bracket it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $23\frac{1}{2}$ inches and $26\frac{1}{2}$ inches and for this measurement drive belt 605 should be ordered.

As indicated in the line drawing illustration, Simplex projector bases may have two different types of underslung motor brackets, one of them allowing the motor to set considerably lower than the other. For projectors equipped with this low underslung motor base it will be found that the distance between the center of the intermediate gear shaft 602 (upon which is mounted the intermediate drive pulley 604) and the center of the electric motor drive shaft will be between $27\frac{7}{8}$ inches and $33\frac{1}{8}$ inches and for this measurement drive belt 606 should be ordered.



SLIT BLOCK ASSEMBLY

700 SLIT BLOCK ASSEMBLY (Code Word—ADAYS) \$39.50

When inspection of the slit block reveals excessive wear, an order should be placed for a new complete slit block assembly 700 which will be invoiced to you at \$39.50. Immediately upon receipt of the new complete slit block assembly, return the worn complete slit block assembly direct to the GENERAL TALKING PICTURES CORPORATION, Executive offices, 218 West 42nd Street, New York City, and upon receipt of the worn slit block a credit will be issued for \$10.00, making the net cost of the new complete slit block assembly, \$29.50.

The slit block assembly 700 is supplied complete except for the parts listed below which are supplied separately.

Please note that the slit block shoe is not supplied as a separate part as it is necessary to assemble the slit block body and the slit block shoe very accurately at the factory, and to verify that the assembly produces the desired results.

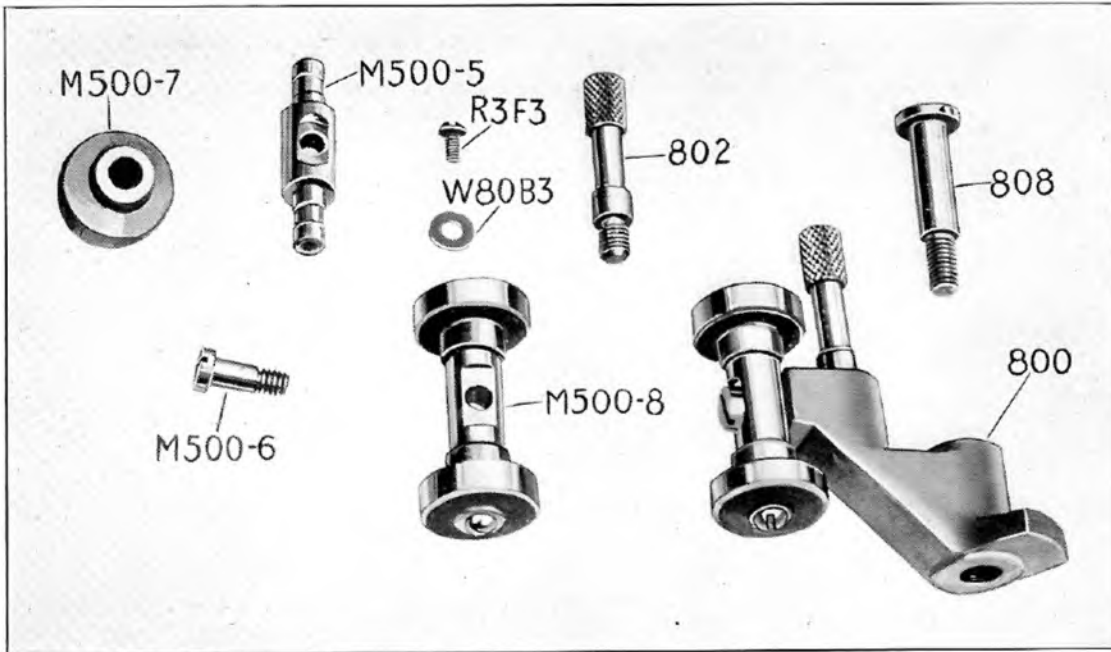
That portion of the slit block 700, or in particular the slit block shoe, which comes in contact with the film as it travels through the PHONOFILM ATTACHMENT is of course subject to wear in normal operation and use. Every engineering precaution, both in the design and in the choice of materials, has been taken to reduce such wear to a minimum. The slit block shoe is hardened and ground to extremely accurate dimensions and the shape of the shoe itself is such as to obtain the desired high quality characteristics of reproduction with minimum wear.

704	MOUNTED SIDE PLATE (Code Word—ADDAX)	\$1.25
	The mounted side plate 704 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the mounted side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under P3F2 below.	
P3F2	MACHINE SCREWS (2 required—Code Word—ADDER)	\$0.05
	It is recommended that mounted side plate 704 and machine screws P3F2 be purchased together as machine screws are used for securing the mounted side plate to the slit block body.	
708	MOVABLE SIDE PLATE ASSEMBLY . . . (Code Word—ADDLE)	\$2.25
	The movable side plate 708 is in contact with the film as it passes over the slit block and is subject to wear. When inspection reveals excessive wear of the movable side plate it should be replaced by a new one, as wear at this point will definitely reduce the high standard of quality reproduction available with a PHONOFILM ATTACHMENT in its proper operating condition. See note under W80B3 below.	
709	SLIT BLOCK SIDE PLATE SPRING . . . (Code Word—ADELA)	\$0.65
	See note under W80B3 below.	
710	SHOULDER SCREW (Code Word—ADENI)	\$0.40
	See note under W80B3 below.	
711	SLIT BLOCK SPIRAL SPRING (Code Word—ADEPT)	\$0.15
	It is important that the tension of the slit block spiral spring be maintained so that the movable side plate assembly 708 be held against the edge of the film and yet maintain the correct pressure to allow for irregularities in the width of the film and yet maintain the correct position of the film "sound-track" with respect to the slit block. Two springs, slit block side plate spring 709 and slit block spiral spring 711, are used to maintain the correct pressure against the movable side plate assembly 708. If the tension of the spiral spring, or of the side plate spring, is incorrect and does not allow the required movement of the movable side plate assembly 708, or are not of sufficient tension to keep the movable side plate assembly in its correct position, both springs should be replaced with new ones. See note under W80B3 below.	
W80B3	WASHER (Code Word—ADFIN)	\$0.05
	It is recommended that slit block side plate spring 709, shoulder screw 710, slit block spiral spring 711, and washer W80B3 be ordered together, as they are assembled together in attaching the slit block side plate assembly to the slit block body.	
715	LOCK PLATE ASSEMBLY (Code Word—ADHIB)	\$1.00
	See note under 716 below.	
716	LOCK PLATE SHOULDER SCREW (Code Word—ADIEL)	\$0.40
	Lock plate assembly 715 and lock plate shoulder screw 716 should be ordered together as the shoulder screw is used to fasten the lock plate assembly to the slit block body.	

SLIT BLOCK ROLLER ASSEMBLY

(Please see illustration on top of page A-14)

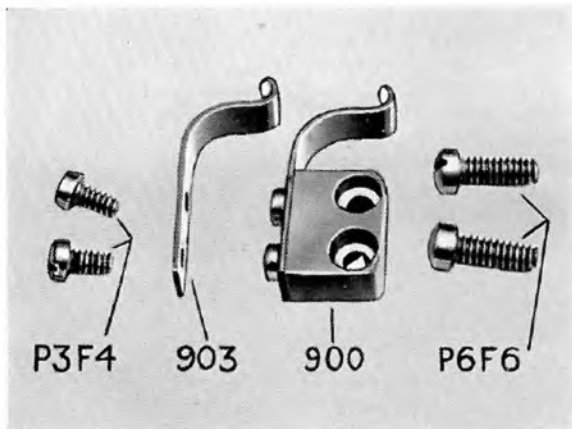
800	SLIT BLOCK ROLLER ASSEMBLY (Code Word—ADIOS)	\$10.50
	Slit block roller assembly 800 is complete with slit block roller screw 808 which is used to attach the roller assembly to the main housing.	
802	SLIT BLOCK ROLLER KNOB (Code Word—ADLIB)	\$0.75
M500-8	ROLLER ASSEMBLY (Code Word—ADLOC)	\$4.50
	See note under M500-6 below.	
M500-5	ROLLER SHAFT (Code Word—ADMIT)	\$2.00
	The roller shaft M500-5 should ordinarily be replaced at the same time that the rollers M500-7 are replaced as the shaft supports the rollers and is subject to the same conditions of wear in operation as are the rollers.	
M500-6	ROLLER SHOULDER SCREW (Code Word—ADOBE)	\$0.40
	Roller assembly M500-8 should be ordered together with roller shoulder screw M500-6 as the shoulder screw is used for securing the roller assembly to the slit block roller arm.	



- M500-7 ROLLER** (Code Word—**ADORE**) **\$1.25**
 In accordance with the notation under the listing of roller shaft M500-5 above, it is desirable to replace the rollers M500-7 at the same time that the roller shaft M500-5 is replaced, as both the roller shaft and the rollers are subject to the same conditions of wear in operation. See note under W80B3 below.
- R3F3 MACHINE SCREW** (Code Word—**ADOWA**) **\$0.05**
 See note under W80B3 below.
- W80B3 WASHER** (Code Word—**ADFIN**) **\$0.05**
 Roller M500-7, machine screw R3F3 and washer W80B3 should be ordered together as the screw and washer are used to fasten the roller to the roller shaft M500-5.
- 808 SLIT BLOCK ROLLER SCREW** (Code Word—**ADRIF**) **\$0.75**

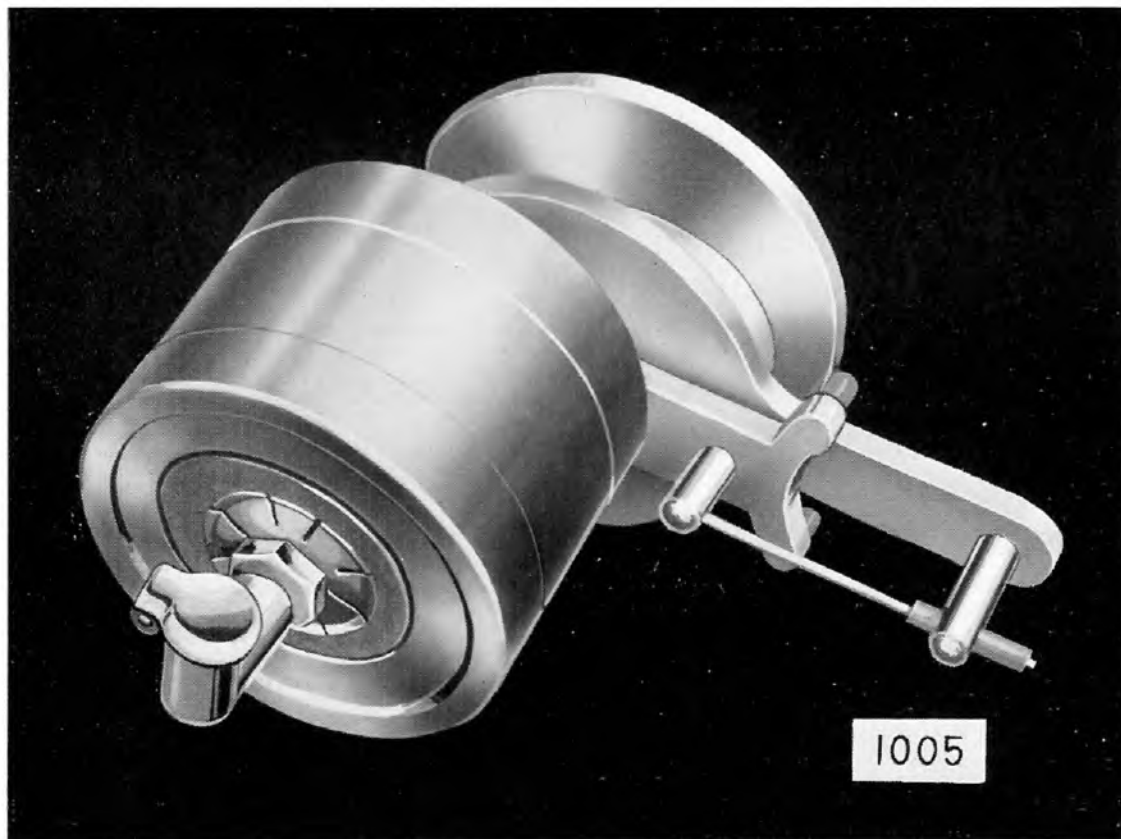
SLIT BLOCK ROLLER CATCH ASSEMBLY

- 900 SLIT BLOCK ROLLER CATCH ASSEMBLY** (Code Word—**ADULT**) **\$1.75**
 See note under P6F6 below.
- P6F6 MACHINE SCREWS** (2 required—Code Word—**AEGIR**) **\$0.05**
 Machine screws P6F6 should be ordered together with slit block roller catch assembly as the screws are used to attach the roller catch assembly 900 to the main housing.



- 903 CATCH SPRING** (Code Word—**ADUSK**) **\$0.50**
 The slit block roller catch assembly 900 serves to hold the slit block roller arm assembly 800 in its correct position because of the tension of the catch spring 903. The spring accordingly should be replaced whenever the tension of the spring is insufficient to hold the slit block roller arm assembly in its correct position. See note under P3F4 below.

- P3F4 MACHINE SCREWS** (2 required—Code Word—**AEGLE**) **\$0.05**
 Machine screws P3F4 should be ordered together with catch spring 903 as the screws are for attaching the spring to the slit block roller catch block.



COMPENSATING ROLLER ASSEMBLY

1005 COMPENSATING ROLLER ASSEMBLY (Code Word—AEMIA)

Compensating roller assembly 1005 is not supplied as an individual assembly but is supplied in complete new PHONOFILM ATTACHMENTS. If you are desirous of utilizing a PHONOFILM ATTACHMENT in which the compensating roller assembly 1005 is a component part, communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City. This compensating roller assembly, as a component part of a complete PHONOFILM ATTACHMENT, is an extremely important part, as through its action it insures improved reproduction of both speech and music when reproduced from "sound-on-film" motion pictures.

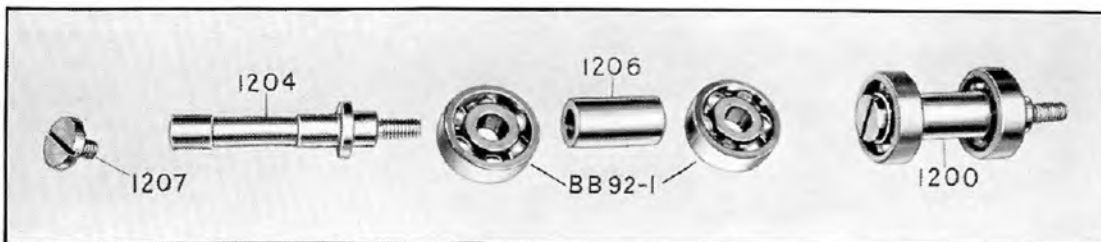
The compensating roller is so designed as to absolutely insure a smooth and completely uniform gliding movement of the sound-film past the slit block assembly 700 in which the photo-cell 1900 is inserted.

Such uniformity of motion of the film is accomplished by the compensating roller due to the use of a roller of relatively large diameter mechanically balanced and under a uniform tension, the roller being capable of movement as may be necessary to compensate for irregularities in tension or speed and yet restrained from excessive movement; the freedom of movement of the roller and its associated tension device being such as to compensate for irregularity of mechanical motion of the various driving elements within the PHONOFILM ATTACHMENT and thus eliminate irregularity of mechanical motion being imparted directly to the film.

From a mechanical engineering point of view, the major purpose of the PHONOFILM ATTACHMENT is to provide such a uniform movement of the film past the photo-cell and it is believed that the perfection of design and its attendant results achieved in the compensating roller provides a PHONOFILM ATTACHMENT very nearly approaching mechanical perfection and completely and practically solving a problem which has been a very serious one and which has previously limited the attainment of the mechanical perfection now available in PHONOFILM ATTACHMENTS.

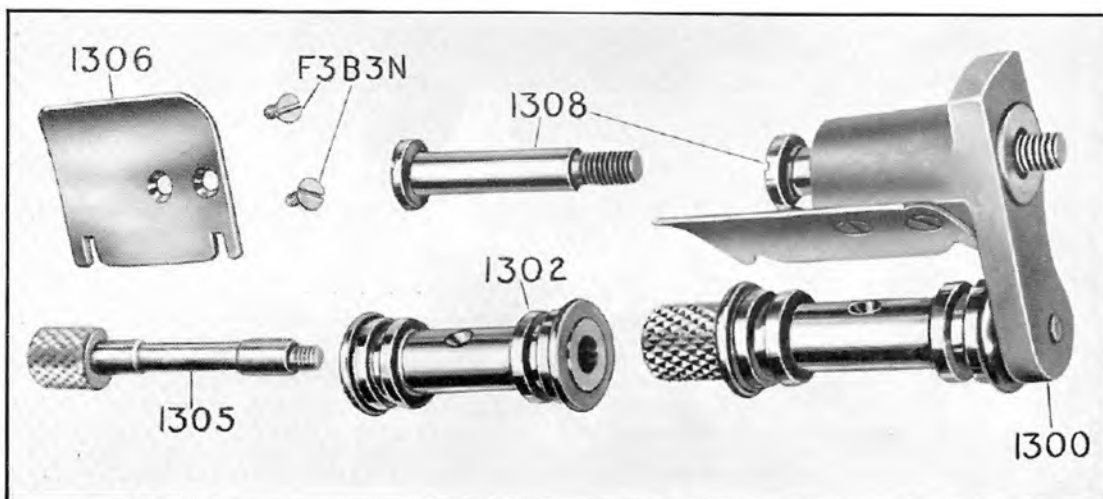
The compensating roller consists of a very few parts. Its operation is completely silent. Its construction is sturdy and fool-proof and the entire PHONOFILM ATTACHMENT is greatly simplified in its mechanical construction and by the use of such a device.

By the simplification of the PHONOFILM ATTACHMENT, obviously the use of the compensating roller increases the simplicity of threading of the sound-film through the ATTACHMENT and decreases the possibility of film breakage or injury.



INTERMEDIATE ROLLER ASSEMBLY

1200	INTERMEDIATE ROLLER ASSEMBLY . . . (Code Word—AFIRE)	\$8.00
1204	ROLLER SHAFT (Code Word—AFRIT)	\$1.75
BB92-1	BALL BEARINGS (2 required—Code Word—AFTER)	\$2.50
	Ball bearings BB92-1 are of course subject to wear and should be replaced if the wear becomes excessive or in any sense detrimental to the uniform motion of the film through the PHONOFILM ATTACHMENT.	
1206	BALL BEARING SPACER (Code Word—AGAIN)	\$0.75
1207	CLAMPING SCREW (Code Word—AGAMA)	\$0.50

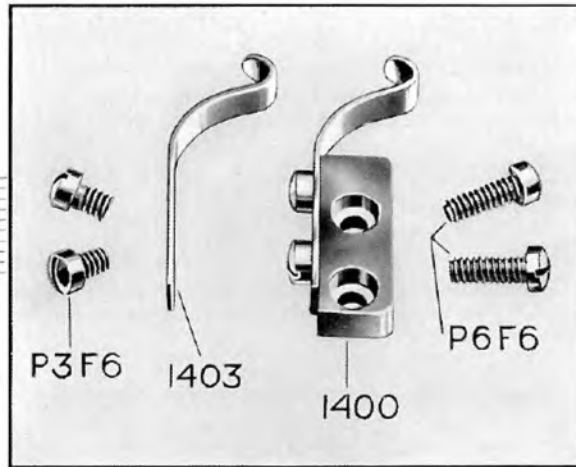


SPROCKET ROLLER ASSEMBLY

1300	SPROCKET ROLLER ASSEMBLY (Code Word—AGAPE)	\$10.50
	Complete with roller mounting screw 1308.	
1302	SPROCKET ROLLER (Code Word—AGENT)	\$3.00
	See note under 1305 below.	
1305	SPROCKET ROLLER SHAFT ASSEMBLY (Code Word—AGGER)	\$1.00
	The sprocket roller shaft assembly 1305 should be ordered together with the sprocket roller 1302 as the shaft assembly is used to secure the roller to the sprocket roller arm, and is subject to the same conditions of wear in operation.	
1306	STRIPPER (Code Word—AGAST)	\$1.10
	See note under F3B3N below.	
F3B3N	MACHINE SCREWS (2 required—Code Word—AGLET)	\$0.05

Machine screws F3B3N should be ordered together with stripper 1306 as the machine screws are used for fastening the stripper to the roller arm.

- 1308 ROLLER MOUNTING SCREW (Code Word—AGLOW) \$0.75**



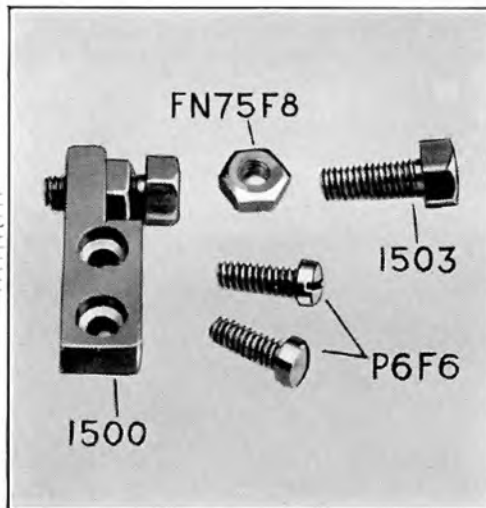
SPROCKET ROLLER CATCH ASSEMBLY

- 1400 SPROCKET ROLLER CATCH ASSEMBLY (Code Word—AGNES) \$1.75**
See note under P6F6 below.

- P6F6 MACHINE SCREWS (2 required—Code Word—AEGIR) \$0.05**
Machine screws P6F6 should be ordered together with sprocket roller catch assembly 1400 as the machine screws are used for attaching the sprocket roller catch assembly to the main housing.

- 1403 SPROCKET ROLLER CATCH SPRING . (Code Word—AGONE) \$0.50**
The sprocket roller catch assembly 1400 is used to hold the sprocket roller assembly 1300 in its correct position because of the tension of the sprocket roller catch spring 1403 against the sprocket roller assembly. Whenever the tension of the sprocket roller catch spring is insufficient to hold the sprocket roller assembly in its correct positions the spring should be ordered and replaced. See note under P3F6 below.

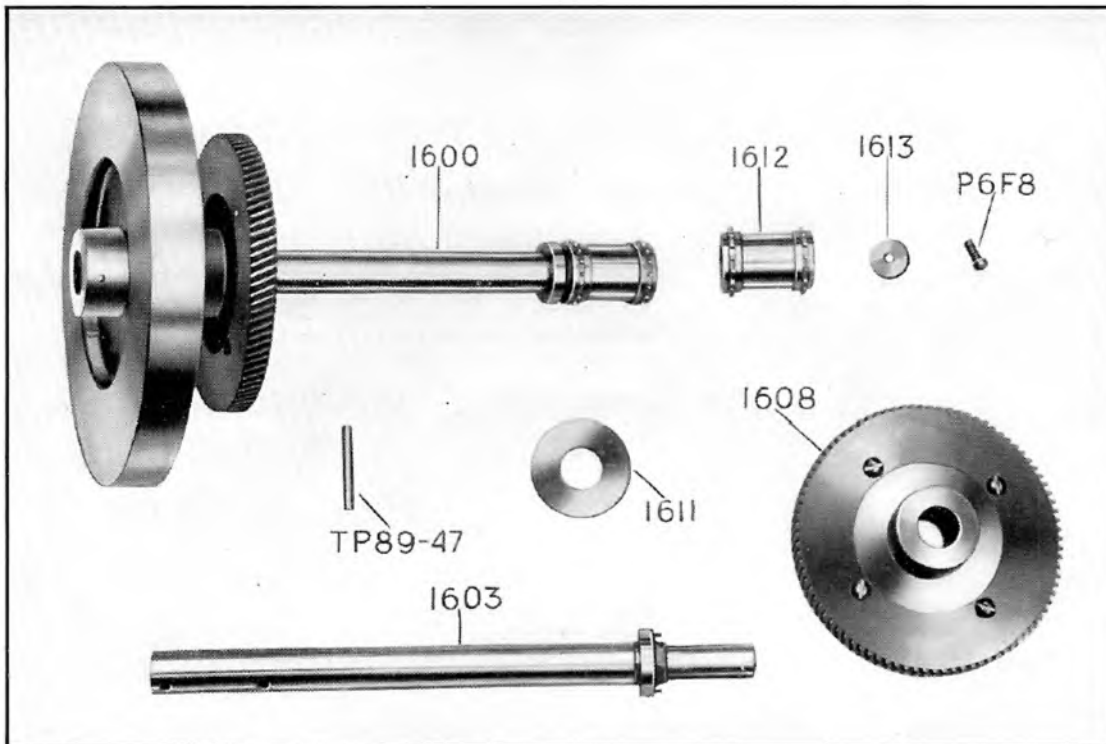
- P3F6 MACHINE SCREWS (2 required—Code Word—AGOOD) \$0.05**
Machine screws P3F6 should be ordered together with sprocket roller catch spring 1403, as the machine screws are used for attaching the sprocket roller catch spring to the sprocket roller catch block.



ROLLER ADJUSTMENT ASSEMBLY

(See illustration on bottom of page A-17)

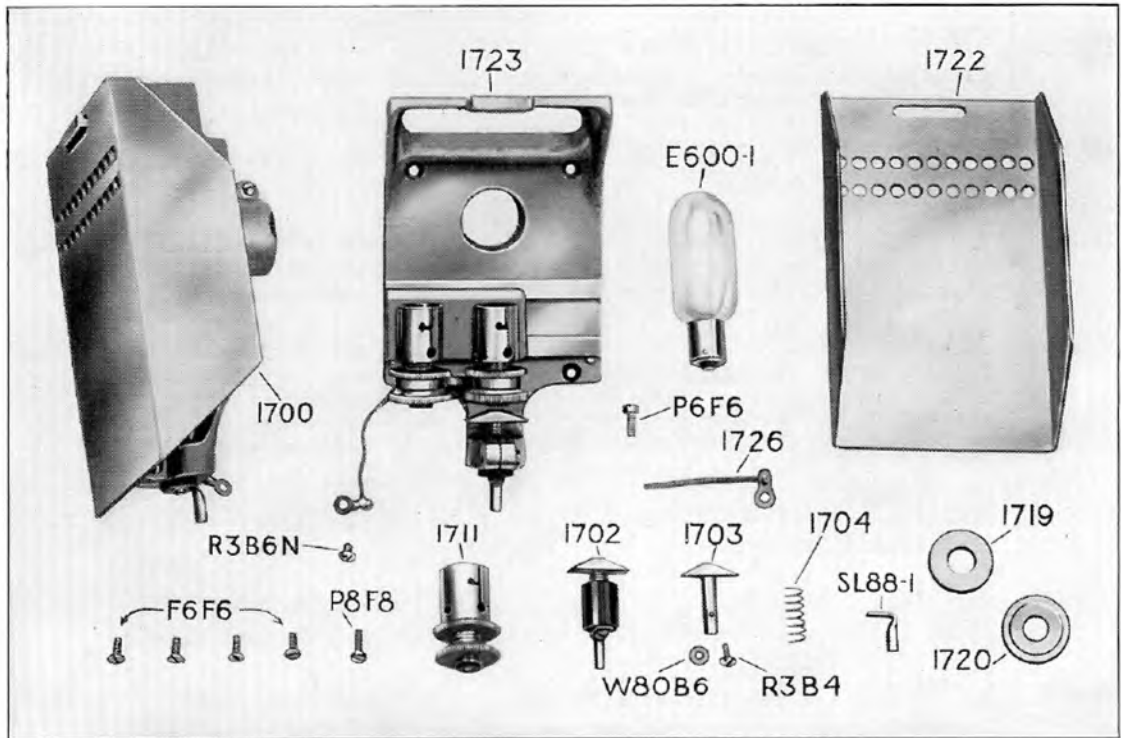
1500	ROLLER ADJUSTMENT ASSEMBLY (Code Word—AGORA)	\$1.50
	See note under P6F6 below.	
P6F6	MACHINE SCREWS (2 required—Code Word—AEGIR)	\$0.05
	Machine screws P6F6 should be ordered together with roller adjustment assembly 1500 as the screws are used for attaching the assembly to the main housing.	
1503	ROLLER ADJUSTMENT SCREW (Code Word—AGRAM)	\$0.35
	See note under FN75F28 below.	
FN75F28	HEXAGON NUT (Code Word—ABOUT)	\$0.05
	Hexagon nut FN75F28 should be ordered together with roller adjustment screw 1503 as the hexagon nut is used as a lock nut to permanently secure the correct adjustment of the roller adjustment screw.	



SPROCKET DRIVE ASSEMBLY

1600	SPROCKET DRIVE ASSEMBLY (Code Word—AGUAS)	\$69.80
1603	SPROCKET SHAFT ASSEMBLY (Code Word—AHEAD)	\$16.50
1608	SPROCKET SHAFT GEAR ASSEMBLY (Code Word—AHIND)	\$15.00
	The sprocket shaft gear assembly 1608 is only supplied complete as the micarta gear blank is assembled to the gear hub previous to generating the gear. The removal of the gear hub from the gear after the generation of the teeth in the gear blank would not insure the desired and necessary accuracy of the completed sprocket shaft gear assembly. See note under TP89-47 below.	
TP89-47	TAPER PIN (Code Word—AHMED)	\$0.05
	Taper pin TP89-47 should be ordered together with sprocket shaft gear assembly 1608 as the taper pin is used for securing the assembly to the sprocket shaft.	

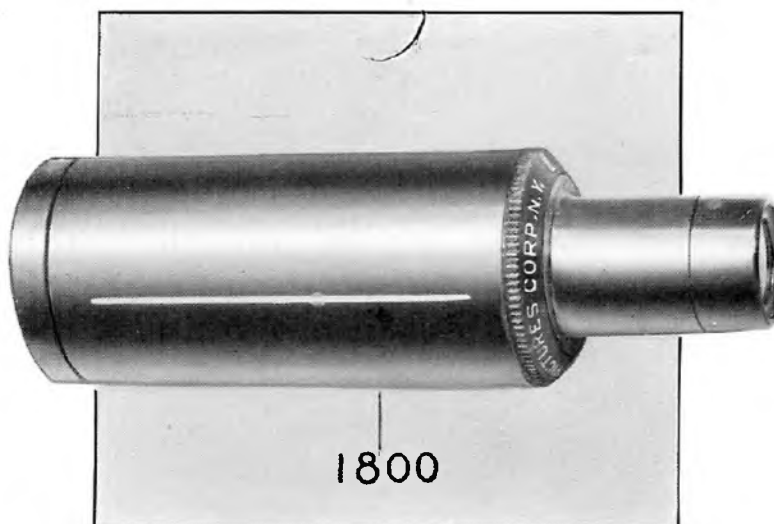
- 1611 **THRUST WASHER** (Code Word—**AHOLD**) **\$0.60**
 This thrust washer is not just an ordinary washer but is carefully surfaced and ground on each side to an accurate dimension in order to insure the correct position of the sprocket shaft assembly in its bearing in the main housing.
- 1612 **FILM SPROCKET** (Code Word—**AHULL**) **\$12.50**
 The film sprocket 1612 is the drive member in the complete **PHONOFILM ATTACHMENT** which causes the film to travel smoothly through the **PHONOFILM ATTACHMENT** mechanism. This film sprocket is manufactured with extreme accuracy being held to dimensions of plus or minus one ten-thousandth of an inch. Particular attention should be given to the condition of the film sprocket and if the teeth are under-cut due to long and severe use, the film sprocket should be replaced with a new one.
 The film sprocket 1612 should not be confused with the ordinary film sprockets available, which are usually not made of the most suitable materials or with the accuracy held to the dimensions and tolerances necessary to produce a film sprocket suitable for use in a **PHONOFILM ATTACHMENT**. See note under P6F8 below.
- 1613 **SPROCKET WASHER** (Code Word—**AIDIN**) **\$0.10**
 See note under P6F8 below.
- P6F8 **MACHINE SCREW** (Code Word—**AILSA**) **\$0.05**
 Machine screw P6F8 and sprocket washer 1613 should be ordered together with the film sprocket 1612 as the machine screw and washer are used for securing the film sprocket to the end of the sprocket shaft.



EXCITING LAMP HOUSING ASSEMBLY

- 1700 **EXCITING LAMP HOUSING ASSEMBLY** (Code Word—**AINCE**) **\$36.50**
 With exciting lamp housing cover 1722 but without exciting lamps E300-1. See note under F6F6 below.
- 1723 **EXCITING LAMP HOUSING ASSEMBLY** (Code Word—**AISHA**) **\$34.25**
 Without exciting lamp housing cover 1722 and without exciting lamps E600-1. See note under F6F6 below.
- F6F6 **MACHINE SCREWS** (4 required—Code Word—**AISLE**) **\$0.05**
 Machine screws F6F6 should be ordered together with either the exciting lamp housing with cover 1700 or with the exciting lamp housing without cover 1723, as the machine screws are used for attaching the housing assembly to the main housing of the **PHONOFILM ATTACHMENT**.

1702	MASTER CONTACT PLUNGER ASSEMBLY (Code Word—AITCH) See note under P8F8 below.	\$1.75
P8F8	MACHINE SCREW (Code Word—ACINU) This machine screw is used for securing a permanent adjustment of the master contact plunger assembly 1702 in its proper position in the lamp housing so that perfect electrical contact will be made to the exciting lamp socket assemblies 1711.	\$0.05
1703	MASTER CONTACT PLUNGER (Code Word—AIVER)	\$1.10
1704	MASTER CONTACT SPIRAL SPRING . . . (Code Word—AKBAR)	\$0.10
SL88-1	SOLDERING LUG (Code Word—AKRON) See note under R3B4 below.	\$0.05
W80B6	WASHER (Code Word—ALACK) See note under R3B4 below.	\$0.05
R3B4	MACHINE SCREW (Code Word—ALAKE) Machine screw R3B4 and washer W80B6 should be ordered together with soldering lug SL88-1 as the machine screw and washer are used for attaching the soldering lug to the master contact plunger 1703.	\$0.05
1711	EXCITING LAMP SOCKET ASSEMBLY . (Code Word—ALAMO) Complete with 1719 and 1720 upper and lower socket lock nuts. For exciting lamp E600-1. See note under 1720 below.	\$2.50
1719	UPPER SOCKET LOCK NUT (Code Word—ALAND) See note under 1720 below.	\$0.45
1720	LOWER SOCKET LOCK NUT (Code Word—ALARM) The upper and lower socket lock nuts 1719 and 1720 are used for securing the proper adjustment of the lamp socket assemblies 1711 in the lamp housing assembly.	\$0.60
P6F6	MACHINE SCREW (Code Word—AEGIR) Machine screw P6F6 is used to secure the optical system 1800 in its correct adjustment in the exciting lamp housing assembly. See page B-5 of section "B" of this parts-catalog for details and price of the optical system microscope 5350 which is used with particular advantage in making the correct adjustment of optical system 1800.	\$0.05
1726	GROUND WIRE ASSEMBLY (Code Word—ALATE) See note under R3B6N below.	\$0.25
R3B6N	MACHINE SCREW (Code Word—ALVIN) Machine screw R3B6N is used for fastening the ground wire assembly terminal to the main housing assembly.	\$0.05
E600-1	EXCITING LAMP (Carton of (6) Six) . . . (Code Word—YELDE) Please note that by purchasing exciting lamps E600-1 in cartons of six the cost is \$1.25 each instead of \$1.45 as when purchased individually, or a saving of \$0.20 each. Two exciting lamps E600-1 are used in each PHONOFILM ATTACHMENT. A sliding bracket carrying the exciting lamps permits using either lamp at will, thus making it possible to quickly shift from a burnt-out lamp to a good one, if a lamp should burn-out during the running of a sound film. A number of spare exciting lamps should always be in the projection booth for replacement in emergencies. Exciting lamps used with DE FOREST PHONOFILM ATTACHMENTS are particularly rugged in construction, capable of long life and provide correct illumination characteristics as required by the photo-cell assembly 1900. All exciting lamps are carefully inspected and tested before shipment and only those lamps meeting the rigid engineering test specifications of the Engineering Division are supplied to exhibitors. See page G-5 and G-6 of section "G" of this parts-catalog for more detailed description of the merits of exciting lamps E600-1.	\$1.25
1722	EXCITING LAMP HOUSING COVER . . . (Code Word—ALDEA)	\$2.25



OPTICAL SYSTEM

1800 OPTICAL SYSTEM (Code Word—ALERT) \$62.50

The optical system is without question one of the most important parts of a PHONOFILM ATTACHMENT because by its use the light from the exciting lamp is properly focused on to the sound track portion of the motion picture film by means of a combination of lenses and a slit of the correct dimensions, all within the optical system.

Optical systems are manufactured with the utmost skill and both the mechanical and optical characteristics of completed optical systems are most precise and are checked and tested with instruments allowing microscopic examination.

Because of the extreme importance of perfect optical systems, extremely accurate and rigid test methods are employed in the manufacture of optical systems 1800, special microscopic test methods being used to verify the proper dimensions of the slit image projected by the slit, and to make it extremely easy and positive to reject unsatisfactory optical systems, which in the transmission of light through the system, cause excessive diffraction effects and light halos at the edges of the slit. The extreme degree of precision employed in manufacturing and testing optical systems 1800 assures the exhibitor of receiving only a perfect system.

In conformity with the policy of continual improvement since the initial introduction of PHONOFILM EQUIPMENTS, the Engineering Division of the GENERAL TALKING PICTURES CORPORATION have developed several distinct optical systems, each one showing an improvement over the earlier one, such improvements being possible because of the gradual perfection of the art of recording and reproduction of motion pictures.

Optical systems previously supplied with PHONOFILM ATTACHMENTS have been known as type "C," "D," "ED," or "E." Type C optical systems, the very earliest ones supplied with the original PHONOFILM EQUIPMENTS, are obsolete.

If your PHONOFILM ATTACHMENT is now equipped with type C or D optical system, it is recommended that you immediately order optical system 1800. The new optical system will be immediately shipped and invoiced to you at \$62.50. Upon receipt of the new optical system immediately return the old one. If the old system that you return is type C, no credit can be allowed. If it is a type D optical system, upon its receipt by the GENERAL TALKING PICTURES CORPORATION a credit will be issued to you for \$47.50 each, making the net cost of optical system 1800, \$15.00 each.

If your PHONOFILM ATTACHMENT is now equipped with a type ED, or a type E optical system, it will not be necessary to replace it with optical system 1800 as both type ED and E optical systems are extremely satisfactory in service and comparable in results with the results secured by the use of the latest improved optical system 1800.

No credit can be allowed in replacing optical systems ED and E upon return of these optical systems to the GENERAL TALKING PICTURES CORPORATION. Spare or additional optical systems 1800 will be invoiced in accordance with the terms of lease contracts for \$62.50 each.

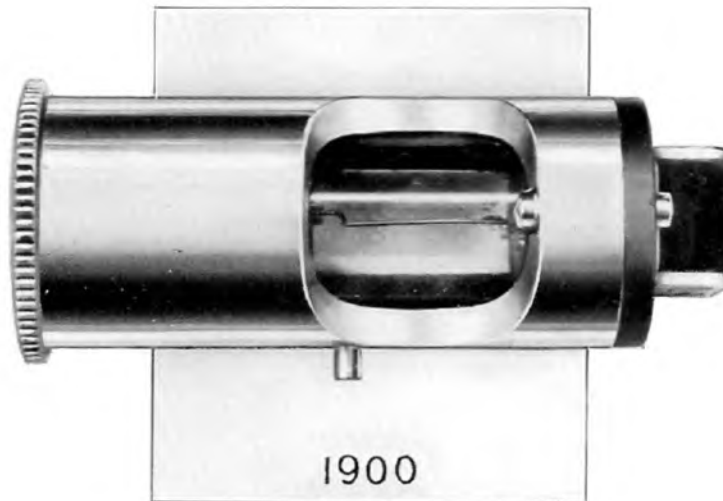


PHOTO-CELL ASSEMBLY

1900 PHOTO-CELL ASSEMBLY (Code Word—ALGAL) \$35.00

One photo-cell 1900 is initially supplied with each PHONOFILM ATTACHMENT. Spare photo-cells 1900 are invoiced in accordance with PHONOFILM lease contracts, at \$35.00 each. If it is necessary to replace a photo-cell, order a new photo-cell 1900 and retain the one which you desire to replace until the new one reaches you. The cell that you order will be invoiced in accordance with PHONOFILM lease contract at \$35.00. Upon receipt of a new photo-cell 1900 immediately return to the GENERAL TALKING PICTURES CORPORATION the old photo-cell and upon its receipt a credit will be issued to you for \$5.00, making the net cost of a replacement photo-cell assembly 1900, \$30.00 each.

The photo-cell 1900, in the same sense as the optical system 1800, is an exceedingly important part of the PHONOFILM ATTACHMENT. In particular, no PHONOFILM ATTACHMENT can be any better than the degree of merit of the individual component parts that make up the complete attachment. The combination of the exciting lamp system, the optical system 1800 and photo-cell 1900, has been given intensive study and long experimentation and research by the Engineering Division of the GENERAL TALKING PICTURES CORPORATION. The result—a near perfect coordination of these most important assemblies with relationship to the three elements themselves and with respect to the balance of the PHONOFILM ATTACHMENT mechanism.

Photo-cells 1900 are not the ordinary photo-cells that might be purchased openly in the market but are rather cells which have been so designed and manufactured as to secure the most perfect characteristics adaptable for use with the optical system 1800 and the exciting lamps E600-1, as used only in DE FOREST PHONOFILM ATTACHMENTS.

It has been the object to secure in photo-cells 1900 maximum sensitivity together with the best possible audio-frequency reproduction characteristics and uniform long life of the cells under normal and proper operating conditions.

The completed photo-cell is mounted in a solid metallic cartridge and only those completed cells that meet the rigid inspection and test specifications of the Engineering Division are shipped. Every exhibitor should have one or more photo-cells 1900 in his projection booth, available for replacement and only by having such replacements available will the exhibitor be certain of continual operation. The necessity for spare cells casts no reflection upon the quality of the photo-cells, but under the present conditions in the art, photo-cells can be expected to give only a reasonable life in operation and when cells have been used for an excessively long time, the quality of reproduction of sound-on-film motion pictures cannot be expected to compare with the quality possible with cells having normal characteristics.

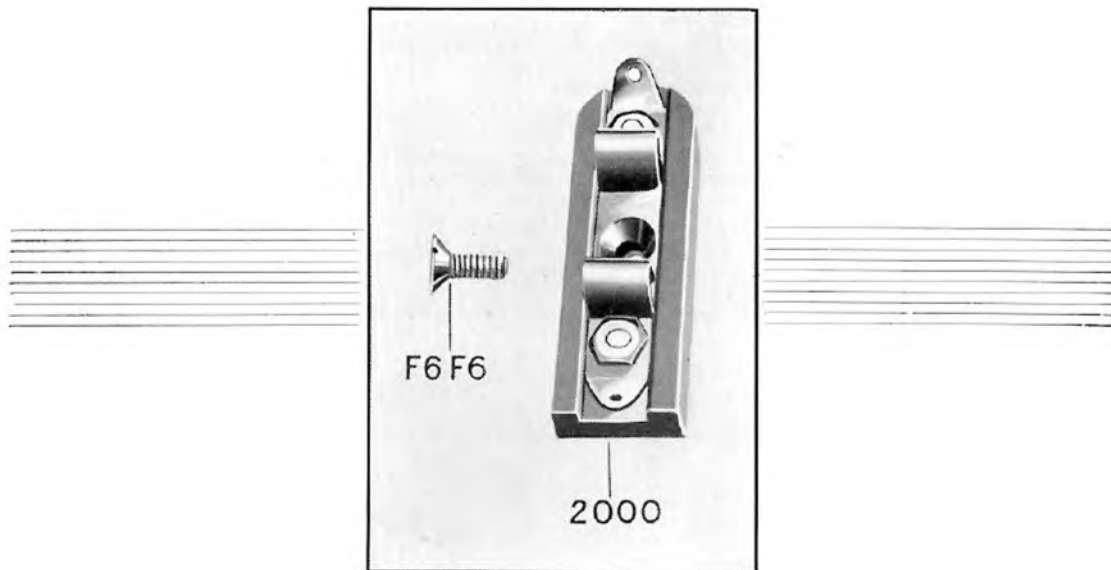


PHOTO-CELL RECEPTACLE

2000	PHOTO-CELL RECEPTACLE (Code Word—ALGID) See note under F6F6 below.	\$1.50
F6F6	MACHINE SCREW (Code Word—AISLE) Machine screw F6F6 should be ordered with photo-cell receptacle 2000 as the machine screw is used for attaching the receptacle to the main housing.	\$0.05

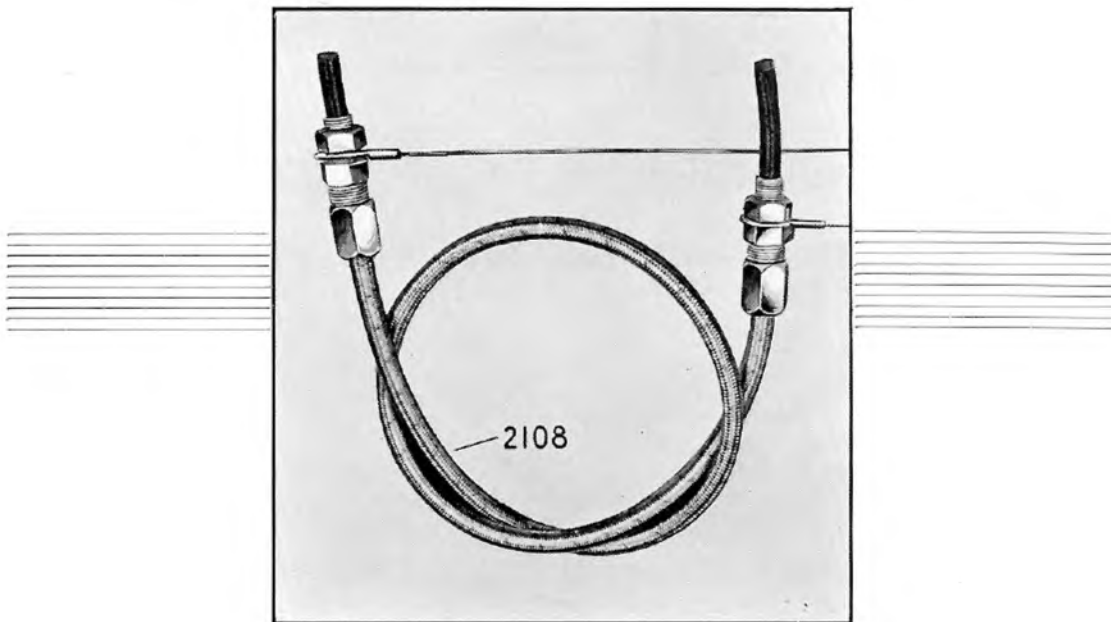


PHOTO-CELL CABLE ASSEMBLY

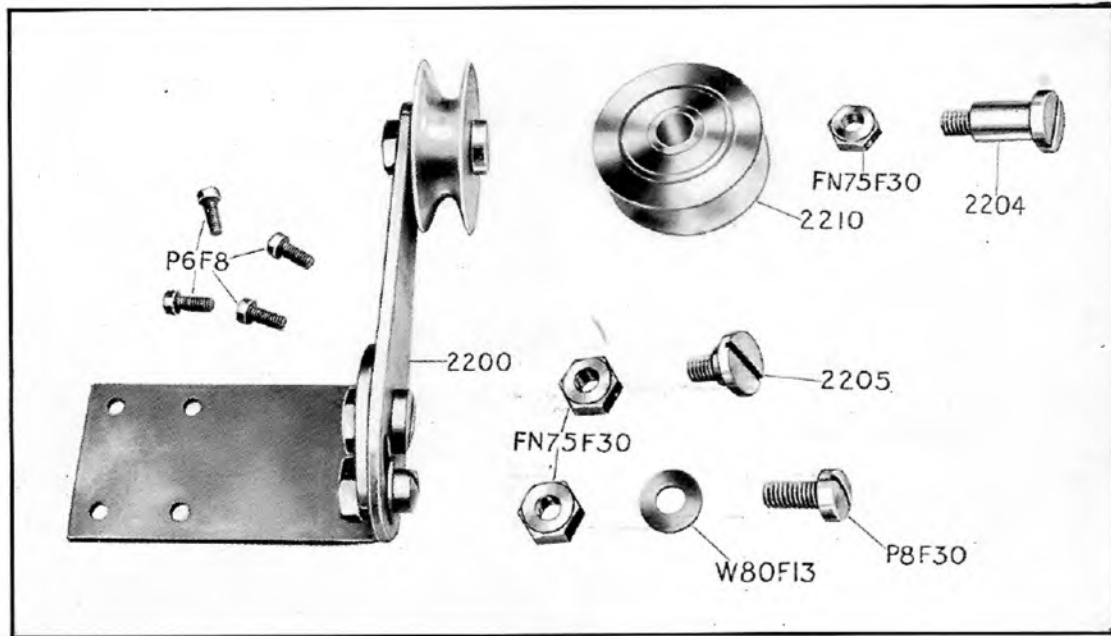
2108	PHOTO-CELL CABLE ASSEMBLY (Code Word—ALGOR) The photo-cell cable assembly 2108 is a new and improved cable assembly which supersedes all previous type photo-cell cable assemblies. The improved cable assembly is so constructed electrically as to insure maximum	\$5.00
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transfer of energy from the photo-cell 1900 to the photo-cell voltage amplifier 5257 supplied in the complete PHONOFILM EQUIPMENT.

Although the photo-cell cable assembly 2108 is in appearance a very simple component part of the PHONOFILM ATTACHMENT, its proper engineering design involves a number of extremely important engineering considerations.

If your PHONOFILM ATTACHMENT is not now equipped with this improved photo-cell cable 2108, it is recommended that you immediately order a new and improved cable 2108, as its use will enable you to immediately appreciate improved quality of reproduction of sound-on-film motion pictures, the balance of your complete PHONOFILM EQUIPMENT being in normal and satisfactory operating condition.

It is emphasized again that photo-cell cable assembly 2108 represents the most perfect cable assembly possible to design and produce, and adaptable for use with DE FOREST PHONOFILM ATTACHMENTS and EQUIPMENTS.

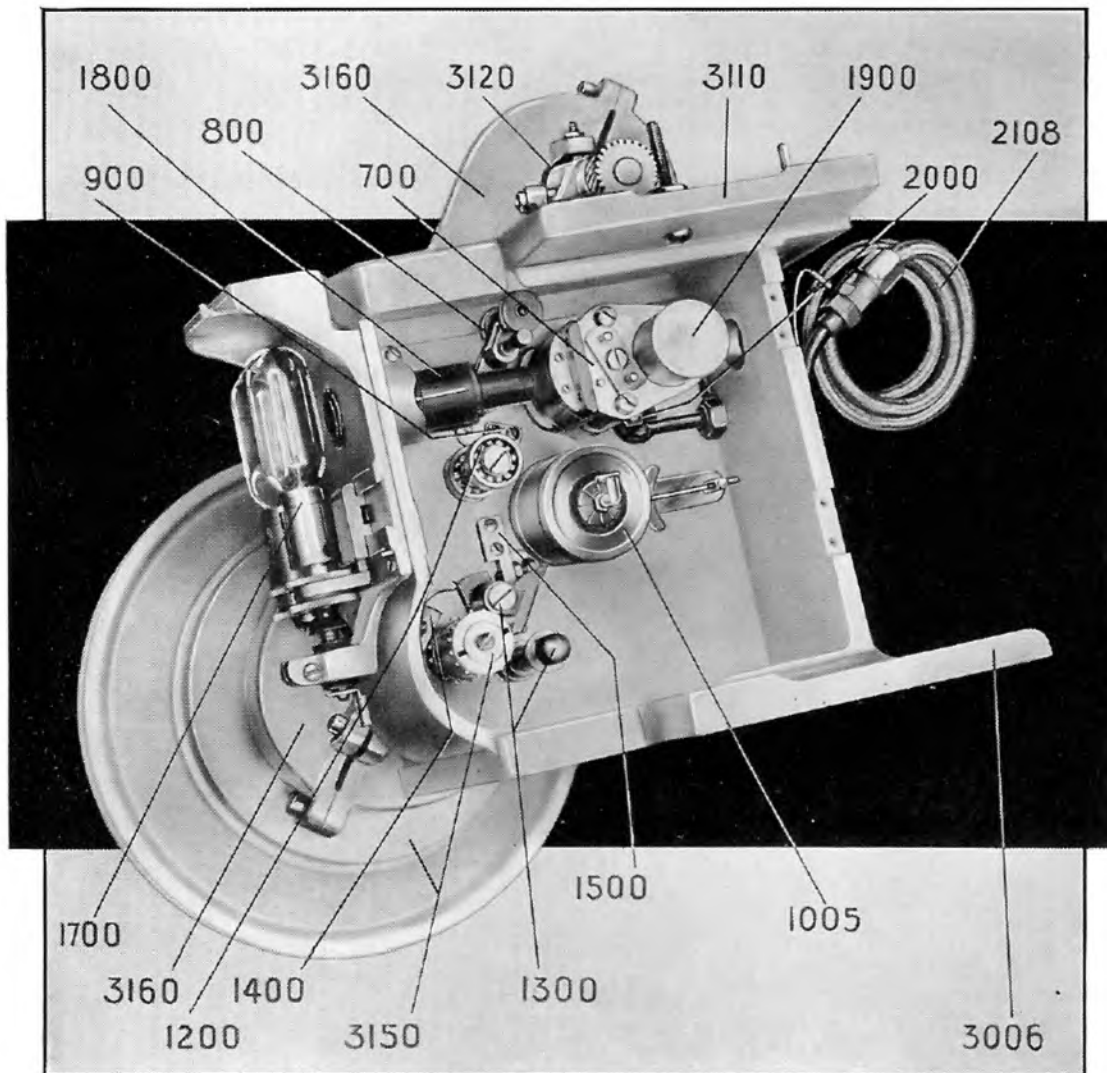


TAKE-UP IDLER PULLEY ASSEMBLY

2200	TAKE-UP IDLER PULLEY ASSEMBLY . . . (Code Word—ALIEN)	\$5.50
	See note under P6F8 below.	
P6F8	MACHINE SCREWS (4 required—Code Word—AILS)	\$0.05
	Machine screws P6F8 should be ordered together with take-up idler pulley assembly 2200 as the machine screws are used for securing the idler pulley assembly to the main housing of the PHONOFILM ATTACHMENT.	
2210	PULLEY ASSEMBLY (Code Word—ALIKE)	\$2.50
	The pulley assembly 2210 is, of course, subject to wear and if this wear becomes excessive, the pulley assembly should be replaced. See note under FN75F30 below.	
2204	IDLER PULLEY SHOULDER SCREW . . . (Code Word—ALIST)	\$0.50
	See note under FN75F30 below.	
FN75F30	HEXAGON NUT (Code Word—ALIVE)	\$0.05
	Hexagon nut FN75F30 and take-up idler pulley shoulder screw 2204 should be ordered together as the hexagon nut and shoulder screw are used to secure the pulley assembly 2210 to the take-up idler pulley adjustment arm.	
2205	ADJUSTMENT ARM SHOULDER SCREW (Code Word—ALLAH)	\$0.50
	See note under FN75F30 below.	

FN75F30	HEXAGON NUT	(Code Word— ALIVE)	\$0.05
	The hexagon nut FN75F30 and adjustment arm shoulder screw 2205 should be ordered together as the shoulder screw and hexagon nut are used for securing the adjustment arm to the take-up idler pulley bracket.		
P8F30	MACHINE SCREW	(Code Word— ALMON)	\$0.05
	See note under FN75F30 below.		
W80F13	WASHER	(Code Word— ALMUD)	\$0.05
	See note under FN75F30 below.		
FN75F30	HEXAGON NUT	(Code Word— ALIVE)	\$0.05
	Hexagon nut FN75F30, washer W80F13 and machine screw P8F30 should be ordered together as the screw, washer and nut are used to secure the idler pulley adjustment arm to the idler pulley bracket, so as to allow adjustment of the arm and to then permanently secure that adjustment in the correct position.		



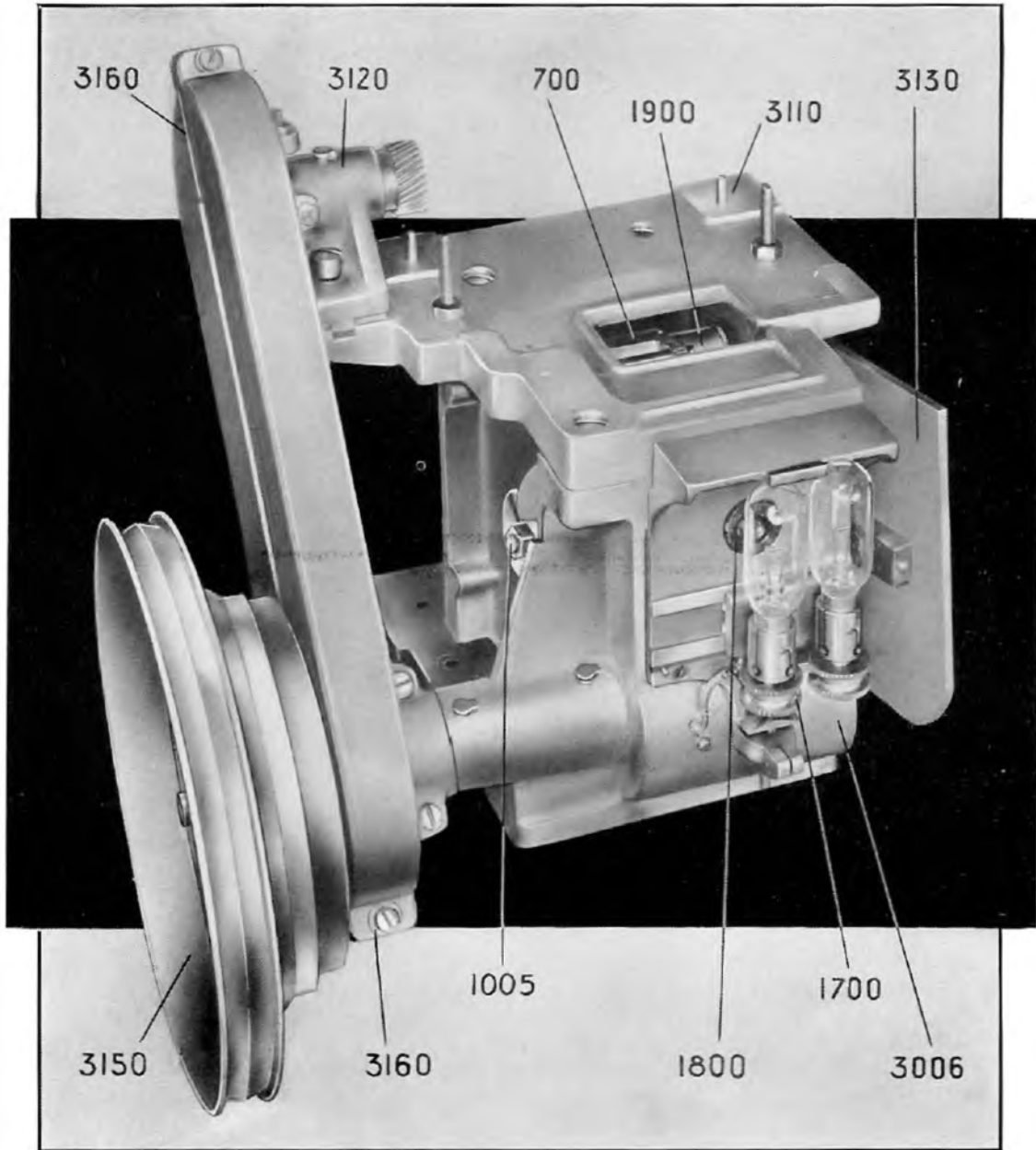


Oblique front view of the complete PHONOFILM ATTACHMENT "3006", but without door, adaptable to Powers "6-A," "6-B," and "6-E" motion picture projectors. The illustration pictures the interior of the PHONOFILM ATTACHMENT and numerically designates the major assembly numbers. Please note that assembly numbers, that are the same as for the PHONOFILM ATTACHMENT "6" adaptable to Simplex motion picture projectors, are identical.

PHONOFILM ATTACHMENTS "3006" AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS

The PHONOFILM ATTACHMENT 3006 pictured above is suitable for adaptation to Powers "6-A", "6-B" and "6-E" motion picture projectors.

Complete PHONOFILM ATTACHMENTS adaptable to these various types of Powers motion picture projectors include in addition to the PHONOFILM ATTACHMENT 3006, a motor bracket assembly, an electric motor, a drive pulley, a drive belt and a lamp carriage; these various additional parts differing, depending upon the type of projector and upon the power supply available.



Oblique rear view of the POWERS PHONOFILM ATTACHMENT "3006" adaptable to Powers "6-A," "6-B," or "6-E" motion picture projectors, illustrating and designating major assemblies including those not shown in the oblique front view as illustrated on page A-26.

Please note that only assemblies for the 3006 PHONOFILM ATTACHMENT that are different from the assemblies required for the PHONOFILM ATTACHMENT "6" (adaptable to Simplex motion picture projectors) are listed in detail in this section, the assemblies that are the same as for the PHONOFILM ATTACHMENT "6" being listed in the first part of this section "A" of this parts-catalog and reference is made direct to the original listings.

- 3035 **COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—BEGET)

Complete POWERS PHONOFILM ATTACHMENT 3035 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-15
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3020 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEGUM)

Complete POWERS PHONOFILM ATTACHMENT 3020 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-14
One drive pulley	3175
One drive belt	3194
One lamp carriage	3178

3050 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEHAR)

Complete POWERS PHONOFILM ATTACHMENT 3050 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-13
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3005 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEIGE)

Complete POWERS PHONOFILM ATTACHMENT 3005 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-12
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

3065 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY (Code Word—BEILD)

Complete POWERS PHONOFILM ATTACHMENT 3065 includes the following individual items:

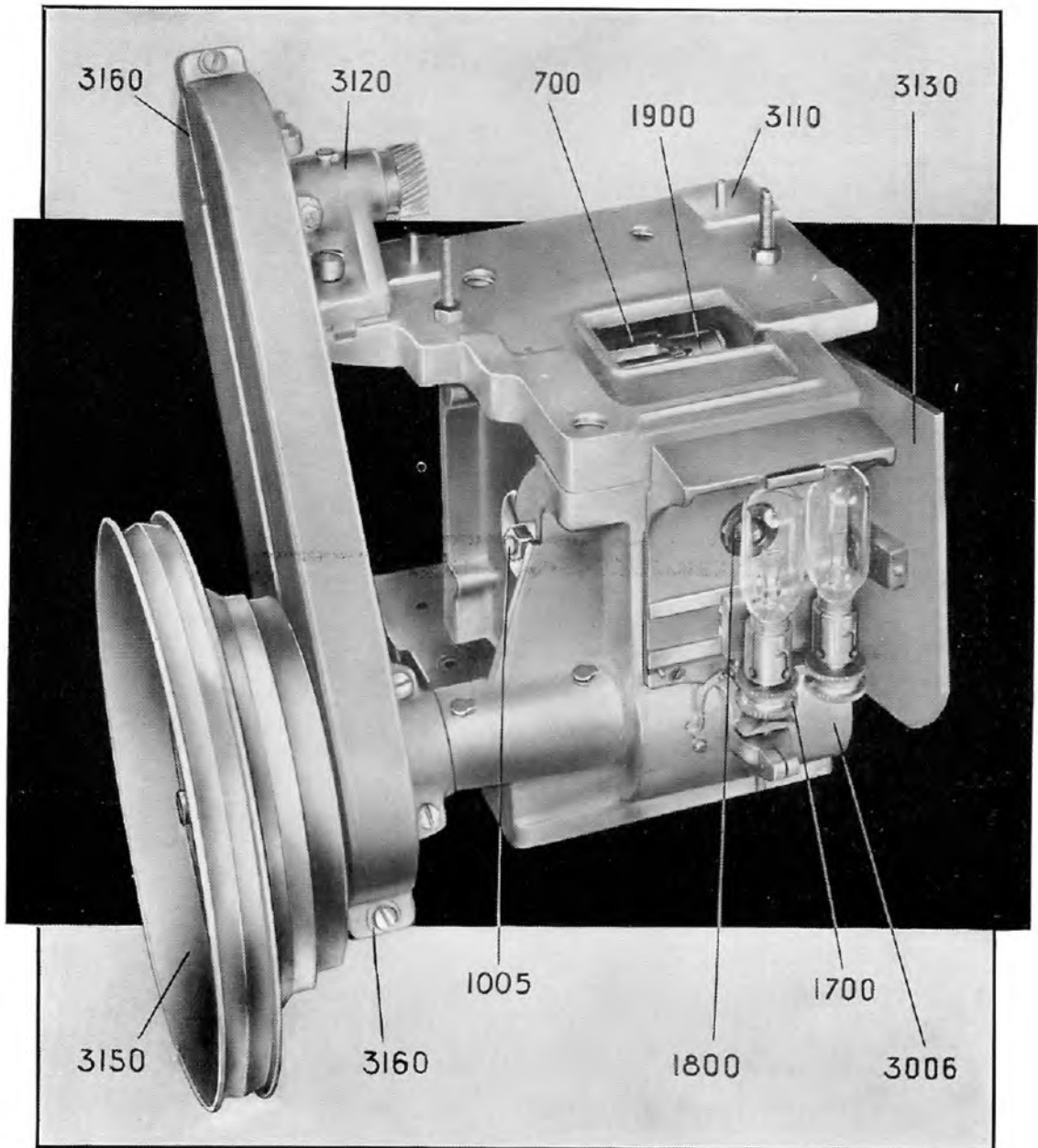
One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-16
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

Please see details of the individual items which are component parts of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-A" motion picture projectors on the following pages in this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3035, 3020, 3050, 3005 AND 3065 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

3006 POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)



Oblique rear view of the POWERS PHONOFILM ATTACHMENT "3006" adaptable to Powers "6-A," "6-B," or "6-E" motion picture projectors, illustrating and designating major assemblies including those not shown in the oblique front view as illustrated on page A-26.

Please note that only assemblies for the 3006 PHONOFILM ATTACHMENT that are different from the assemblies required for the PHONOFILM ATTACHMENT "6" (adaptable to Simplex motion picture projectors) are listed in detail in this section, the assemblies that are the same as for the PHONOFILM ATTACHMENT "6" being listed in the first part of this section "A" of this parts-catalog and reference is made direct to the original listings.

- 3035 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEGET)**

Complete POWERS PHONOFILM ATTACHMENT 3035 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-15
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3020 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEGUM)

Complete POWERS PHONOFILM ATTACHMENT 3020 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-14
One drive pulley	3175
One drive belt	3194
One lamp carriage	3178

3050 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEIAR)

Complete POWERS PHONOFILM ATTACHMENT 3050 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-13
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3005 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEIGE)

Complete POWERS PHONOFILM ATTACHMENT 3005 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-12
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

3065 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY (Code Word—BEILD)

Complete POWERS PHONOFILM ATTACHMENT 3065 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-16
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

Please see details of the individual items which are component parts of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-A" motion picture projectors on the following pages in this section of this PHONOFILM parts-catalog.

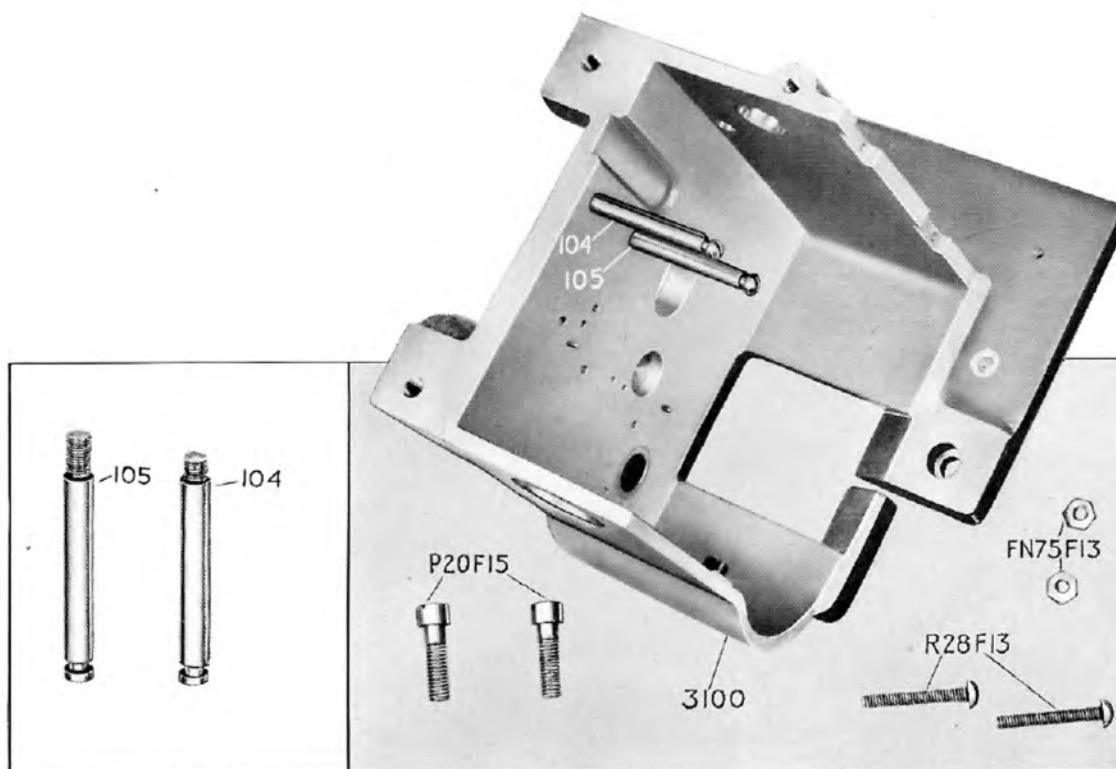
COMPLETE PHONOFILM ATTACHMENTS 3035, 3020, 3050, 3005 AND 3065 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

3006 POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to Powers PHONOFILM ATTACHMENT 3006 and spare and replacement parts for the PHONOFILM ATTACHMENT.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.



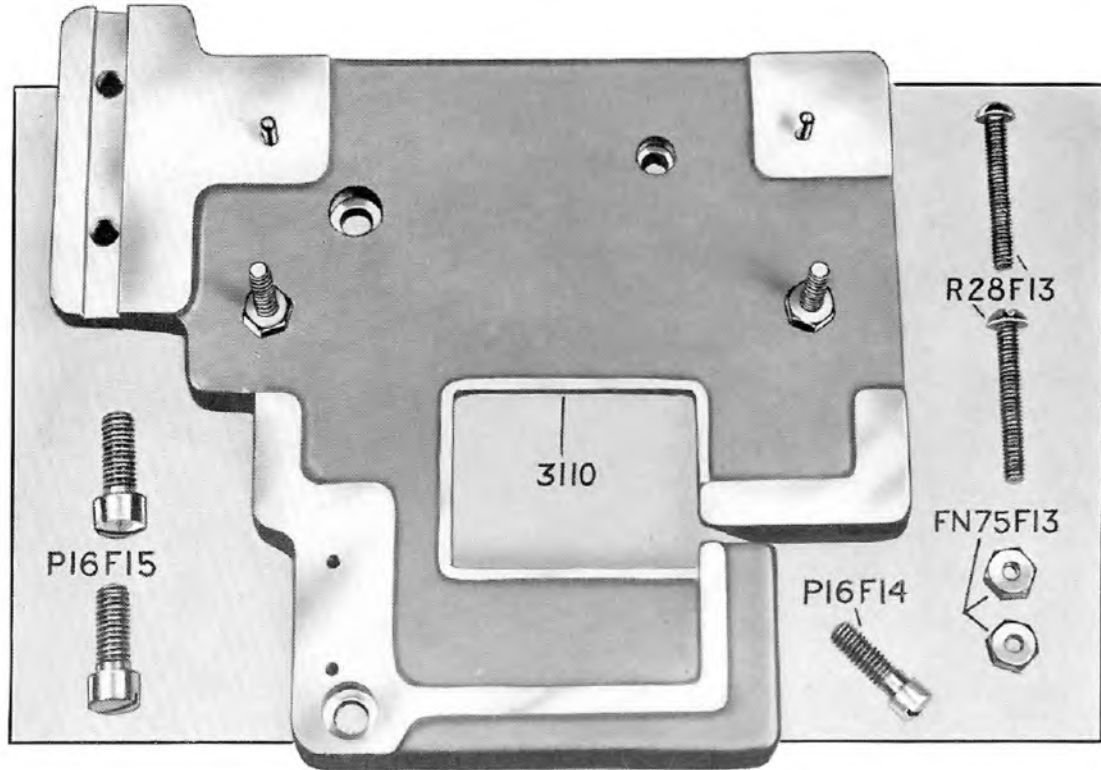
POWERS MAIN HOUSING ASSEMBLY

3100	POWERS MAIN HOUSING ASSEMBLY (Code Word— BABEL)	
	The main housing assembly 3100 is not sold as a spare or replacement part and will never need to be replaced except in cases of serious injury, fire, etc. In such emergency conditions it is necessary to replace the complete PHONOFILM ATTACHMENT, and if such replacement is necessary communicate directly with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City, N. Y.	
104	SLIT BLOCK MOUNTING ROD . (Short—Code Word— ABIDE)	\$0.75
105	SLIT BLOCK MOUNTING ROD . (Long—Code Word— ABIEL)	\$0.75
P20F15	MACHINE SCREWS (2 required—Code Word— BACON)	\$0.05
	See note under FN75F13 below.	
R28F13	MACHINE SCREWS (2 required—Code Word— BADEN)	\$0.05
	See note under FN75F13 below.	
FN75F13	HEXAGON NUTS (2 required—Code Word— BADGE)	\$0.05
	Machine screws P20F15 and R28F13 and hexagon nuts FN75F13 should be ordered together as these screws and nuts are used for attaching the entire PHONOFILM ATTACHMENT to the projector with which it is used.	

OC93-1 OIL CUPS (2 required—Code Word—ABUKO) \$0.20

The two oil cups OC93-1 although not illustrated in the photograph above are easily seen in the illustration of the complete POWERS PHONOFILM ATTACHMENT 3006 as illustrated on page A-27, the oil cups being on top of the sprocket shaft bearing extending through the main housing and midway between the exciting lamp assembly 1700 and the chain guard assembly 3160. The two oil cups provide lubrication for the sprocket shaft, a component part of the sprocket shaft assembly 3150.

Oil cups OC93-1 do not screw into the main housing as they are "push type" oil cups and fit securely into the holes in the main housing provided for them.



POWERS ADAPTER PLATE ASSEMBLY

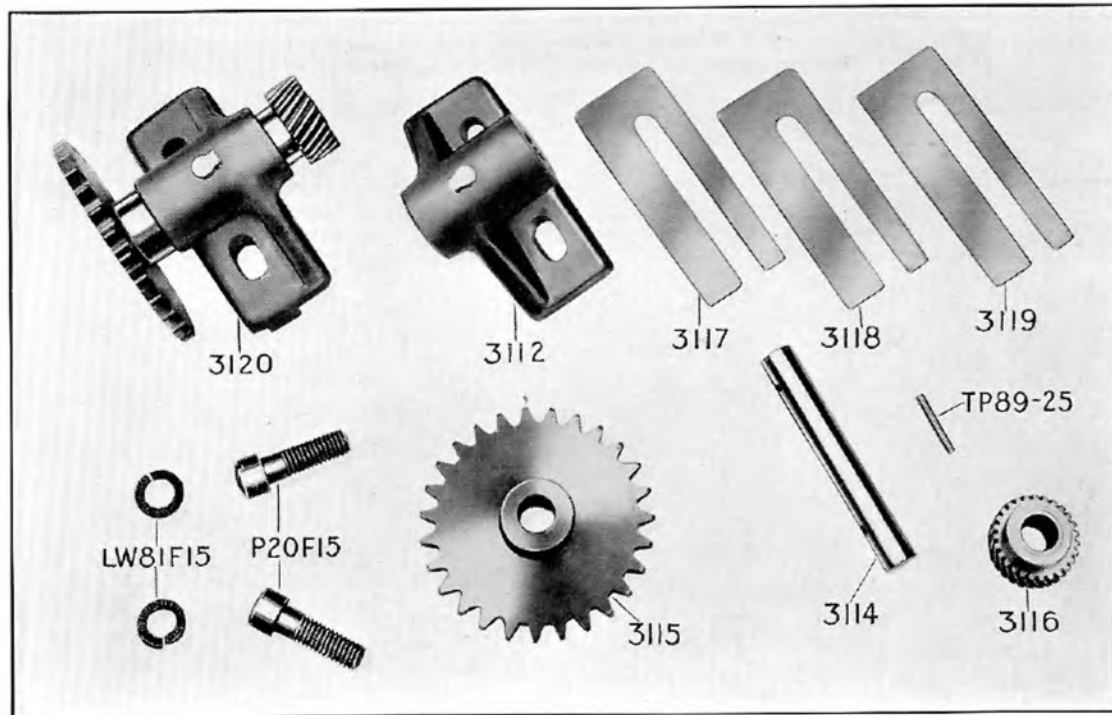
- 3110 POWERS ADAPTER PLATE ASSEMBLY . (Code Word—BAHIA) \$15.55**
See note under FN75F13 below.
- P16F14 MACHINE SCREW (Code Word—BAITH) \$0.05**
See note under FN75F13 below.
- P16F15 MACHINE SCREWS (2 required—Code Word—BAIRN) \$0.05**
See note under FN75F13 below.
- R28F13 MACHINE SCREWS (2 required—Code Word—BADEN) \$0.05**
See note under FN75F13 below.
- FN75F13 HEXAGON NUTS. (2 required—Code Word—BADGE) \$0.05**

Machine screws P16F14, P16F15, and R28F13 and hexagon nuts FN75F13 should be ordered together with the adapter plate assembly 3110, as these screws and nuts are used to fasten the adapter plate assembly to the main housing assembly 3100 and to the motion picture projector head.

POWERS DRIVE BRACKET ASSEMBLY

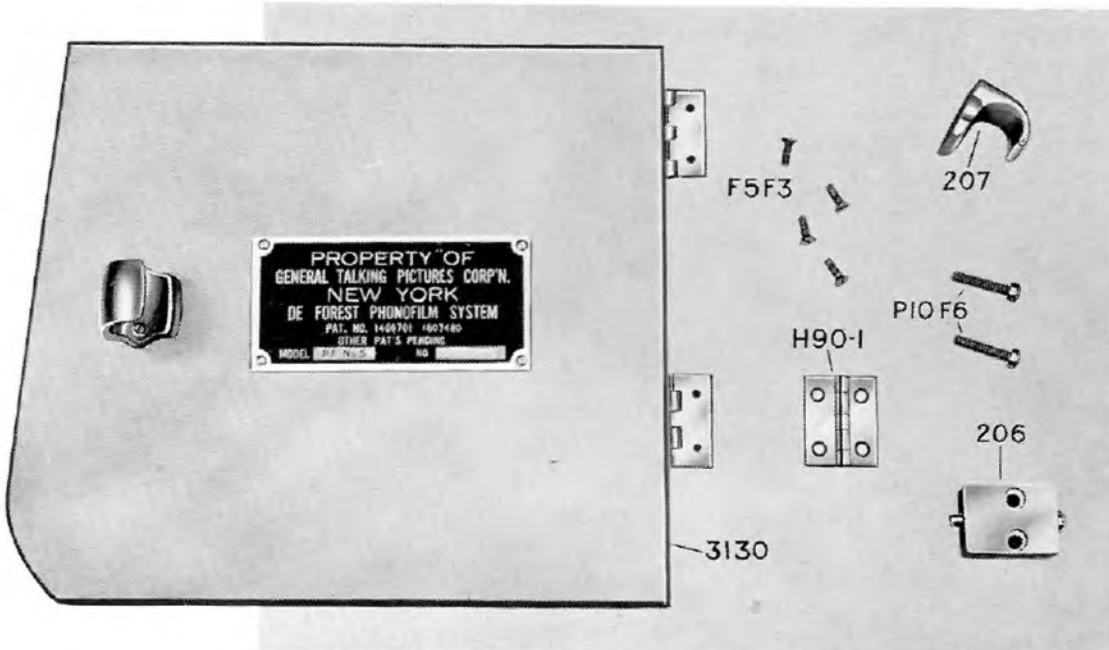
(See illustration on top of page A-31)

- 3120 POWERS DRIVE BRACKET ASSEMBLY . (Code Word—BAJER) \$18.55**
See note under LW81F15 below.
- 3112 POWERS BRACKET ASSEMBLY (Code Word—BALFE) \$8.00**
See note under LW81F15 below.



OC93-1	OIL CUP	(Code Word— ABUKO)	\$0.20
	Oil cup OC93-1, although not numerically designated in the above photograph, is clearly shown mounted on top of the Powers drive bracket assembly 3120 and on top of the bracket assembly 3112. The oil cup is of course used to lubricate the drive shaft 3114. Please note that the oil cup does not screw into the bracket assembly 3112 as it is a "push type" oil cup and fits securely into the hole provided for it.		
3114	POWERS DRIVE SHAFT	(Code Word— BALKH)	\$2.50
3115	POWERS UPPER CHAIN SPROCKET	(Code Word— BALOW)	\$2.75
	The upper chain sprocket 3115 connects with the lower chain sprocket 3153 on the sprocket shaft assembly 3150 through the medium of the drive chain 3156. The upper chain sprocket 3115 is of course subject to wear in normal operation of the PHONOFILM ATTACHMENT and should be replaced when this wear becomes excessive or such as to tend to make the transmission of power from the upper chain sprocket 3115 to the lower chain sprocket 3153 uneven or with excessive vibration. See note under TP89-25 below.		
TP89-25	TAPER PIN	(Code Word— BALSA)	\$0.05
	Taper pin TP89-25 and upper chain sprocket 3115 should be ordered together as the taper pin is used to secure the upper chain sprocket to the drive shaft.		
3116	POWERS DRIVE GEAR	(Code Word— BANAL)	\$3.75
	The drive gear 3116 is the gear by means of which power is transmitted from the POWERS PHONOFILM ATTACHMENT 3006 to the Powers projector mechanism, the drive gear meshing with the idler gear 640 in the projector mechanism. This gear is, of course, subject to wear and should be replaced when inspection shows that the wear is excessive or when excessive vibration or noise of the PHONOFILM ATTACHMENT and projector mechanism can be specifically traced to the drive gear as the cause of such noise or vibration. See note under TP89-25.		
TP89-25	TAPER PIN	(Code Word— BALSA)	\$0.05
	Taper pin TP89-25 and drive gear 3116 should be ordered together as the taper pin is used to secure the drive gear to the drive shaft.		
3117	POWERS SHIM (1/16 inch thick)	(Code Word— BANCA)	\$0.45
	See note under 3119 below.		
3118	POWERS SHIM (1/32 inch thick)	(Code Word— BANDY)	\$0.45
	See note under 3119 below.		

3119	POWERS SHIM (.010 inch thick) (Code Word— BANGO)	\$0.45
	Shims 3117, 3118 and 3119 are used in securing the proper adjustment of the chain drive when mounting drive bracket assembly 3120 to adapter plate assembly 3110.	
P20F15	MACHINE SCREWS (2 required—Code Word— BACON)	\$0.05
	See note under LW81F15 below.	
LW81F15	LOCK WASHERS (2 required—Code Word— BANKS)	\$0.05
	Machine screws P20F15 and lock washers LW81F15 should be ordered together with the drive bracket assembly 3120, or the bracket assembly 3112, as the screws and lock washers are used to fasten 3120 or 3112 to the adapter plate assembly 3110.	



POWERS DOOR ASSEMBLY

3130	POWERS DOOR ASSEMBLY (Code Word— BANTU)	\$6.75
206	DOOR LOCK ASSEMBLY (Code Word— ABUZE)	\$1.50
	See note under P10F6 below.	
P10F6	MACHINE SCREWS (2 required—Code Word— ABYDE)	\$0.05
	Machine screws P10F6 should be ordered together with door lock assembly 206 as the screws are used to secure the door lock assembly to the door.	
H90-1	DOOR HINGE (2 required—Code Word— ACATE)	\$0.15
	See note under F5F3 below.	
F5F3	MACHINE SCREWS (4 required—Code Word— ACCIT)	\$0.05
	Machine screws F5F3 should be ordered together with door hinge H90-1 as four screws are required to fasten each hinge to the door and to the main housing.	
207	LIFT HANDLE (Code Word— ABYSS)	\$0.50
	The machine screws P10F6 listed above which are used to secure the door lock assembly to the door are also used to secure the lift handle to the door.	

SLIT BLOCK ASSEMBLY

700	SLIT BLOCK ASSEMBLY (Code Word— ADAYS)	\$39.50
	This assembly and all parts in the assembly are identical with those for Simplex projectors. See pages A12 and A13 for details, price and allowance on price for exchange.	

SLIT BLOCK ROLLER ASSEMBLY

- 800 **SLIT BLOCK ROLLER ASSEMBLY** (Code Word—**ADIOS**) **\$10.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See pages A-13 and A-14 for details and prices.

SLIT BLOCK ROLLER CATCH ASSEMBLY

- 900 **SLIT BLOCK ROLLER CATCH ASSEMBLY** (Code Word—**ADULT**) **\$1.75**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-14 for details and prices.

COMPENSATING ROLLER ASSEMBLY

- 1005 **COMPENSATING ROLLER ASSEMBLY** (Code Word—**AEMIA**)
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-15 for details and prices.

INTERMEDIATE ROLLER ASSEMBLY

- 1200 **INTERMEDIATE ROLLER ASSEMBLY . . .** (Code Word—**AFIRE**) **\$8.00**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-16 for details and prices.

SPROCKET ROLLER ASSEMBLY

- 1300 **SPROCKET ROLLER ASSEMBLY** (Code Word—**AGAPE**) **\$10.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-16 for details and prices.

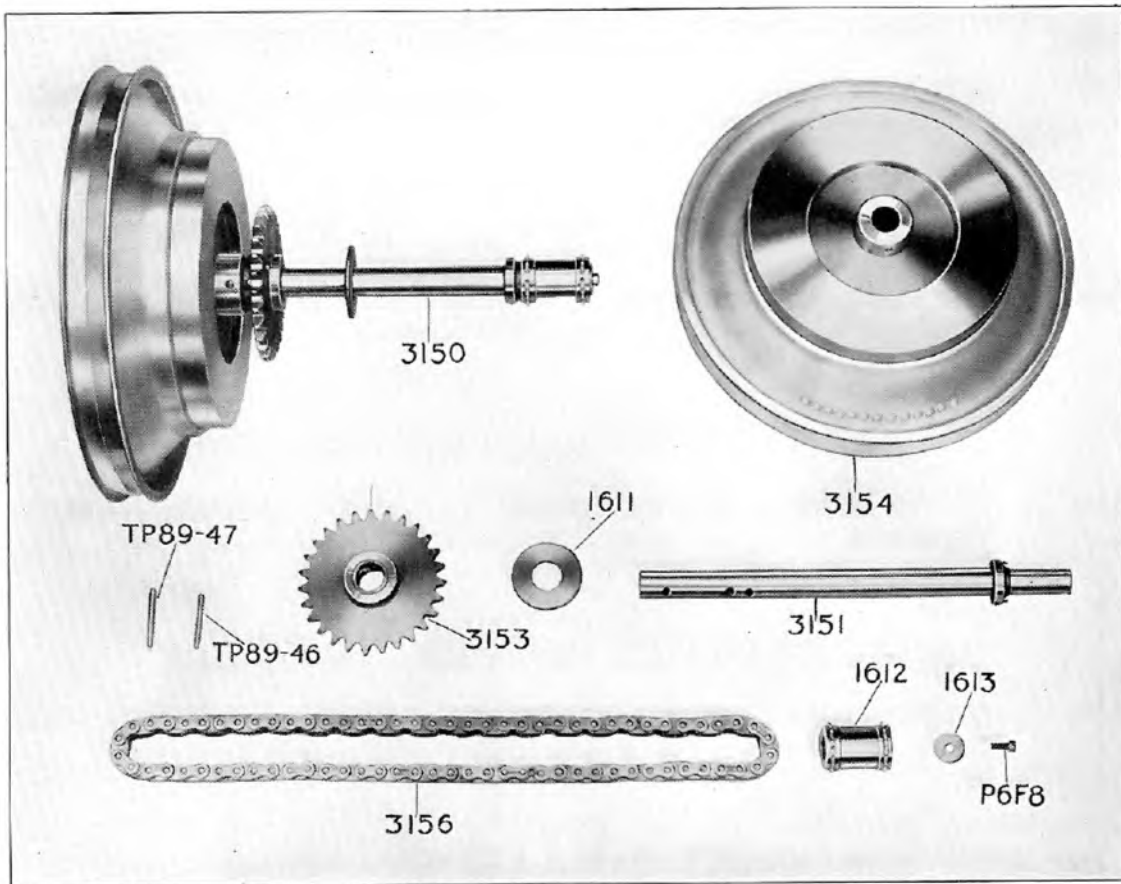
SPROCKET ROLLER CATCH ASSEMBLY

- 1400 **SPROCKET ROLLER CATCH ASSEMBLY** (Code Word—**AGNES**) **\$1.75**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-17 for details and prices.

ROLLER ADJUSTMENT ASSEMBLY

- 1500 **ROLLER ADJUSTMENT ASSEMBLY . . .** (Code Word—**AGORA**) **\$1.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-18 for details and prices.

**ALL PRICES IN THIS PARTS CATALOG ARE SUBJECT
 TO CHANGE WITHOUT NOTICE**



POWERS SPROCKET SHAFT ASSEMBLY

3150	POWERS SPROCKET SHAFT ASSEMBLY (Code Word—BARCA)	\$72.55
3151	POWERS SHAFT ASSEMBLY (Code Word—BARGE)	\$16.50
1611	THRUST WASHER (Code Word—AHOLD)	\$0.60
	This thrust washer is not just an ordinary washer but is carefully surfaced and ground on each side to an accurate dimension in order to insure the correct position of the sprocket shaft assembly in its bearing in the main housing.	
3153	POWERS LOWER CHAIN SPROCKET . . (Code Word—BARON)	\$2.75
	The Powers lower chain sprocket 3153 is connected to the Powers upper chain sprocket 3115 through the medium of the Powers drive chain 3156. The lower chain sprocket is of course subject to the same conditions of wear in operation as is the upper chain sprocket and the drive chain and should be replaced whenever inspection verifies that the wear has become excessive or when the transmission of power between the two chain sprockets is not uniform and smooth. See note under TP89-46 below.	
TP89-46	TAPER PIN (Code Word—BARTH)	\$0.05
	Taper pin TP89-46 should be ordered together with the lower chain sprocket 3153 as the taper pin is used to secure the lower chain sprocket to the sprocket shaft.	
3154	POWERS DRIVE PULLEY ASSEMBLY . . (Code Word—BARYE)	\$24.00
	The Powers drive pulley assembly 3154 consists of the flywheel proper and the pulley. These two parts are not supplied separately as the flywheel is assembled to the pulley at the factory and the complete assembly is very accurately and dynamically balanced to secure absolute vibrationless rotation of the sprocket shaft assembly. See note under TP89-47 below.	
TP89-47	TAPER PIN (Code Word—AHMED)	\$0.05
	Taper pin TP89-47 should be ordered together with drive pulley assembly 3154 as the taper pin is used to secure the drive pulley assembly to the shaft assembly 3151.	
1612	FILM SPROCKET (Code Word—AHULL)	\$12.50

The film sprocket 1612 is the drive member in the complete PHONOFILM ATTACHMENT which causes the film to travel smoothly through the mechanism of the PHONOFILM ATTACHMENT. The film sprocket is manufactured with extreme accuracy, being held to dimensions of plus or minus one ten-thousandth of an inch.

Particular attention should be given to the condition of the film sprocket, and if the teeth are undercut due to long and severe use, the old and worn film sprocket should be immediately replaced by a new one.

The film sprocket 1612 should not be confused with the ordinary film sprockets available, which are usually not made of the most suitable materials or with the accuracy held to the dimensions and tolerances necessary to produce a film sprocket suitable for use in a PHONOFILM ATTACHMENT. See note under P6F8 below.

1613	SPROCKET WASHER	(Code Word—AIDIN)	\$0.10
P6F8	MACHINE SCREW	(Code Word—AILSA)	\$0.05
Machine screw P6F8 and sprocket washer 1613 should be ordered together with the film sprocket 1612 as the machine screw and washer are used for securing the film sprocket to the end of the sprocket shaft.			
3156	POWERS DRIVE CHAIN	(Code Word—BASAL)	\$9.00
The Powers drive chain 3156 is the highest grade chain available for securing a silent chain drive between two members of a mechanical power transmission system. The chain is cut and adjusted to extremely accurate dimensions at the factory and given rigid mechanical inspections to guarantee the proper assembly and function of each link, such that the chain in use will transmit an even, smooth flow of power without excessive noise or vibration.			

EXCITING LAMP HOUSING ASSEMBLY

1700	EXCITING LAMP HOUSING ASSEMBLY	(Code Word—AINCE)	\$36.50
This assembly and the parts in the assembly are identical with those for Simplex projectors. See pages A-19 and A-20 for details and prices.			

OPTICAL SYSTEM

1800	OPTICAL SYSTEM	(Code Word—ALERT)	\$62.50
This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-21 for details, price and allowance on price for exchange.			

PHOTO-CELL ASSEMBLY

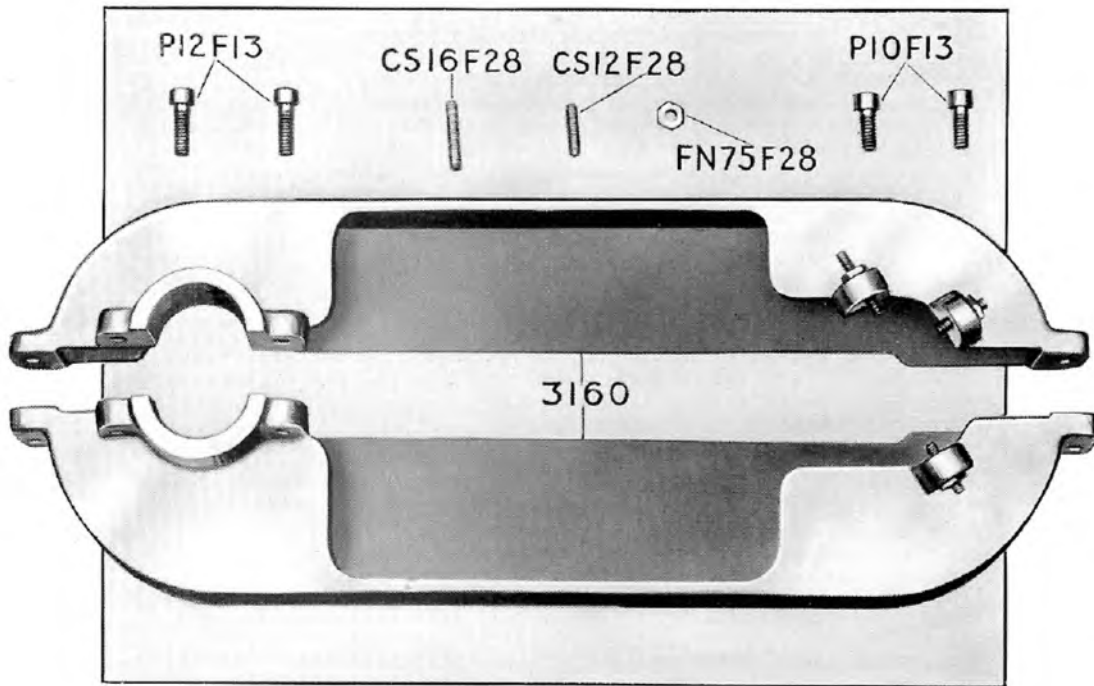
1900	PHOTO-CELL ASSEMBLY	(Code Word—ALGAL)	\$35.00
This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-22 for details, price and allowance on price for exchange.			

PHOTO-CELL RECEPTACLE

2000	PHOTO-CELL RECEPTACLE	(Code Word—ALGID)	\$1.50
This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-23 for details and prices.			

PHOTO-CELL CABLE ASSEMBLY

2108	PHOTO-CELL CABLE ASSEMBLY	(Code Word—ALGOR)	\$5.00
This assembly and the parts in the assembly are identical with those for Simplex projectors. See pages A-23 and A-24 for details and prices.			



POWERS CHAIN GUARD ASSEMBLY

3160	POWERS CHAIN GUARD ASSEMBLY (Code Word— BASIC)	\$10.25
	The complete chain guard assembly 3160 includes both an upper and a lower chain guard, as illustrated, which are not supplied separately. See note under P10F13, CS16F28 and FN75F28 below.	
P10F13	MACHINE SCREWS (2 required—Code Word— BASTA)	\$0.05
	See note under P12F13 below.	
P12F13	MACHINE SCREWS (2 required—Code Word— BATCH)	\$0.05
	Machine screws P12F13 and P10F13 should be ordered together with the chain guard assembly 3160 as the four machine screws are used for fastening together the upper and lower guards which make up the complete chain guard assembly.	
CS12F28	SET SCREWS (2 required—Code Word— BATHE)	\$0.05
	See note under CS16F28 below.	
CS16F28	SET SCREW (Code Word— BATON)	\$0.05
	Set screws CS12F28 and set screw CS16F28 should be ordered together as these three set screws when in position in the upper and lower chain guard of the complete chain guard assembly are used to secure the correct position of the upper end of the complete chain guard assembly. See note under FN75F28 below.	
FN75F28	HEXAGON NUTS (3 required—Code Word— ABOUT)	\$0.05
	Hexagon nuts FN75F28 are used with set screws CS12F28 and set screw CS16F28 to permanently secure the proper adjustment of the set screws.	

**COMPLETE PHONOFILM EQUIPMENTS ARE LEASED WITHOUT THE
OBLIGATION OF COMPULSORY WEEKLY SERVICE CHARGES.**

**WHEN YOU REALLY REQUIRE SERVICE PHONOFILM SERVICE ENGI-
NEERS ARE AT YOUR INSTANT COMMAND.**



POWERS LOOP SETTER GEAR

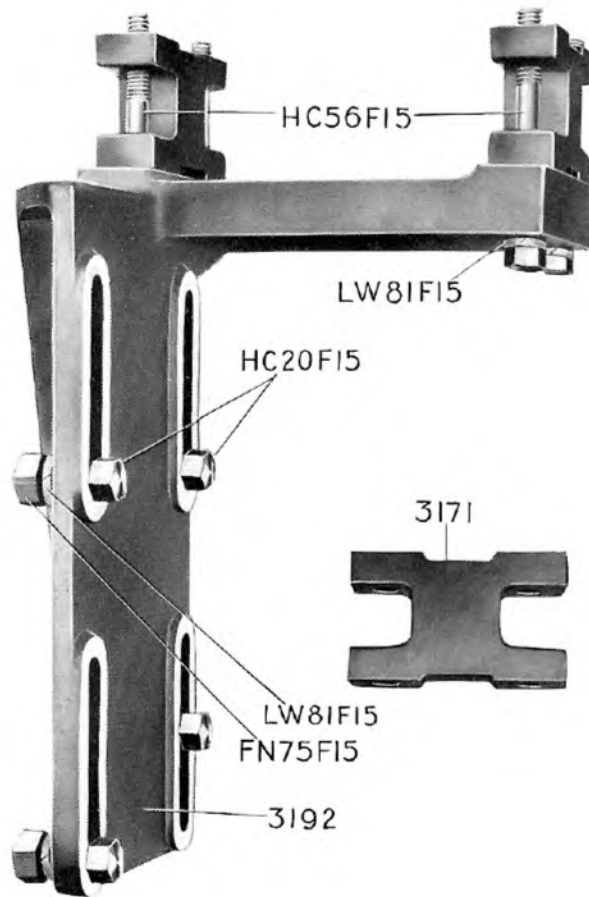
3165 POWERS LOOP SETTER GEAR (Code Word—BATUM) \$3.75

The Powers loop setter gear assembly 3165 is a standard part of a complete PHONOFILM ATTACHMENT and is supplied to replace the ordinary loop setter gear, a component part of the Powers "6-A," "6-B," and "6-E" motion picture projector mechanisms.

The use of the loop setter gear assembly 3165 in place of the loop setter gear normally in the Powers mechanism allows a uniform motion of film travel through the mechanism of the PHONOFILM ATTACHMENT, due to the elimination of the "stop-period" of the take-up sprocket in the Powers projector.

Loop setter gear assembly 3165 is of course subject to wear and should be replaced immediately when upon inspection the wear is found to be excessive, due to long and severe service conditions in use.





POWERS MOTOR BRACKET

3192	POWERS MOTOR BRACKET	(Code Word— BEIRA)	\$10.00
	<p>Motor bracket 3192 is supplied as a component part of a complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" motion picture projectors in order that the electric motor may be properly mounted on the bracket. The bracket is illustrated in a vertical position which is the position that it is mounted in when fastened to the Powers projector. The motor is fastened to the bracket and slots are provided, allowing for a vertical adjustment of the motor, providing a center to center difference between drive pulleys of approximately one and one-half (1½) inches.</p> <p>The motor bracket assembly 3192 is supplied complete with all machine screws, washers and hexagon nuts as illustrated, the illustration also showing the individual parts required to make up the complete assembly.</p>		
3171	SPACERS	(2 required—Code Word— BAUIN)	\$1.00
HC56F15	MACHINE SCREWS	(4 required—Code Word— BAUGH)	\$0.15
HC20F15	MACHINE SCREWS	(4 required—Code Word— BELAY)	\$0.15
LW81F15	LOCK WASHERS	(Code Word— BANKS)	\$0.05
	<p>Four (4) washers LW81F15 are used with machine screws HC56F15 and with machine screws HC20F15 and should be so ordered.</p>		
FN75F15	HEXAGON NUTS	(4 required—Code Word— BAYOU)	\$0.05
	<p>Four (4) hexagon nuts FN75F15 are used with four (4) machine screws HC20F15 for securing the electric motor to the motor drive bracket.</p>		



ELECTRIC MOTORS

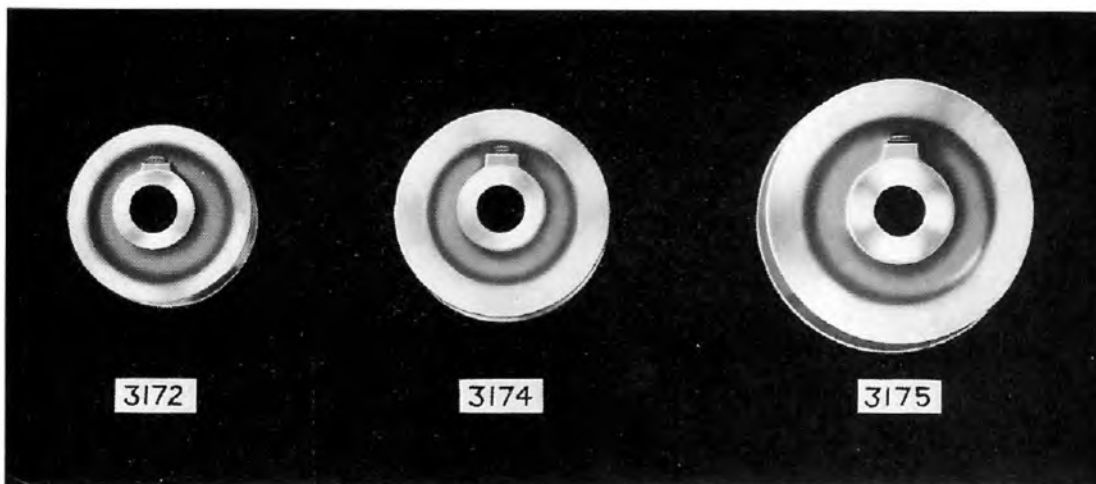
If you require spare or replacement electric motors, your attention is called to the desirability of verifying, previous to ordering, the kind of electric current power supply available in your theatre. This information should be obtained complete, particularly when the power supply is alternating current, and you should know the voltage, the frequency and the phase of the available current as the electric motors listed below for alternating current power supply are for 110 volt single phase power supply having different frequencies including 25 cycles, 40 cycles, 50 cycles and 60 cycles. For direct current power supply, only a single motor is listed, that is for 110 volt circuits.

For electric motors adaptable to other alternating current or direct current power supply requirements, communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City, N. Y.

A number of different electric motors are necessary component parts of the complete PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors because of the different drive pulleys required.

The different electric motors are listed below, and reference is made to the correct motors for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, and adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

- | | | | |
|----------------|--|----------------------------|----------------|
| E600-15 | ELECTRIC MOTOR | (Code Word— BELOW) | \$15.10 |
| | An alternating current electric motor for 110 volt 25 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-14 | ELECTRIC MOTOR | (Code Word— BELUS) | \$15.10 |
| | An alternating current electric motor for 110 volt 40 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-13 | ELECTRIC MOTOR | (Code Word— BENCH) | \$12.80 |
| | An alternating current electric motor for 110 volt 50 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-12 | ELECTRIC MOTOR | (Code Word— BAWTY) | \$12.80 |
| | An alternating current electric motor for 110 volt 60 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-16 | ELECTRIC MOTOR | (Code Word— BENDS) | \$20.90 |
| | An electric motor for 110 volt direct current power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |

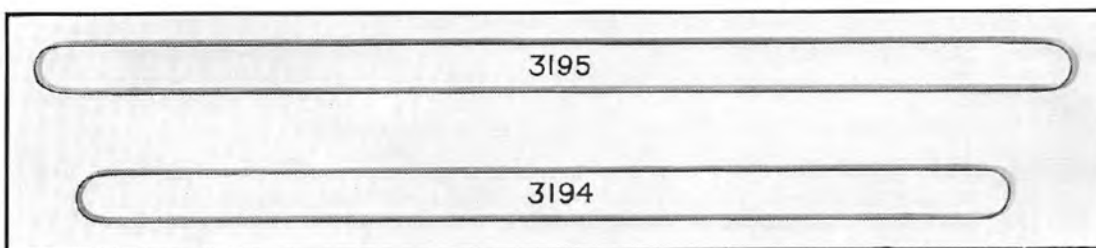


DRIVE PULLEYS

A number of different drive pulleys are necessary component parts of the complete PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors because of the different electric motors required having different speeds, etc.

The different drive pulleys are listed below, and reference is made to the correct pulleys for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, and adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

- | | | |
|------|---|--------|
| 3172 | DRIVE PULLEY (Code Word—BAZAR) | \$1.75 |
| | The correct drive pulley for use with alternating current 110 volt 60 cycle single phase electric motor E600-12 and for 110 volt direct current electric motor E600-16. | |
| 3174 | DRIVE PULLEY (Code Word—BENUM) | \$1.75 |
| | The correct drive pulley for alternating current 110 volt 25 cycle single phase electric motor E600-15 and for alternating current 110 volt 50 cycle single phase electric motor E600-13. | |
| 3175 | DRIVE PULLEY (Code Word—BERAR) | \$1.75 |
| | The correct drive pulley for alternating current 110 volt 40 cycle single phase electric motor E600-14. | |



DRIVE BELTS

A number of different drive belts are necessary component parts of the complete PHONOFILM ATTACHMENT adaptable to Powers motion picture projectors because of the different electric motors and pulleys required, the motors having different speeds.

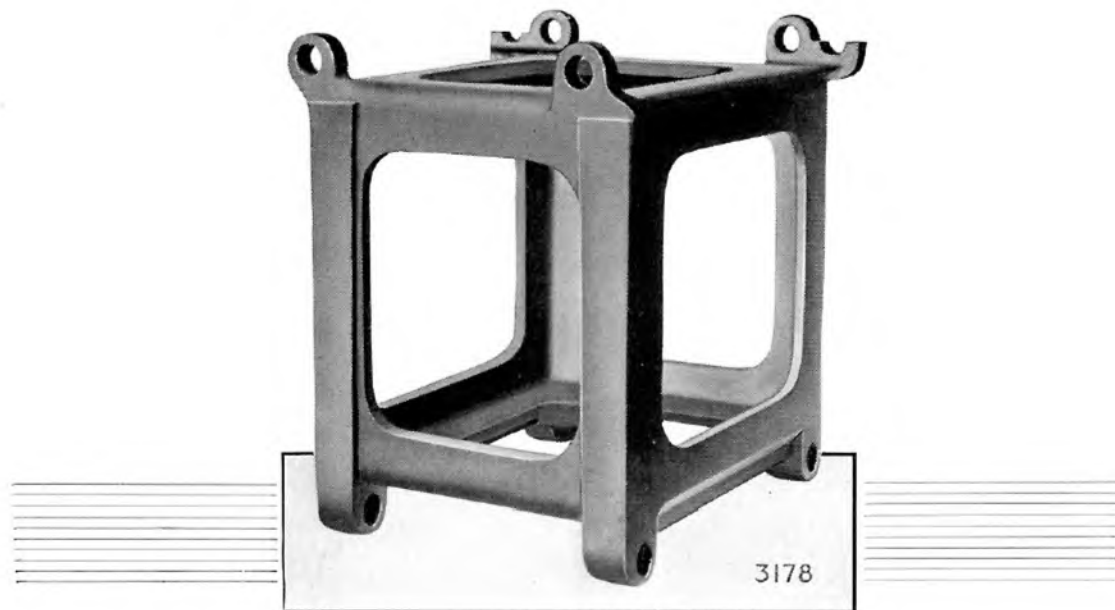
The different drive belts are listed below, and reference is made to the correct belts for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

- | | | |
|------|---|--------|
| 3194 | DRIVE BELT (Code Word—BELEM) | \$1.00 |
|------|---|--------|

The correct drive belt for use with electric motors E600-12, E600-14 and E600-15 and for use with drive pulleys 3172, 3174 and 3175. When properly used with the above electric motors and drive pulleys the center to center distance between the shafts upon which the pulleys are mounted, will vary between twenty-six and five sixteenths ($26\frac{5}{16}$) inches and twenty-six and fifteen sixteenths ($25\frac{15}{16}$) inches.

3195 DRIVE BELT (Code Word—BAUER) \$1.00

The correct drive belt for use with electric motors E600-12, E600-13, E600-14, E600-15 and E600-16 and drive pulleys 3172, 3174 and 3175. When properly used with the above electric motors and drive pulleys the center to center distance between the shafts upon which the pulleys are mounted, will vary between twenty-nine and fifteen sixteenths ($29\frac{15}{16}$) inches and thirty and seven sixteenths ($30\frac{7}{16}$) inches.



LAMP CARRIAGE

3178 LAMP CARRIAGE (Code Word—BEFOG) \$15.25

In adapting a complete PHONOFILM ATTACHMENT to a Powers "6-A" motion picture projector, the PHONOFILM ATTACHMENT 3006 is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism itself. The Powers projector mechanism is then mounted, instead of on the projector base, on top of the PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of the PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously to complete the adaptation it is necessary to raise the height of the projector lamp mechanism the same height as the projector mechanism was raised from the projector base, and to accomplish this result lamp carriage 3178 is used.

The lamp housing is taken off its regular lamp carriage on the projector base, the lamp carriage 3178 is placed directly on the projector base and the lamp housing is placed directly on top of the lamp carriage 3178; the dimensions of the lamp carriage 3178 being correct to bring the center to center line of the lamp and the lens system in the projector mechanism into their correct position.

PHONOFILM ATTACHMENTS AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-B" MOTION PICTURE PROJECTORS

It is unnecessary in cataloging complete PHONOFILM ATTACHMENTS adapted to Powers "6-B" motion picture projectors to catalog the details of the PHONOFILM ATTACHMENT 3006, as it is identically the same PHONOFILM ATTACHMENT 3006 as is used for Powers "6-A" complete phonofilm adaptations.

A different motor bracket assembly, a different drive belt and a different lamp carriage are however necessary.

Accordingly, there are listed below complete PHONOFILM ATTACHMENTS adaptable to Powers "6-B" motion picture projectors and for different power supplies as may be required in theatres and auditoriums throughout different sections of the country.

**3040 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERDE)**

Complete POWERS PHONOFILM ATTACHMENT 3040 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-15
One drive pulley	3174
One drive belt	3195
One lamp carriage	3190

**3025 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERGH)**

Complete POWERS PHONOFILM ATTACHMENT 3025 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-14
One drive pulley	3175
One drive belt	3195
One lamp carriage	3190

**3055 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERTH)**

Complete POWERS PHONOFILM ATTACHMENT 3055 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-13
One drive pulley	3174
One drive belt	3195
One lamp carriage	3190

**3010 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERYL)**

Complete POWERS PHONOFILM ATTACHMENT 3010 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-12
One drive pulley	3172
One drive belt	3195
One lamp carriage	3190

3070

COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY . . . (Code Word—BESET)

Complete POWERS PHONOFILM ATTACHMENT 3070 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-16
One drive pulley	3172
One drive belt	3195
One lamp carriage	3190

For details with respect to the Powers motor bracket assembly 3193, required for Powers "6-B" PHONOFILM ATTACHMENT adaptations, see page A-44 of this section of this PHONOFILM parts-catalog.

For details with respect to electric motors, see page A-39 of this section of this PHONOFILM parts-catalog.

For details with respect to drive pulleys, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to drive belts, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to lamp carriage 3190 adaptable to Powers "6-B" PHONOFILM ATTACHMENT adaptations, see page A-44 and A-45 of this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3040, 3025, 3055, 3010, AND 3070 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

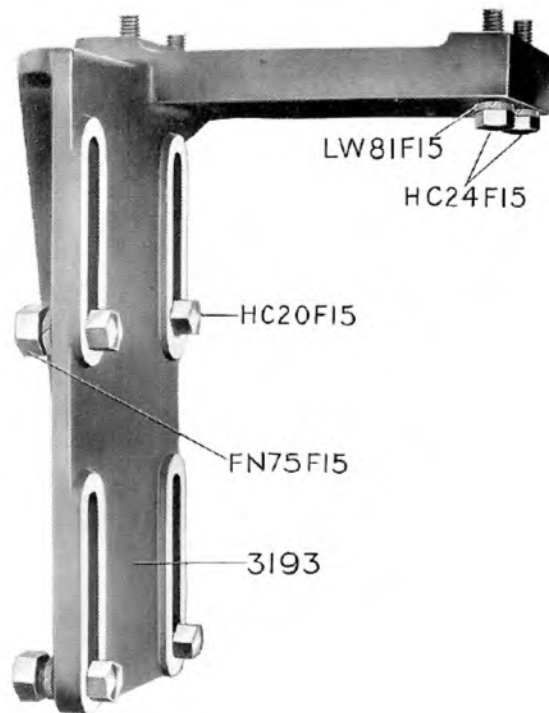
3006

POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to PHONOFILM ATTACHMENT 3006 and spare and replacement parts for PHONOFILM ATTACHMENT 3006.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

PLEASE NOTE THAT ALL PRICES IN THIS PARTS-CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.



POWERS MOTOR BRACKET

3193 POWERS MOTOR BRACKET (Code Word—BAULK) \$8.00

Powers motor bracket 3193 is supplied as a component part of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-B" and "6-E" motion picture projectors in order that the electric motor may be properly mounted on the bracket and the bracket in turn mounted on the projector base so that when the motor itself is adjusted to various positions on the bracket a considerable variation in the length of the drive belt used can be obtained.

Motor bracket 3193 is supplied complete with machine screws, washers and hexagon nuts as illustrated in the photograph above. The individual screws, washers and nuts required are also individually indicated by catalog number and listed separately in the copy below.

HC24F15 MACHINE SCREWS (4 required—Code Word—BEFIT) \$0.15

HC20F15 MACHINE SCREWS (4 required—Code Word—BELAY) \$0.15

LW81F15 LOCK WASHERS (Code Word—BANKS) \$0.05

Four (4) lock washers LW81F15 are used with machine screws HC24F15 and four (4) are used with machine screws HC20F15 and should be so ordered.

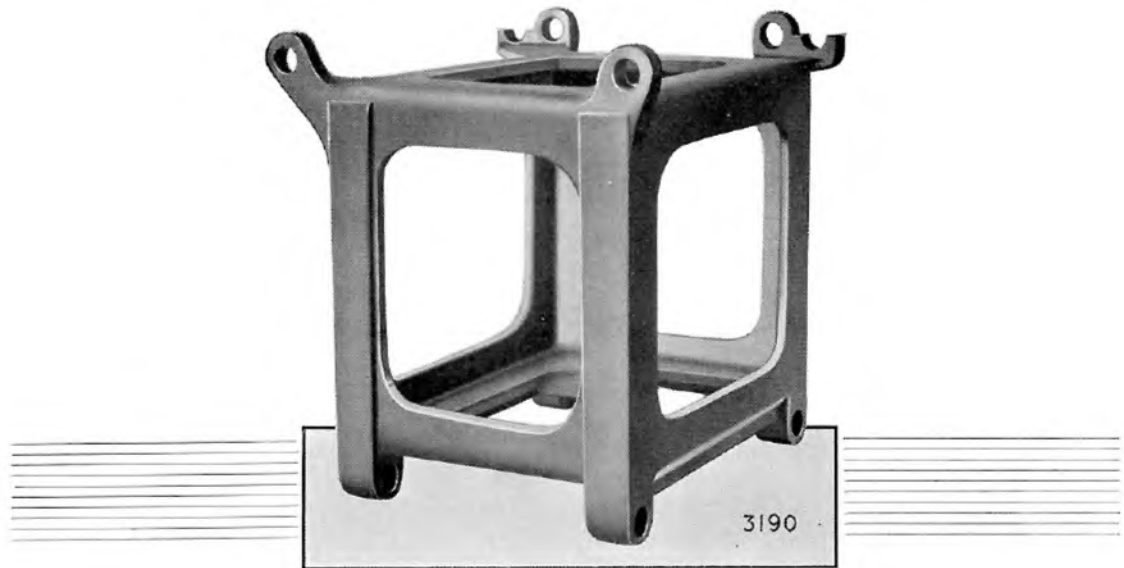
FN75F15 HEXAGON NUTS (4 required—Code Word—BAYOU) \$0.05

Four (4) hexagon nuts FN75F15 are used with four (4) machine screws HC20F15 for securing the electric motor to the motor drive bracket.

LAMP CARRIAGE

3190 LAMP CARRIAGE (Code Word—BESOM) \$15.25

In adapting PHONOFILM ATTACHMENT 3006 to a Powers "6-B" motion picture projector, the PHONOFILM ATTACHMENT is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism.



The Powers projector mechanism is then mounted instead of on the projector base, on top of PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously to complete the adaptation, it is necessary to raise the height of the projector lamp mechanism above the projector base to the same height as the projector mechanism was raised from the projector base and to accomplish this result, lamp carriage 3190 is employed.

In making the PHONOFILM ATTACHMENT adaptation, the regular projector lamp housing is taken off its regular lamp carriage on the projector base, lamp carriage 3190 is then mounted directly on the projector base and the lamp housing is placed directly on top of lamp carriage 3190.

The dimensions of lamp carriage 3190 are correct so as to bring the center to center line of the projection lamp and the lens system in the projection mechanism to the correct position of alignment.



PHONOFILM ATTACHMENTS AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS

It is unnecessary in cataloging complete PHONOFILM ATTACHMENTS adapted to Powers "6-E" motion picture projectors to catalog the details of the PHONOFILM ATTACHMENT 3006 as it is identically the same PHONOFILM ATTACHMENT 3006 as is used for Powers "6-A" and Powers "6-B" complete PHONOFILM adaptations.

The same motor bracket 3193 and the same combinations of electric motors, drive pulleys and drive belts are used for a Powers "6-E" adaptation as for a Powers "6-B" adaptation, but a different lamp carriage is however necessary.

Accordingly, there are listed below complete PHONOFILM ATTACHMENTS adaptable to Powers "6-E" motion picture projectors and for different power supplies as may be required in theatres and auditoriums throughout different sections of the country.

3045 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BETEL)

Complete POWERS PHONOFILM ATTACHMENT 3045 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-15
One drive pulley	3174
One drive belt	3195
One lamp carriage	3179

3030 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BETSY)

Complete POWERS PHONOFILM ATTACHMENT 3030 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-14
One drive pulley	3175
One drive belt	3195
One lamp carriage	3179

3060 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEVIS)

Complete POWERS PHONOFILM ATTACHMENT 3060 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-13
One drive pulley	3174
One drive belt	3195
One lamp carriage	3179

3015 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTOR FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEYLE)

Complete POWERS PHONOFILM ATTACHMENT 3015 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-12
One drive pulley	3172
One drive belt	3195
One lamp carriage	3179

3075

COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTOR FOR 110 VOLT DIRECT CURRENT POWER SUPPLY . . (Code Word—BEZEL)

Complete POWERS PHONOFILM ATTACHMENT 3075 includes these individual items:

One Powers PHONOFILM ATTACHMENT.....	3006
One Powers motor bracket assembly.....	3193
One electric motor.....	E600-16
One drive pulley.....	3172
One drive belt.....	3195
One lamp carriage.....	3179

For details with respect to the Powers motor bracket 3193, required for Powers "6-E" PHONOFILM ATTACHMENT adaptations, see page A-44 of this section of this PHONOFILM parts-catalog.

For details with respect to electric motors, see page A-39 of this section of this PHONOFILM parts-catalog.

For details with respect to drive pulleys, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to drive belts, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to lamp carriage 3179 adaptable to Powers "6-E" PHONOFILM ATTACHMENT adaptations, see page A-48 of this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3045, 3030, 3060, 3015 AND 3075 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

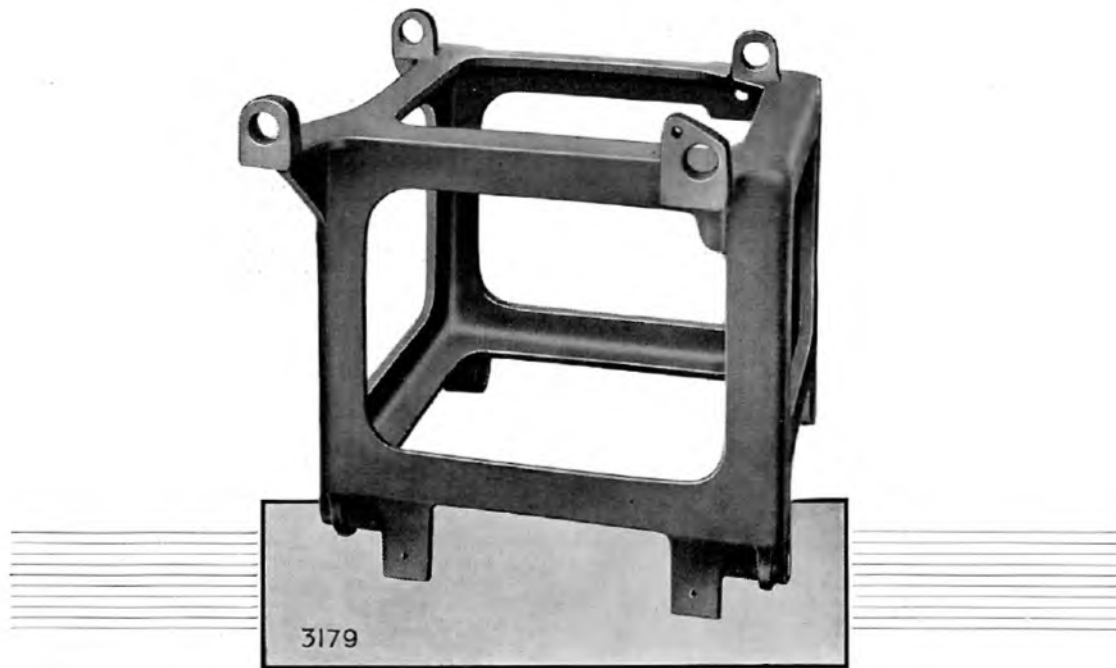
3006

POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A," "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to POWERS PHONOFILM ATTACHMENT 3006 and for spare and replacement parts for the PHONOFILM ATTACHMENT.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.





LAMP CARRIAGE

3179 LAMP CARRIAGE (Code Word—BIALA) **\$15.25**

In adapting PHONOFILM ATTACHMENT 3006 to a Powers "6-E" motion picture projector, the PHONOFILM ATTACHMENT is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism.

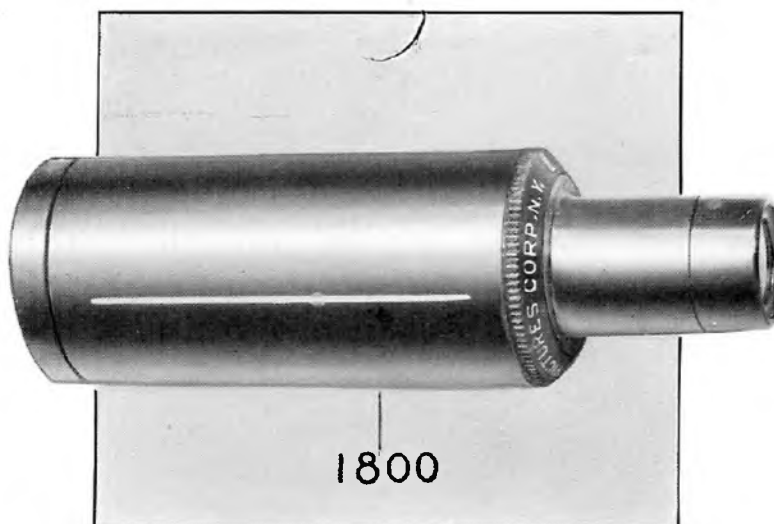
The Powers projector mechanism is then mounted instead of on the projector base, on top of PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of the PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously, to complete the adaptation, it is necessary to raise the height of the projector lamp mechanism above the projector base to the same height as the projector mechanism was raised from the projector base and to accomplish this result, lamp carriage 3179 is employed.

In making the adaptation, the regular projector lamp housing is taken off its regular lamp carriage on the projector base. Lamp carriage 3179 is then mounted directly on the projector base and the lamp housing is placed directly on lamp carriage 3179.

The dimensions of lamp carriage 3179 are correct so as to bring the center to center line of the projection lamp and the lens system in the projection mechanism to the correct position of alignment.

**INCREASE THE "QUALITY" OF YOUR SOUND—
PROVIDE EACH OF YOUR PHONOFILM ATTACH-
MENTS WITH A BOOSTER LENS. SEE PAGE B-3
OF SECTION B.**



OPTICAL SYSTEM

1800 OPTICAL SYSTEM (Code Word—ALERT) \$62.50

The optical system is without question one of the most important parts of a PHONOFILM ATTACHMENT because by its use the light from the exciting lamp is properly focused on to the sound track portion of the motion picture film by means of a combination of lenses and a slit of the correct dimensions, all within the optical system.

Optical systems are manufactured with the utmost skill and both the mechanical and optical characteristics of completed optical systems are most precise and are checked and tested with instruments allowing microscopic examination.

Because of the extreme importance of perfect optical systems, extremely accurate and rigid test methods are employed in the manufacture of optical systems 1800, special microscopic test methods being used to verify the proper dimensions of the slit image projected by the slit, and to make it extremely easy and positive to reject unsatisfactory optical systems, which in the transmission of light through the system, cause excessive diffraction effects and light halos at the edges of the slit. The extreme degree of precision employed in manufacturing and testing optical systems 1800 assures the exhibitor of receiving only a perfect system.

In conformity with the policy of continual improvement since the initial introduction of PHONOFILM EQUIPMENTS, the Engineering Division of the GENERAL TALKING PICTURES CORPORATION have developed several distinct optical systems, each one showing an improvement over the earlier one, such improvements being possible because of the gradual perfection of the art of recording and reproduction of motion pictures.

Optical systems previously supplied with PHONOFILM ATTACHMENTS have been known as type "C," "D," "ED," or "E." Type C optical systems, the very earliest ones supplied with the original PHONOFILM EQUIPMENTS, are obsolete.

If your PHONOFILM ATTACHMENT is now equipped with type C or D optical system, it is recommended that you immediately order optical system 1800. The new optical system will be immediately shipped and invoiced to you at \$62.50. Upon receipt of the new optical system immediately return the old one. If the old system that you return is type C, no credit can be allowed. If it is a type D optical system, upon its receipt by the GENERAL TALKING PICTURES CORPORATION a credit will be issued to you for \$47.50 each, making the net cost of optical system 1800, \$15.00 each.

If your PHONOFILM ATTACHMENT is now equipped with a type ED, or a type E optical system, it will not be necessary to replace it with optical system 1800 as both type ED and E optical systems are extremely satisfactory in service and comparable in results with the results secured by the use of the latest improved optical system 1800.

No credit can be allowed in replacing optical systems ED and E upon return of these optical systems to the GENERAL TALKING PICTURES CORPORATION. Spare or additional optical systems 1800 will be invoiced in accordance with the terms of lease contracts for \$62.50 each.

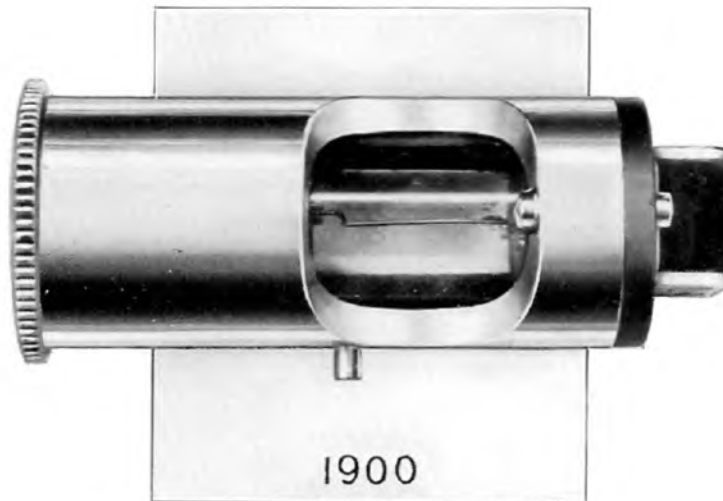


PHOTO-CELL ASSEMBLY

1900 PHOTO-CELL ASSEMBLY (Code Word—ALGAL \$35.00

One photo-cell 1900 is initially supplied with each PHONOFILM ATTACHMENT. Spare photo-cells 1900 are invoiced in accordance with PHONOFILM lease contracts, at \$35.00 each. If it is necessary to replace a photo-cell, order a new photo-cell 1900 and retain the one which you desire to replace until the new one reaches you. The cell that you order will be invoiced in accordance with PHONOFILM lease contract at \$35.00. Upon receipt of a new photo-cell 1900 immediately return to the GENERAL TALKING PICTURES CORPORATION the old photo-cell and upon its receipt a credit will be issued to you for \$5.00, making the net cost of a replacement photo-cell assembly 1900, \$30.00 each.

The photo-cell 1900, in the same sense as the optical system 1800, is an exceedingly important part of the PHONOFILM ATTACHMENT. In particular, no PHONOFILM ATTACHMENT can be any better than the degree of merit of the individual component parts that make up the complete attachment. The combination of the exciting lamp system, the optical system 1800 and photo-cell 1900, has been given intensive study and long experimentation and research by the Engineering Division of the GENERAL TALKING PICTURES CORPORATION. The result—a near perfect coordination of these most important assemblies with relationship to the three elements themselves and with respect to the balance of the PHONOFILM ATTACHMENT mechanism.

Photo-cells 1900 are not the ordinary photo-cells that might be purchased openly in the market but are rather cells which have been so designed and manufactured as to secure the most perfect characteristics adaptable for use with the optical system 1800 and the exciting lamps E600-1, as used only in DE FOREST PHONOFILM ATTACHMENTS.

It has been the object to secure in photo-cells 1900 maximum sensitivity together with the best possible audio-frequency reproduction characteristics and uniform long life of the cells under normal and proper operating conditions.

The completed photo-cell is mounted in a solid metallic cartridge and only those completed cells that meet the rigid inspection and test specifications of the Engineering Division are shipped. Every exhibitor should have one or more photo-cells 1900 in his projection booth, available for replacement and only by having such replacements available will the exhibitor be certain of continual operation. The necessity for spare cells casts no reflection upon the quality of the photo-cells, but under the present conditions in the art, photo-cells can be expected to give only a reasonable life in operation and when cells have been used for an excessively long time, the quality of reproduction of sound-on-film motion pictures cannot be expected to compare with the quality possible with cells having normal characteristics.

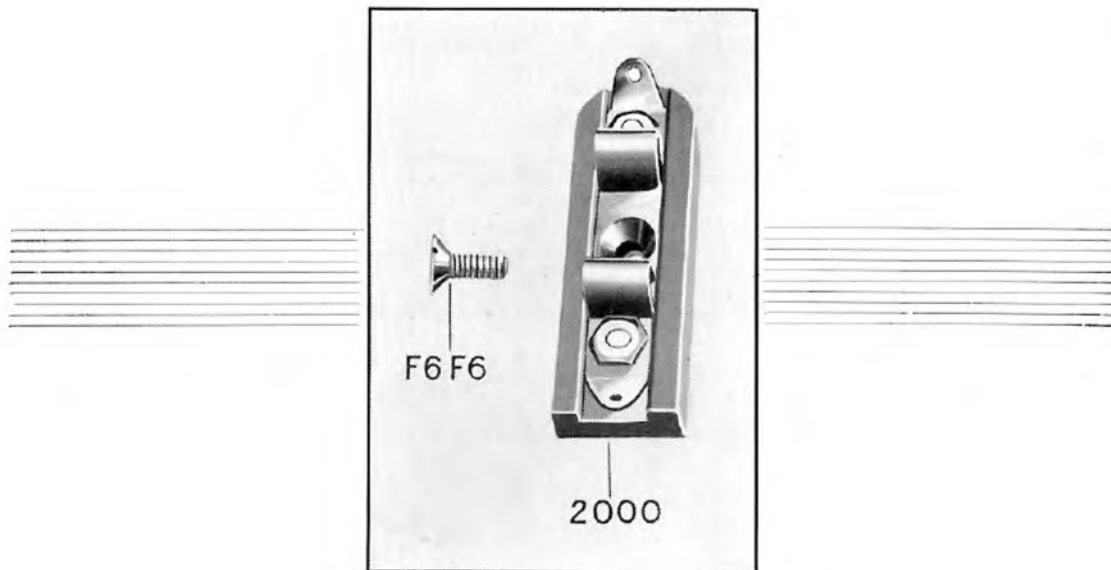


PHOTO-CELL RECEPTACLE

2000	PHOTO-CELL RECEPTACLE (Code Word—ALGID) See note under F6F6 below.	\$1.50
F6F6	MACHINE SCREW (Code Word—AISLE) Machine screw F6F6 should be ordered with photo-cell receptacle 2000 as the machine screw is used for attaching the receptacle to the main housing.	\$0.05

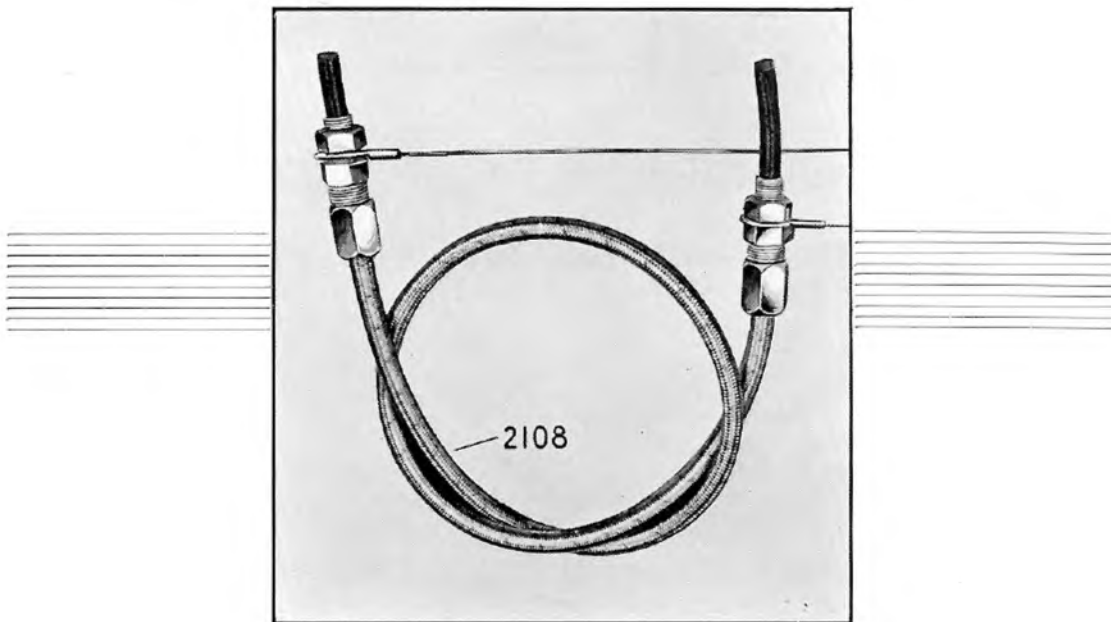


PHOTO-CELL CABLE ASSEMBLY

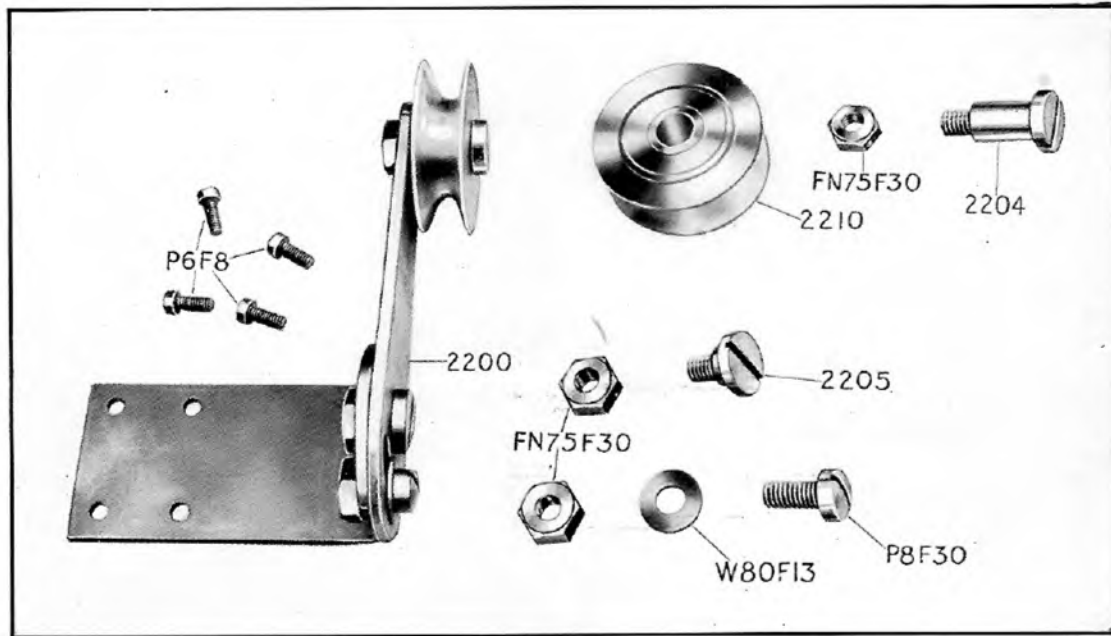
2108	PHOTO-CELL CABLE ASSEMBLY (Code Word—ALGOR) The photo-cell cable assembly 2108 is a new and improved cable assembly which supersedes all previous type photo-cell cable assemblies. The improved cable assembly is so constructed electrically as to insure maximum	\$5.00
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transfer of energy from the photo-cell 1900 to the photo-cell voltage amplifier 5257 supplied in the complete PHONOFILM EQUIPMENT.

Although the photo-cell cable assembly 2108 is in appearance a very simple component part of the PHONOFILM ATTACHMENT, its proper engineering design involves a number of extremely important engineering considerations.

If your PHONOFILM ATTACHMENT is not now equipped with this improved photo-cell cable 2108, it is recommended that you immediately order a new and improved cable 2108, as its use will enable you to immediately appreciate improved quality of reproduction of sound-on-film motion pictures, the balance of your complete PHONOFILM EQUIPMENT being in normal and satisfactory operating condition.

It is emphasized again that photo-cell cable assembly 2108 represents the most perfect cable assembly possible to design and produce, and adaptable for use with DE FOREST PHONOFILM ATTACHMENTS and EQUIPMENTS.

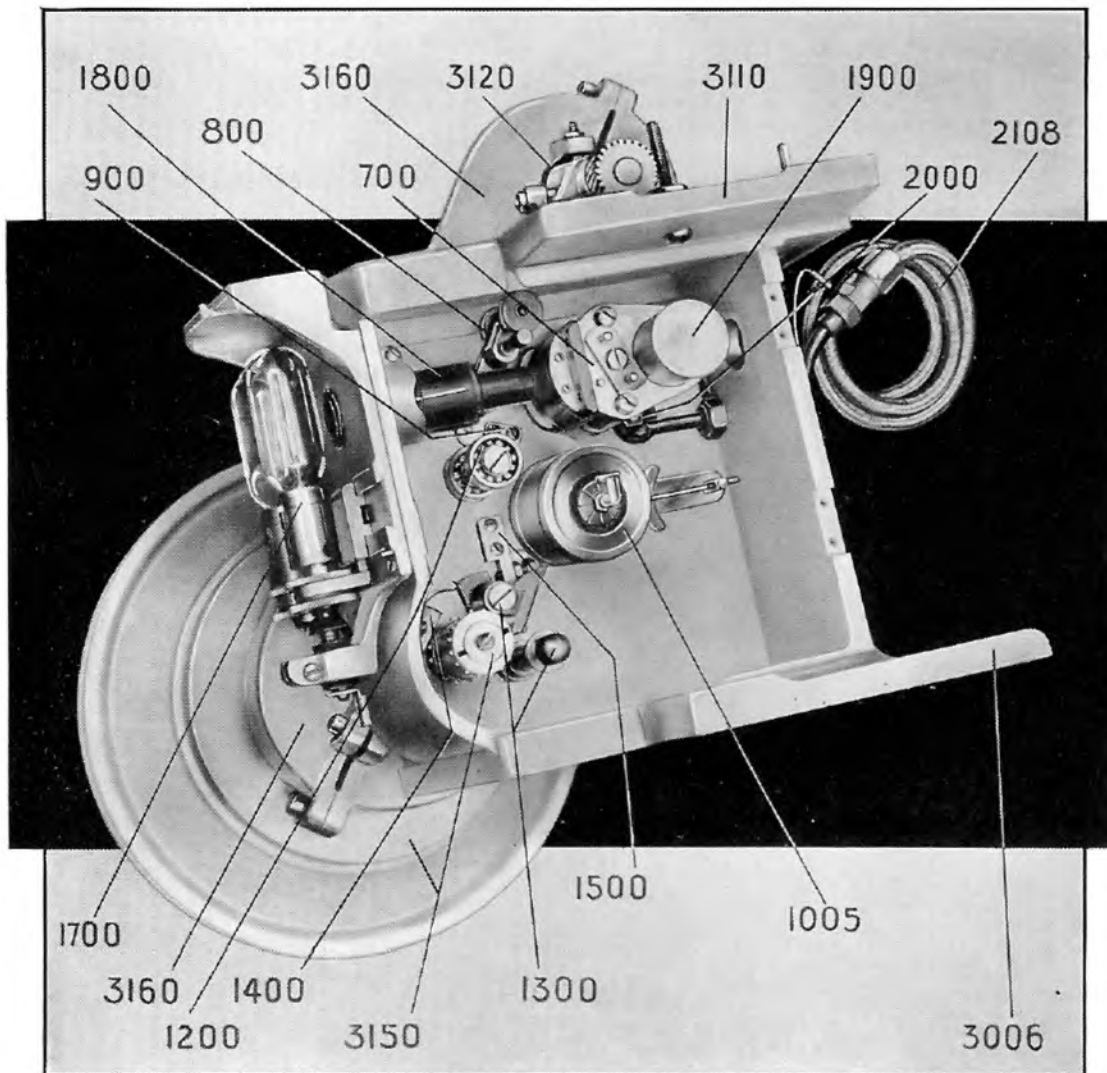


TAKE-UP IDLER PULLEY ASSEMBLY

2200	TAKE-UP IDLER PULLEY ASSEMBLY . . . (Code Word—ALIEN)	\$5.50
	See note under P6F8 below.	
P6F8	MACHINE SCREWS (4 required—Code Word—AILS)	\$0.05
	Machine screws P6F8 should be ordered together with take-up idler pulley assembly 2200 as the machine screws are used for securing the idler pulley assembly to the main housing of the PHONOFILM ATTACHMENT.	
2210	PULLEY ASSEMBLY (Code Word—ALIKE)	\$2.50
	The pulley assembly 2210 is, of course, subject to wear and if this wear becomes excessive, the pulley assembly should be replaced. See note under FN75F30 below.	
2204	IDLER PULLEY SHOULDER SCREW . . . (Code Word—ALIST)	\$0.50
	See note under FN75F30 below.	
FN75F30	HEXAGON NUT (Code Word—ALIVE)	\$0.05
	Hexagon nut FN75F30 and take-up idler pulley shoulder screw 2204 should be ordered together as the hexagon nut and shoulder screw are used to secure the pulley assembly 2210 to the take-up idler pulley adjustment arm.	
2205	ADJUSTMENT ARM SHOULDER SCREW (Code Word—ALLAH)	\$0.50
	See note under FN75F30 below.	

FN75F30	HEXAGON NUT	(Code Word— ALIVE)	\$0.05
	The hexagon nut FN75F30 and adjustment arm shoulder screw 2205 should be ordered together as the shoulder screw and hexagon nut are used for securing the adjustment arm to the take-up idler pulley bracket.		
P8F30	MACHINE SCREW	(Code Word— ALMON)	\$0.05
	See note under FN75F30 below.		
W80F13	WASHER	(Code Word— ALMUD)	\$0.05
	See note under FN75F30 below.		
FN75F30	HEXAGON NUT	(Code Word— ALIVE)	\$0.05
	Hexagon nut FN75F30, washer W80F13 and machine screw P8F30 should be ordered together as the screw, washer and nut are used to secure the idler pulley adjustment arm to the idler pulley bracket, so as to allow adjustment of the arm and to then permanently secure that adjustment in the correct position.		



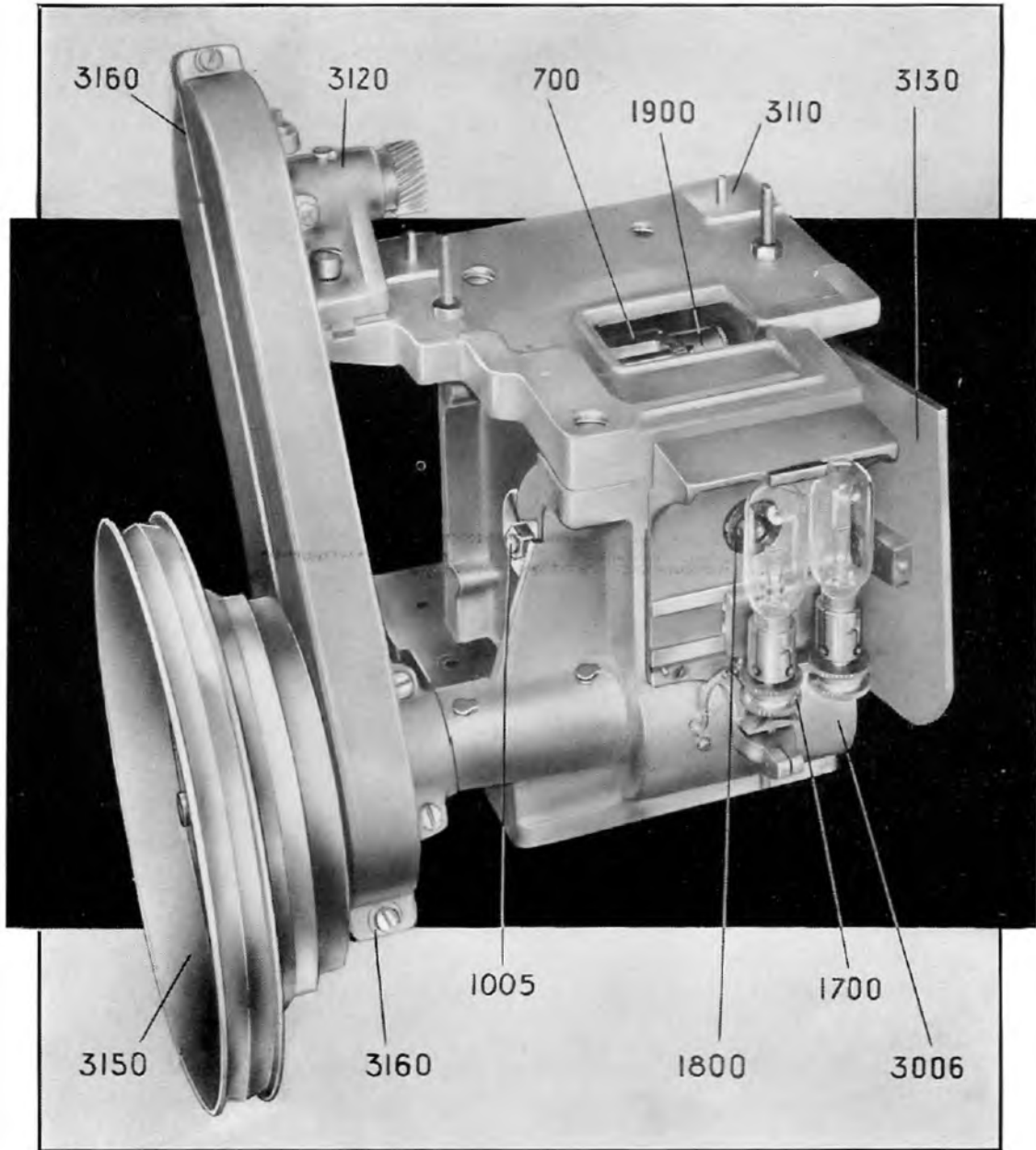


Oblique front view of the complete PHONOFILM ATTACHMENT "3006", but without door, adaptable to Powers "6-A," "6-B," and "6-E" motion picture projectors. The illustration pictures the interior of the PHONOFILM ATTACHMENT and numerically designates the major assembly numbers. Please note that assembly numbers, that are the same as for the PHONOFILM ATTACHMENT "6" adaptable to Simplex motion picture projectors, are identical.

PHONOFILM ATTACHMENTS "3006" AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS

The PHONOFILM ATTACHMENT 3006 pictured above is suitable for adaptation to Powers "6-A", "6-B" and "6-E" motion picture projectors.

Complete PHONOFILM ATTACHMENTS adaptable to these various types of Powers motion picture projectors include in addition to the PHONOFILM ATTACHMENT 3006, a motor bracket assembly, an electric motor, a drive pulley, a drive belt and a lamp carriage; these various additional parts differing, depending upon the type of projector and upon the power supply available.



Oblique rear view of the POWERS PHONOFILM ATTACHMENT "3006" adaptable to Powers "6-A," "6-B," or "6-E" motion picture projectors, illustrating and designating major assemblies including those not shown in the oblique front view as illustrated on page A-26.

Please note that only assemblies for the 3006 PHONOFILM ATTACHMENT that are different from the assemblies required for the PHONOFILM ATTACHMENT "6" (adaptable to Simplex motion picture projectors) are listed in detail in this section, the assemblies that are the same as for the PHONOFILM ATTACHMENT "6" being listed in the first part of this section "A" of this parts-catalog and reference is made direct to the original listings.

- 3035 **COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEGET)**

Complete POWERS PHONOFILM ATTACHMENT 3035 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-15
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3020 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—**BEGUM**)

Complete POWERS PHONOFILM ATTACHMENT 3020 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-14
One drive pulley	3175
One drive belt	3194
One lamp carriage	3178

3050 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—**BEHAR**)

Complete POWERS PHONOFILM ATTACHMENT 3050 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-13
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3005 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—**BEIGE**)

Complete POWERS PHONOFILM ATTACHMENT 3005 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-12
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

3065 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY (Code Word—**BEILD**)

Complete POWERS PHONOFILM ATTACHMENT 3065 includes the following individual items:

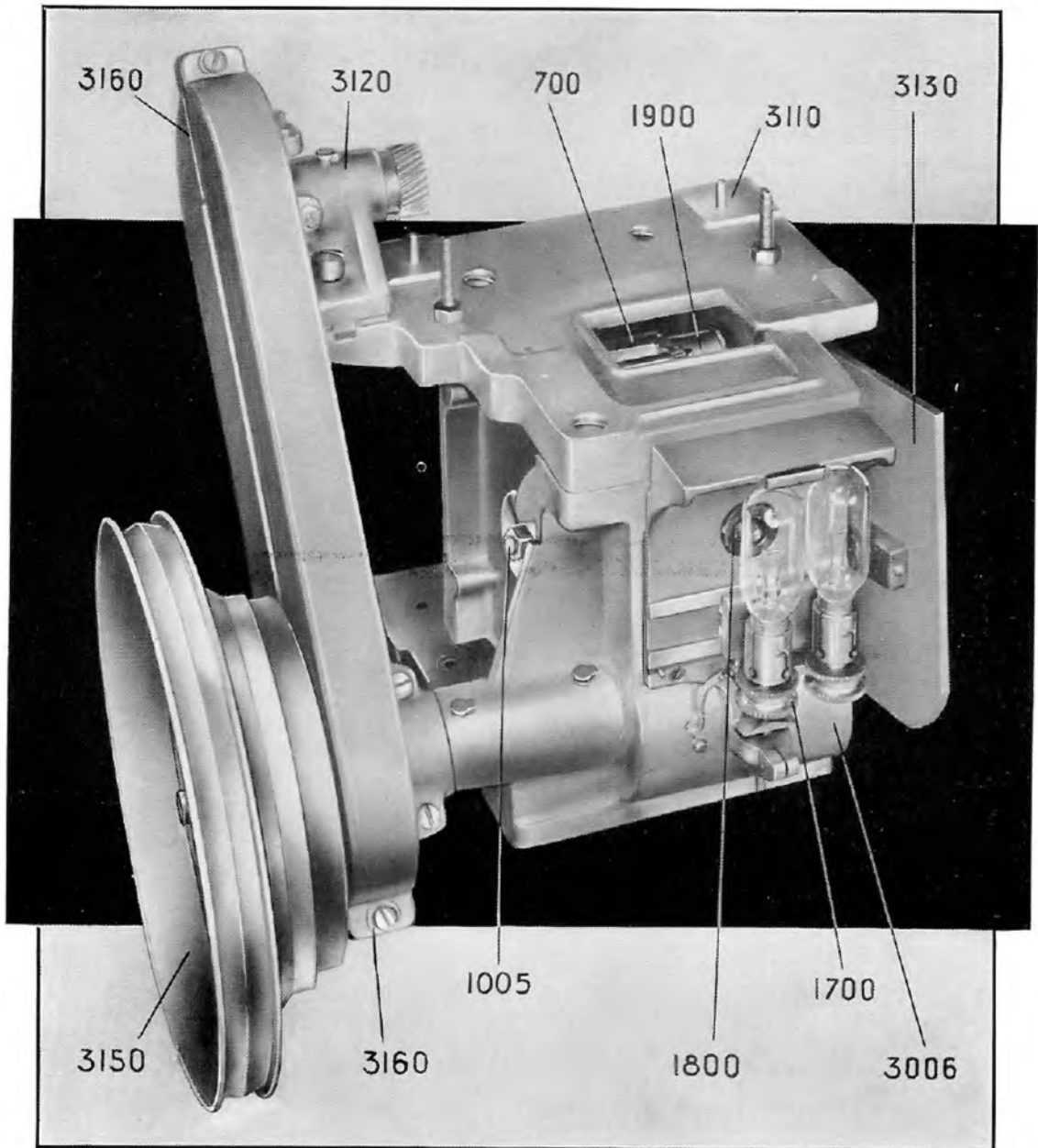
One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-16
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

Please see details of the individual items which are component parts of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-A" motion picture projectors on the following pages in this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3035, 3020, 3050, 3005 AND 3065 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

3006 POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—**BEING**)



Oblique rear view of the POWERS PHONOFILM ATTACHMENT "3006" adaptable to Powers "6-A," "6-B," or "6-E" motion picture projectors, illustrating and designating major assemblies including those not shown in the oblique front view as illustrated on page A-26.

Please note that only assemblies for the 3006 PHONOFILM ATTACHMENT that are different from the assemblies required for the PHONOFILM ATTACHMENT "6" (adaptable to Simplex motion picture projectors) are listed in detail in this section, the assemblies that are the same as for the PHONOFILM ATTACHMENT "6" being listed in the first part of this section "A" of this parts-catalog and reference is made direct to the original listings.

- 3035 **COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—**BEGET**)

Complete POWERS PHONOFILM ATTACHMENT 3035 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-15
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3020 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEGUM)

Complete POWERS PHONOFILM ATTACHMENT 3020 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-14
One drive pulley	3175
One drive belt	3194
One lamp carriage	3178

3050 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEIAR)

Complete POWERS PHONOFILM ATTACHMENT 3050 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-13
One drive pulley	3174
One drive belt	3194
One lamp carriage	3178

3005 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEIGE)

Complete POWERS PHONOFILM ATTACHMENT 3005 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-12
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

3065 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY (Code Word—BEILD)

Complete POWERS PHONOFILM ATTACHMENT 3065 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3192
One electric motor	E600-16
One drive pulley	3172
One drive belt	3194
One lamp carriage	3178

Please see details of the individual items which are component parts of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-A" motion picture projectors on the following pages in this section of this PHONOFILM parts-catalog.

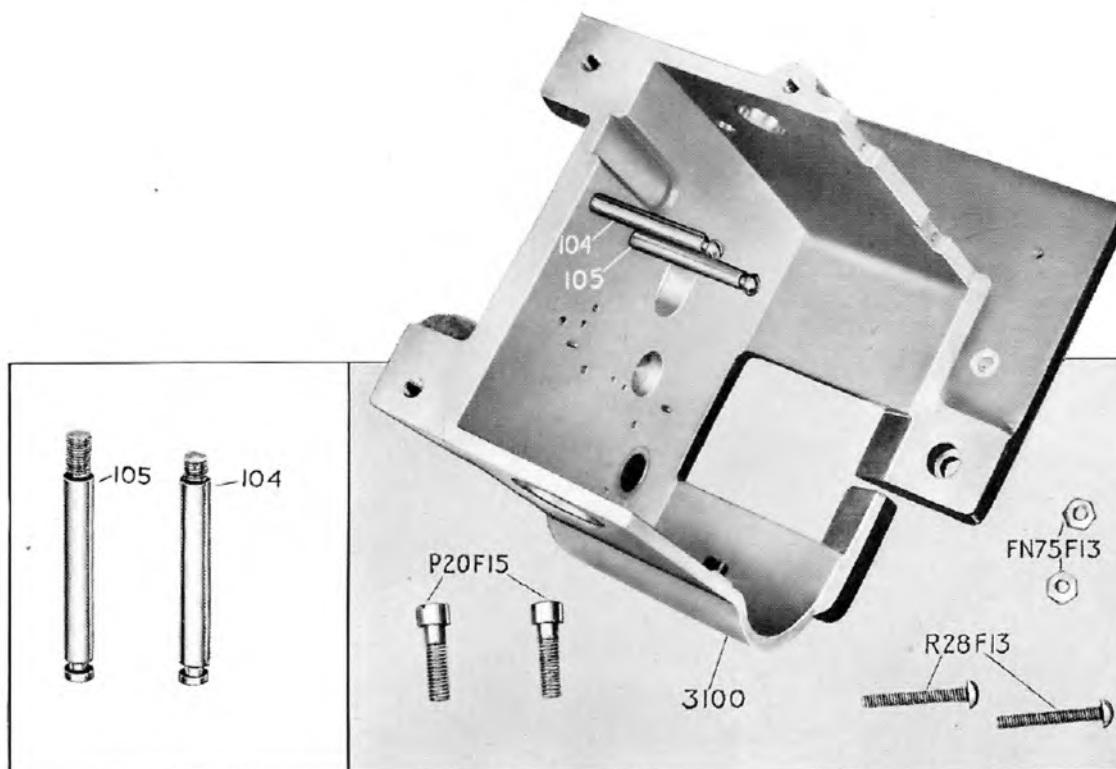
COMPLETE PHONOFILM ATTACHMENTS 3035, 3020, 3050, 3005 AND 3065 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

3006 POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to Powers PHONOFILM ATTACHMENT 3006 and spare and replacement parts for the PHONOFILM ATTACHMENT.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.



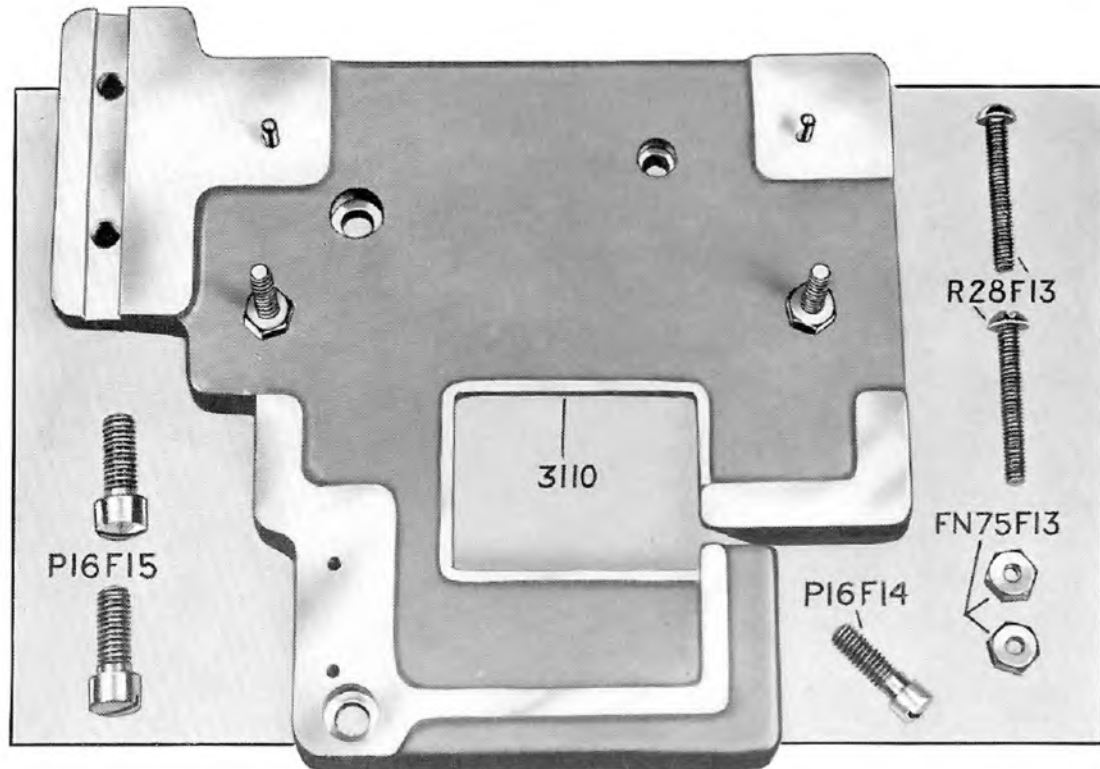
POWERS MAIN HOUSING ASSEMBLY

3100	POWERS MAIN HOUSING ASSEMBLY (Code Word— BABEL)	
	The main housing assembly 3100 is not sold as a spare or replacement part and will never need to be replaced except in cases of serious injury, fire, etc. In such emergency conditions it is necessary to replace the complete PHONOFILM ATTACHMENT, and if such replacement is necessary communicate directly with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City, N. Y.	
104	SLIT BLOCK MOUNTING ROD . (Short—Code Word— ABIDE)	\$0.75
105	SLIT BLOCK MOUNTING ROD . (Long—Code Word— ABIEL)	\$0.75
P20F15	MACHINE SCREWS (2 required—Code Word— BACON)	\$0.05
	See note under FN75F13 below.	
R28F13	MACHINE SCREWS (2 required—Code Word— BADEN)	\$0.05
	See note under FN75F13 below.	
FN75F13	HEXAGON NUTS (2 required—Code Word— BADGE)	\$0.05
	Machine screws P20F15 and R28F13 and hexagon nuts FN75F13 should be ordered together as these screws and nuts are used for attaching the entire PHONOFILM ATTACHMENT to the projector with which it is used.	

OC93-1 OIL CUPS (2 required—Code Word—ABUKO) \$0.20

The two oil cups OC93-1 although not illustrated in the photograph above are easily seen in the illustration of the complete POWERS PHONOFILM ATTACHMENT 3006 as illustrated on page A-27, the oil cups being on top of the sprocket shaft bearing extending through the main housing and midway between the exciting lamp assembly 1700 and the chain guard assembly 3160. The two oil cups provide lubrication for the sprocket shaft, a component part of the sprocket shaft assembly 3150.

Oil cups OC93-1 do not screw into the main housing as they are "push type" oil cups and fit securely into the holes in the main housing provided for them.

**POWERS ADAPTER PLATE ASSEMBLY**

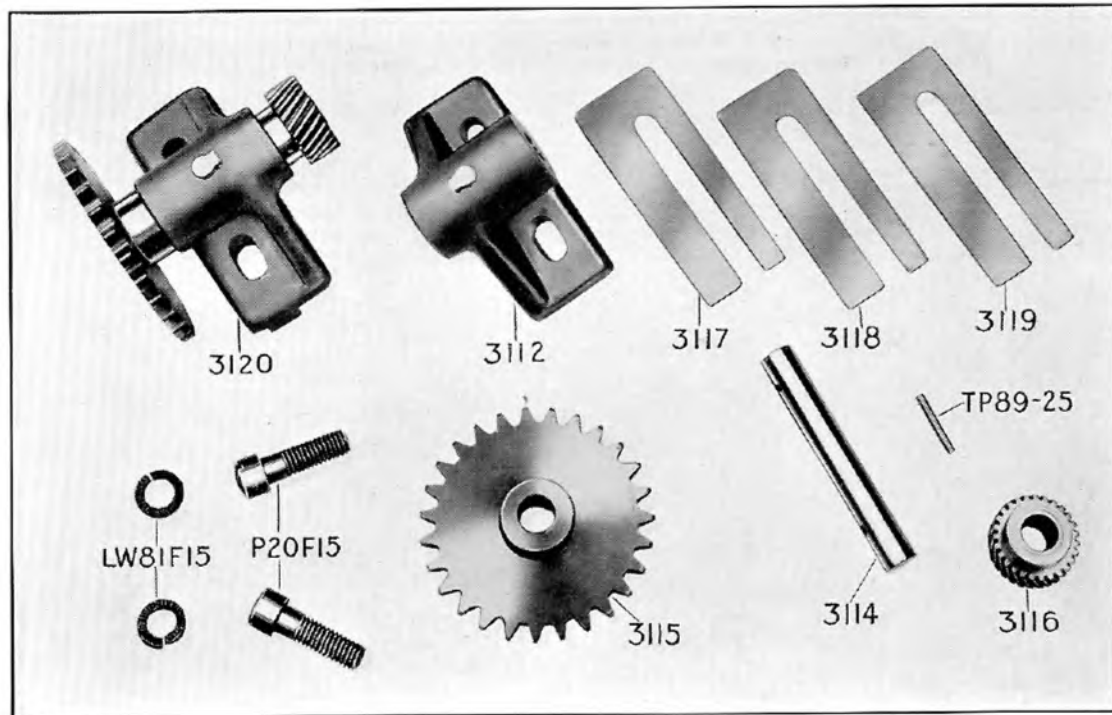
- 3110 POWERS ADAPTER PLATE ASSEMBLY . (Code Word—BAHIA) \$15.55**
See note under FN75F13 below.
- P16F14 MACHINE SCREW (Code Word—BAITH) \$0.05**
See note under FN75F13 below.
- P16F15 MACHINE SCREWS (2 required—Code Word—BAIRN) \$0.05**
See note under FN75F13 below.
- R28F13 MACHINE SCREWS (2 required—Code Word—BADEN) \$0.05**
See note under FN75F13 below.
- FN75F13 HEXAGON NUTS. (2 required—Code Word—BADGE) \$0.05**

Machine screws P16F14, P16F15, and R28F13 and hexagon nuts FN75F13 should be ordered together with the adapter plate assembly 3110, as these screws and nuts are used to fasten the adapter plate assembly to the main housing assembly 3100 and to the motion picture projector head.

POWERS DRIVE BRACKET ASSEMBLY

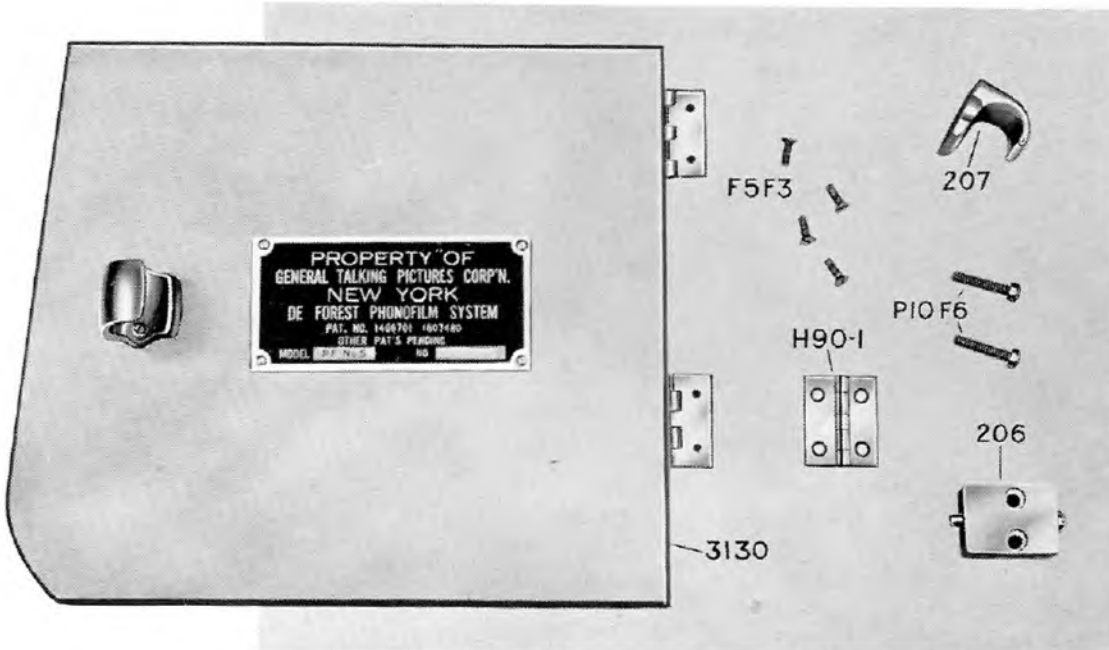
(See illustration on top of page A-31)

- 3120 POWERS DRIVE BRACKET ASSEMBLY . (Code Word—BAJER) \$18.55**
See note under LW81F15 below.
- 3112 POWERS BRACKET ASSEMBLY (Code Word—BALFE) \$8.00**
See note under LW81F15 below.



OC93-1	OIL CUP	(Code Word— ABUKO)	\$0.20
	Oil cup OC93-1, although not numerically designated in the above photograph, is clearly shown mounted on top of the Powers drive bracket assembly 3120 and on top of the bracket assembly 3112. The oil cup is of course used to lubricate the drive shaft 3114. Please note that the oil cup does not screw into the bracket assembly 3112 as it is a "push type" oil cup and fits securely into the hole provided for it.		
3114	POWERS DRIVE SHAFT	(Code Word— BALKH)	\$2.50
3115	POWERS UPPER CHAIN SPROCKET	(Code Word— BALOW)	\$2.75
	The upper chain sprocket 3115 connects with the lower chain sprocket 3153 on the sprocket shaft assembly 3150 through the medium of the drive chain 3156. The upper chain sprocket 3115 is of course subject to wear in normal operation of the PHONOFILM ATTACHMENT and should be replaced when this wear becomes excessive or such as to tend to make the transmission of power from the upper chain sprocket 3115 to the lower chain sprocket 3153 uneven or with excessive vibration. See note under TP89-25 below.		
TP89-25	TAPER PIN	(Code Word— BALSA)	\$0.05
	Taper pin TP89-25 and upper chain sprocket 3115 should be ordered together as the taper pin is used to secure the upper chain sprocket to the drive shaft.		
3116	POWERS DRIVE GEAR	(Code Word— BANAL)	\$3.75
	The drive gear 3116 is the gear by means of which power is transmitted from the POWERS PHONOFILM ATTACHMENT 3006 to the Powers projector mechanism, the drive gear meshing with the idler gear 640 in the projector mechanism. This gear is, of course, subject to wear and should be replaced when inspection shows that the wear is excessive or when excessive vibration or noise of the PHONOFILM ATTACHMENT and projector mechanism can be specifically traced to the drive gear as the cause of such noise or vibration. See note under TP89-25.		
TP89-25	TAPER PIN	(Code Word— BALSA)	\$0.05
	Taper pin TP89-25 and drive gear 3116 should be ordered together as the taper pin is used to secure the drive gear to the drive shaft.		
3117	POWERS SHIM (1/16 inch thick)	(Code Word— BANCA)	\$0.45
	See note under 3119 below.		
3118	POWERS SHIM (1/32 inch thick)	(Code Word— BANDY)	\$0.45
	See note under 3119 below.		

3119	POWERS SHIM (.010 inch thick) (Code Word— BANGO)	\$0.45
	Shims 3117, 3118 and 3119 are used in securing the proper adjustment of the chain drive when mounting drive bracket assembly 3120 to adapter plate assembly 3110.	
P20F15	MACHINE SCREWS (2 required—Code Word— BACON)	\$0.05
	See note under LW81F15 below.	
LW81F15	LOCK WASHERS (2 required—Code Word— BANKS)	\$0.05
	Machine screws P20F15 and lock washers LW81F15 should be ordered together with the drive bracket assembly 3120, or the bracket assembly 3112, as the screws and lock washers are used to fasten 3120 or 3112 to the adapter plate assembly 3110.	



POWERS DOOR ASSEMBLY

3130	POWERS DOOR ASSEMBLY (Code Word— BANTU)	\$6.75
206	DOOR LOCK ASSEMBLY (Code Word— ABUZE)	\$1.50
	See note under P10F6 below.	
P10F6	MACHINE SCREWS (2 required—Code Word— ABYDE)	\$0.05
	Machine screws P10F6 should be ordered together with door lock assembly 206 as the screws are used to secure the door lock assembly to the door.	
H90-1	DOOR HINGE (2 required—Code Word— ACATE)	\$0.15
	See note under F5F3 below.	
F5F3	MACHINE SCREWS (4 required—Code Word— ACCIT)	\$0.05
	Machine screws F5F3 should be ordered together with door hinge H90-1 as four screws are required to fasten each hinge to the door and to the main housing.	
207	LIFT HANDLE (Code Word— ABYSS)	\$0.50
	The machine screws P10F6 listed above which are used to secure the door lock assembly to the door are also used to secure the lift handle to the door.	

SLIT BLOCK ASSEMBLY

700	SLIT BLOCK ASSEMBLY (Code Word— ADAYS)	\$39.50
	This assembly and all parts in the assembly are identical with those for Simplex projectors. See pages A12 and A13 for details, price and allowance on price for exchange.	

SLIT BLOCK ROLLER ASSEMBLY

- 800 **SLIT BLOCK ROLLER ASSEMBLY** (Code Word—**ADIOS**) **\$10.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See pages A-13 and A-14 for details and prices.

SLIT BLOCK ROLLER CATCH ASSEMBLY

- 900 **SLIT BLOCK ROLLER CATCH ASSEMBLY** (Code Word—**ADULT**) **\$1.75**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-14 for details and prices.

COMPENSATING ROLLER ASSEMBLY

- 1005 **COMPENSATING ROLLER ASSEMBLY** (Code Word—**AEMIA**)
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-15 for details and prices.

INTERMEDIATE ROLLER ASSEMBLY

- 1200 **INTERMEDIATE ROLLER ASSEMBLY . . .** (Code Word—**AFIRE**) **\$8.00**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-16 for details and prices.

SPROCKET ROLLER ASSEMBLY

- 1300 **SPROCKET ROLLER ASSEMBLY** (Code Word—**AGAPE**) **\$10.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-16 for details and prices.

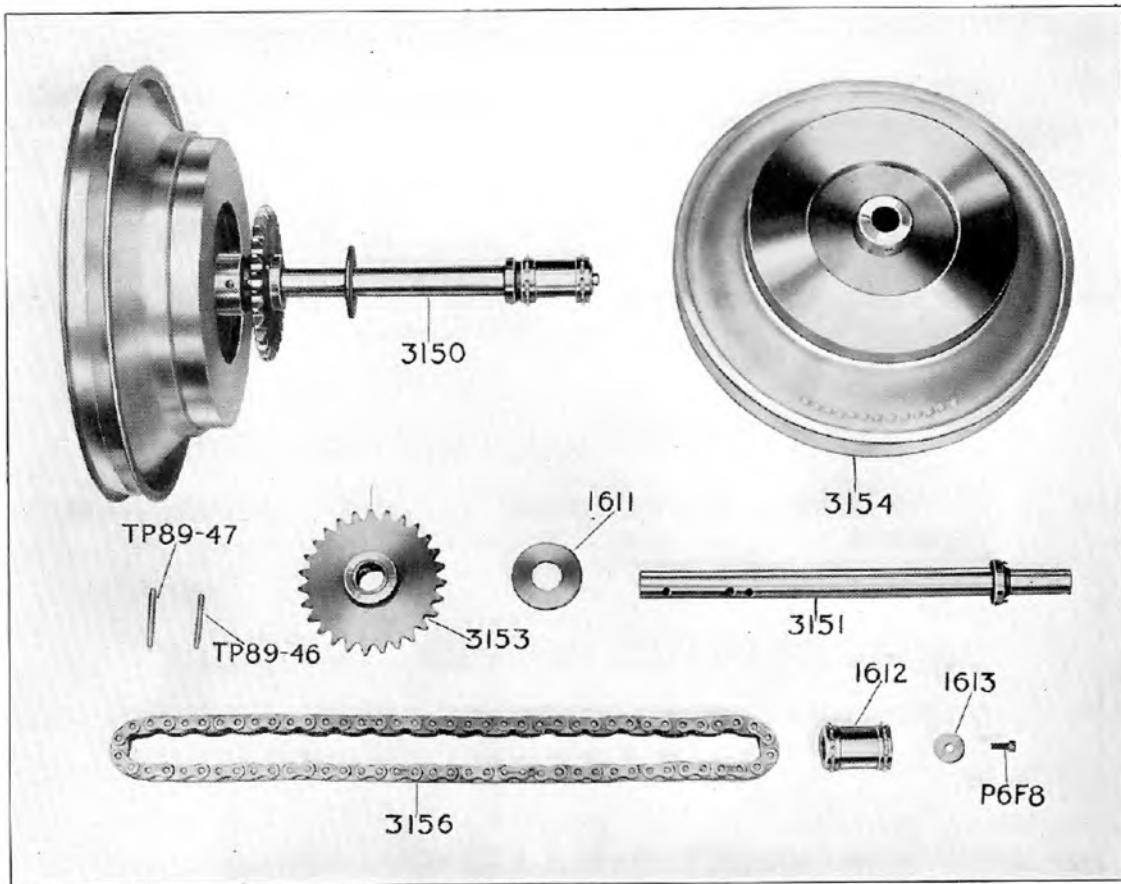
SPROCKET ROLLER CATCH ASSEMBLY

- 1400 **SPROCKET ROLLER CATCH ASSEMBLY** (Code Word—**AGNES**) **\$1.75**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-17 for details and prices.

ROLLER ADJUSTMENT ASSEMBLY

- 1500 **ROLLER ADJUSTMENT ASSEMBLY . . .** (Code Word—**AGORA**) **\$1.50**
 This assembly and all parts in the assembly are identical with those for Simplex projectors. See page A-18 for details and prices.

**ALL PRICES IN THIS PARTS CATALOG ARE SUBJECT
 TO CHANGE WITHOUT NOTICE**



POWERS SPROCKET SHAFT ASSEMBLY

3150	POWERS SPROCKET SHAFT ASSEMBLY (Code Word—BARCA)	\$72.55
3151	POWERS SHAFT ASSEMBLY (Code Word—BARGE)	\$16.50
1611	THRUST WASHER (Code Word—AHOLD)	\$0.60
	This thrust washer is not just an ordinary washer but is carefully surfaced and ground on each side to an accurate dimension in order to insure the correct position of the sprocket shaft assembly in its bearing in the main housing.	
3153	POWERS LOWER CHAIN SPROCKET . . (Code Word—BARON)	\$2.75
	The Powers lower chain sprocket 3153 is connected to the Powers upper chain sprocket 3115 through the medium of the Powers drive chain 3156. The lower chain sprocket is of course subject to the same conditions of wear in operation as is the upper chain sprocket and the drive chain and should be replaced whenever inspection verifies that the wear has become excessive or when the transmission of power between the two chain sprockets is not uniform and smooth. See note under TP89-46 below.	
TP89-46	TAPER PIN (Code Word—BARTH)	\$0.05
	Taper pin TP89-46 should be ordered together with the lower chain sprocket 3153 as the taper pin is used to secure the lower chain sprocket to the sprocket shaft.	
3154	POWERS DRIVE PULLEY ASSEMBLY . . (Code Word—BARYE)	\$24.00
	The Powers drive pulley assembly 3154 consists of the flywheel proper and the pulley. These two parts are not supplied separately as the flywheel is assembled to the pulley at the factory and the complete assembly is very accurately and dynamically balanced to secure absolute vibrationless rotation of the sprocket shaft assembly. See note under TP89-47 below.	
TP89-47	TAPER PIN (Code Word—AHMED)	\$0.05
	Taper pin TP89-47 should be ordered together with drive pulley assembly 3154 as the taper pin is used to secure the drive pulley assembly to the shaft assembly 3151.	
1612	FILM SPROCKET (Code Word—AHULL)	\$12.50

The film sprocket 1612 is the drive member in the complete PHONOFILM ATTACHMENT which causes the film to travel smoothly through the mechanism of the PHONOFILM ATTACHMENT. The film sprocket is manufactured with extreme accuracy, being held to dimensions of plus or minus one ten-thousandth of an inch.

Particular attention should be given to the condition of the film sprocket, and if the teeth are undercut due to long and severe use, the old and worn film sprocket should be immediately replaced by a new one.

The film sprocket 1612 should not be confused with the ordinary film sprockets available, which are usually not made of the most suitable materials or with the accuracy held to the dimensions and tolerances necessary to produce a film sprocket suitable for use in a PHONOFILM ATTACHMENT. See note under P6F8 below.

1613	SPROCKET WASHER (Code Word— AIDIN)	\$0.10
P6F8	MACHINE SCREW (Code Word— AILS) Machine screw P6F8 and sprocket washer 1613 should be ordered together with the film sprocket 1612 as the machine screw and washer are used for securing the film sprocket to the end of the sprocket shaft.	\$0.05
3156	POWERS DRIVE CHAIN (Code Word— BASAL) The Powers drive chain 3156 is the highest grade chain available for securing a silent chain drive between two members of a mechanical power transmission system. The chain is cut and adjusted to extremely accurate dimensions at the factory and given rigid mechanical inspections to guarantee the proper assembly and function of each link, such that the chain in use will transmit an even, smooth flow of power without excessive noise or vibration.	\$9.00

EXCITING LAMP HOUSING ASSEMBLY

1700	EXCITING LAMP HOUSING ASSEMBLY (Code Word— AINCE) This assembly and the parts in the assembly are identical with those for Simplex projectors. See pages A-19 and A-20 for details and prices.	\$36.50
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OPTICAL SYSTEM

1800	OPTICAL SYSTEM (Code Word— ALERT) This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-21 for details, price and allowance on price for exchange.	\$62.50
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PHOTO-CELL ASSEMBLY

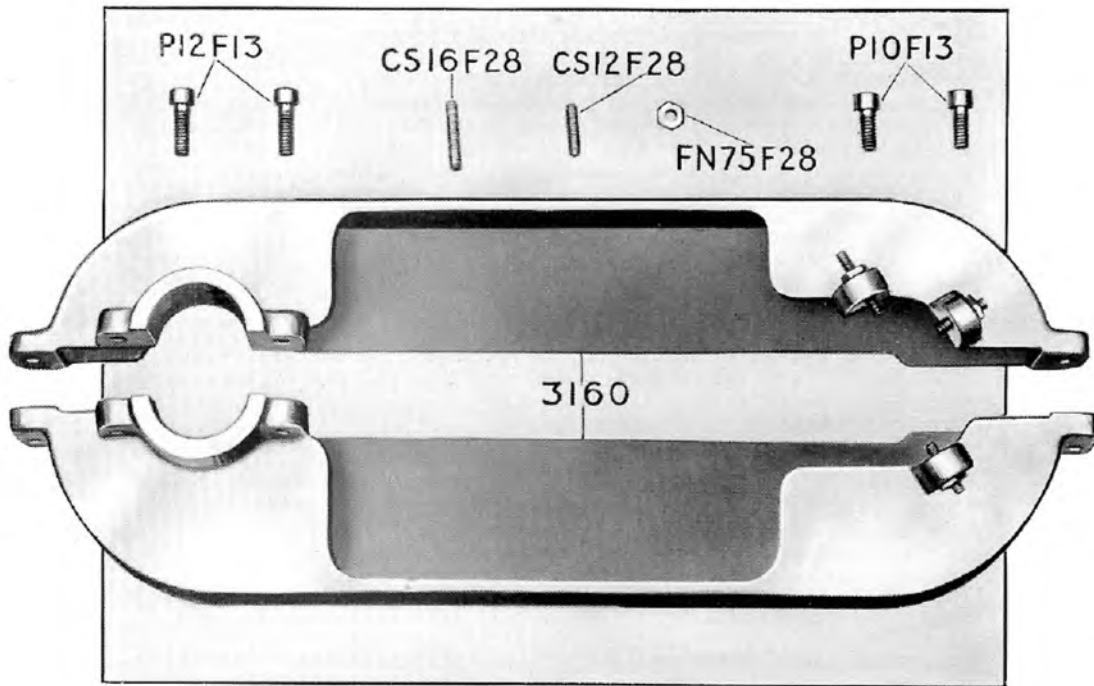
1900	PHOTO-CELL ASSEMBLY (Code Word— ALGAL) This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-22 for details, price and allowance on price for exchange.	\$35.00
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PHOTO-CELL RECEPTACLE

2000	PHOTO-CELL RECEPTACLE (Code Word— ALGID) This assembly and the parts in the assembly are identical with those for Simplex projectors. See page A-23 for details and prices.	\$1.50
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PHOTO-CELL CABLE ASSEMBLY

2108	PHOTO-CELL CABLE ASSEMBLY (Code Word— ALGOR) This assembly and the parts in the assembly are identical with those for Simplex projectors. See pages A-23 and A-24 for details and prices.	\$5.00
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POWERS CHAIN GUARD ASSEMBLY

3160	POWERS CHAIN GUARD ASSEMBLY (Code Word— BASIC)	\$10.25
	The complete chain guard assembly 3160 includes both an upper and a lower chain guard, as illustrated, which are not supplied separately. See note under P10F13, CS16F28 and FN75F28 below.	
P10F13	MACHINE SCREWS (2 required—Code Word— BASTA)	\$0.05
	See note under P12F13 below.	
P12F13	MACHINE SCREWS (2 required—Code Word— BATCH)	\$0.05
	Machine screws P12F13 and P10F13 should be ordered together with the chain guard assembly 3160 as the four machine screws are used for fastening together the upper and lower guards which make up the complete chain guard assembly.	
CS12F28	SET SCREWS (2 required—Code Word— BATHE)	\$0.05
	See note under CS16F28 below.	
CS16F28	SET SCREW (Code Word— BATON)	\$0.05
	Set screws CS12F28 and set screw CS16F28 should be ordered together as these three set screws when in position in the upper and lower chain guard of the complete chain guard assembly are used to secure the correct position of the upper end of the complete chain guard assembly. See note under FN75F28 below.	
FN75F28	HEXAGON NUTS (3 required—Code Word— ABOUT)	\$0.05
	Hexagon nuts FN75F28 are used with set screws CS12F28 and set screw CS16F28 to permanently secure the proper adjustment of the set screws.	

**COMPLETE PHONOFILM EQUIPMENTS ARE LEASED WITHOUT THE
OBLIGATION OF COMPULSORY WEEKLY SERVICE CHARGES.**

**WHEN YOU REALLY REQUIRE SERVICE PHONOFILM SERVICE ENGI-
NEERS ARE AT YOUR INSTANT COMMAND.**



POWERS LOOP SETTER GEAR

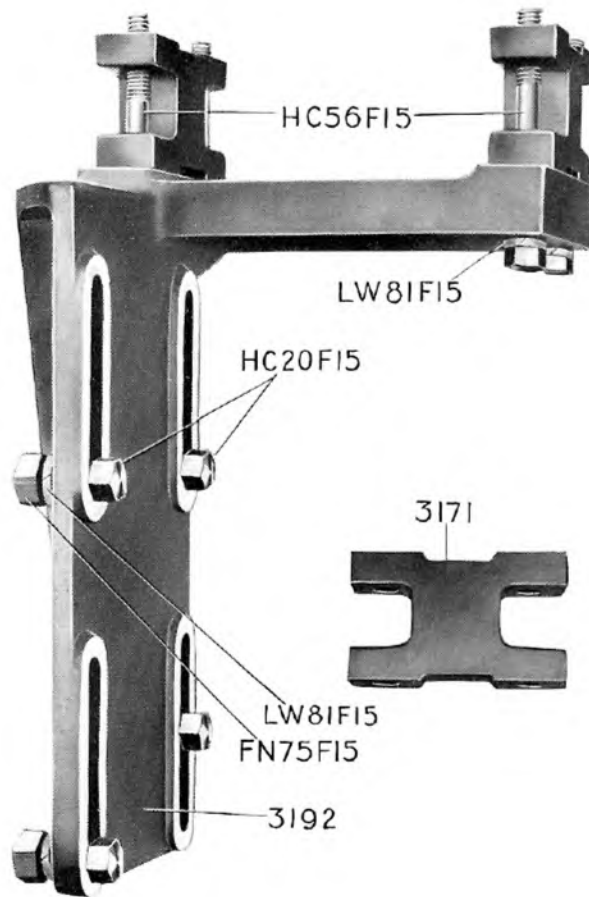
3165 POWERS LOOP SETTER GEAR (Code Word—BATUM) \$3.75

The Powers loop setter gear assembly 3165 is a standard part of a complete PHONOFILM ATTACHMENT and is supplied to replace the ordinary loop setter gear, a component part of the Powers "6-A," "6-B," and "6-E" motion picture projector mechanisms.

The use of the loop setter gear assembly 3165 in place of the loop setter gear normally in the Powers mechanism allows a uniform motion of film travel through the mechanism of the PHONOFILM ATTACHMENT, due to the elimination of the "stop-period" of the take-up sprocket in the Powers projector.

Loop setter gear assembly 3165 is of course subject to wear and should be replaced immediately when upon inspection the wear is found to be excessive, due to long and severe service conditions in use.





POWERS MOTOR BRACKET

3192	POWERS MOTOR BRACKET	(Code Word— BEIRA)	\$10.00
	<p>Motor bracket 3192 is supplied as a component part of a complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" motion picture projectors in order that the electric motor may be properly mounted on the bracket. The bracket is illustrated in a vertical position which is the position that it is mounted in when fastened to the Powers projector. The motor is fastened to the bracket and slots are provided, allowing for a vertical adjustment of the motor, providing a center to center difference between drive pulleys of approximately one and one-half (1½) inches.</p> <p>The motor bracket assembly 3192 is supplied complete with all machine screws, washers and hexagon nuts as illustrated, the illustration also showing the individual parts required to make up the complete assembly.</p>		
3171	SPACERS	(2 required—Code Word— BAUN)	\$1.00
HC56F15	MACHINE SCREWS	(4 required—Code Word— BAUGH)	\$0.15
HC20F15	MACHINE SCREWS	(4 required—Code Word— BELAY)	\$0.15
LW81F15	LOCK WASHERS	(Code Word— BANKS)	\$0.05
	<p>Four (4) washers LW81F15 are used with machine screws HC56F15 and with machine screws HC20F15 and should be so ordered.</p>		
FN75F15	HEXAGON NUTS	(4 required—Code Word— BAYOU)	\$0.05
	<p>Four (4) hexagon nuts FN75F15 are used with four (4) machine screws HC20F15 for securing the electric motor to the motor drive bracket.</p>		



ELECTRIC MOTORS

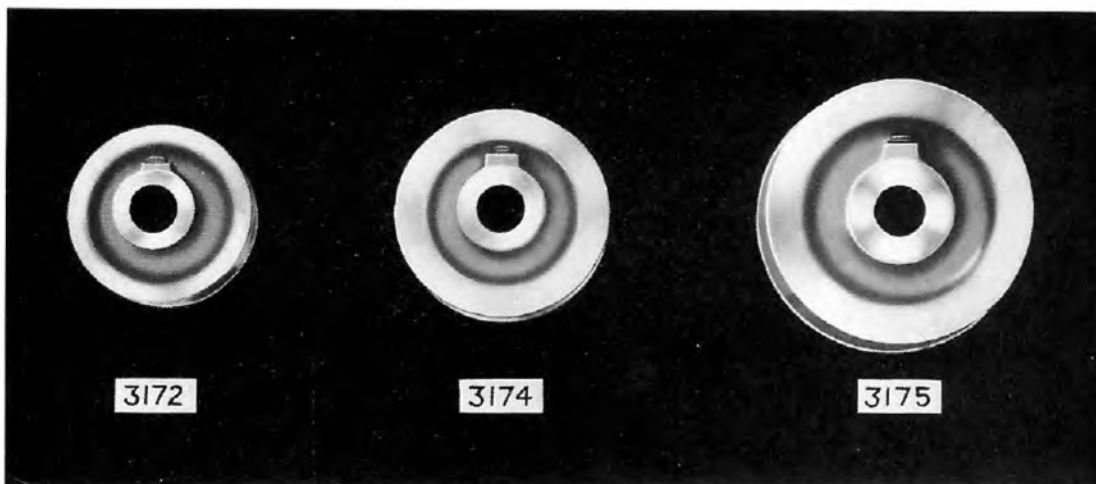
If you require spare or replacement electric motors, your attention is called to the desirability of verifying, previous to ordering, the kind of electric current power supply available in your theatre. This information should be obtained complete, particularly when the power supply is alternating current, and you should know the voltage, the frequency and the phase of the available current as the electric motors listed below for alternating current power supply are for 110 volt single phase power supply having different frequencies including 25 cycles, 40 cycles, 50 cycles and 60 cycles. For direct current power supply, only a single motor is listed, that is for 110 volt circuits.

For electric motors adaptable to other alternating current or direct current power supply requirements, communicate direct with the GENERAL TALKING PICTURES CORPORATION, Executive Offices, 218 West 42nd Street, New York City, N. Y.

A number of different electric motors are necessary component parts of the complete PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors because of the different drive pulleys required.

The different electric motors are listed below, and reference is made to the correct motors for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, and adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

- | | | | |
|----------------|--|----------------------------|----------------|
| E600-15 | ELECTRIC MOTOR | (Code Word— BELOW) | \$15.10 |
| | An alternating current electric motor for 110 volt 25 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-14 | ELECTRIC MOTOR | (Code Word— BELUS) | \$15.10 |
| | An alternating current electric motor for 110 volt 40 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-13 | ELECTRIC MOTOR | (Code Word— BENCH) | \$12.80 |
| | An alternating current electric motor for 110 volt 50 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-12 | ELECTRIC MOTOR | (Code Word— BAWTY) | \$12.80 |
| | An alternating current electric motor for 110 volt 60 cycle single phase power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |
| E600-16 | ELECTRIC MOTOR | (Code Word— BENDS) | \$20.90 |
| | An electric motor for 110 volt direct current power supply. See details under listing of motor bracket for machine screws, lock washers and hexagon nuts with which to fasten the motor to the motor bracket. | | |

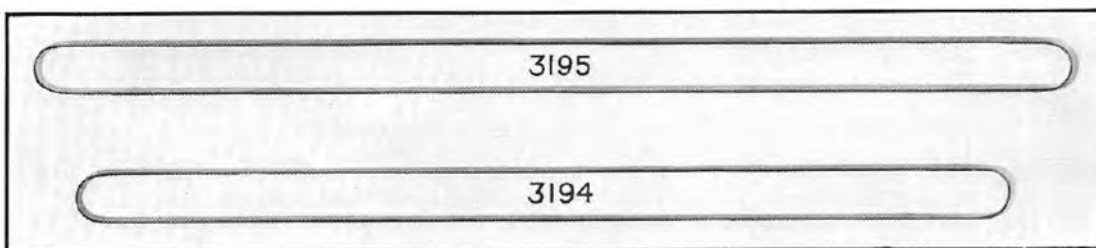


DRIVE PULLEYS

A number of different drive pulleys are necessary component parts of the complete PHONOFILM ATTACHMENTS adaptable to Powers motion picture projectors because of the different electric motors required having different speeds, etc.

The different drive pulleys are listed below, and reference is made to the correct pulleys for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, and adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

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|------|---|--------|
| 3172 | DRIVE PULLEY (Code Word—BAZAR) | \$1.75 |
| | The correct drive pulley for use with alternating current 110 volt 60 cycle single phase electric motor E600-12 and for 110 volt direct current electric motor E600-16. | |
| 3174 | DRIVE PULLEY (Code Word—BENUM) | \$1.75 |
| | The correct drive pulley for alternating current 110 volt 25 cycle single phase electric motor E600-15 and for alternating current 110 volt 50 cycle single phase electric motor E600-13. | |
| 3175 | DRIVE PULLEY (Code Word—BERAR) | \$1.75 |
| | The correct drive pulley for alternating current 110 volt 40 cycle single phase electric motor E600-14. | |



DRIVE BELTS

A number of different drive belts are necessary component parts of the complete PHONOFILM ATTACHMENT adaptable to Powers motion picture projectors because of the different electric motors and pulleys required, the motors having different speeds.

The different drive belts are listed below, and reference is made to the correct belts for a given complete PHONOFILM ATTACHMENT adaptable to Powers "6-A" projectors on pages A-27 and A-28, adaptable to Powers "6-B" projectors on pages A-42 and A-43, adaptable to Powers "6-E" projectors on pages A-46 and A-47 of this section "A" of the PHONOFILM parts-catalog.

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|------|---|--------|
| 3194 | DRIVE BELT (Code Word—BELEM) | \$1.00 |
|------|---|--------|

The correct drive belt for use with electric motors E600-12, E600-14 and E600-15 and for use with drive pulleys 3172, 3174 and 3175. When properly used with the above electric motors and drive pulleys the center to center distance between the shafts upon which the pulleys are mounted, will vary between twenty-six and five sixteenths ($26\frac{5}{16}$) inches and twenty-six and fifteen sixteenths ($25\frac{15}{16}$) inches.

3195 DRIVE BELT (Code Word—BAUER) \$1.00

The correct drive belt for use with electric motors E600-12, E600-13, E600-14, E600-15 and E600-16 and drive pulleys 3172, 3174 and 3175. When properly used with the above electric motors and drive pulleys the center to center distance between the shafts upon which the pulleys are mounted, will vary between twenty-nine and fifteen sixteenths ($29\frac{15}{16}$) inches and thirty and seven sixteenths ($30\frac{7}{16}$) inches.



LAMP CARRIAGE

3178 LAMP CARRIAGE (Code Word—BEFOG) \$15.25

In adapting a complete PHONOFILM ATTACHMENT to a Powers "6-A" motion picture projector, the PHONOFILM ATTACHMENT 3006 is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism itself. The Powers projector mechanism is then mounted, instead of on the projector base, on top of the PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of the PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously to complete the adaptation it is necessary to raise the height of the projector lamp mechanism the same height as the projector mechanism was raised from the projector base, and to accomplish this result lamp carriage 3178 is used.

The lamp housing is taken off its regular lamp carriage on the projector base, the lamp carriage 3178 is placed directly on the projector base and the lamp housing is placed directly on top of the lamp carriage 3178; the dimensions of the lamp carriage 3178 being correct to bring the center to center line of the lamp and the lens system in the projector mechanism into their correct position.

PHONOFILM ATTACHMENTS AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-B" MOTION PICTURE PROJECTORS

It is unnecessary in cataloging complete PHONOFILM ATTACHMENTS adapted to Powers "6-B" motion picture projectors to catalog the details of the PHONOFILM ATTACHMENT 3006, as it is identically the same PHONOFILM ATTACHMENT 3006 as is used for Powers "6-A" complete phonofilm adaptations.

A different motor bracket assembly, a different drive belt and a different lamp carriage are however necessary.

Accordingly, there are listed below complete PHONOFILM ATTACHMENTS adaptable to Powers "6-B" motion picture projectors and for different power supplies as may be required in theatres and auditoriums throughout different sections of the country.

**3040 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERDE)**

Complete POWERS PHONOFILM ATTACHMENT 3040 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-15
One drive pulley	3174
One drive belt	3195
One lamp carriage	3190

**3025 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERGH)**

Complete POWERS PHONOFILM ATTACHMENT 3025 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-14
One drive pulley	3175
One drive belt	3195
One lamp carriage	3190

**3055 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERTH)**

Complete POWERS PHONOFILM ATTACHMENT 3055 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-13
One drive pulley	3174
One drive belt	3195
One lamp carriage	3190

**3010 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO
POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110
VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT
POWER SUPPLY (Code Word—BERYL)**

Complete POWERS PHONOFILM ATTACHMENT 3010 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-12
One drive pulley	3172
One drive belt	3195
One lamp carriage	3190

3070

COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-B" MOTION PICTURE PROJECTORS FOR 110 VOLT DIRECT CURRENT POWER SUPPLY . . . (Code Word—BESET)

Complete POWERS PHONOFILM ATTACHMENT 3070 includes the following individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-16
One drive pulley	3172
One drive belt	3195
One lamp carriage	3190

For details with respect to the Powers motor bracket assembly 3193, required for Powers "6-B" PHONOFILM ATTACHMENT adaptations, see page A-44 of this section of this PHONOFILM parts-catalog.

For details with respect to electric motors, see page A-39 of this section of this PHONOFILM parts-catalog.

For details with respect to drive pulleys, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to drive belts, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to lamp carriage 3190 adaptable to Powers "6-B" PHONOFILM ATTACHMENT adaptations, see page A-44 and A-45 of this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3040, 3025, 3055, 3010, AND 3070 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

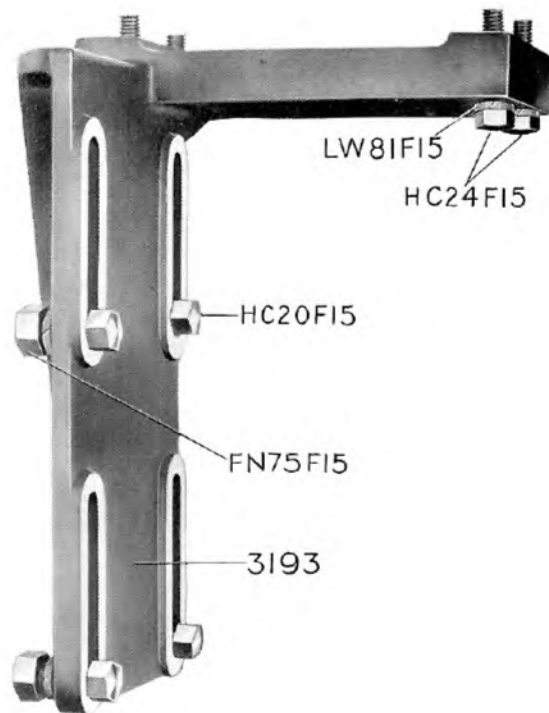
3006

POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A", "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to PHONOFILM ATTACHMENT 3006 and spare and replacement parts for PHONOFILM ATTACHMENT 3006.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

PLEASE NOTE THAT ALL PRICES IN THIS PARTS-CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.



POWERS MOTOR BRACKET

3193 POWERS MOTOR BRACKET (Code Word—**BAULK**) **\$8.00**

Powers motor bracket 3193 is supplied as a component part of complete PHONOFILM ATTACHMENTS adaptable to Powers "6-B" and "6-E" motion picture projectors in order that the electric motor may be properly mounted on the bracket and the bracket in turn mounted on the projector base so that when the motor itself is adjusted to various positions on the bracket a considerable variation in the length of the drive belt used can be obtained.

Motor bracket 3193 is supplied complete with machine screws, washers and hexagon nuts as illustrated in the photograph above. The individual screws, washers and nuts required are also individually indicated by catalog number and listed separately in the copy below.

HC24F15 MACHINE SCREWS (4 required—Code Word—**BEFIT**) **\$0.15**

HC20F15 MACHINE SCREWS (4 required—Code Word—**BELAY**) **\$0.15**

LW81F15 LOCK WASHERS (Code Word—**BANKS**) **\$0.05**

Four (4) lock washers LW81F15 are used with machine screws HC24F15 and four (4) are used with machine screws HC20F15 and should be so ordered.

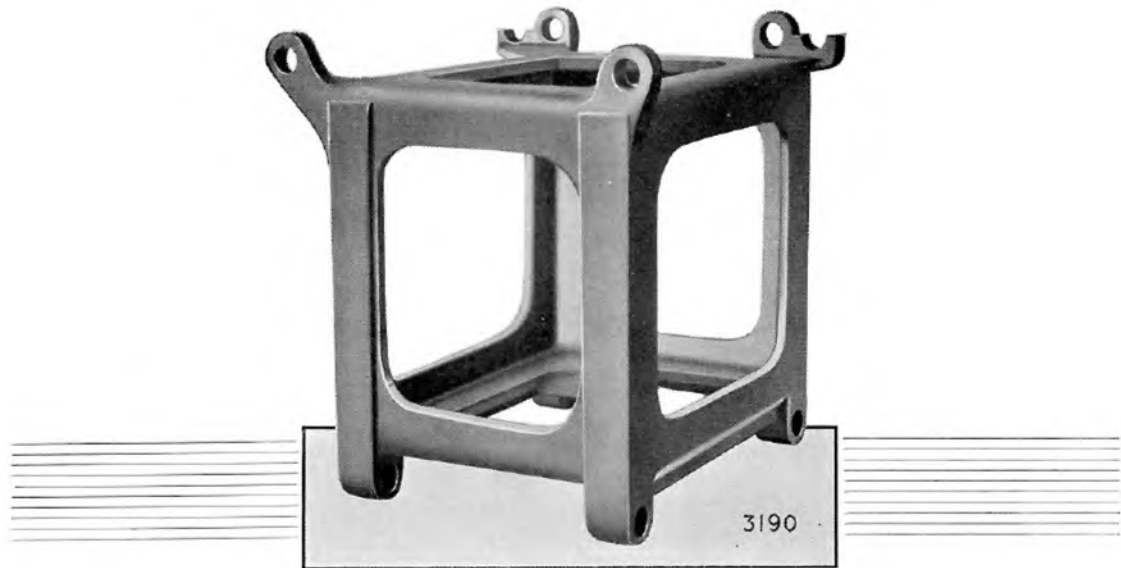
FN75F15 HEXAGON NUTS (4 required—Code Word—**BAYOU**) **\$0.05**

Four (4) hexagon nuts FN75F15 are used with four (4) machine screws HC20F15 for securing the electric motor to the motor drive bracket.

LAMP CARRIAGE

3190 LAMP CARRIAGE (Code Word—**BESOM**) **\$15.25**

In adapting PHONOFILM ATTACHMENT 3006 to a Powers "6-B" motion picture projector, the PHONOFILM ATTACHMENT is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism.



The Powers projector mechanism is then mounted instead of on the projector base, on top of PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously to complete the adaptation, it is necessary to raise the height of the projector lamp mechanism above the projector base to the same height as the projector mechanism was raised from the projector base and to accomplish this result, lamp carriage 3190 is employed.

In making the PHONOFILM ATTACHMENT adaptation, the regular projector lamp housing is taken off its regular lamp carriage on the projector base, lamp carriage 3190 is then mounted directly on the projector base and the lamp housing is placed directly on top of lamp carriage 3190.

The dimensions of lamp carriage 3190 are correct so as to bring the center to center line of the projection lamp and the lens system in the projection mechanism to the correct position of alignment.



PHONOFILM ATTACHMENTS AND SPARE AND REPLACEMENT PARTS FOR PHONOFILM ATTACHMENTS ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS

It is unnecessary in cataloging complete PHONOFILM ATTACHMENTS adapted to Powers "6-E" motion picture projectors to catalog the details of the PHONOFILM ATTACHMENT 3006 as it is identically the same PHONOFILM ATTACHMENT 3006 as is used for Powers "6-A" and Powers "6-B" complete PHONOFILM adaptations.

The same motor bracket 3193 and the same combinations of electric motors, drive pulleys and drive belts are used for a Powers "6-E" adaptation as for a Powers "6-B" adaptation, but a different lamp carriage is however necessary.

Accordingly, there are listed below complete PHONOFILM ATTACHMENTS adaptable to Powers "6-E" motion picture projectors and for different power supplies as may be required in theatres and auditoriums throughout different sections of the country.

3045 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 25 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BETEL)

Complete POWERS PHONOFILM ATTACHMENT 3045 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-15
One drive pulley	3174
One drive belt	3195
One lamp carriage	3179

3030 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BETSY)

Complete POWERS PHONOFILM ATTACHMENT 3030 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-14
One drive pulley	3175
One drive belt	3195
One lamp carriage	3179

3060 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTORS FOR 110 VOLT 50 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEVIS)

Complete POWERS PHONOFILM ATTACHMENT 3060 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-13
One drive pulley	3174
One drive belt	3195
One lamp carriage	3179

3015 COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTOR FOR 110 VOLT 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—BEYLE)

Complete POWERS PHONOFILM ATTACHMENT 3015 includes these individual items:

One Powers PHONOFILM ATTACHMENT	3006
One Powers motor bracket assembly	3193
One electric motor	E600-12
One drive pulley	3172
One drive belt	3195
One lamp carriage	3179

3075

COMPLETE PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-E" MOTION PICTURE PROJECTOR FOR 110 VOLT DIRECT CURRENT POWER SUPPLY . . . (Code Word—BEZEL)

Complete POWERS PHONOFILM ATTACHMENT 3075 includes these individual items:

One Powers PHONOFILM ATTACHMENT.....	3006
One Powers motor bracket assembly.....	3193
One electric motor.....	E600-16
One drive pulley.....	3172
One drive belt.....	3195
One lamp carriage.....	3179

For details with respect to the Powers motor bracket 3193, required for Powers "6-E" PHONOFILM ATTACHMENT adaptations, see page A-44 of this section of this PHONOFILM parts-catalog.

For details with respect to electric motors, see page A-39 of this section of this PHONOFILM parts-catalog.

For details with respect to drive pulleys, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to drive belts, see page A-40 of this section of this PHONOFILM parts-catalog.

For details with respect to lamp carriage 3179 adaptable to Powers "6-E" PHONOFILM ATTACHMENT adaptations, see page A-48 of this section of this PHONOFILM parts-catalog.

COMPLETE PHONOFILM ATTACHMENTS 3045, 3030, 3060, 3015 AND 3075 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.

POWERS PHONOFILM ATTACHMENT

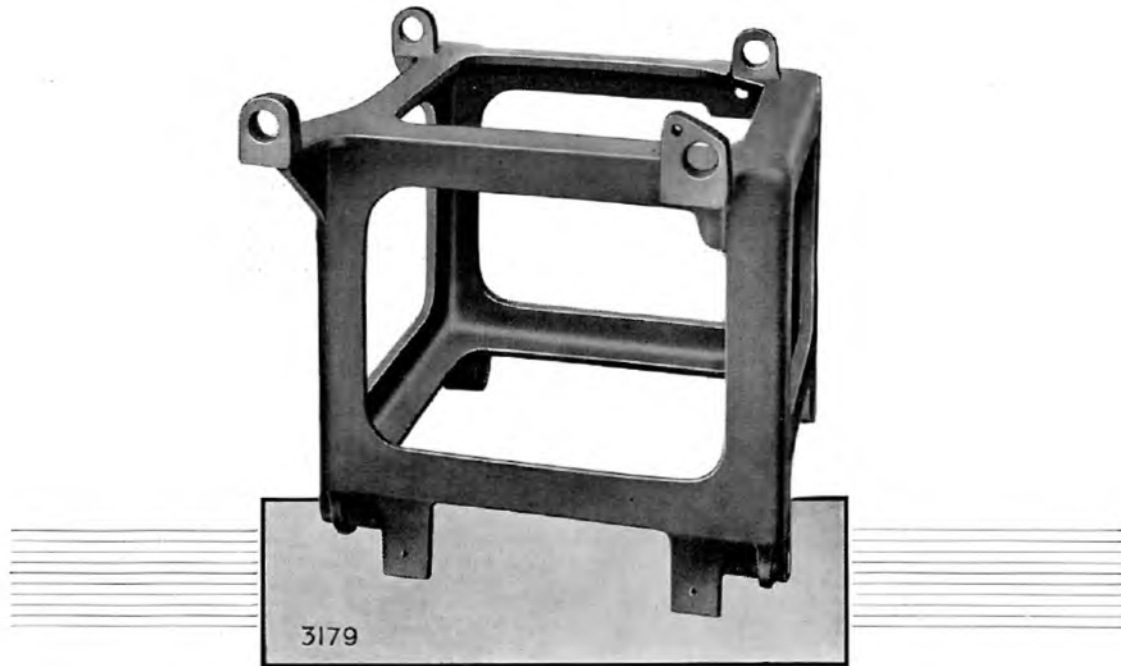
3006

POWERS PHONOFILM ATTACHMENT ADAPTABLE TO POWERS "6-A," "6-B" OR "6-E" MOTION PICTURE PROJECTORS (Code Word—BEING)

Please see pages A-26 to and including page A-37 of this section of this PHONOFILM parts-catalog for complete details with respect to POWERS PHONOFILM ATTACHMENT 3006 and for spare and replacement parts for the PHONOFILM ATTACHMENT.

POWERS PHONOFILM ATTACHMENTS 3006 ARE ONLY AVAILABLE UNDER THE TERMS OF LEASE CONTRACTS MADE BETWEEN MOTION PICTURE EXHIBITORS AND THE GENERAL TALKING PICTURES CORPORATION, NEW YORK CITY, NEW YORK.





LAMP CARRIAGE

3179 LAMP CARRIAGE (Code Word—BIALA) **\$15.25**

In adapting PHONOFILM ATTACHMENT 3006 to a Powers "6-E" motion picture projector, the PHONOFILM ATTACHMENT is mounted on top of the projector base, the bottom of the attachment occupying the position normally occupied by the bottom of the Powers projector mechanism.

The Powers projector mechanism is then mounted instead of on the projector base, on top of PHONOFILM ATTACHMENT 3006, thus raising the projector mechanism the height of the PHONOFILM ATTACHMENT higher than its normal position on the projector base without the PHONOFILM ATTACHMENT.

Obviously, to complete the adaptation, it is necessary to raise the height of the projector lamp mechanism above the projector base to the same height as the projector mechanism was raised from the projector base and to accomplish this result, lamp carriage 3179 is employed.

In making the adaptation, the regular projector lamp housing is taken off its regular lamp carriage on the projector base. Lamp carriage 3179 is then mounted directly on the projector base and the lamp housing is placed directly on lamp carriage 3179.

The dimensions of lamp carriage 3179 are correct so as to bring the center to center line of the projection lamp and the lens system in the projection mechanism to the correct position of alignment.

**INCREASE THE "QUALITY" OF YOUR SOUND—
PROVIDE EACH OF YOUR PHONOFILM ATTACH-
MENTS WITH A BOOSTER LENS. SEE PAGE B-3
OF SECTION B.**

DE FOREST

PHONOFILM

PARTS CATALOG

SECTION B

Accessories for use with DE
FOREST PHONOFILM
ATTACHMENTS adaptable
to Simplex and Powers,
motion picture projectors.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * .”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**



BOOSTER LENS

720 BOOSTER LENS (Code Word—JACKO) \$3.75

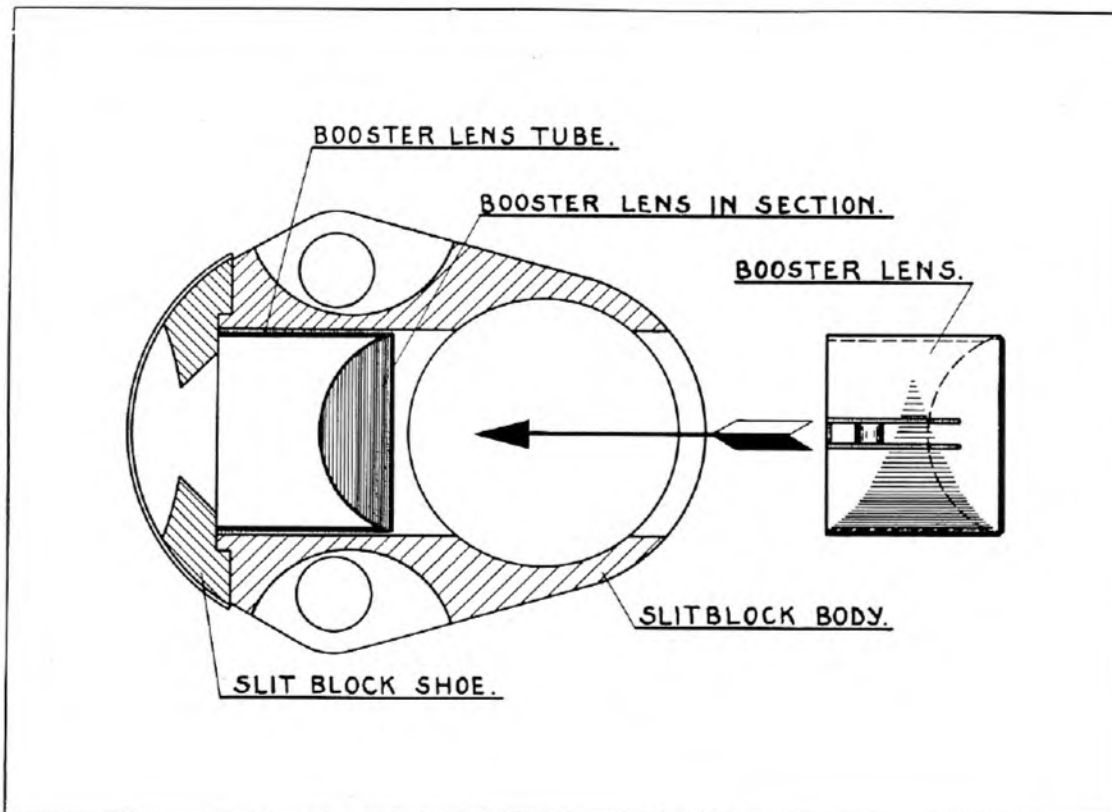
Booster lens 720 consists of a very fine correctly designed lens system mounted in a tube of such dimensions as to be capable of fitting in the longitudinal hole through the center of the slit block body.

The line drawing illustration on the top of page B-4 shows a cross sectional view of the slit block assembly 700 with the booster lens 720 in its correct position.

Obviously the booster lens can be inserted in the slit block assembly with the lens either in the position shown in the illustration, that is nearest to the photo-cell or reversed and with the lens nearest to the slit block shoe. Care should be taken in inserting the booster lens 720 into the slit block assembly 700 so that the lens is itself in the correct position as shown in the drawing.

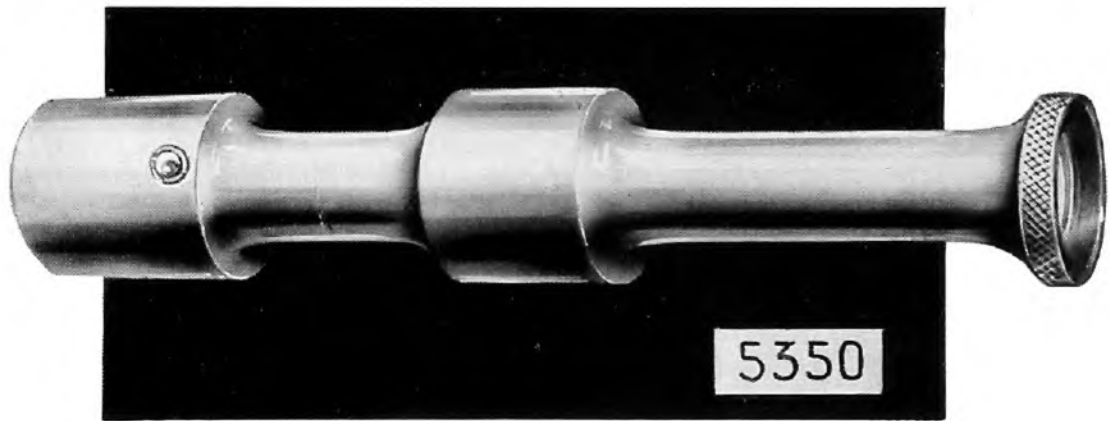
By the use of the booster lens 720 a greater amount of the light that is transmitted through the transparent sound track portion of the film is collected and focused onto the photo-cell 1900, thus providing an increased variable output from the photo-cell and a resulting increase in volume and more perfect reproduction.

The use of a booster lens 720 in the slit block assembly 700 of each complete PHONOFILM ATTACHMENT that you have in use will so increase the volume and quality of reproduction that these results will be immediately apparent and the desirability of the use of booster lens 720 will be verified by your own hearing of the difference.



The above line drawing illustration shows the booster lens 720 in its correct position in the slit block assembly. In placing the booster lens into the slit block make sure that the lens is nearest the photo-cell.





OPTICAL SYSTEM MICROSCOPE

(See illustration on top of pages B-4 and B-6)

5350 OPTICAL SYSTEM MICROSCOPE . . . (Code Word—JABOT) \$7.50

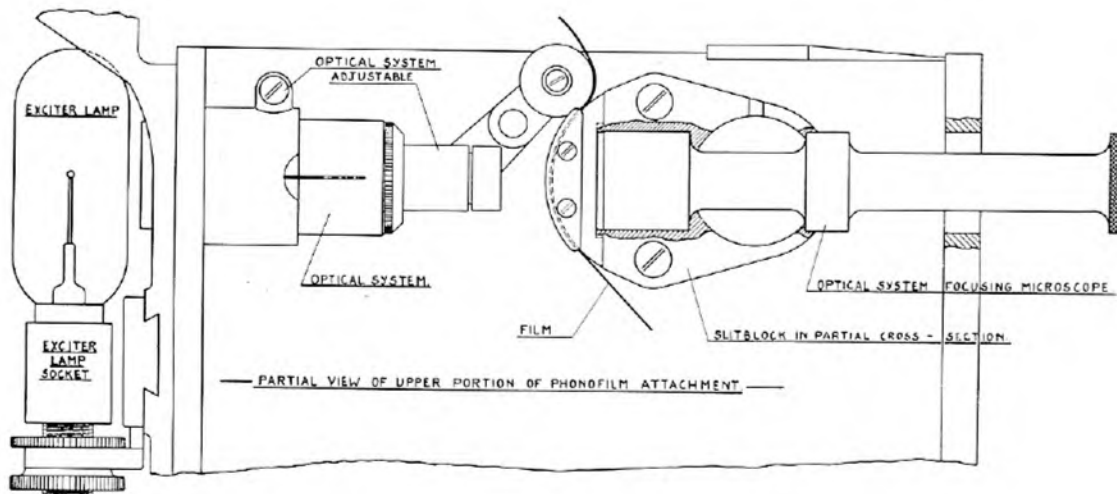
Optical system microscope 5350 is a very important accessory for a PHONOFILM ATTACHMENT. Its specific use is to aid in adjusting the optical system 1800 to make certain that the transmitted light image from the exciting lamp is in its proper position with respect to the "sound track" on the sound film.

It is necessary to focus the optical system by adjusting it nearer to, or farther away from, the exciting lamp and likewise to have it in such a position that the image formed by the slit will be absolutely horizontal with respect to the sound track.

This adjustment can be made by the unaided eye but by the use of the optical system microscope 5350 inserted into the slit block as illustrated by the diagram below, the definition of the image formed by the slit is greatly magnified and the optical system 1800 can be brought to its position of correct adjustment very quickly, accurately and easily.

It is suggested that every exhibitor have an optical system microscope and that the projectionist verify the correct adjustment of the optical system daily, or re-adjust it if necessary.

PHOTO-CELL CABLE ASSEMBLY 2108 WILL INCREASE THE "VOLUME AND QUALITY" OF YOUR SOUND. MAKE SURE THAT EACH OF YOUR PHONOFILM ATTACHMENTS IS EQUIPPED WITH THIS NEW PHOTO-CELL CABLE ASSEMBLY 2108. SEE PAGE A-23.



The line drawing above illustrates the exciting lamp, optical system, slit block and the optical system microscope 5350 and shows how the photo-cell 1800 is removed from the slit block and the optical system microscope inserted into the slit block, allowing a correct adjustment of the optical system to be made.



DE FOREST

PHONOFILM

PARTS CATALOG

SECTION C

Amplifiers, Power Supply
and Control Panels and
Spare and Replacement
Parts for such Instruments,
all component parts of DE
FOREST PHONOFILM
EQUIPMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

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It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

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**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

AMPLIFIERS, POWER SUPPLY AND CONTROL PANELS AND SPARE AND REPLACEMENT PARTS FOR SUCH INSTRUMENTS

In Section "C" of this PHONOFILM parts-catalog are illustrated and described complete amplifier equipments mounted on panel racks and supplied as component parts of "Standard" and "Junior" DE FOREST PHONOFILM EQUIPMENTS.

In addition, the individual amplifiers, control panels, power supply panels, etc., that go to make up a complete "Standard" or "Junior" amplifier are listed individually and underneath each individual listing of a given amplifier or instrument are listed those parts such as transformers, condensers, resistors, reactors, etc., that would possibly require replacement in the normal and proper operation of the equipment.

The illustrations have been made as large as practical in order to enable the exhibitor to clearly define the exact instrument or part required. Illustrations of the exteriors of completed panel type instruments have in all instances been made smaller than the exterior views, but in all instances the panel widths have been kept to one dimension so that the comparative size of the exteriors of the completed instruments are in proportion.

It will be noticed that the panel dimensions of the interior views of the various panel type instruments vary slightly, due to the necessity of properly illustrating the instruments in a given position. All dimensions are given however accurately in the descriptive matter and it is hoped that the discrepancies in proportionate dimensions of the various interior illustrations will aid in the definition of details of the equipments.

Particular attention is called to the fact that in ordering such electrical equipment, the most important consideration is to verify the power supply available in your theatre or auditorium, as practically all instruments are available for both 110 volt 50 to 60 cycle, single phase, and for 110 volt 25 to 40 cycle, single phase alternating current and some of them for direct current. Care should be taken in ordering such equipments or instruments to specify the correct catalog number of the item desired for a specific power supply.

It is pointed out, in particular, that the electrical requirements of a talking motion picture equipment are very much different than the electrical requirements of, for instance, a radio receiver. These differences are not only differences in the electrical power handled by the system but also have to do with the audio-frequency characteristics of the reproduced voice and music at such power levels as are necessary for perfect reproduction of talking motion pictures in theatres, auditoriums, etc. As a result it is obvious that an amplifier designed for a radio receiver is not capable of and could not be expected to be satisfactorily used in a theatre.

In like manner, the component parts that make up the electrical instruments supplied as parts of a completed DE FOREST PHONOFILM equipment are not obtainable on the open market throughout the country and such parts as go to make up an ordinary radio receiver or radio amplifier cannot be expected to function properly, and sometimes not even at all, when substituted for the correct component parts of amplifiers and other electrical equipment as illustrated and described in this PHONOFILM parts-catalog.

The electrical equipment utilized in connection with the DE FOREST PHONOFILM ATTACHMENTS (Attachments are illustrated and described in Section "A" of this parts-catalog) has been specifically designed so that a perfect coordination of both the mechanical and electrical requirements of the most perfect system for the reproduction of talking motion pictures obtainable to date, is achieved. The "high-standard-of-quality-reproduction" available to motion picture exhibitors through the use of PHONOFILM EQUIPMENTS is possible only because of this perfect coordination and proper utilization of such component mechanical and electrical parts and instruments as make up the entire equipment.

To maintain the DE FOREST PHONOFILM "high-standard-of-quality-reproduction" and to assure constant and profitable "dollars and cents" return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts-catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.



“STANDARD” PHONO-FILM AMPLIFIERS

5141 “STANDARD” PHONO-FILM AMPLIFIER FOR 110 VOLT, 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY.

(Code Word—LABAN) \$795.00

“Standard” PHONOFILM amplifier 5141 is made up of the following individual panel type instruments mounted on panel rack 5338:

- 1—5309 Power Amplifier
- 1—5318 Intermediate Power Supply Panel
- 1—5207 Power Control Panel
- 1—5315 Intermediate Amplifier

For spare or replacement component parts of any of the above individual instruments see the following pages which catalogs each instrument individually including its component parts.

The complete “Standard” PHONOFILM Amplifier 5141 requires eight (8) vacuum tubes, as follows:

- 1—type '27 Amplifier Tube
Catalog Number E600-20
- 2—type '26 Amplifier Tubes
Catalog Number E600-19
- 2—type '50 Amplifier Tubes
Catalog Number E600-22
- 1—type '80 Rectifier Tube
Catalog Number E600-23
- 2—type '81 Rectifier Tubes
Catalog Number E600-24

For complete listing of vacuum tubes, as indicated above, please see page G-3 of section “G” of this parts-catalog.

Amplifier 5141 is a component part of a complete “Standard” PHONOFILM equipment and provides the necessary instruments for power control, power supply (original power supply normally being obtained from the regular light and power circuits) and amplification means to operate the desired number of loud-speakers and associated apparatus to reproduce high quality talking motion pictures in theatres, auditoriums, etc., having a seating capacity of approximately 900 to 2,500 persons.

Overall dimensions: seventy-two (72) inches high by twenty-one (21) inches wide by fifteen (15) inches deep. Floor space required: twenty-one (21) inches by fifteen (15) inches. Net weight: two hundred twelve (212) pounds. Shipping weight: three hundred ninety (390) pounds.

5142 "STANDARD" PHONO-FILM AMPLIFIER FOR 110 VOLT, 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY.

(Code Word—**LABEL**) \$825.00

"Standard" PHONOFILM amplifier 5142 is amplifier 5141 above but with power transformers, etc., allowing operation from a 25 to 40 cycle, single phase, 110 volt, alternating current power supply. Amplifier 5142 is made up of the following individual panel type instruments mounted on panel rack 5338.

1—5380 Power Amplifier
1—5383 Intermediate Power Supply Panel
1—5207 Power Control Panel
1—5315 Intermediate Amplifier
All characteristics and specifications (including tubes required) of Amplifier 5142 are identical with those of Amplifier 5141.

5377 "STANDARD" PHONO-FILM AMPLIFIER FOR 110 VOLT, 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY.

(Code Word—**LABIA**) \$795.00

"Standard" PHONOFILM Amplifier 5377 is made up of the following individual panel type instruments mounted on panel rack 5338:

1—5174 Power Amplifier
1—5197 Intermediate Power Supply Panel
1—5207 Power Control Panel
1—5187 Intermediate Amplifier
All characteristics and specifications (including tubes required) of Amplifier 5377 are identical with those of Amplifier 5141.

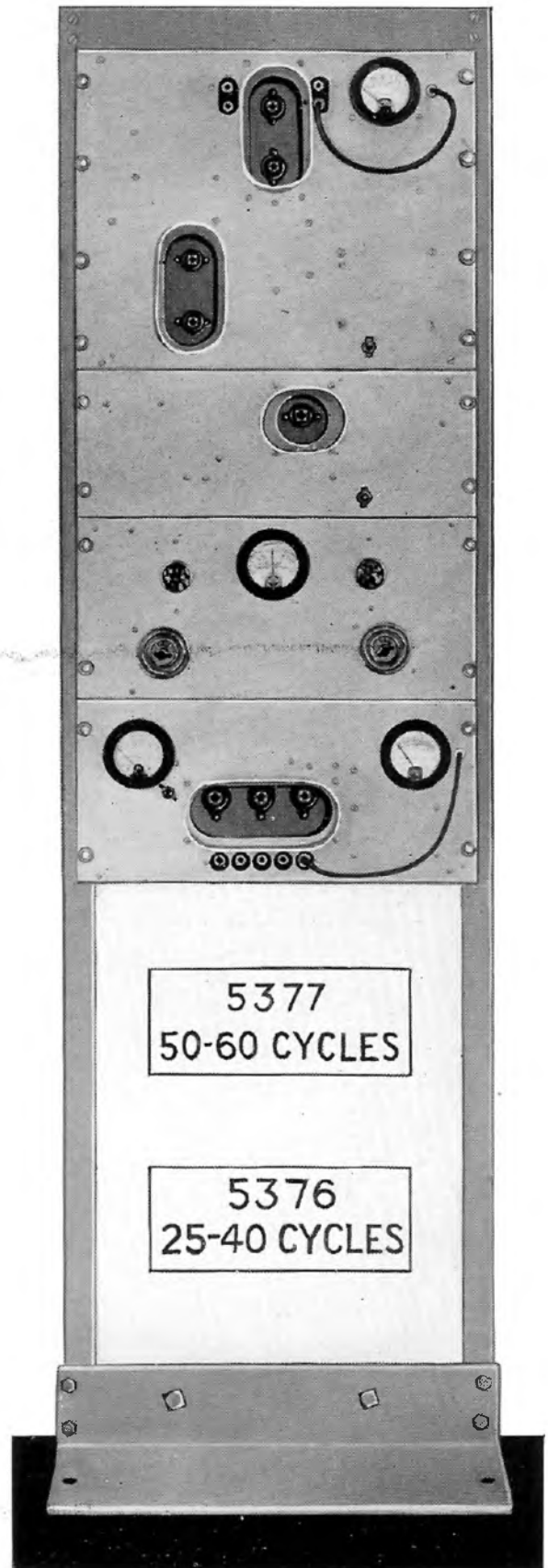
5376 "STANDARD" PHONO-FILM AMPLIFIER FOR 110 VOLT, 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY.

(Code Word—**LABOR**) \$825.00

"Standard" amplifier 5376 is Amplifier 5377 above but with power transformers, etc., allowing operation from a 110 volt, 25 to 40 cycle, single phase, alternating current power supply.

"Standard" PHONOFILM Amplifier 5376 is made up of the following individual panel type instruments mounted on panel rack 5338:

1—5381 Power Amplifier
1—5382 Intermediate Power Supply Panel
1—5207 Power Control Panel
1—5187 Intermediate Amplifier
The tubes required for Amplifier 5376 are the same as those required for Amplifier 5141 listed above. All characteristics and specifications of Amplifier 5376 are identical with those of Amplifier 5141.





Front view of "Junior" PHONOFILM amplifier 5145 or 5146. In the case of amplifier 5145 for 110 volt 50 to 60 cycle, single phase alternating current power supply the panel type instruments shown are amplifier 5149 and control panel 5207.

"JUNIOR" PHONOFILM AMPLIFIERS

5145 "JUNIOR" PHONOFILM
AMPLIFIER FOR 110
VOLT 50 TO 60 CYCLE,
SINGLE PHASE ALTER-
NATING CURRENT POW-
ER SUPPLY.

(Code Word—LACTI) \$495.00

"Junior" PHONOFILM Amplifier 5145 is made up of the following individual panel type instruments mounted on panel rack 5250:

- 1—5149 Amplifier
- 1—5207 Power Control Panel

For spare or replacement component parts for any of the above individual instruments see the following pages which catalogs each instrument individually including its component parts.

The following vacuum tubes are required for the operation of the 5145 Amplifier.

- 2—type '27 Amplifier Tubes
Catalog Number E600-20
- 2—type '45 Amplifier Tubes
Catalog Number E600-21
- 1—type '80 Rectifier Tube
Catalog Number E600-23

For complete listing of vacuum tubes, as indicated above, please see page G-3 of section "G" of this parts-catalog.

"Junior" PHONOFILM Amplifier 5145 is a component part of a complete "Junior" PHONOFILM equipment. It provides the necessary instruments for power control, power supply (original power supply being obtained from the regular light and power circuits) and amplification means to operate the desired number of loudspeakers and associated apparatus to reproduce high quality talking motion pictures in theatres, auditoriums, etc., having a seating capacity up to approximately 900 persons.

The overall dimensions of Amplifier 5145 are: sixty (60) inches high by twenty-one (21) inches wide by fifteen (15) inches deep. Floor space required: twenty-one (21) inches by fifteen (15) inches. Net weight: one hundred sixty-five (165) pounds. Shipping weight: three hundred thirty-five (335) pounds.

**5146 "JUNIOR" PHONOFILM
AMPLIFIER FOR 110
VOLT, 25 TO 40 CYCLE,
SINGLE PHASE ALTER-
NATING CURRENT POW-
ER SUPPLY.**

(Code Word—LADEN) \$525.00

"Junior" PHONOFILM Amplifier 5146 is Amplifier 5145 but with power transformers, etc., allowing operation from a 25 to 40 cycle, single phase, alternating current power supply.

Amplifier 5146 is made up of the following individual panel type instruments mounted on panel rack 5250:

- 1—5172 Amplifier
- 1—5207 Power Control Panel

All other characteristics and specifications (including tubes required) of Amplifier 5146 are identical to those for Amplifier 5145.

**5379 "JUNIOR" PHONOFILM
AMPLIFIER FOR 110
VOLT, 50 TO 60 CYCLE,
SINGLE PHASE ALTER-
NATING CURRENT POW-
ER SUPPLY.**

(Code Word—LADLE) \$495.00

"Junior" PHONOFILM Amplifier 5379 is made up of the following individual panel type instruments mounted on panel rack 5250:

- 1—5322 Amplifier
- 1—5207 Power Control Panel

Amplifier 5379 requires the use of the following vacuum tubes:

- 2—type '27 Amplifier Tubes
Catalog Number E600-20
- 2—type '10 Amplifier Tubes
Catalog Number E600-18
- 1—type '81 Rectifier Tube
Catalog Number E600-24

All other characteristics and specifications of Amplifier 5379 are identical to those for Amplifier 5145.

**5378 "JUNIOR" PHONOFILM
AMPLIFIER FOR 110
VOLT, 25 TO 40 CYCLE.
SINGLE PHASE ALTER-
NATING CURRENT POW-
ER SUPPLY.**

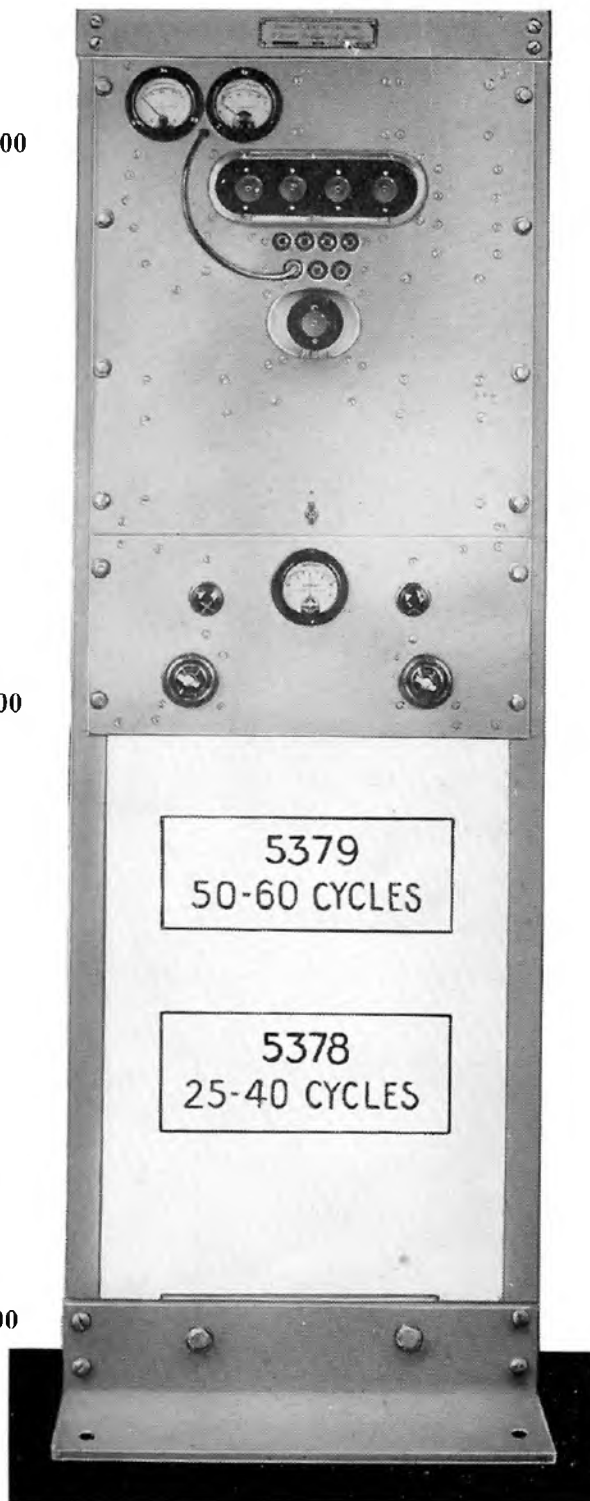
(Code Word—LAGER) \$525.00

"Junior" PHONOFILM Amplifier 5378 is Amplifier 5379 above, but with power transformers, etc., allowing operation from a 110 volt 25 to 40 cycle, single phase, alternating current power supply.

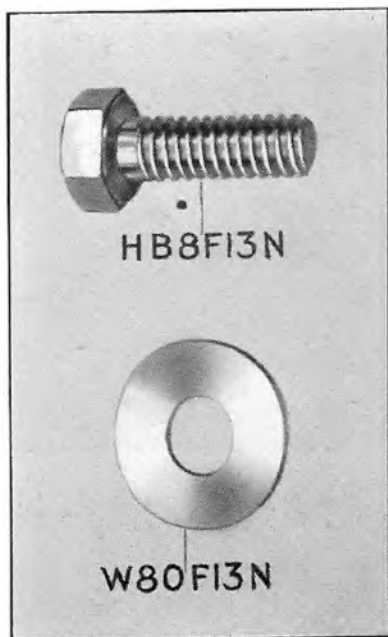
Amplifier 5178 is made up of the following individual panel type instruments mounted on panel rack 5250:

- 1—5384 Amplifier
- 1—5207 Power Control Panel

All other characteristics and specifications of Amplifier 5378 are identical with those for Amplifier 5379.



Front view of "Junior" PHONOFILM amplifier 5379 or 5378. In the case of amplifier 5379 for 110 volt 50 to 60 cycle, single phase alternating current power supply the panel type instruments shown are amplifier 5322 and control panel 5207.



PANEL RACK

5338

"STANDARD" PANEL RACK

(Code Word—LEASE)

\$25.00

Panel rack 5338 is the rack upon which are mounted the panel type instruments that go to make up a "Standard" PHONO-FILM equipment. The rack is of sufficient size to allow the mounting of all amplifiers, power supply panels and power control panels normally used, and to allow the addition of auxiliary panel type instruments when desired.

The rack is similar in construction to standard relay racks, being made of heavy angle iron vertical members with the same size angle iron cross-member at the top, while at the bottom, the rack is securely supported by two very heavy angle pieces which extend both to the front and to the rear of the rack. Holes are provided in the bottom angle pieces for fastening the rack to the floor.

Panel rack 5338 is of the correct dimensions to allow mounting panel type instruments having standard widths of nineteen (19) inches.

Overall dimensions: seventy-two (72) inches high by twenty-one (21) inches wide by twelve (12) inches deep. Floor space required: twenty-one (21) inches by twelve (12) inches. Net weight: sixty-seven (67) inches. Shipping weight: seventy-two (72) pounds.

5250

"JUNIOR" PANEL RACK

(Code Word—LEAVY)

\$25.00

"Junior" panel rack 5250 is practically identical with "Standard" panel rack 5338 with the exception that it is of a lighter construction, as the rack is not designed for the mounting of as many panel type instruments.

Overall dimensions: sixty (60) inches high by twenty-one (21) inches wide by twelve (12) inches deep. Floor space required: twenty-one (21) inches by twelve (12) inches. Net weight: sixty-two (62) pounds. Shipping weight: sixty-five (65) pounds.

HB8F13N MACHINE SCREWS

(Code Word—LEDDY)

\$0.05

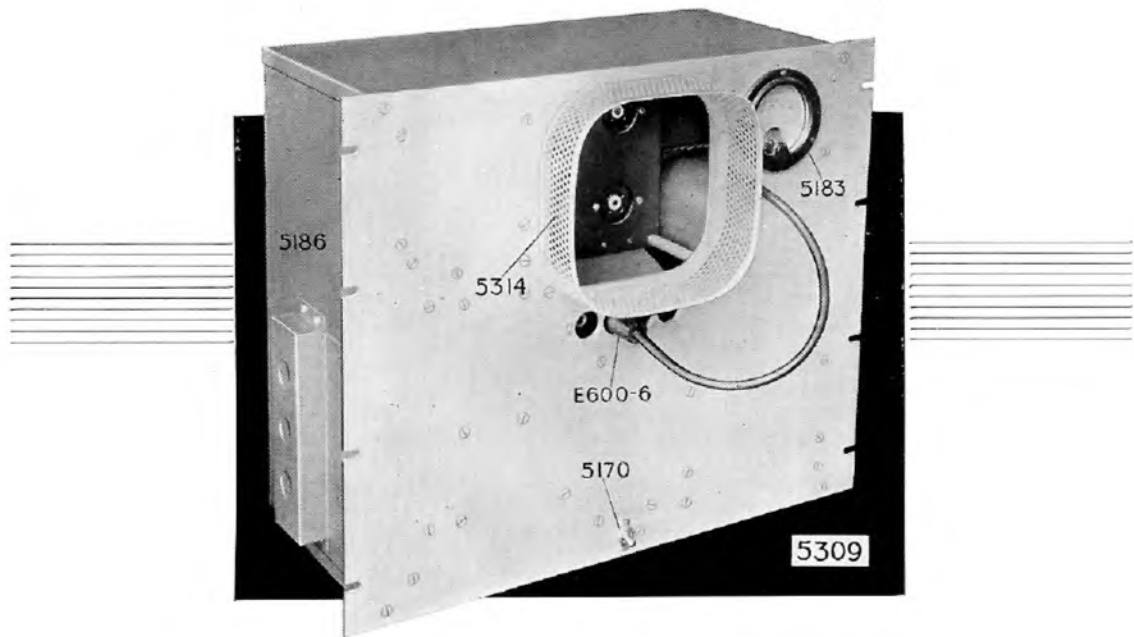
See note under W80F13N below.

W80F13N WASHERS

(Code Word—LEDGE)

\$0.05

Machine screws HB8F13N and washers W80F13N should be ordered together and in sufficient quantity to allow the mounting of the desired panel type instruments on panel racks 5338 or 5250. The number of machine screws and washers required varies with the type of instrument and a note listing the required number of both machine screws and washers is given under the individual listing of each panel type instrument.



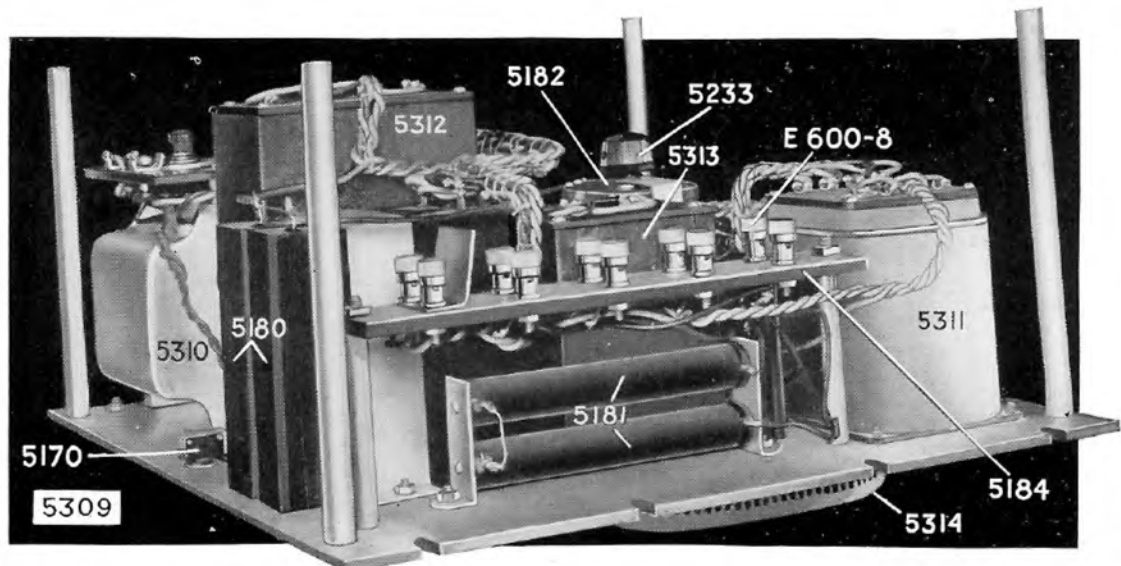
POWER AMPLIFIER

5309 POWER AMPLIFIER FOR 110 VOLT 50 TO 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY
(Code Word—LAGOS) \$350.00

Power amplifier 5309 is a component part of "Standard" PHONOFILM amplifier 5141 (see page C-4).

It utilizes two type '50 amplifier tubes (catalog number E600-22) and two type '81 half wave rectifier tubes (catalog number E600-24) providing an undistorted power output sufficient for theatres or auditoriums having seating capacities of from approximately 900 to 2500 seats. For detailed listing of vacuum tubes, please refer to page G-3 in section "G" of this parts-catalog.

Amplifier 5309 is practically identical with power amplifier 5174, listed below, with respect to circuit arrangements. The actual panel lay-out and the position of the component parts on the panel however differ from that of amplifier 5174, as can be easily seen by comparing the illustrations of both the exterior and interior views.



Oblique right-hand view of interior of power amplifiers 5309 or 5380 showing in particular the voltage divider 5181 which cannot be clearly seen from the straight rear view of amplifier 5309 illustrated on page C-10.

A direct current meter is mounted on amplifier panel 5309, the meter reading in milli-amperes and being used for measuring the plate current of each of the type '50 amplifier tubes, as well as for checking the absence of current in the grid circuits. The current supply for lighting the filaments of the tubes used, as well as for supplying the "B" voltages required, is obtained from the power transformer mounted directly on the panel of the instrument. A switch is provided on the power transformer in order to make adjustments to compensate for varying voltages obtained from power supply lines in different parts of the country.

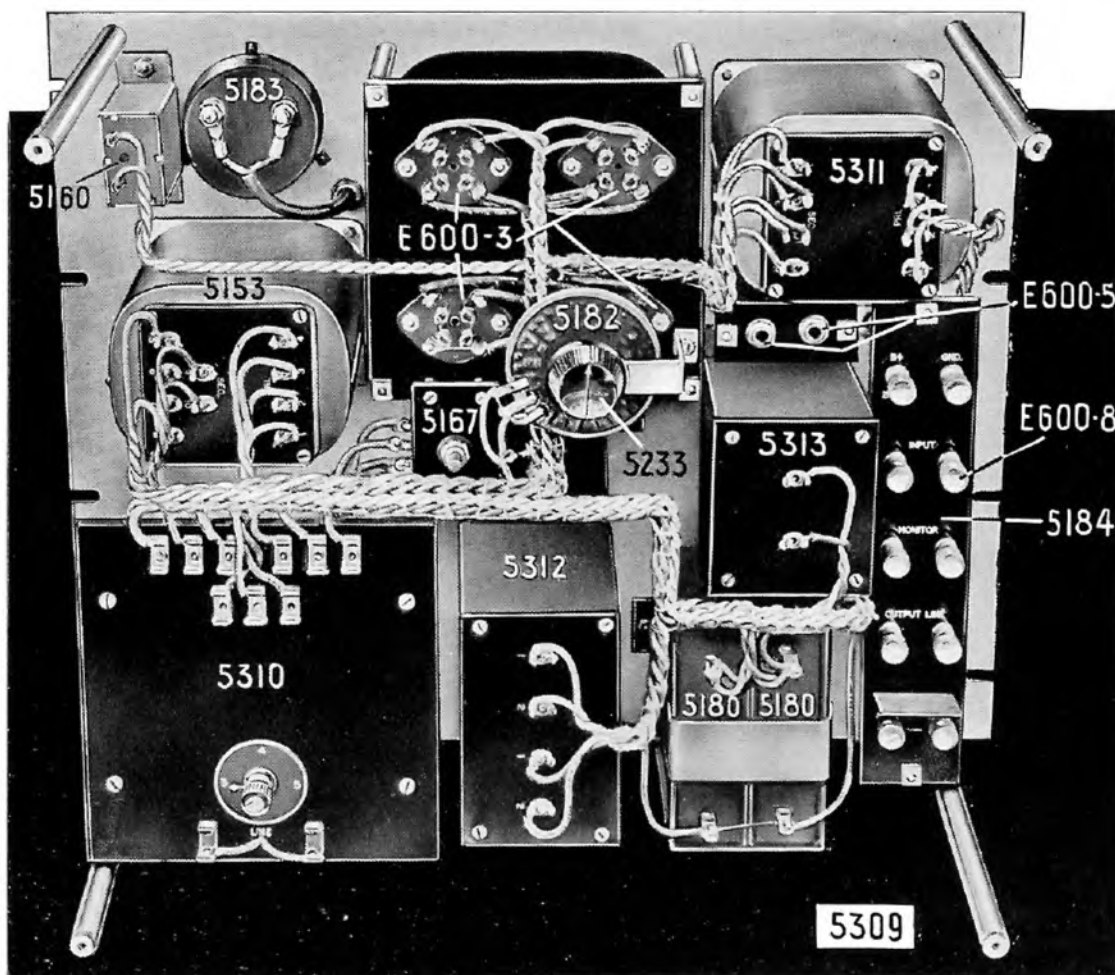
The electric circuit design of amplifier 5309 is very efficient not only with respect to gain characteristics but also with respect to the achievement of maximum gain throughout the entire audio-frequency range, with an extremely pleasing uniformity of amplitude and practically a zero hum level.

See note under HB8F13N on page C-8 for machine screws and washers with which to secure the amplifier to the panel rack. Eight (8) each screws and washers are required for each amplifier panel.

Overall dimensions: nineteen (19) inches wide by fifteen and three-eighths ($15\frac{3}{8}$) inches high by eleven (11) inches deep. Dimensions of panel: nineteen (19) inches wide by fifteen and three-eighths ($15\frac{3}{8}$) inches high. Net weight: fifty-eight (58) pounds. Shipping weight: two hundred ten (210) pounds.

5310 POWER TRANSFORMER (Code Word—LAICH) \$45.00

For 110 volt 50 to 60 cycle, single phase alternating current power supply. Provided with a switch allowing an adjustment of the number of turns included in the primary winding in order to secure a uniform output of the transformer with variable input as may be necessary under conditions of variable voltage supplied by regular power lines throughout various parts of the country.

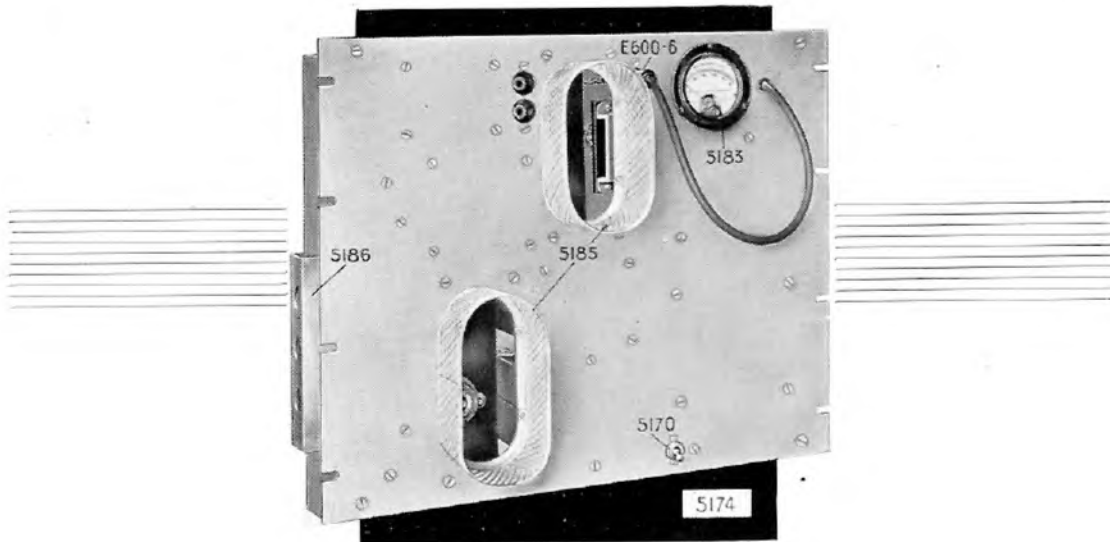


Rear view of the interior of power amplifier 5309 or 5380 indicating the disposition of the component parts. Note in particular that voltage divider 5181 is not indicated in this illustration as it is clearly indicated in the oblique right-hand view shown in the photograph on page C-9.

5311	INPUT TRANSFORMER	(Code Word—LAIRD)	\$20.00
5153	OUTPUT TRANSFORMER	(Code Word—LAIST)	\$25.00
5313	DOUBLE REACTOR	(Code Word—LAITH)	\$14.00
5313	REACTOR	(Code Word—LAIUS)	\$7.00
5160	CONDENSER	(Code Word—LAKER)	\$1.00
5180	FILTER CONDENSER See note under 5205 below.		
5205	CONDENSER (2 required—Code Word—LOCKE)		\$8.00
	Original amplifiers 5309 were at one time supplied with condensers 5180 above. If replacement is necessary order condensers 5205 which are an improved type.		
5181	VOLTAGE DIVIDER	(Code Word—LAKIN)	\$6.00
5182	POTENTIOMETER	(Code Word—LAMAR)	\$6.00
	Used for securing the desired potential on the grids of the type '50 amplifier tubes. See note under 5167 below.		
5167	POTENTIOMETER	(Code Word—LAMIA)	\$0.85
	Used for equalizing the resulting plate current output of each type '50 amplifier tube, this reading being indicated on milliammeter 5183 and depending upon the adjustment of both this potentiometer 5167 and upon the adjustment of potentiometer 5182.		
E600-3	TUBE SOCKETS (4 required—UX4 prong—Code Word—LANCH)		\$0.75
E600-5	JACKS (6 required—Code Word—LANDE)		\$0.70
E600-6	JACK PLUG	(Code Word—LANKY)	\$0.75
5183	MILLIAMETER	(Code Word—LAPAZ)	\$12.00
	Direct current milliammeter reading from 0 to 100 milliamperes for checking the output of each type '50 amplifier tube and for checking the absence of grid circuit currents.		
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	This toggle switch enables the power supply of the amplifier to be turned "on" and "off" independent of the main control switch on power control panel 5207.		
5184	BINDING POST STRIP ASSEMBLY	(Code Word—LAPID)	\$3.00
E600-8	BINDING POSTS (10 required—Code Word—LAPSE)		\$0.15
5314	TUBE GUARD	(Code Word—LARCH)	\$4.75
5186	AMPLIFIER CASE	(Code Word—LARGE)	\$11.00

POWER AMPLIFIER

5380	POWER AMPLIFIER FOR 110 VOLT 25 TO 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—LENTO)	\$375.00
	Power amplifier 5380 is a component part of "Standard" PHONOFILM amplifier 5142. (See page C-5). This amplifier is identical with amplifier 5309 with the exception that its power transformer is suitable for 110 volt 25 to 40 cycle, single phase alternating current power supply. All other characteristics, specifications, dimensions, weights, etc., remain identical with those for amplifier 5309. All component parts for amplifier 5380 are also identical with those suitable for amplifier 5309 except the power transformer 5397 which is listed separately below.	
5397	POWER TRANSFORMER	(Code Word—MABEL) \$65.00
	Power transformer 5397 is for operation from a 110 volt 25 to 40 cycle single phase alternating current power supply line. It is supplied with a switch for adjusting the output of the transformer, depending upon the voltage of the input which voltage may vary when the transformer is supplied by the alternating current power lines throughout different parts of the country.	



POWER AMPLIFIER

- 5174 POWER AMPLIFIER FOR 110 VOLT 50 TO 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—LARUM) **\$350.00**
- Power amplifier 5174 is practically identical with power amplifier 5309 with the exception that the mechanical disposition of the component parts on the panel is considerably different than for amplifier 5309, as can be readily seen by comparing the various exterior and interior illustrations of both amplifiers. In amplifier 5309 the four tubes required are mounted in one group at the top of the amplifier, while in amplifier 5174 the type '50 amplifier tubes are mounted at the top of the panel and the type '81 half wave rectifier tubes are mounted at the bottom of the panel.
- Amplifier 5174 uses two type '50 amplifier tubes (catalog number E600-22) and two type '81 half wave rectifier tubes (catalog number E600-24), the same as amplifier 5309. For detailed listing of vacuum tubes, please refer to page G-3 in section "G" of this parts-catalog.
- All other characteristics, specifications, dimensions, weights, etc., remain identical with those for amplifier 5309.
- 5175 POWER TRANSFORMER** (Code Word—LARVA) **\$65.00**
- For 110 volt 50 to 60 cycle, single phase alternating current power supply, provided with switch allowing variation of output of transformer when supplied by variable input voltages, as may be the case in various sections of the country, the current supply being obtained from regular electric power lines.
- 5176 INPUT TRANSFORMER** (Code Word—LATCH) **\$20.00**
- 5177 OUTPUT TRANSFORMER** (Code Word—LATED) **\$25.00**
- 5178 DOUBLE REACTOR** (Code Word—LATEX) **\$14.00**
- 5179 REACTOR** (Code Word—LATHE) **\$6.00**
- 5180 FILTER CONDENSER**
See note under 5205 below.
- 5205 CONDENSERS** (2 required—Code Word—LOCKE) **\$8.00**
- Original amplifiers 5174 were at one time supplied with condensers 5180 above. If replacement is necessary order condensers 5205 which are an improved type.
- 5181 VOLTAGE DIVIDER** (Code Word—LAKIN) **\$6.00**
- 5182 POTENTIOMETER** (Code Word—LAMAR) **\$6.00**
- Used for securing the desired potential on the grids of the type '50 amplifier tubes.
- E600-3 TUBE SOCKETS** (4 required—UX4 prong—Code Word—LANCH) **\$0.75**

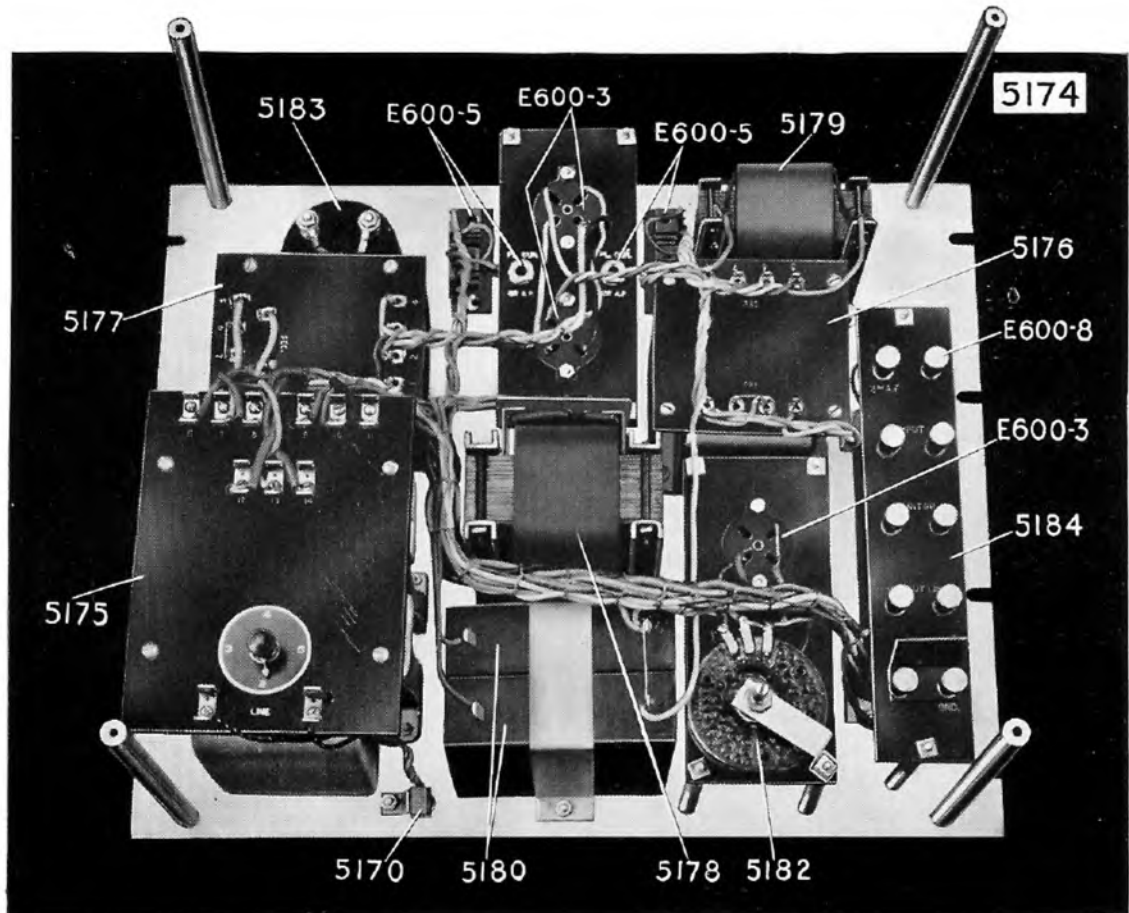
E600-5	JACKS	(6 required—Code Word—LANDE)	\$0.70
E600-6	JACK PLUG	(Code Word—LANKY)	\$0.75
5183	MILLIAMETER	(Code Word—LAPAZ)	\$12.00
	Direct current milliammeter reading from 0 to 100 milliamperes for checking the output of each type '50 amplifier tube and for checking absence of grid circuit current.		
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	This toggle switch enables the power supply of the amplifier to be turned "on" and "off" independent of the main control switch on power control panel 5207.		
5184	BINDING POST STRIP ASSEMBLY	(Code Word—LAPID)	\$3.00
E600-8	BINDING POSTS	(10 required—Code Word—LAPSE)	\$0.15
5185	TUBE GUARD	(2 required—Code Word—LATIN)	\$2.30
5186	AMPLIFIER CASE	(Code Word—LARGE)	\$11.00

POWER AMPLIFIER

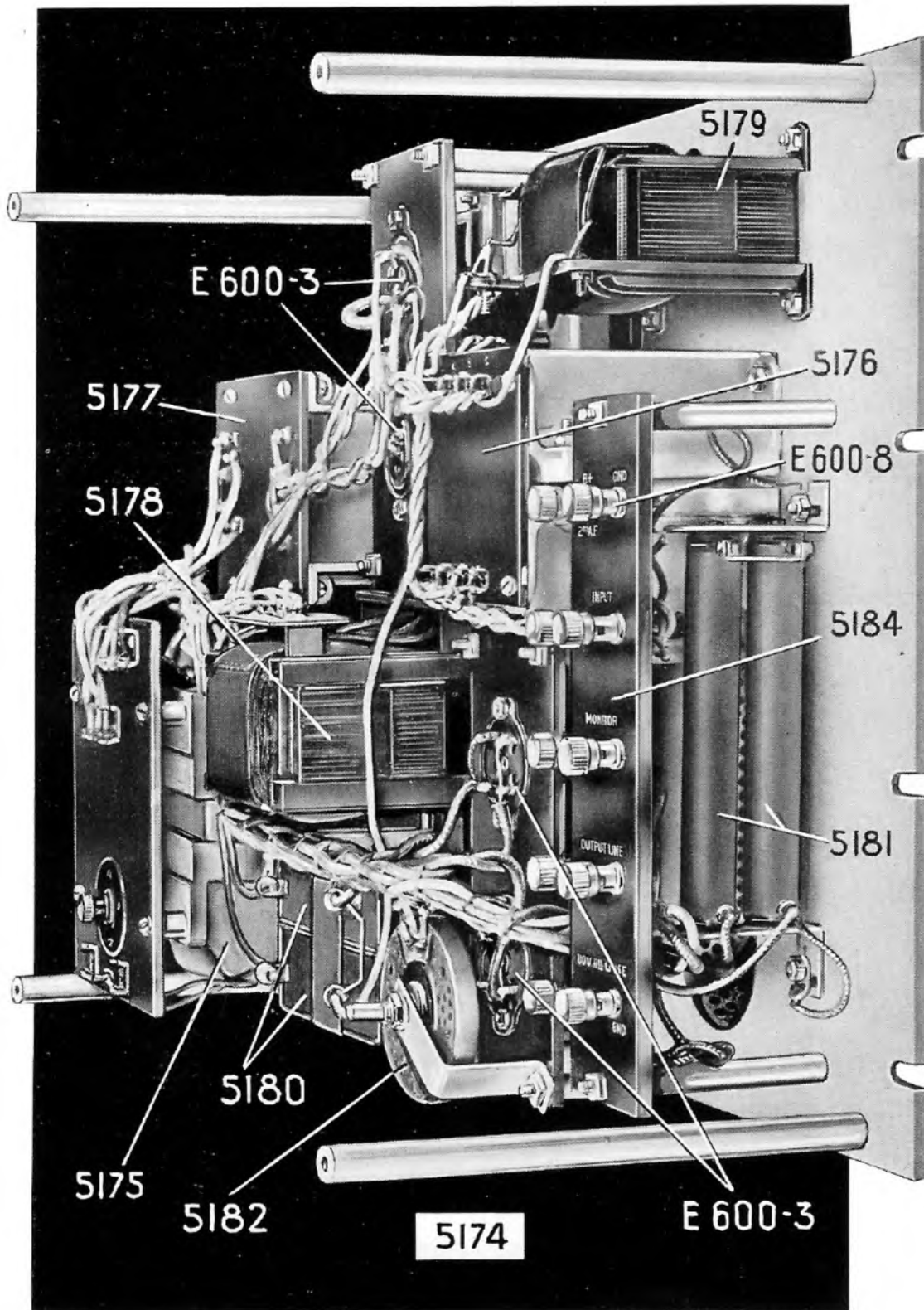
5381	POWER AMPLIFIER FOR 110 VOLT 25 TO 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	(Code Word—LERIN)	\$375.00
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Power amplifier 5381 is a component part of "Standard" PHONOFILM amplifier 5376 (see page C-5 of this PHONOFILM parts-catalog).

Power amplifier 5381 is identical with power amplifier 5174 with the exception that it is for an alternating current power supply of 110 volt 25 to 40 cycles, single phase



Rear view of the interior of power amplifier 5174 or 5381 showing the disposition of the component parts on the panel. Note in particular that voltage divider 5181 is not illustrated in the above view but that it is clearly shown in the oblique right-hand view of the amplifier panel on page C-14.

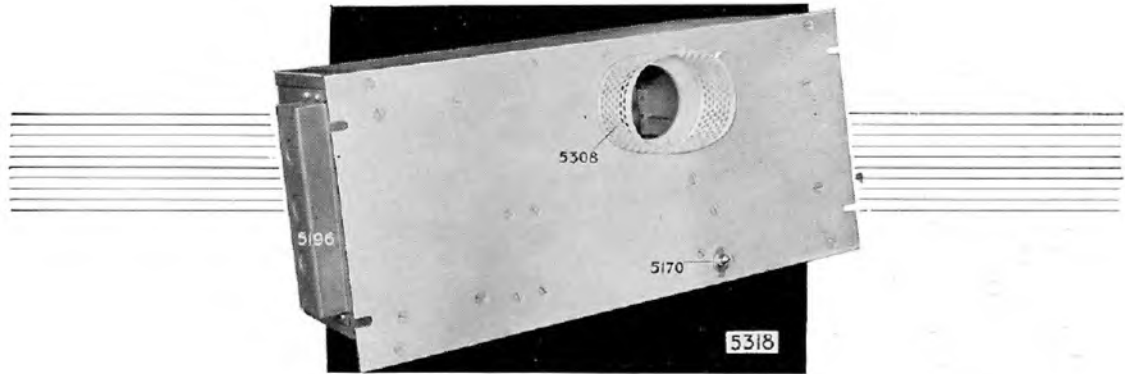


Oblique right-hand view of the interior of power amplifier 5174 or 5381 showing the disposition of the component parts on the panel and in particular voltage divider 5181.

instead of for a power supply having a frequency of 50 to 60 cycles. The component parts for power amplifier 5381 are also identical with the component parts for amplifier 5174, under which such component parts are listed in detail with the exception of power transformer. The correct power transformer 5395 for amplifier 5381 is listed below.

5395 POWER TRANSFORMER (Code Word—MACAO) \$65.00

Power transformer 5395 is for operation from a 110 volt 25 to 40 cycle, single phase alternating current power supply line. It is supplied with a switch for adjusting the output of the transformer, depending upon the voltage of the input which voltage may vary when the transformer is supplied by the alternating current power lines throughout different parts of the country.



INTERMEDIATE POWER SUPPLY PANEL

5318 INTERMEDIATE POWER SUPPLY PANEL FOR 110 VOLT 50 TO 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—LAUGH) \$200.00

Intermediate power supply panel 5318 is a component part of "Standard" PHONOFILM amplifier 5141 (see page C-4) and supplies both filament and plate current to intermediate Amplifier 5315 or 5187.

The power supply panel requires the use of one type '80 full wave rectifier tube (catalog number E600-23) for changing the incoming power supply of 110 volt 50 to 60 cycle, single phase alternating current (after transformation) to the correct voltage values for the plate circuits of the intermediate amplifier.

A toggle switch is provided at the bottom center of the panel enabling the power supply to the panel itself to be turned "on" and "off" independent of the main power switch on the power control panel 5207 (see pages C-22, C-23 and C-24).

Overall dimensions: nineteen (19) inches wide by eight and three-quarters (8¾) inches high by ten and one-half (10½) inches deep. Panel dimensions: nineteen (19) inches wide by eight and three-quarters (8¾) inches high. Net weight: forty (40) pounds. Shipping weight: forty-eight (48) pounds. See note under HB8F13N and W8OF13N on page C-8 for machine screws and washers with which to secure the panel to its panel rack. Four (4) each screws and washers are required.

5319 POWER TRANSFORMER (Code Word—LAUND) \$45.00

Power transformer 5319 is supplied with a four point adjustable switch for varying the output voltage from the transformer in order to maintain the output voltage at its desired values under conditions of different input voltages due to the variation of voltage of power supply lines throughout different sections of the country.

5320 DOUBLE REACTOR (Code Word—LAURA) \$14.00

5200 FILTER CONDENSER

See note under 5159 below.

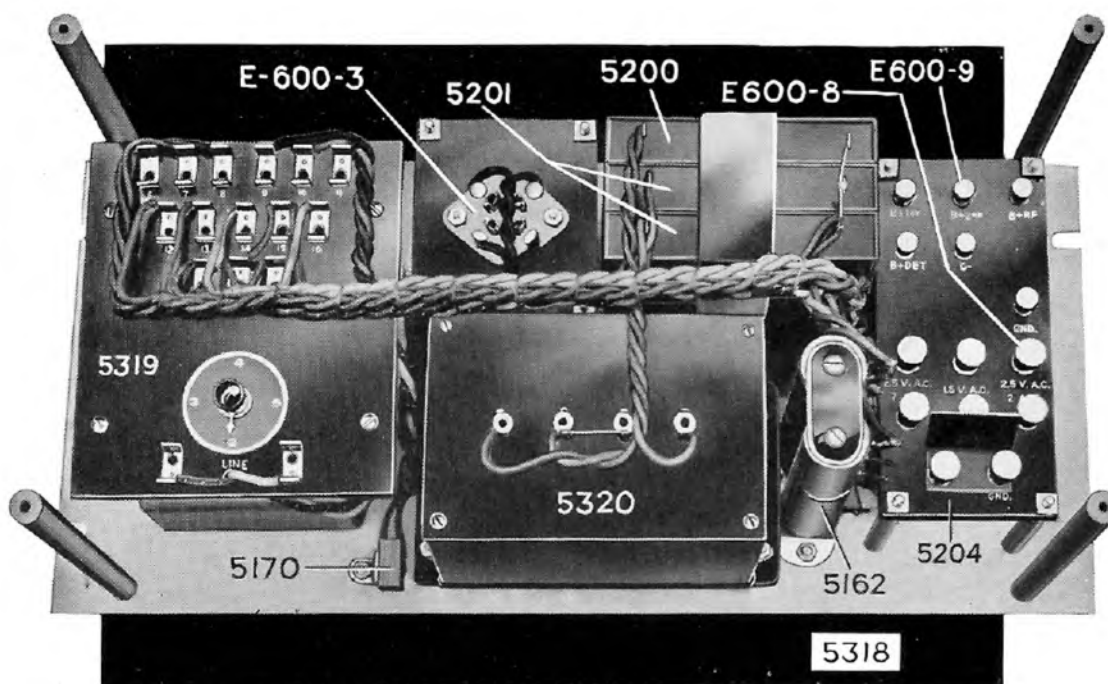
5201 FILTER CONDENSER

See note under 5159 below.

5159 CONDENSER (Code Word—LIMIT) \$13.75

Original amplifiers 5318 were at one time supplied with condensers 5200 and 5201 above. If replacement is necessary order condenser 5159 which is an improved type and more desirable, and which takes the place of both condensers 5200 and 5201.

5162 VOLTAGE DIVIDER (Code Word—LAWNY) \$6.00

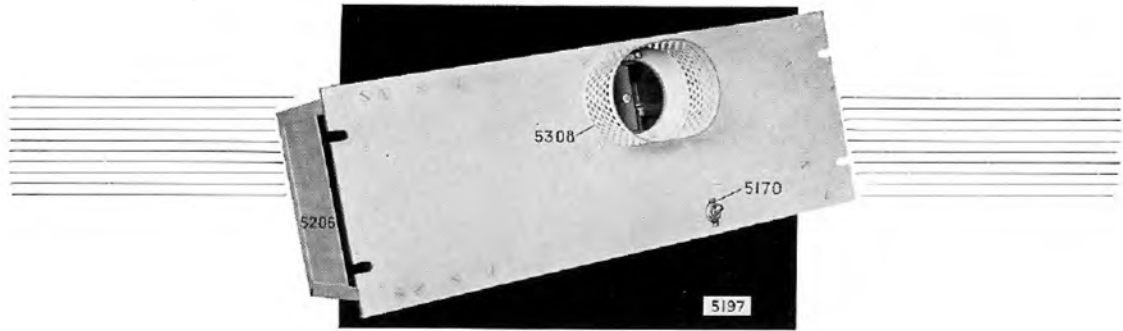


Interior view of power supply panel 5318 or 5383 showing disposition of component parts as mounted on the panel.

E600-3	TUBE SOCKET	(UX4 prong—Code Word—IANCH)	\$0.75
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	This toggle switch enables the power supply of the intermediate power supply panel to be turned "on" and "off" independent of the main control switch on power control panel 5207.		
5204	BINDING POST STRIP ASSEMBLY	(Code Word—LAYER)	\$4.25
E600-8	BINDING POSTS	(8 required—large—Code Word—LAPSE)	\$0.15
E600-9	BINDING POSTS	(6 required—small—Code Word—LAYNE)	\$0.15
5308	TUBE GUARD	(Code Word—LAZAR)	\$1.10
5196	POWER SUPPLY PANEL CASE	(Code Word—LEADE)	\$10.50

INTERMEDIATE POWER SUPPLY PANEL

5383	INTERMEDIATE POWER SUPPLY PANEL FOR 110 VOLT 25 TO 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	(Code Word—LETC)	\$225.00
	Intermediate power supply panel 5383 is a component part of "Standard" PHONO-FILM amplifier 5142 (see page C-5). This power supply panel is identical with intermediate power supply panel 5318 with the exception that it is for 110 volt 25 to 40 cycle, single phase alternating current power supply.		
	All other characteristics, specifications, dimensions, weights, etc., remain identical with those for power supply panel 5318. The only component part of power supply panel 5383 that differs from the component parts for power supply panel 5318 is the power transformer 5398 which is listed below.		
5398	POWER TRANSFORMER	(Code Word—MACAW)	\$65.00
	Power transformer 5398 is supplied with a four point adjustable switch for varying the output voltage from the transformer in order to maintain the output voltage at its desired values under conditions of different input voltages due to the variation of voltage of power supply lines throughout different sections of the country.		



INTERMEDIATE POWER SUPPLY PANEL

- 5197 INTERMEDIATE POWER SUPPLY PANEL FOR 110 VOLT 50 TO 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—LEARN) \$200.00**

Intermediate power supply panel 5197 is a component part of "Standard" PHONOFILM amplifier 5377 (see page C-5).

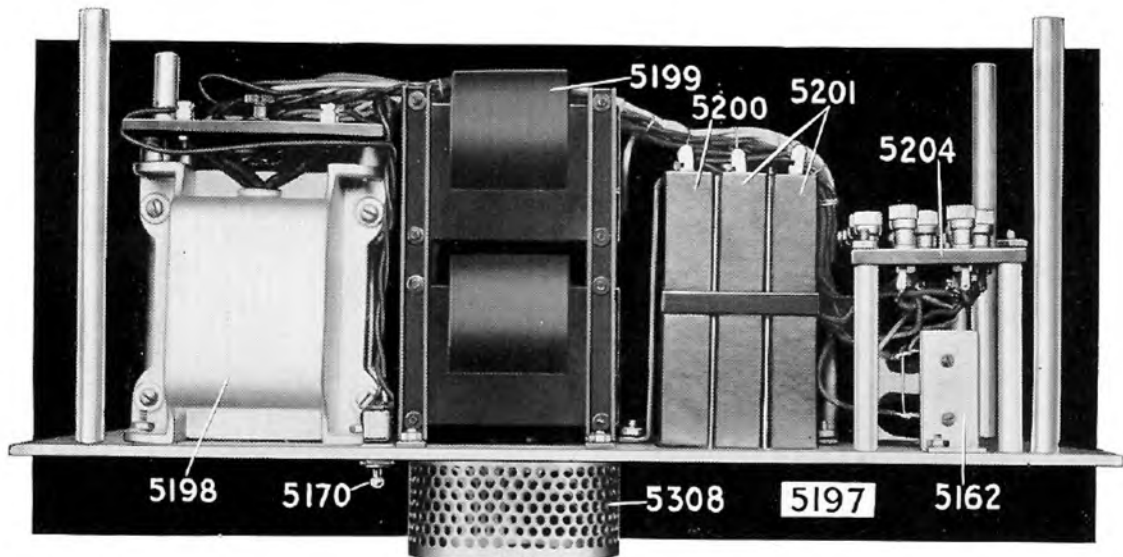
This power supply panel is practically identical in circuit arrangement with power supply panel 5318. The mechanical arrangement of the component parts however differ slightly and the panel is approximately one and three-quarters (1¾) inches less in height.

All other characteristics, specifications, dimensions, etc., remain identical with those for power supply panel 5318.

Overall dimensions: nineteen (19) inches wide by seven (7) inches high by nine and one-half (9½) inches deep. Dimensions of panel: nineteen (19) inches wide by seven (7) inches high. Net weight: thirty-eight (38) pounds. Shipping weight: forty-six (46) pounds. See note under HB8F13N and W80F13N on page C-8. Four (4) each machine screws and washers are required for each power supply panel.

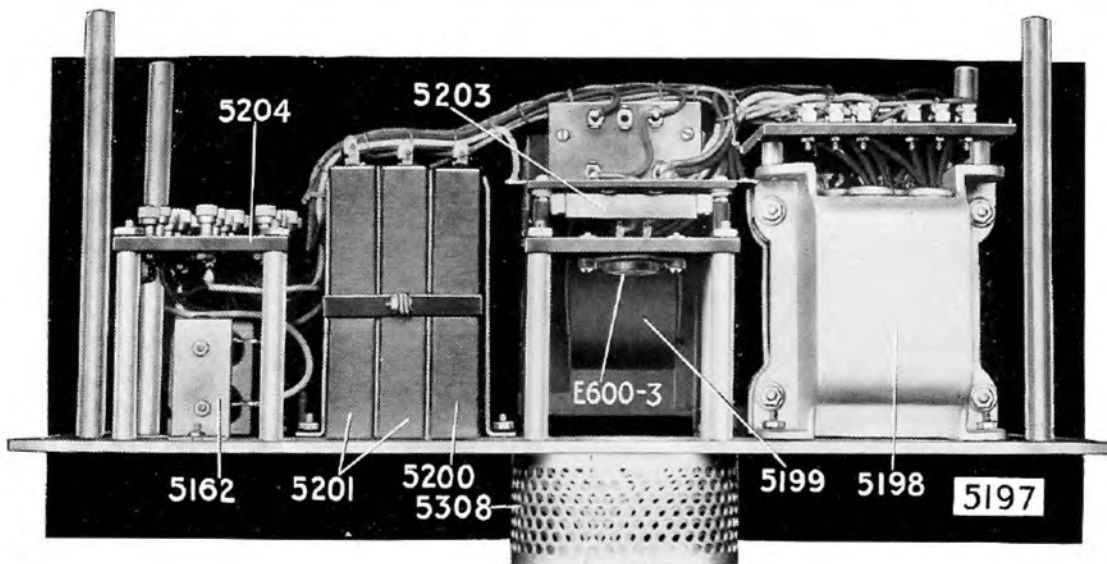
- 5198 POWER TRANSFORMER (Code Word—LEGAL) \$45.00**

For 110 volt 50 to 60 cycle, single phase alternating current power supply, provided with a switch allowing variation of output of transformer when supplied by variable input voltages as may be the case in various sections of the country, the current supply being obtained from regular electric power lines.



Interior edgewise view of power supply panel 5197 or 5382 showing in particular double reactor 5199.

5199	DOUBLE REACTOR	(Code Word—LEGER)	\$14.00
5200	FILTER CONDENSER See note under 5159 below.		
5201	FILTER CONDENSER See note under 5159 below.		
5159	CONDENSER	(Code Word—LIMIT)	\$13.75
	Original amplifiers 5318 were at one time supplied with condensers 5200 and 5201 above. If replacement is necessary order condenser 5159 which is an improved type and more desirable, and which takes the place of both condenser 5200 and 5201.		
5202	VOLTAGE DIVIDER Original instruments used 5202 mounted horizontally and having either one or two resistors, as illustrated by the number 5162 (the number 5162 is used to designate the correct voltage divider to be used for replacement although the illustration shows the old type 5202 voltage divider) which shows the double resistor type. See note under 5162 below.		
5162	VOLTAGE DIVIDER	(Code Word—LAWNY)	\$6.00
	If voltage divider resistor 5202 (illustrated as number 5162 in the photographs) needs to be replaced order resistor 5162 which is not correctly illustrated in the interior illustrations of amplifier 5197 but is illustrated correctly in amplifier 5318 on page C-16. Order voltage divider 5162 in all cases and mount on panel in a vertical position.		
5203	RESISTOR	(Code Word—LEITH)	\$4.50
E600-3	TUBE SOCKET	(UX4 prong—Code Word—LANCH)	\$0.75
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	An auxiliary switch is provided so that the power control of amplifier 5309 is independent of the power control panel 5207.		
E600-8	BINDING POSTS	(8 required—large—Code Word—LAPSE)	\$0.15
E600-9	BINDING POSTS	(6 required—small—Code Word—LAYNE)	\$0.15
5204	BINDING POST STRIP ASSEMBLY	(Code Word—LAYER)	\$4.25
5308	TUBE GUARD	(Code Word—LAZAR)	\$1.10
5206	POWER SUPPLY PANEL CASE	(Code Word—LEMUR)	\$10.50



Interior edgewise view of power supply panel 5197 or 5382 showing in particular resistor 5203.

INTERMEDIATE POWER SUPPLY PANEL

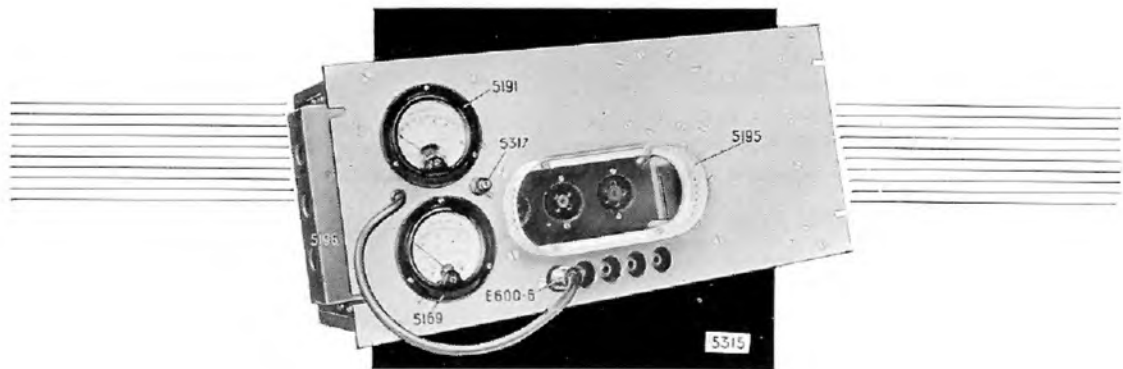
- 5382** **INTERMEDIATE POWER SUPPLY PANEL FOR 110 VOLT 25 TO 40 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—LEROT) \$225.00**

Intermediate power supply panel 5382 is a component part of "Standard" PHONOFILM amplifier 5376 (see page C-5).

All other characteristics, specifications, dimensions, weights, etc., remain identical with those for power supply panel 5197. The only component part of power supply panel 5382 that differs from the component parts for power supply panel 5197 is the power transformer 5396 which is listed below.

- 5396** **POWER TRANSFORMER Code Word— MACED) \$65.00**

For 110 volt 25 to 40 cycle, single phase alternating current power supply, provided with a switch allowing variation of output voltage of transformer when supplied by variable input voltages, as may be the case in various sections of the country, the current supply being obtained from regular electric power lines.



INTERMEDIATE AMPLIFIER

- 5315** **INTERMEDIATE AMPLIFIER (Code Word—LETUP) \$230.00**

The intermediate amplifier 5315 is a component part of the "Standard" PHONOFILM amplifiers 5141 and 5142 (see page C-4 and C-5).

This amplifier utilizes one type '27 amplifier tube (E600-20) and two type '26 amplifier tubes (E600-19). Please refer to page G-3 of section "G" of this parts-catalog for separate listing of vacuum tubes.

The purpose of the intermediate amplifier is to amplify the electrical energy delivered to it by the photo-cell voltage amplifier 5257 (see page C-31) to a satisfactory power level to energize power amplifiers 5309 or 5174, both amplifiers and the intermediate amplifier being component parts of a complete "Standard" PHONOFILM amplifier.

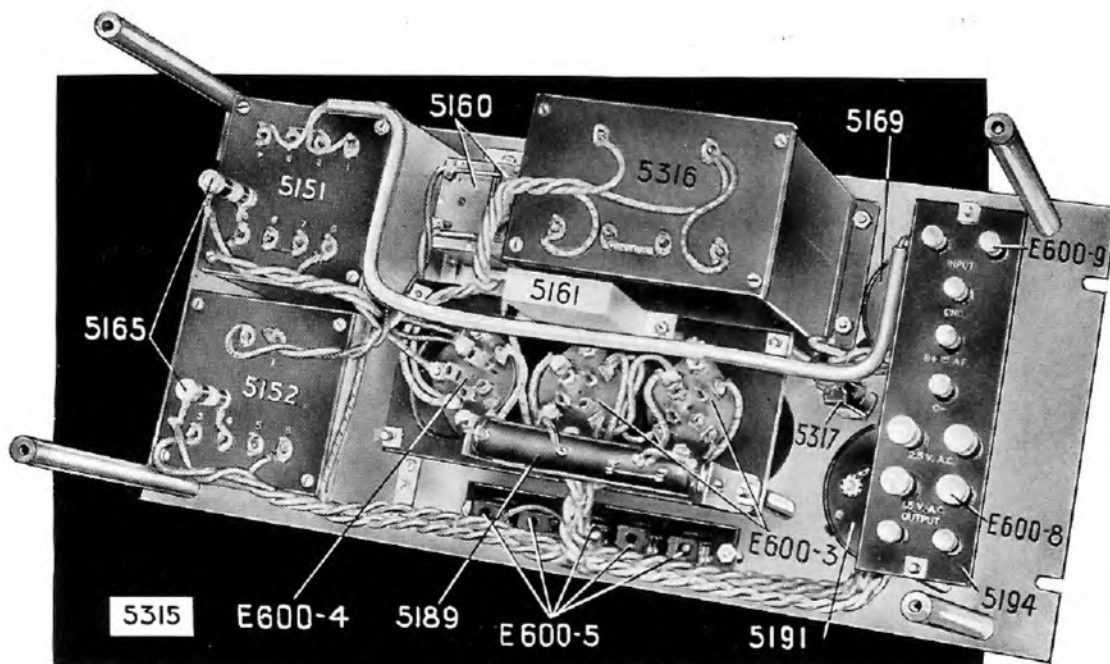
The filament and plate current required by the tubes of the intermediate amplifier 5315 are supplied from the power supply panels 5318 or 5197 (See pages C-15, and C-17).

Two meters are provided, one being an alternating current meter reading in volts for measuring the voltage across the tube filaments and a direct current milliammeter for reading the plate circuit current of each of the amplifier tubes. These various meter readings are facilitated by the use of the jacks E600-5 and jack plug E600-6 and switch 5317, as may be seen designated on the interior and exterior illustrations.

Overall dimensions: nineteen (19) inches wide by eight and three-quarters ($8\frac{3}{4}$) inches high by nine and one-half ($9\frac{1}{2}$) inches deep. Dimensions of panel: nineteen (19) inches long by eight and three-quarters ($8\frac{3}{4}$) inches high. Net weight: thirty-eight (38) pounds. Shipping weight: forty-four (44) pounds.

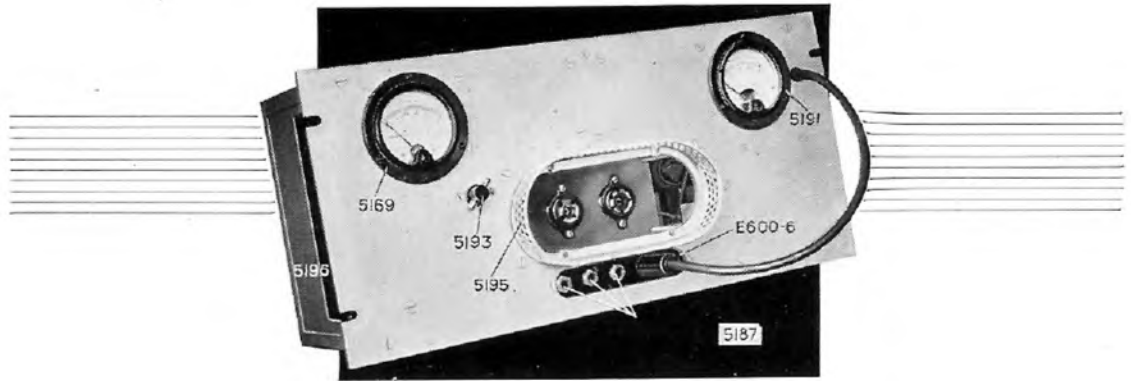
Intermediate amplifier 5315 is secured to its panel rack by four (4) each machine screws and washers. See listing of machine screws HB8F13N and washers W80F13N on page C-8 of this parts-catalog.

- 5151** **INPUT TRANSFORMER (Code Word—LEUCO) \$27.50**



Oblique rear view of the interior of intermediate amplifier 5315 showing the disposition of the component parts mounted on the panel.

5152	INTERSTAGE TRANSFORMER	(Code Word—LEVEL)	\$22.00
5316	DOUBLE REACTOR	(Code Word—LEVIN)	\$30.00
5160	CONDENSERS	(2 required—Code Word—LAKER)	\$1.90
5161	CONDENSER	(Code Word—LEWES)	\$1.85
5189	RESISTOR	(Code Word—LEYTE)	\$4.50
	Complete assembly with mounting brackets.		
5165	RESISTORS	(2 required—Code Word—LHASA)	\$1.00
E600-3	TUBE SOCKETS (2 required—UX4 prong—Code Word—LANCH)		\$0.75
E600-4	TUBE SOCKET	(Code Word—LIANA)	\$0.75
E600-5	JACKS	(5 required—Code Word—LANDE)	\$0.70
E600-6	JACK PLUG	(Code Word—LANKY)	\$0.75
5191	MILLIAMETER	(Code Word—LIARD)	\$12.00
	Milliammeter 5191 reads 0 to 10 milliamperes direct current and is used for measuring the plate circuit current of each of the amplifier tubes.		
5169	VOLTMETER	(Code Word—LIBAU)	\$12.00
	Voltmeter 5169 reads 0 to 3 volts alternating current and is used together with switch 5317 to read the voltage across the filament of both the type '26 and '27 amplifier tubes.		
5317	SWITCH	(Code Word—LIBEL)	\$1.25
E600-8	BINDING POSTS	(4 required—large—Code Word—LAPSE)	\$0.15
E600-9	BINDING POSTS	(7 required—small—Code Word—LAYNE)	\$0.15
5194	BINDING POST STRIP ASSEMBLY	(Code Word—LIBYA)	\$3.50
5195	TUBE GUARD	(Code Word—LICHT)	\$2.50
5196	AMPLIFIER CASE	(Code Word—LEADE)	\$11.50



INTERMEDIATE AMPLIFIER

5187 INTERMEDIATE AMPLIFIER (Code Word—LIEGE) \$230.00

Intermediate amplifier 5187 is a component part of "Standard" PHONOFILM amplifier 5376 and 5377 (see page C-5).

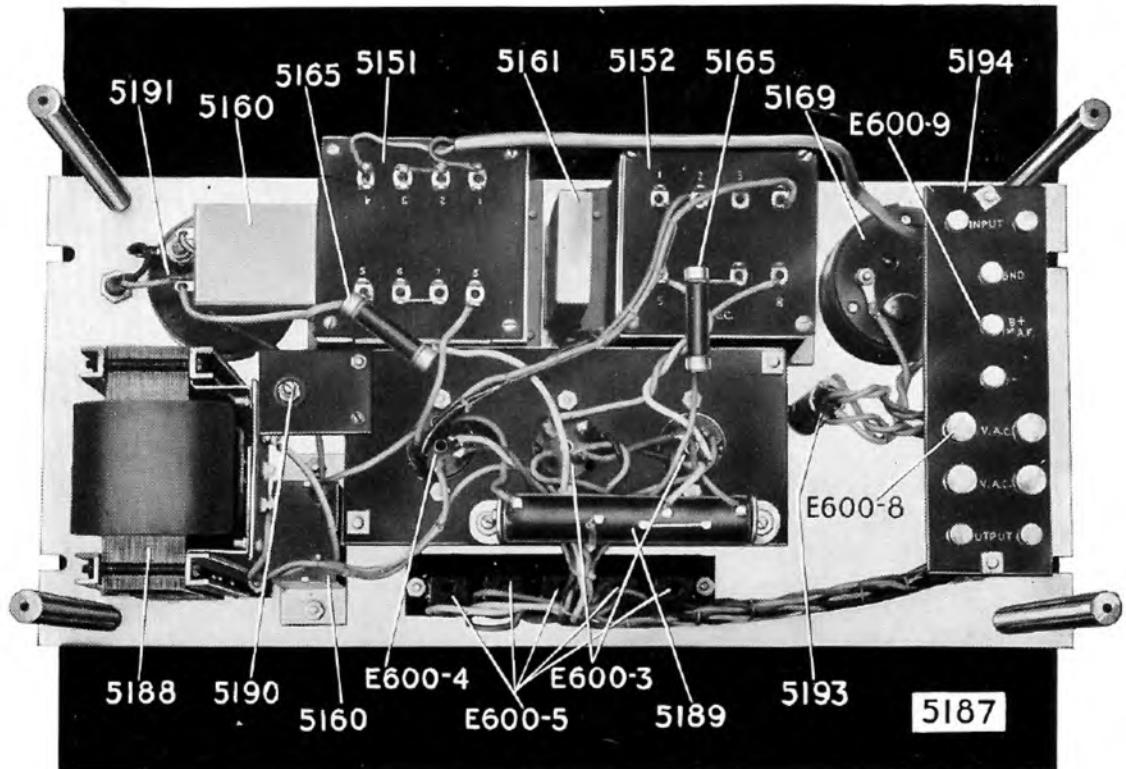
The circuit arrangement of amplifier 5187 is practically identical with the circuit arrangement of amplifier 5315 but, as will be seen from both the exterior and interior illustrations, the mechanical disposition of the parts is different and some of the component parts are not housed in cases as are those used on amplifier 5315. The purpose of amplifier 5187 is the same as that of amplifier 5315.

All other characteristics, specifications, dimensions, weights, etc., remain identical with those for amplifier 5315.

Intermediate amplifier 5187 is secured to its panel rack by four (4) each machine screws and washers. See listing of machine screws HB8F13N and washers W80F13N on page C-8 of this parts-catalog.

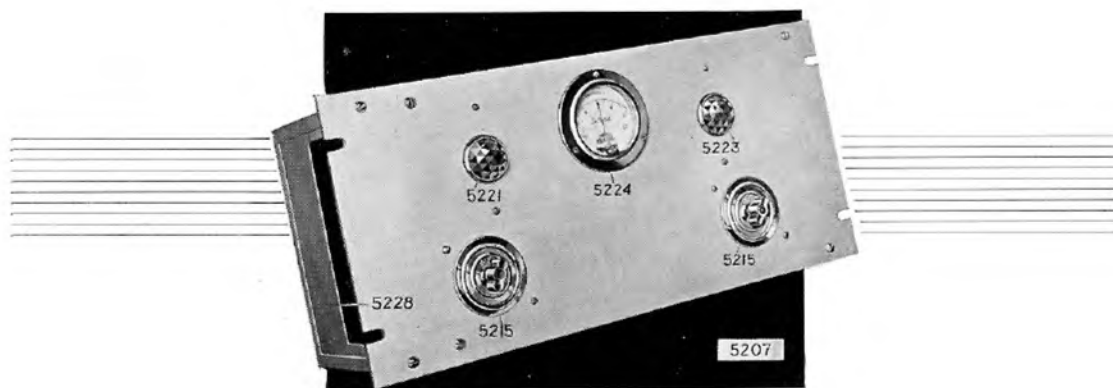
5151 INPUT TRANSFORMER (Code Word—LEUCO) \$27.50

5152 INTERSTAGE TRANSFORMER (Code Word—LEVEL) \$22.00



Rear view of intermediate amplifier 5187 showing the disposition of the component parts mounted on the panel.

5188	DOUBLE REACTOR	(Code Word— LEMAN)	\$30.00
5160	CONDENSERS	(2 required—Code Word— LAKER)	\$1.00
5161	CONDENSER	(Code Word— LEWES)	\$1.85
5189	RESISTOR	(Code Word— LEYTE)	\$4.50
	Complete assembly with mounting brackets.		
5165	RESISTORS	(2 required—Code Word— LHASA)	\$1.00
5190	POTENTIOMETER	(Code Word— MACON)	\$1.50
E600-3	TUBE SOCKETS (2 required—UX4 prong—Code Word— LANCH)		\$0.75
E600-4	TUBE SOCKET	(UY5 prong—Code Word— LIANA)	\$0.75
E600-5	JACKS	(5 required—Code Word— LANDE)	\$0.70
E600-6	JACK PLUG	(Code Word— LANKY)	\$0.75
5191	MILLIAMETER	(Code Word— LIARD)	\$12.00
	Milliammeter 5191 reads 0 to 10 milliamperes direct current and is used for measuring the plate circuit current of each of the amplifier tubes.		
5169	VOLTMETER	(Code Word— LIBAU)	\$12.00
	Voltmeter 5169 reads 0 to 3 volts alternating current and is used together with switch 5193 to read the filament current of both the type '26 and '27 amplifier tubes.		
5193	SWITCH	(Code Word— MAFIA)	\$4.50
E600-8	BINDING POSTS	(4 required—large—Code Word— LAPSE)	\$0.15
E600-9	BINDING POSTS	(7 required—small—Code Word— LAYNE)	\$0.15
5194	BINDING POST STRIP ASSEMBLY	(Code Word— LIBYA)	\$3.50
5195	TUBE GUARD	(Code Word— LICHT)	\$2.50
5196	AMPLIFIER CASE	(Code Word— LEADE)	\$11.50



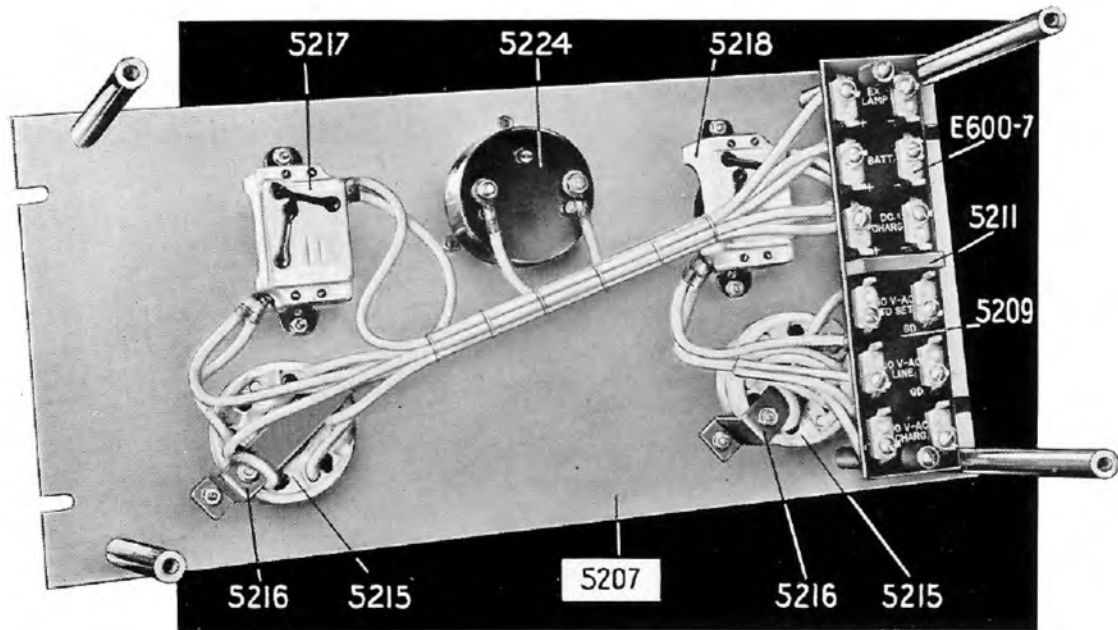
POWER CONTROL PANEL

5207 **POWER CONTROL PANEL** (Code Word—**LOWPE**) **\$60.00**

Power control panel 5207 is a component part of "Standard" PHONOFILM amplifiers 5141, 5142, 5377 and 5376, (see pages C-4 and C-5) and of "Junior" PHONOFILM amplifiers 5145, 5146, 5378 and 5379 (see pages C-6 and C-7).

The control panel 5207 is the first instrument into which the alternating current power supply is fed.

The panel is provided with a main alternating current power control switch and a main direct current power control switch; each switch has two "off" and two "on" positions. The alternating current switch when "on" number one position closes the alternating current power circuits to the amplifier panels and when on the number two "on" position the alternating current circuits to the amplifiers are broken and transferred to the battery charger.



Oblique rear view of the interior of power control panel 5207 showing the disposition of component parts mounted on the panel.

The direct current power control switch when on number one "on" position closes the direct current circuits feeding the exciting lamps in the PHONOFILM ATTACHMENT and when on the number two "on" position the output circuit of the battery charger which is connected to storage battery 5302, is closed.

In other words, by the use of these two power control switches both on number one "on" positions, alternating current is fed to the amplifiers and other alternating current instruments, and direct current is fed to the exciting lamps in the PHONOFILM ATTACHMENTS, and to the photo-cell voltage amplifier 5257. When both power control switches are on number two "on" positions no alternating current is fed to the amplifier panels, etc., but instead the alternating current circuit to the input of the battery charger is closed and in like manner the direct current switch closes the output circuit of the battery charger so that the storage battery 5302 is being charged.

Overall dimensions: nineteen (19) inches wide by eight and three-quarters (8¾) inches high by eight and one-half (8½) inches deep. Panel dimensions: nineteen (19) inches wide by eight and three-quarters (8¾) inches high. Net weight: twelve and one-half (12½) pounds. Shipping weight: seventeen (17) pounds.

Power control panel 5207 is secured to its panel rack by four (4) each machine screws and washers. See listing of machine screws HB8F13N and washers W80F13N on page C-8 of this parts-catalog.

5209	BINDING POST STRIP ASSEMBLY	(Code Word—LOYAL)	\$4.00
E600-7	BINDING POSTS	(12 required—Code Word—LISTZ)	\$0.20
5211	BARRIER	(Code Word—LOZEL)	\$0.25
5215	SNAP SWITCHES	(2 required—Code Word—LUCAN)	\$3.50
5216	BRACKETS	(Code Word—LUCIA)	\$0.35
	One bracket 5216 is used for mounting each snap switch 5215.		
5217	RECEPTACLE	(Code Word—LUCRE)	\$0.80
	Complete with candelabra socket for E600-27 bulb.		
5218	RECEPTACLE	(Code Word—LUNAR)	\$0.70
	Complete with miniature socket for E600-26 bulb.		
E600-26	ELECTRIC BULB	(Code Word—YESTY)	\$0.30
	A 12 volt electric bulb having a miniature base to fit receptacle 5218 (see page G-5 of section "G" for detailed listing of bulb).		
E600-27	ELECTRIC BULB	(Code Word—YEUCK)	\$0.40
	A 110 volt electric bulb with candelabra base to fit receptacle 5217 (see page G-5 of section "G" for detailed listing of bulb).		

5223	GREEN BULL'S EYE (Code Word—LUNDY)	\$0.30
	When bull's eye 5223 is illuminated due to operation of switches on the front of the control panel it indicates closed direct current circuits.	
5221	RED BULL'S EYE (Code Word—LUPIN)	\$0.30
	When bull's eye 5221 is illuminated due to operation of switches on the front of the control panel it indicates closed alternating current circuits.	
5224	AMMETER (Code Word—LUPUS)	\$12.00
	A direct current ammeter reading 20-0-20 amperes indicating the "charge" or "discharge" circuit conditions of storage battery 5302.	
5228	CONTROL PANEL CASE (Code Word—LURCH)	\$10.50



AMPLIFIER

5149	AMPLIFIER FOR 110 VOLT 50 TO 60 CYCLE SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	\$430.00
	(Code Word—LIGAN)	

Amplifier 5149 is a component part of "Junior" PHONOFILM amplifier 5145 (see page C-6 of the PHONOFILM parts-catalog).

This amplifier uses two type '27 tubes (catalog number E600-20), two type '45 tubes (catalog number E600-21), and one type '80 rectifier tube (catalog number E600-23). The type '80 full wave rectifier tube is used to supply plate current to the amplifier tubes. See page G-3 of section "G" for detailed listing of vacuum tubes.

Two meters are provided in amplifier 5149, one of them an alternating current voltmeter reading 0 to 3 volts for measuring the voltage across the filaments of the type '27 tubes, and the other a direct current milliammeter reading 0 to 50 milliamperes for measuring the plate current of each of the type '27 and type '45 amplifier tubes and also for checking the absence of undesirable grid circuit current.

The electrical characteristics of amplifier 5149 are such as to provide an undistorted power output of sufficient volume to be satisfactory for theatres or auditoriums having seating capacities up to 900 persons.

A limited number of amplifiers 5149 were supplied without the two meters and the

5150	POWER TRANSFORMER	(Code Word—LIGHT)	\$45.00
	For 110 volt 50 to 60 cycle, single phase alternating current power supply. Provided with a four point adjustable switch for varying the output voltage from the transformer in order to maintain the output voltage at its desired values under conditions of different input voltages due to the variation of voltage of power supply lines throughout different sections of the country.		
5151	INPUT TRANSFORMER	(Code Word—LEUCO)	\$27.50
5152	INTERSTAGE TRANSFORMER	(Code Word—LEVEL)	\$22.00
5153	OUTPUT TRANSFORMER	(Code Word—LAIST)	\$25.00
	Some of the first amplifiers 5149 were supplied with an output transformer 5153 having a square case rather than the oval case transformer 5153. If your amplifier has a transformer differing in appearance from transformer 5153, order 5153, as it is an improved transformer and more desirable.		
5154	DOUBLE REACTOR	(Code Word—LIGNI)	\$14.00
5155	DOUBLE REACTOR	(Code Word—LIKEN)	\$50.00
	Early amplifiers 5149 were supplied with a double reactor identical in electric characteristics with double reactor 5155 but without the case which acts as a shield. If your amplifier is provided with this open type double reactor, order reactor 5155, as it is an improved type and more desirable.		
5156	REACTOR	(Code Word—LILAC)	\$6.00
5157	REACTOR	(Code Word—LIMBO)	\$8.00
5158	REACTOR	(Code Word—LIMEN)	\$8.00
5159	CONDENSER	(Code Word—LIMIT)	\$13.75
5160	CONDENSERS	(5 required—Code Word—LAKER)	\$1.90
5161	CONDENSERS	(2 required—Code Word—LEWES)	\$1.85
5162	VOLTAGE DIVIDER	(Code Word—LAWNY)	\$6.00
5163	RESISTOR ASSEMBLY	(Code Word—LINCH)	\$2.00
	Resistor 5163 is complete with brackets and tie-rod.		
5164	RESISTOR ASSEMBLY	(Code Word—LINGO)	\$2.00
	Resistor 5164 is complete with brackets and tie-rod. Resistor 5164 was originally supplied as two resistors but is now supplied as a single resistor.		
5165	RESISTORS	(4 required—Code Word—LHASA)	\$1.00
5166	POTENTIOMETER	(Code Word—LINKS)	\$2.25
	Used for securing the desired potentials on the grids of type '45 amplifier tubes. See note under 5167 below.		
5167	POTENTIOMETER	(Code Word—LAMIA)	\$1.75
	Used for equalizing the resulting plate current output of each type '45 amplifier tube, this reading being indicated on milliammeter 5168 and depending upon the adjustment of both this potentiometer 5167 and upon the adjustment of potentiometer 5166.		
E600-3	TUBE SOCKETS (3 required—UX4 prong—Code Word—LANCH)		\$0.75
E600-4	TUBE SOCKETS (2 required—UY5 prong—Code Word—LIANA)		\$0.75
E600-5	JACKS	(9 required—Code Word—LANDE)	\$0.70
E600-6	JACK PLUG	(Code Word—LANKY)	\$0.75
5168	MILLIAMETER	(Code Word—LIPSK)	\$12.00
	Milliammeter 5168 is a direct current instrument reading 0 to 50 milliamperes and is used for measuring the plate circuit current of each amplifier tube.		
5169	VOLTMETER	(Code Word—LIBAU)	\$12.00
	Voltmeter 5169 is an alternating current instrument reading 0 to 3 volts for measuring the filament current of the type '27 amplifier tubes.		
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	Toggle switch 5170 is for turning "on" and "off" the power supply for amplifier 5149 independent of the power control panel 5207.		
5171	BINDING POST STRIP ASSEMBLY	(Code Word—LISLE)	\$4.25

E600-7	BINDING POSTS	(14 required—Code Word—LISTZ)	\$0.20
5306	TUBE GUARD	(Code Word—LITER)	\$2.00
5308	TUBE GUARD	(Code Word—LAZAR)	\$1.70
5307	AMPLIFIER CASE	(Code Word—LITHE)	\$11.00

AMPLIFIER

5172	AMPLIFIER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	(Code Word—LIVER)	\$455.00
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Amplifier 5172 is a component part of "Junior" PHONOFILM amplifier 5146 (see page C-7 of this PHONOFILM parts-catalog).

This amplifier is absolutely identical with amplifier 5149 except that it is for 110 volt 25 to 40 cycle, single phase alternating current power supply.

All other characteristics, specifications, dimensions, weights, etc., remain identical with those for amplifier 5149. All component parts for amplifier 5172 are also identical with those suitable for amplifier 5149 except the power transformer 5173 which is listed separately below.

5173	POWER TRANSFORMER	(Code Word—MACKI)	\$65.00
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Power transformer 5173 is for 110 volt 25 to 40 cycle, single phase alternating current power supply and is provided with a switch for adjusting the output of the transformer, depending upon the voltage of the input which voltage may vary when the transformer is supplied by alternating current power lines throughout different parts of the country.



AMPLIFIER

5322	AMPLIFIER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	(Code Word—LIVID)	\$430.00
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Amplifier 5322 is a component part of "Junior" PHONOFILM amplifier 5379 (see page C-7). This amplifier requires the following vacuum tubes: two type '27 amplifier tubes (catalog number E600-20); two type '10 amplifier tubes (catalog number E600-18); one type '81 rectifier tube (catalog number E600-24). See page G-3 of section "G" of this parts-catalog for details of vacuum tubes.

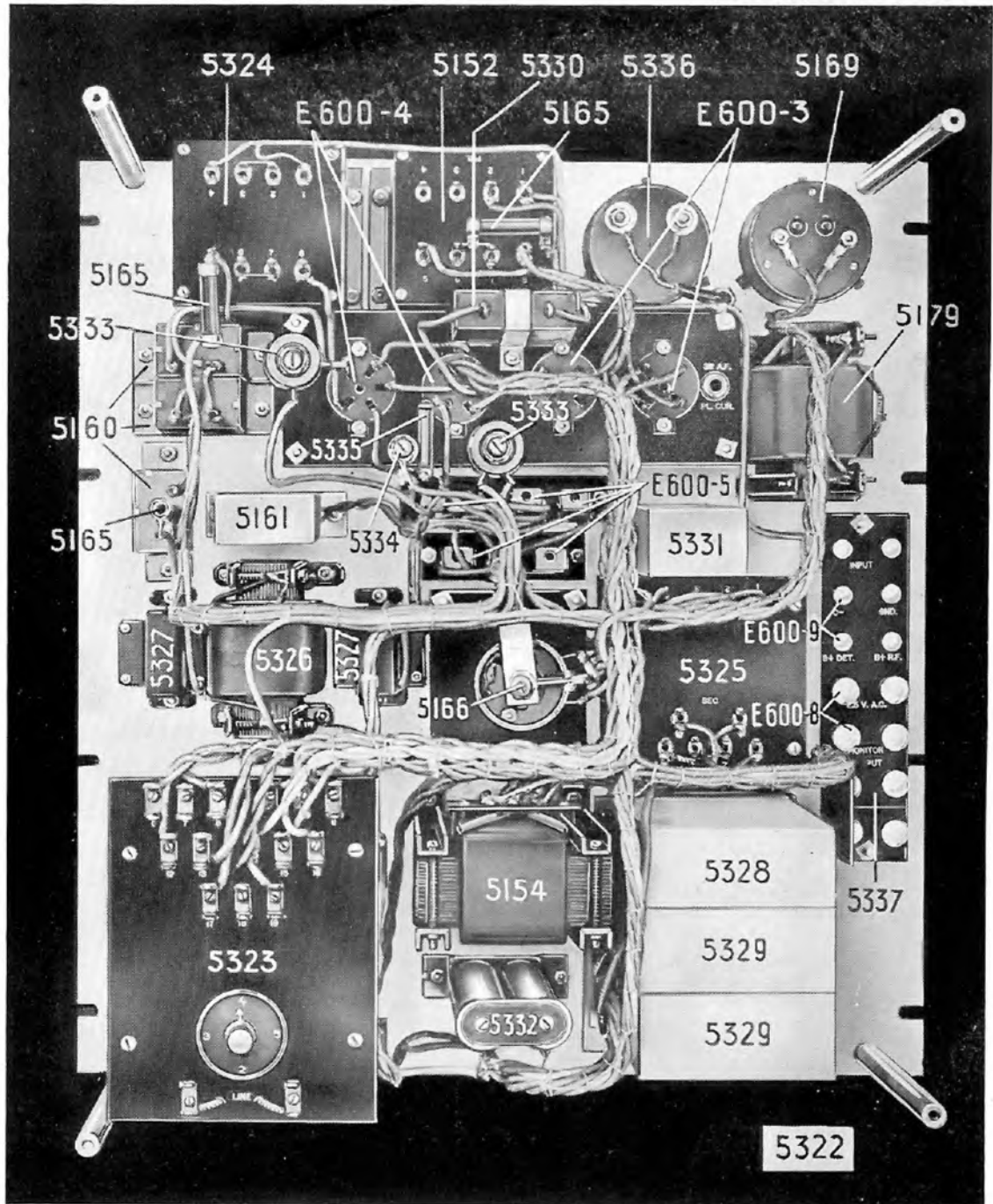
The type '81 rectifier tube provides the plate current for the amplifier tubes. The filament current for all of the tubes used in amplifier 5322 is supplied from the power transformer.

Two meters are supplied, an alternating current voltmeter reading 0 to 3 volts for measuring the filament current across the type '27 amplifier tubes and a direct current milliammeter reading 0 to 25 milliamperes, for measuring the plate circuit current of each of the amplifier tubes and for checking the absence of objectional grid circuit currents. This amplifier has extremely satisfactory electrical characteristics providing sufficient volume to be satisfactory for use in theatres or auditoriums having seating capacities up to 900 persons.

Overall dimensions: nineteen (19) inches wide by twenty-one (21) inches high by ten and one-half (10½) inches deep. Dimensions of panel: Nineteen (19) inches long by twenty-one (21) inches high. Net weight: ninety (90) pounds. Shipping weight: two hundred fifty (250) pounds.

Amplifier 5322 is secured to its panel rack by eight (8) each machine screws and washers. See page C-8 for details of machine screws HB8F13N and washers W80F13N.

5323	POWER TRANSFORMER (Code Word— LOACH)	\$45.00
	For 110 volt 50 to 60 cycle, single phase alternating current power supply. Provided with a switch for adjusting the output voltage of the transformer, depending upon the voltage of the input which voltage may vary when the transformer is supplied by the alternating current power lines throughout different parts of the country.	
5324	INPUT TRANSFORMER	
	See note under 5151 below.	
5151	INPUT TRANSFORMER (Code Word— LEUCO)	\$27.50
	Original amplifiers 5322 were at one time supplied with input transformer 5324 above. If replacement is necessary order transformer 5151 which is an improved type .	
5152	INTERSTAGE TRANSFORMER (Code Word— LEVEL)	\$22.00
5325	OUTPUT TRANSFORMER (Code Word— LOCAL)	\$25.00
5154	DOUBLE REACTOR (Code Word— LIGNI)	\$14.00
5179	REACTOR (Code Word— LATHE)	\$6.00
5326	REACTOR (Code Word— LOCUS)	\$20.00
5327	REACTOR	
	See note under 5157 below.	
5157	REACTOR (2 required—Code Word— LIMBO)	\$8.00
	Original amplifiers 5322 were at one time supplied with reactor 5327 above. If replacement is necessary order reactor 5157 which is an improved type.	
5328	CONDENSER	
	See note under 5205 condenser below.	
5205	CONDENSER (Code Word— LOCKE)	\$8.00
	Original amplifiers 5322 were at one time supplied with condenser 5328 above. If replacement is necessary order condenser 5205 which is an improved type.	
5329	CONDENSER	
	See note under 5234 below.	
5234	CONDENSER (2 required—Code Word— LOGAN)	\$7.25
	Original amplifiers 5322 were at one time supplied with condensers 5329 above. If replacement is necessary order condensers 5234 which are an improved type.	
5330	CONDENSER (Code Word— LOGIC)	\$0.75
5160	CONDENSER (3 required—Code Word— LAKER)	\$1.90
5161	CONDENSER (Code Word— LEWES)	\$1.85
5331	CONDENSER (Code Word— LOGUE)	\$2.90
5332	VOLTAGE DIVIDER ASSEMBLY (Code Word— LOIRE)	\$6.00
5333	RESISTORS	
	See note under 5305 below.	



Rear view of the interior of amplifier 5322, showing the disposition of the component parts mounted on the panel and designating in detail the correct catalog numbers of all of the component parts. Please note in particular the difference between the mechanical disposition of the component parts of amplifier 5149, as illustrated and designated on page C-25, and those of this amplifier 5322.

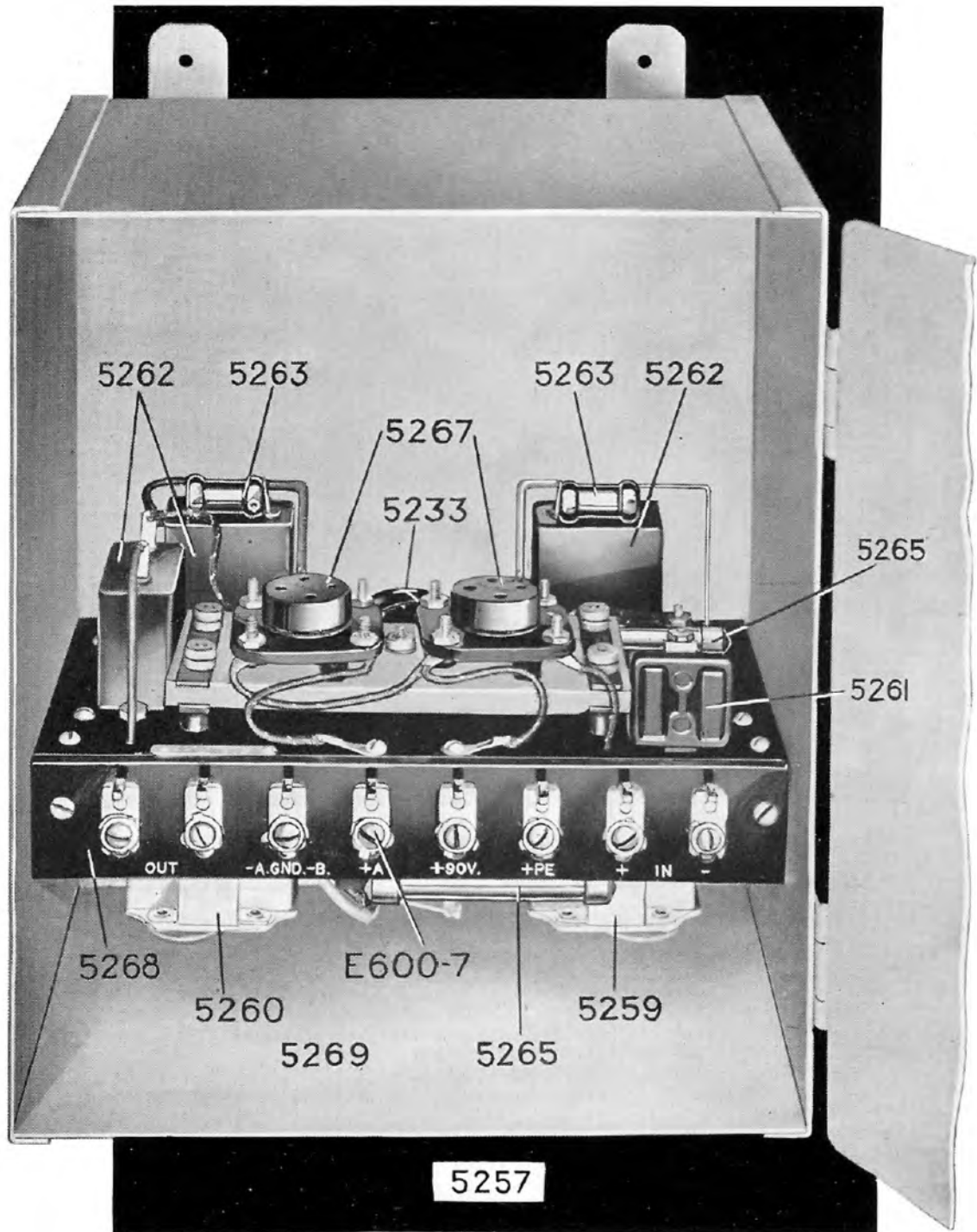
5305	RESISTORS	(2 required—Code Word—LONGE)	\$1.00
	Original amplifiers 5322 were at one time supplied with resistors 5333 above. If replacement is necessary order resistors 5305 which are improved types.		
5165	RESISTORS	(2 required—Code Word—LIASA)	\$1.00
5334	RESISTOR	(Code Word—LOPEZ)	\$1.00

5335	RESISTOR	(Code Word—LORCA)	\$1.00
5166	POTENTIOMETER	(Code Word—LINKS)	\$2.25
E600-3	TUBE SOCKETS (3 required—UX4 prong—Code Word—LANCH)		\$0.75
E600-4	TUBE SOCKETS (2 required—UY5 prong—Code Word—LIANA)		\$0.75
E600-5	JACKS	(8 required—Code Word—LANDE)	\$0.70
E600-6	JACK PLUG	(Code Word—LANKY)	\$0.75
5336	MILLIAMETER	(Code Word—LOTAH)	\$12.00
	Milliammeter 5336 is a direct current instrument reading 0 to 25 milliamperes for measuring the plate circuit current of the amplifier tubes.		
5169	VOLTMETER	(Code Word—LIBAU)	\$12.00
	Voltmeter 5169 is an alternating current instrument reading 0 to 3 volts for measuring the voltage across the filaments of the type '27 amplifier tubes.		
5170	TOGGLE SWITCH	(Code Word—LAPEL)	\$0.50
	Toggle switch 5170 is for turning "on" and "off" the power supply for amplifier 5322 independent of the power control panel 5207.		
5337	BINDING POST STRIP ASSEMBLY	(Code Word—LOTZE)	\$4.25
E600-8	BINDING POSTS	(8 required—large—Code Word—LAPSE)	\$0.15
E600-9	BINDING POSTS	(6 required—small—Code Word—LAYNE)	\$0.15
5306	TUBE GUARD	(Code Word—LITER)	\$2.00
5308	TUBE GUARD	(Code Word—LAZAR)	\$1.70
5307	AMPLIFIER CASE	(Code Word—LITHE)	\$11.00

AMPLIFIER

5384	AMPLIFIER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY	(Code Word—LOWLY)	\$455.00
	Amplifier 5384 is a component part of "Junior" PHONOFILM amplifier 5378 (see page C-7). This amplifier is identical with amplifier 5322 with the exception that the power supply is for 110 volt 25 to 40 cycle, single phase alternating current. All other characteristics, specifications, dimensions, weights, etc., remain identical with those for amplifier 5322. All component parts for amplifier 5384 are also identical with those suitable for amplifier 5322 except the power transformer 5394 which is listed separately below.		
5394	POWER TRANSFORMER	(Code Word—MACLE)	\$65.00
	For 110 volt 25 to 40 cycle, single phase alternating current power supply. Provided with a switch for adjusting the output voltage of the transformer, depending upon the voltage of the input which voltage may vary when the transformer is supplied by the alternating current power lines throughout different parts of the country.		

PLEASE READ ALL NOTES WITH REFERENCE TO THE USE OF PARTS-CATALOG AND ORDER SUCH PARTS AS MUST BE USED IN CONJUNCTION WITH THE SPECIFIC PARTS REQUIRED.

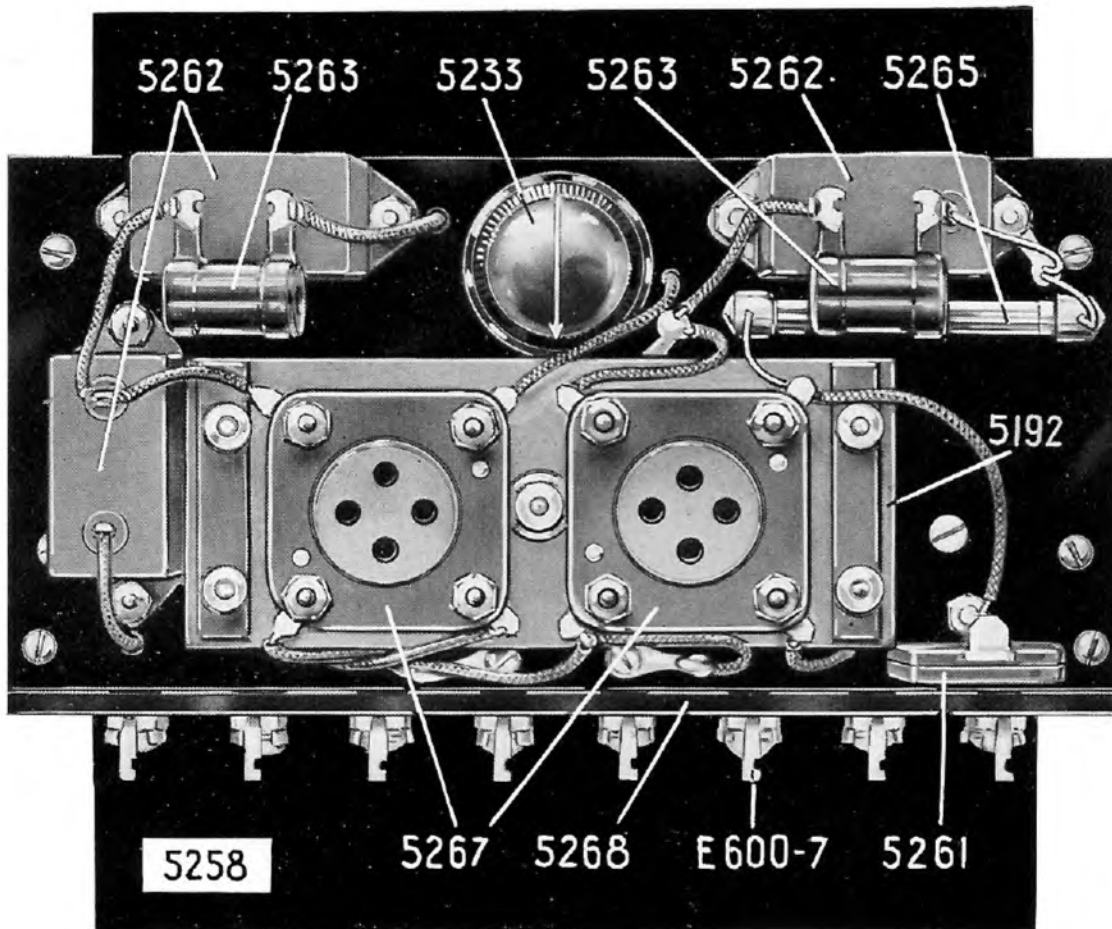


The above illustration pictures the photo-cell voltage amplifier 5257 in its case. The door has been partially cut away as shown at the right of the illustration and the illustration only shows the top and front side of the photo-cell amplifier chassis, the detailed top and bottom views of the chassis being shown by the illustrations on pages C-32 and C-33.

PHOTO-CELL VOLTAGE AMPLIFIER

5257 PHOTO-CELL VOLTAGE AMPLIFIER (Code Word—LURID) \$125.00

Photo-cell voltage amplifier 5257 is for amplifying the voltage output from the photo-cell to a proper value to energize the input of the main amplifier panel. The plate



Top view of chassis 5258 of photo-cell voltage amplifier 5257 showing the disposition of the parts on the panel.

voltage for amplifier 5257 is normally obtained from "B" batteries but may also be obtained from photo-cell supply panel 5361. (See section "H" of this parts-catalog for detailed listing of photo-cell supply panel). The filament voltage for operating the amplifier is normally obtained from storage battery 5302 (see page E-4 of section "E" of this parts-catalog for details with respect to storage battery) but may also be obtained from rectifier 5480 (see Section "H" of this parts-catalog for details of rectifier). The amplifier requires two type '01-A amplifier tubes (catalog E600-17). See page G-3 of section "G" for details with respect to tubes.

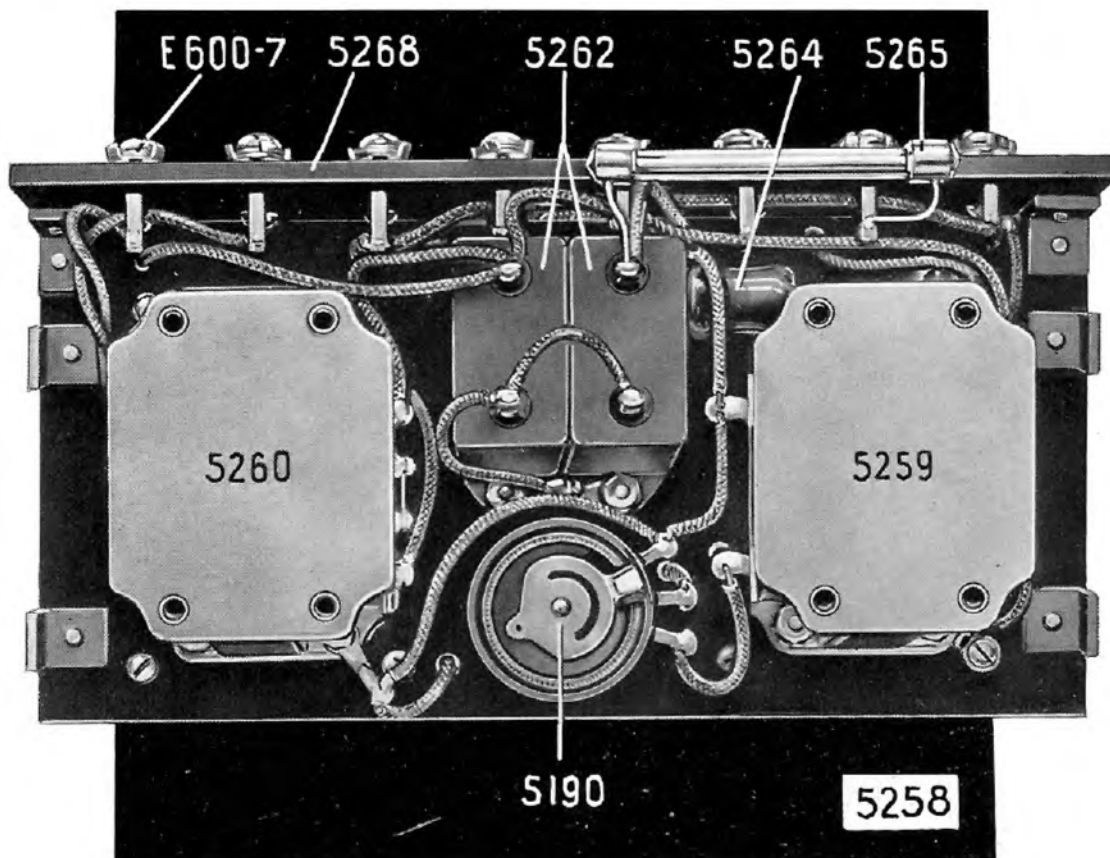
Overall dimensions: thirteen (13) inches high by nine and one-half (9½) inches wide by seven (7) inches deep. Net weight: twelve (12) pounds. Shipping weight: sixteen (16) pounds.

5258 PHOTO-CELL AMPLIFIER CHASSIS (Code Word—LUTSK) \$118.00

If it is necessary to repair or re-condition your photo-cell amplifier 5257 it is recommended that you order a new photo-cell amplifier chassis 5258. It will be supplied and invoiced at \$118.00. When the new chassis is received and has been installed by a PHONOFILM service engineer, ship the chassis that you desire exchanged direct to GENERAL TALKING PICTURES CORPORATION, 218 West 42nd Street, New York City. Upon receipt of the chassis by us a credit will be issued to you for \$83.00, making the cost of exchanging the old chassis for a new one, \$35.00.

In the majority of instances it will be arranged that a PHONOFILM service engineer will deliver the new amplifier chassis, install it, and render an invoice for \$118.00 less a credit of \$35.00, if cash payment is made for the replacement, leaving a balance due us of \$83.00.

It is pointed out in particular that on all exchange replacements where credits are issued that it is the responsibility of the exhibitor to return the "exchange" parts or instruments direct to GENERAL TALKING PICTURES CORPORATION, New York City, in order to receive credit against the original charge, in this instance the \$83.00 balance due the GENERAL TALKING PICTURES CORPORATION.



Bottom view of chassis 5258 of the photo-cell voltage amplifier 5257 showing the disposition of the parts on the panel.

5259	INTERSTAGE TRANSFORMER	(Code Word—LUXOR)	\$10.00
5260	OUTPUT TRANSFORMER	(Code Word—LUZON)	\$19.00
5261	CONDENSER	(Code Word—LYARD)	\$0.50
5262	CONDENSERS	(5 required—Code Word—LYDIA)	\$1.25
5263	RESISTORS	(2 required—Code Word—LYING)	\$1.00
5264	RESISTOR	(Code Word—LYMPH)	\$1.00
5265	RESISTOR	(Code Word—LYNCH)	\$2.25
	Resistor 5265 is an improved type resistor which replaces all previous ones.		
5190	POTENTIOMETER	(Code Word—LYONS)	\$1.50
5233	KNOB		
	Knob 5233 is for potentiometer 5190 and is only supplied with the potentiometer.		
5268	BINDING POST STRIP ASSEMBLY	(Code Word—LYRAT)	\$2.60
E600-7	BINDING POSTS	(8 required—Code Word—LISTZ)	\$0.20
5267	TUBE SOCKETS	(2 required—UX4 prong—Code Word—LYRIC)	\$0.75
5192	TUBE SOCKET ASSEMBLY	(Code Word—LYOPH)	\$3.50
	Tube socket assembly 5192 is made up of a rubber cushion on which are mounted two tube sockets 5267.		
5269	PHOTO-CELL AMPLIFIER CASE	(Code Word—LYSOL)	\$7.00

DE FOREST

PHONOFILM

PARTS CATALOG

SECTION D

Faders, equalizers and speaker controls, etc., all component parts of DE FOREST PHONOFILM EQUIPMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * .”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

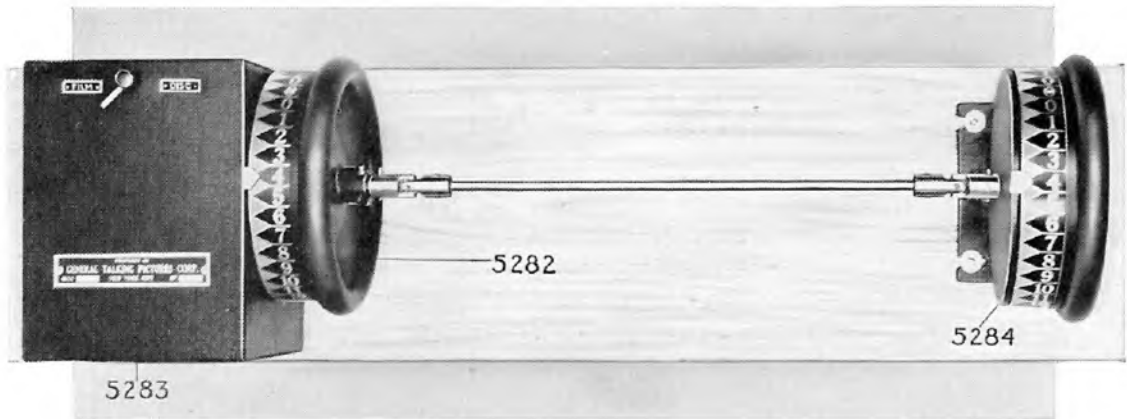
This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

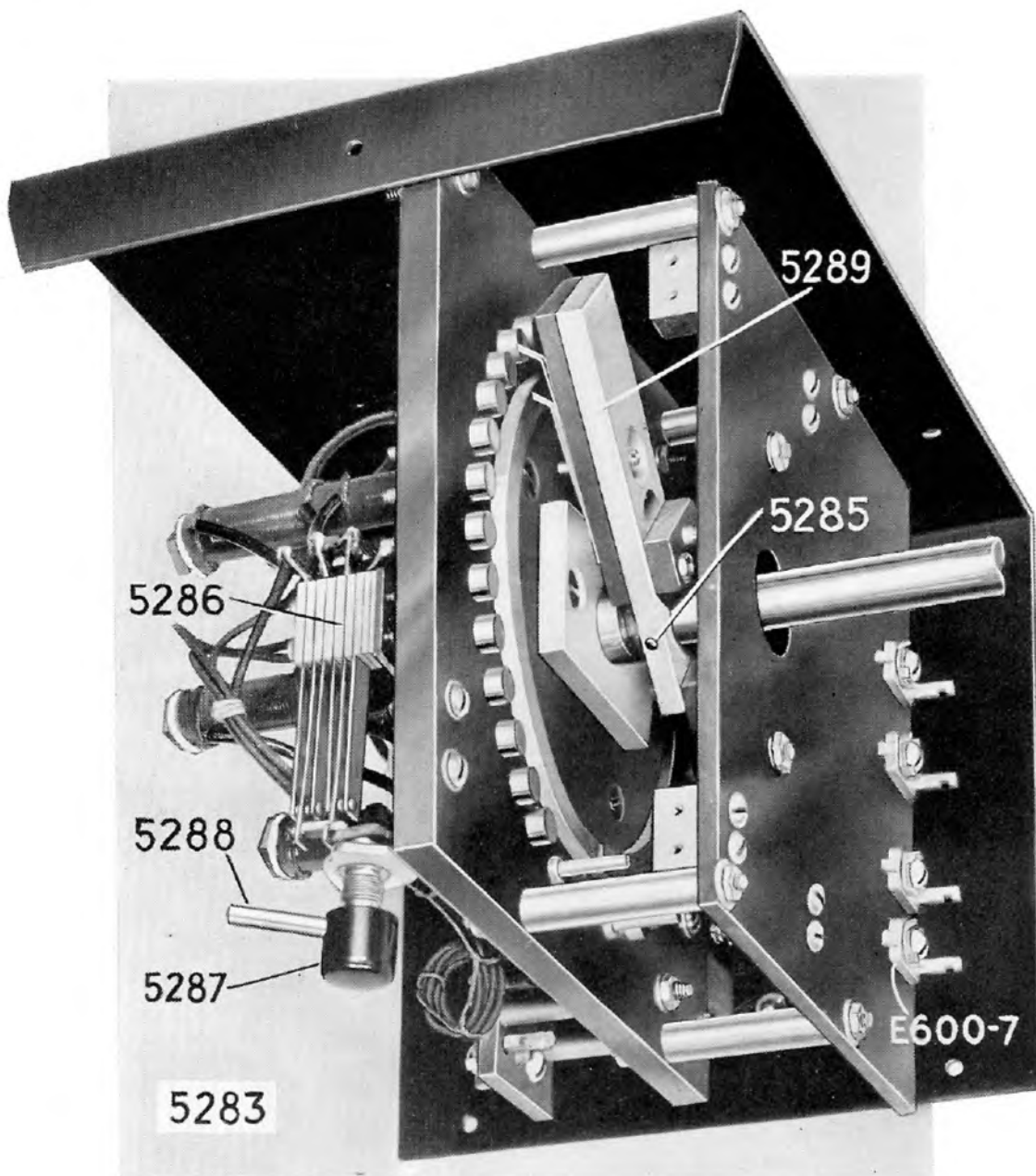


Full view of the complete fader 5283 as actually mounted in a motion picture projection booth showing master fader 5283 and dummy fader 5284.

FADER

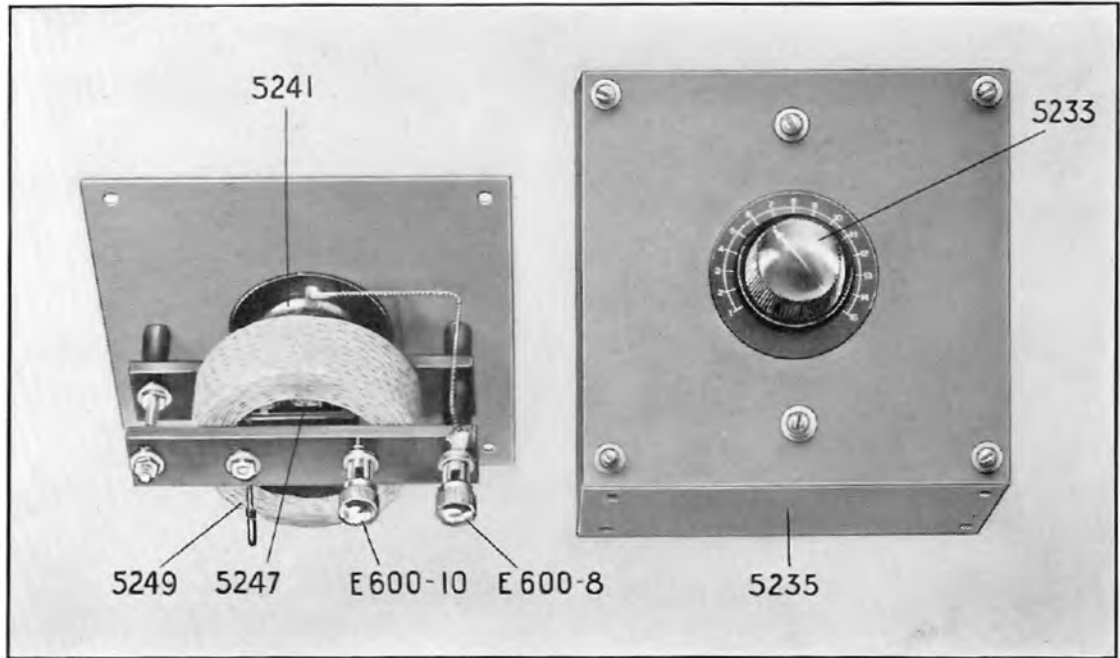
- 5282 FADER** (Code Word—QUACK) **\$150.00**
 Fader 5282 is complete with master fader, dummy fader and connecting rod. The complete fader serves as a volume control by which to vary the volume of the reproduced sound as heard from the stage horns. The master fader, installed between the two projectors in the projection booth, is the instrument by which the volume is actually controlled, while the dummy fader is installed at the right-hand projector enabling the fader settings to be changed while operating either of the two projectors. In addition to the fader acting as a volume control it also acts as a change-over switch connecting either the right or the left-hand projector to the amplifier circuits and simultaneously connecting the correct exciting lamp filament circuits for the projector in use. The fader reads 15 0-15 and in going through 0 the circuit connections above mentioned are changed. Fader 5282 is also provided with a switch 5286 which serves to transfer the input circuit to the fader from "sound-on-film" to "sound-on-disc" or vice versa. Net weight: twenty-five (25) pounds. Shipping weight: thirty (30) pounds.
- 5283 MASTER FADER** (Code Word—QUADR) **\$130.00**
 Refer to description under 5282 above for description of the master fader. Net weight: seventeen (17) pounds. Shipping weight: twenty-one (21) pounds.
- 5284 DUMMY FADER** (Code Word—QUAIL) **\$20.00**
 For description of dummy fader 5284 refer to description of fader 5282 above. Net weight: eight (8) pounds. Shipping weight: eleven (11) pounds.
- 5286 SWITCH** (Code Word—QUAKE) **\$1.70**
 Switch 5286 serves to transfer the input circuit to the fader from "sound-on-film" to "sound-on-disc" or vice versa. See notes under 5287 and 5288 below.

INSTALL A PHONOFILM "HEAR-WELL" EQUIPMENT IN YOUR THEATRE. INCREASE YOUR PATRONAGE AND RAISE YOUR CIVIC STANDING IN YOUR COMMUNITY.



Oblique interior view of master fader 5283 showing in particular the contact arm 5289.

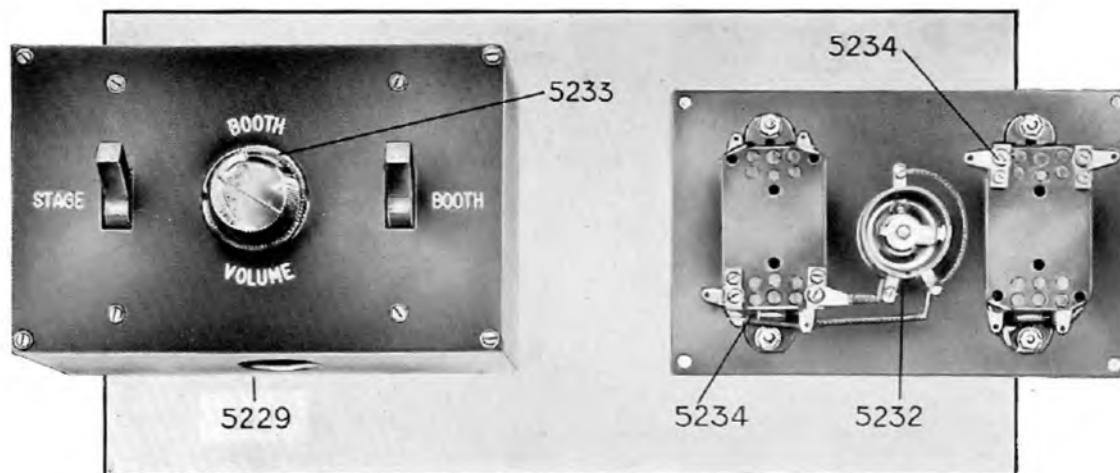
5287	SWITCH KNOB (Code Word—QUALM)	\$0.50
	Switch knob 5287 is for switch 5286 above and should be ordered when the switch is ordered.	
5288	SWITCH KNOB HANDLE (Code Word—QUART)	\$0.30
	Switch knob handle 5288 is for switch knob 5287 above and should be ordered when the switch knob is ordered.	
5289	CONTACT ARM ASSEMBLY (Code Word—QUASH)	\$4.90
	See note under 5285 below.	
5285	TAPER PIN (Code Word—QUATE)	\$0.05
	Should be ordered together with contact arm assembly 5289 above.	



EQUALIZER

- 5235 EQUALIZER (Code Word—QUEAN) \$20.00**
 Equalizer 5235 serves as a "tone" control and enables the projectionist in the booth to change the quality of reproduction as desired.
 In particular the equalizer serves to reduce the intensity of the lower audio-frequencies and hence emphasizes the high audio-frequencies of a given "sound-on-film" or "sound-on-disc" reproduction. In this sense the equalizer not only can provide a change of tone as above indicated but can also be so adjusted as to compensate, to a limited degree, for the bad recording of either disc records or sound films.
 Overall dimensions: five and one-half (5½) inches by five and one-half (5½) inches by four and one-half (4½) inches deep. Net weight: three (3) pounds. Shipping weight: four and one-half (4½) pounds.
- 5241 POTENTIOMETER (Code Word—QUEGH) \$1.00**
- 5233 KNOB**
 Knob 5233 is for potentiometer 5241 above and is supplied only with the potentiometer, and should be so ordered.
- 5247 CONDENSER (Code Word—QUERE) \$0.75**
- E600-10 BINDING POST (Code Word—QUEST) \$0.15**
- E600-8 BINDING POST (Code Word—LAPSE) \$0.15**
- 5249 COIL (Code Word—QUEUE) \$1.50**

MAKE SURE THAT YOU ARE USING THE VERY LATEST AND MOST EFFICIENT PHOTO-CELLS. SEE PAGE A-40.



SPEAKER CONTROL

- 5229 SPEAKER CONTROL (Code Word—QUICK) \$20.00**
 The speaker control 5229 serves to turn stage and monitor speakers “on” and “off” and also acts as a volume control for the monitor speaker through the adjustment of potentiometer 5232.
 Overall dimensions: seven (7) inches long by four and one-half (4½) inches high by four and one-half (4½) inches deep. Net weight: two and one-half (2½) pounds. Shipping weight: four (4) pounds.
- 5232 POTENTIOMETER (Code Word—QUIET) \$1.00**
- 5233 KNOB**
 Knob 5233 is for potentiometer 5232 above and is supplied only with potentiometer.
- 5234 TOGGLE SWITCHES (2 required—Code Word—QUILT) \$1.50**

**ALL PRICES IN THIS PARTS CATALOG ARE
 SUBJECT TO CHANGE WITHOUT NOTICE.**

DE FOREST

PHONOFILM

PARTS CATALOG

SECTION E

Battery chargers, batteries
etc., all component parts of
DE FOREST PHONOFILM
EQUIPMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 to 8632—INCLUSIVE

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It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

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PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**



BATTERY CHARGER

- 5295 **BATTERY CHARGER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—ULEMA) **\$29.50**
 Battery charger 5295 is used for charging storage battery 5302 (See page E-4). It is a special charger using two rectifier bulbs of sufficient capacity to charge battery 5302 at its correct charging rate. Charger is provided with an "on" and "off" switch and in addition with a switch having an "off" position and an "8" and a "12" position which indicates an eight ampere or a twelve ampere charging rate as desired. The charger is supplied complete but without rectifier bulbs. See description and listing of rectifier bulb 5296 below.
 Overall dimensions: eighteen (18) inches high, nine (9) inches wide by thirteen and one-eighth (13 1/8) inches deep. Net weight: fifty-two (52) pounds. Shipping weight: seventy (70) pounds.
- 5297 **RESISTOR** (Code Word—UNFIT) **\$1.00**
 Not shown in illustration. Mounted in interior of charger. May burn out due to long use or use of excessively high charging rate.
- 5296 **RECTIFIER BULB** (Code Word—UMIAK) **\$8.00**

BATTERY CHARGER

- 5342 **BATTERY CHARGER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—UMBEL) **\$34.50**
 Battery charger 5342 is identical with battery charger 5295 except that it is for a 110 volt 25 to 40 cycle, single phase alternating current power supply. All other characteristics of the charger remain the same as for 5295 and reference should be made to listing of rectifier bulb 5296 below for spare and replacement bulbs.
 Overall dimensions, net weight and shipping weight of charger 5342 are identical with those for 5295.



Direct current resistor type battery charger for charging storage battery 5302 from 110 volt direct current power supply.

BATTERY CHARGER

5343 BATTERY CHARGER FOR 110 VOLT DIRECT CURRENT (Code Word—UMBRA) **\$36.00**

Battery charger 5343 is for a direct current power supply and is of the resistor type rather than of the rectifier bulb type. The specifications and characteristics of this charger are suitable for charging storage battery 5302 at its correct charging rate, this rate being variable by the switch handle shown at the top of the illustration of the charger.

Overall dimensions: twenty (20) inches high by sixteen (16) inches wide by six (6) inches deep. Net weight: twenty-six (26) pounds. Shipping weight: thirty-two (32) pounds.

STORAGE BATTERY

5302 STORAGE BATTERY (2 required—Code Word—UBOAT) **\$25.50**

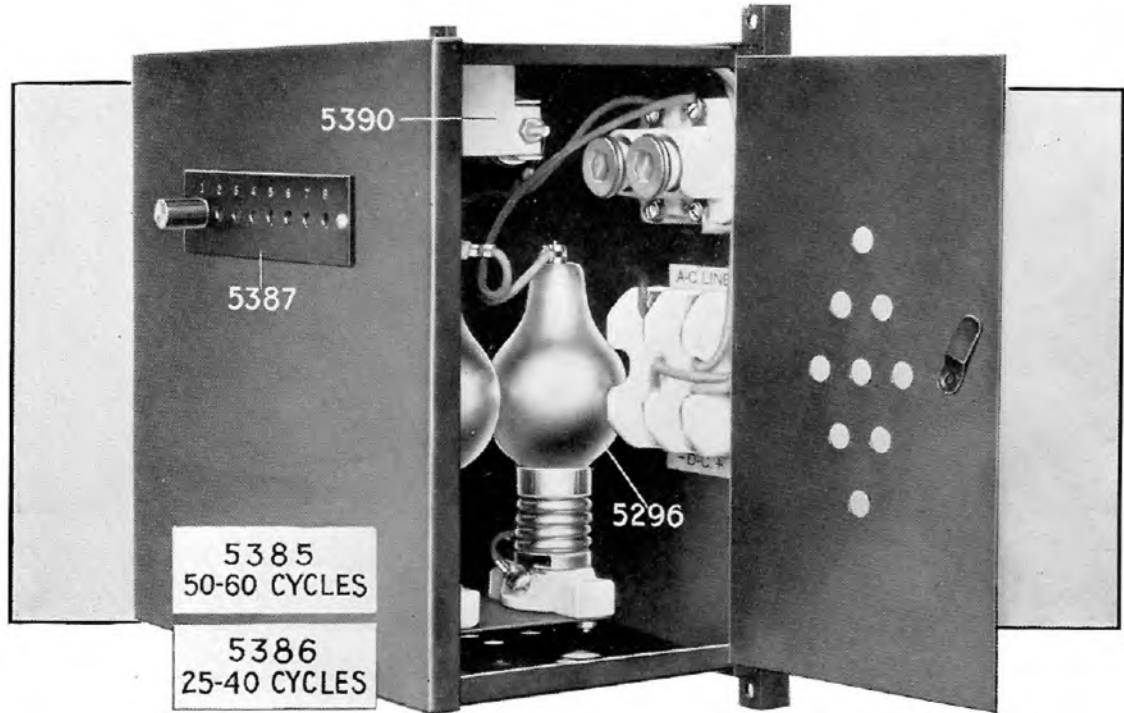
Storage battery 5302 is a 10 volt battery of sufficient rating to supply all requirements of instruments of a complete PHONOFILM EQUIPMENT which operate from a storage battery source of supply.

Overall dimensions: twenty (20) inches long by seven and one-quarter ($7\frac{1}{4}$) inches wide by nine and one-quarter ($9\frac{1}{4}$) inches high. Net weight: ninety-nine (99) pounds. Shipping weight: one hundred nine (109) pounds.

HYDROMETER

5303 HYDROMETER (Code Word—UDINE) **\$1.00**

It is recommended that hydrometer 5303 be ordered as it is used for testing the specific gravity of storage battery 5302 and should always be used to make certain that storage battery 5302 is properly charged and in a satisfactory operating condition.



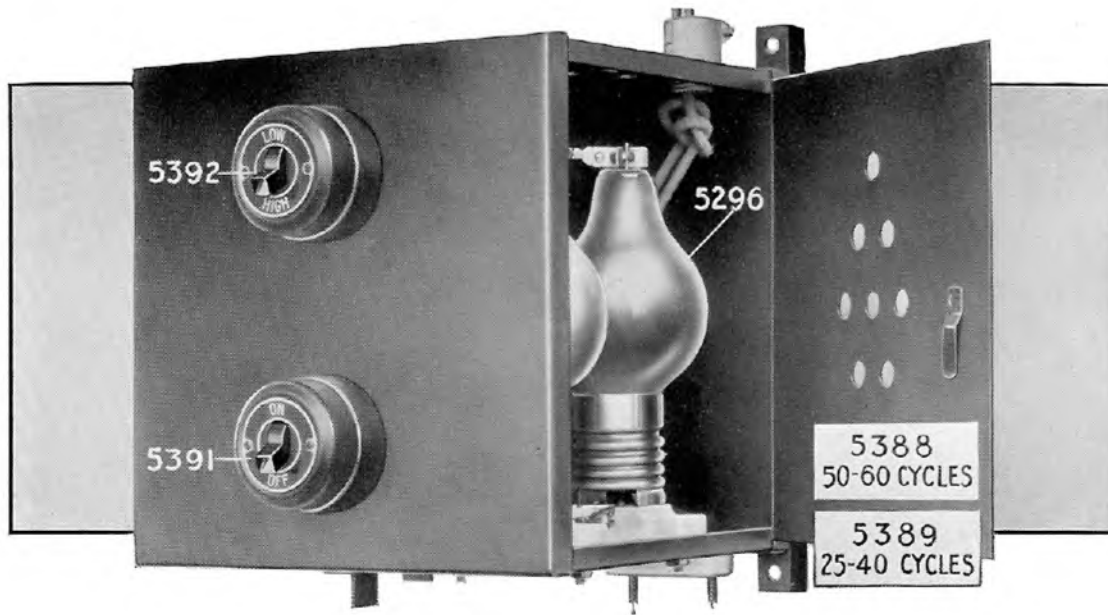
Exterior and interior illustration of battery charger 5385 or 5386 showing in particular the rectifier bulb 5296.

BATTERY CHARGER

5385	BATTERY CHARGER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—UNCAP)	\$49.50
	Battery charger 5385 is also for charging storage battery 5302 and is of the bulb type similar to battery chargers 5295 and 5342. Battery charger 5385 is provided with a plug-in panel board 5387 to allow variation of the charging rate. Overall dimensions: fourteen (14) inches by thirteen (13) inches by nine and one-half (9½) inches deep. Net weight: forty (40) pounds. Shipping weight: fifty (50) pounds.	
5387	PLUG-IN BOARD ASSEMBLY (Code Word—UNCUT)	\$4.75
5296	RECTIFIER BULB (Code Word—UMIAK)	\$8.00
5390	RESISTOR ASSEMBLY (Code Word—UNAPT)	\$9.00

BATTERY CHARGER

5386	BATTERY CHARGER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY (Code Word—UNCLE)	\$54.50
	Battery charger 5386 is identical with battery charger 5385 except that it is for 110 volt 25 to 40 cycle, single phase alternating current power supply. All other characteristics and specifications including overall dimensions, component parts, net weight and shipping weight are the same as for charger 5385.	



Exterior and interior illustration of battery charger 5388 or 5389 showing in particular the rectifier bulb 5296.

BATTERY CHARGER

- 5388 BATTERY CHARGER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—UNDER) **\$34.50**
 Battery charger 5388 is practically identical with battery charger 5385 except that it is not provided with the "plug-in" board assembly 5387 for varying the charging rate, but rather is provided with a "high" and "low" charging rate switch 5392.
 Overall dimensions: eleven (11) inches high by ten and one-quarter (10¼) inches wide by ten and three-quarters (10¾) inches deep. Net weight: thirty-seven (37) pounds. Shipping weight: forty (40) pounds.
- 5391 SWITCH** ("On" and "Off"—Code Word—ULTRA) **\$1.50**
- 5392 SWITCH** ("High" and "Low"—Code Word—UNDUE) **\$1.50**
- 5296 RECTIFIER BULB** (Code Word—UMIAK) **\$8.00**

BATTERY CHARGER

- 5389 BATTERY CHARGER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—UNDID) **\$39.50**
 Battery charger 5389 is identical with battery charger 5388 above except that it is for 110 volt 25 to 40 cycle alternating current power supply.
 Overall dimensions, net weight and shipping weight remain, of course, the same as for charger 5388.

PLEASE NOTE THAT ALL PRICES OF PARTS IN THIS CATALOG ARE UNDER THE TERMS OF LEASE AGREEMENTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION.



RECTIFIER BULB

5296 RECTIFIER BULB (Code Word—UMIAK) \$8.00

Rectifier bulb 5296 is used in battery chargers 5295, 5342, 5385, 5386, 5388 and 5389 listed in this section "E" of the PHONOFILM parts-catalog and reference is made under the listing of each charger to the rectifier bulb.

It is recommended that at least two spare rectifier bulbs be kept on hand in the projection booth as spares to prevent possible delays and to make certain that storage battery 5302 will always be properly charged.

Obviously, as indicated in the listing of the chargers with which rectifier bulb 5296 is used, the one bulb 5296 is correct for chargers suitable for either 110 volt 50 to 60 cycle or 110 volt 25 to 40 cycle, single phase alternating current power supply.

"B" BATTERIES

5299 "B" BATTERY (Code Word—UINTA) \$2.35

45 volt. Net weight: ten (10) pounds. Shipping weight: fifteen (15) pounds.

5300 "B" BATTERY (Code Word—UKASE) \$2.25

45 volt. Net weight: three and one-quarter ($3\frac{1}{4}$) pounds. Shipping weight: four and one-quarter ($4\frac{1}{4}$) pounds.

5301 "B" BATTERY (Code Word—ULCER) \$1.25

22.5 volt. Net weight: one and three-quarter ($1\frac{3}{4}$) pounds. Shipping weight: two and three-quarter ($2\frac{3}{4}$) pounds.

"B" BATTERY BOX

5298 "B" BATTERY BOX (Code Word—UHLAN) \$4.00

"B" battery box 5298 is of sufficient size to contain all of the "B" batteries (two 5299's, one 5300 and one 5301) required for a complete PHONOFILM EQUIPMENT.

Overall dimensions: thirteen and one-half ($13\frac{1}{2}$) inches long by ten and one-quarter ($10\frac{1}{4}$) inches wide by seven and one-half ($7\frac{1}{2}$) inches high. Net weight: eleven and one-half ($11\frac{1}{2}$) pounds. Shipping weight: thirteen and one-half ($13\frac{1}{2}$) pounds.

IMPORTANT NOTICE

PLEASE NOTE THAT THE PRICES INDICATED IN THIS CATALOG
ON THE FOLLOWING MATERIALS ARE SPECIAL PRICES AND THAT
ORDERS CAN ONLY BE FILLED AT THESE SPECIAL PRICES IN
ROTATION OF RECEIPT AND SUBJECT TO PRIOR SALE.

5295	BATTERY CHARGER	(Code Word—ULEMA)	\$29.50
5342	BATTERY CHARGER	(Code Word—UMBEL)	\$34.50
5385	BATTERY CHARGER	(Code Word—UNCAP)	\$49.50
5386	BATTERY CHARGER	(Code Word—UNCLE)	\$54.50
5388	BATTERY CHARGER	(Code Word—UNDER)	\$34.50
5389	BATTERY CHARGER	(Code Word—UNDID)	\$39.50
5302	STORAGE BATTERY	(Code Word—UBOAT)	\$25.50

ALL PRICES IN THIS PARTS-CATALOG ARE
SUBJECT TO CHANGE WITHOUT NOTICE.



DE FOREST
PHONOFILM

PARTS CATALOG

SECTION F

Acoustical equipment including speakers, speaker field rectifiers, etc., all component parts of DE FOREST PHONOFILM EQUIPMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * *.”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

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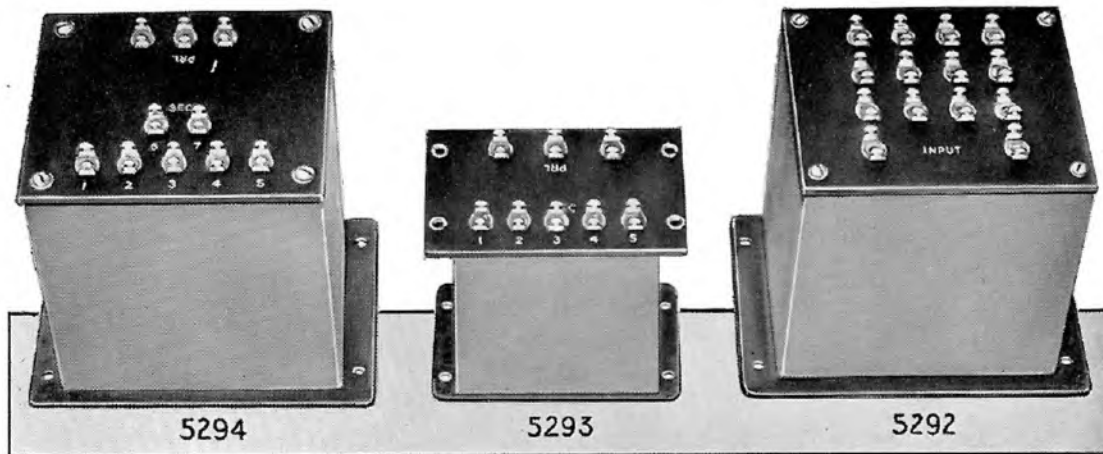
**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**



MONITOR SPEAKER

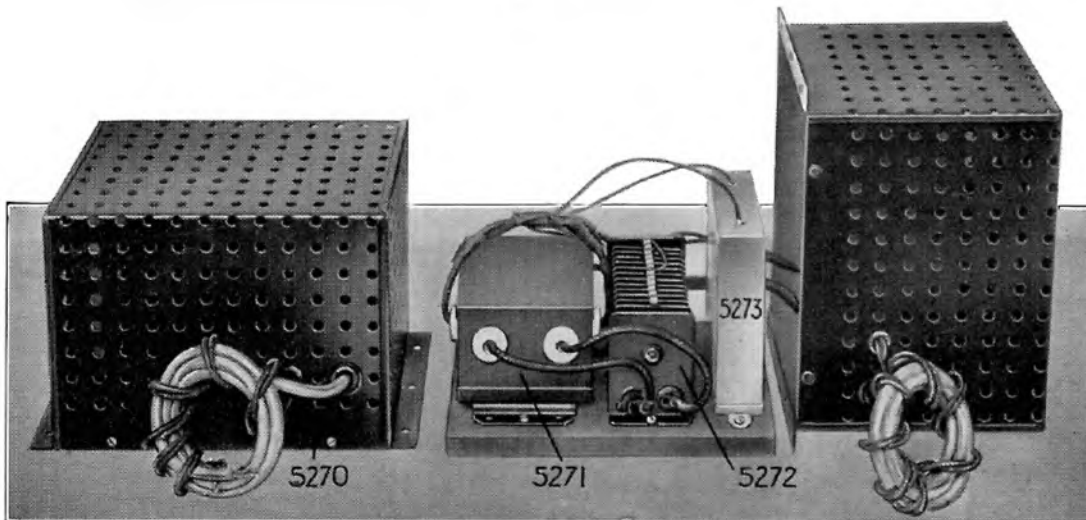
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| 5276 | MONITOR SPEAKER | (Code Word—VACUA) | \$40.00 |
| | <p>Monitor speaker 5276 comprises a high grade dynamic speaker mounted in a metal cabinet which, when installed in the projection booth, enables the projectionist at all times to know that sound is being reproduced and to adjust the volume of such sound in accordance with the requirements of the theatre or auditorium in which a complete DE FOREST PHONOFILM EQUIPMENT is installed.</p> <p>Overall dimensions: twelve (12) inches long by eleven and one-half (11½) inches high by seven and one-half (7½) inches deep. Net weight: twenty-one (21) pounds. Shipping weight: twenty-five (25) pounds.</p> | | |
| 5278 | BINDING POST STRIP ASSEMBLY | (Code Word—VAGUE) | \$0.50 |
| 5279 | MALE RECEPTACLE | (Code Word—VALET) | \$0.75 |
| 5280 | FEMALE PLUG | (Code Word—VALID) | \$0.70 |

PHOTO-CELL CABLE ASSEMBLY 2108 WILL INCREASE THE "VOLUME AND QUALITY" OF YOUR SOUND. MAKE SURE THAT EACH OF YOUR PHONOFILM ATTACHMENTS IS EQUIPPED WITH THIS NEW PHOTO-CELL CABLE ASSEMBLY 2108. SEE PAGE A-23.



AUTO-TRANSFORMER

- 5292** **AUTO-TRANSFORMER** (Code Word—**VALOR**) **\$30.00**
 Auto-transformer 5292 is used for coupling the output of the main amplifier in the projection booth to the stage speaker. Supplied with all "Standard" PHONOFILM EQUIPMENTS.
- 5293** **AUTO-TRANSFORMER**
 Auto-transformer 5293 is used for the same purpose as autc-transformer 5292 or 5294. If you need to replace auto-transformer 5293 order transformer 5294 below, which is an improved and more desirable type.
- 5294** **AUTO-TRANSFORMER** (Code Word—**VALVE**) **\$30.00**
 Auto-transformer 5294 is used for the same purpose as auto-transformers 5292 and 5293. Supplied with all "Junior" PHONOFILM EQUIPMENTS.



SPEAKER FIELD RECTIFIER

- 5270** **SPEAKER FIELD RECTIFIER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—**VARIO**) **\$20.00**
 Speaker field rectifier 5270 is used to provide the direct current necessary for the excitation of the field winding of the speaker unit 5291, this current being obtained by rectifying 110 volt 50 to 60 cycle, single phase alternating current power supply obtained from the usual power supply lines.
 The rectifier is of the "dry type" and will provide dependable service over a long period of time. The rectifier current is thoroughly filtered so that extraneous noises, high hum levels, etc., are completely absent.

Overall dimensions: ten and one-quarter (10¼) inches long by six and three-quarters (6¾) inches high by six and one-half (6½) inches wide. Net weight: nine (9) pounds. Shipping weight: thirteen (13) pounds.

- 5271 **TRANSFORMER FOR 110 VOLT 50 TO 60 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—VARNA) \$5.00
- 5272 **RECTIFIER UNIT** (Code Word—VARUS) \$4.50
- 5273 **CONDENSER** (Code Word—VASTY) \$4.00

SPEAKER FIELD RECTIFIER

- 5274 **SPEAKER FIELD RECTIFIER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—VATIC) \$25.00
 Speaker field rectifier 5274 is identical with speaker field rectifier 5270 except that it is for 110 volt 25 to 40 cycle alternating current power supply.
- 5275 **TRANSFORMER FOR 110 VOLT 25 TO 40 CYCLE, SINGLE PHASE ALTERNATING CURRENT POWER SUPPLY** (Code Word—VAULT) \$9.50
- 5272 **RECTIFIER UNIT** (Code Word—VARUS) \$4.50
- 5273 **CONDENSER** (Code Word—VASTY) \$4.00



SPEAKER UNIT

- 5291 **SPEAKER UNIT** (Code Word—VANER) \$58.50
 Speaker unit 5291 is used in connection with exponential horns 5290 and 5304 listed below. The unit is the very highest grade and highest quality speaker unit obtainable and provides a new perfect uniformity of audio-frequency characteristics over the entire audio-frequency range, thereby providing extremely high quality reproduction of "sound-on-disc" or "sound-on-film" talking pictures in theatres and auditoriums.

The unit is of the dynamic type manufactured with extreme precision and given a large number of both mechanical and electrical tests in order to meet the rigid specifications of the engineering division of the GENERAL TALKING PICTURES CORPORATION.

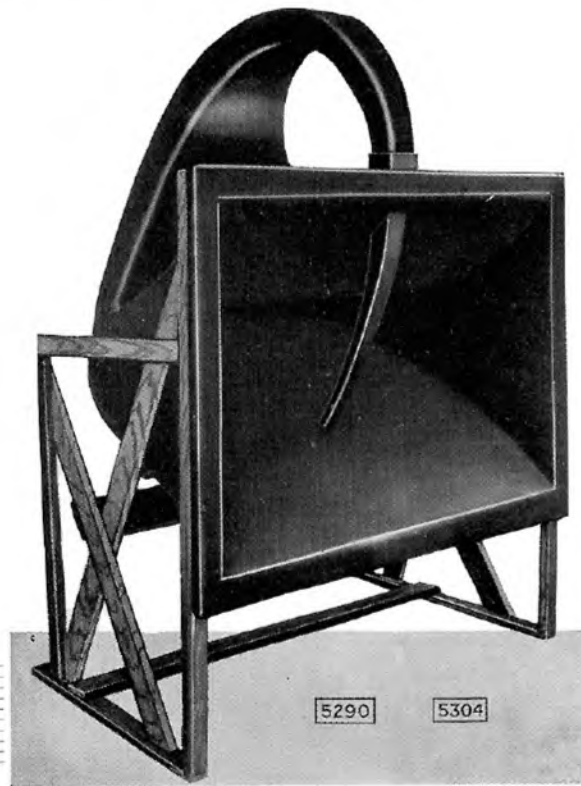
Speaker unit 5291 requires a field excitation obtainable from 110 volt 25 to 40 cycle, or 50 to 60 cycle, single phase alternating current power supply lines through the use of speaker field rectifiers 5270 and 5274 illustrated and described above.

Overall dimensions: six and one-half (6½) inches high by six (6) inches in diameter. Net weight: twenty-one (21) pounds. Shipping weight: twenty-five (25) pounds.

If it is necessary to repair or recondition a speaker unit 5291, it is recommended that you order new speaker unit. It will be supplied and invoiced at \$58.50. When the new speaker unit is received and has been installed by a PHONOFILM service engineer, ship the unit that you desire to have exchanged direct to GENERAL TALKING PICTURES CORPORATION, 218 West 42nd Street, New York City.

Upon the receipt of the speaker unit by us, a credit will be issued to you for \$33.50, making the cost of exchanging the old speaker unit for a new one \$25.00. In the majority of instances, it will be arranged that a PHONOFILM service-engineer will deliver the new speaker unit, install it and render an invoice for \$58.50, less credit of \$33.50 if cash payment is made for the exchange, leaving a balance due us of \$25.00.

It is pointed out in particular that on all exchange replacements where credits are issued that it is the responsibility of the exhibitor to return the exchange parts, or instruments, direct to the GENERAL TALKING PICTURES CORPORATION, New York City, in order to receive credit against the original charge, in this instance the \$25.00 balance due us.



EXPONENTIAL HORN

- | | |
|-------------|---|
| 5290 | <p>EXPONENTIAL HORN (Code Word—VAPID) \$78.50</p> <p>An exponential horn represents the most perfect means of projecting sound as reproduced by speaker unit 5291. Overall dimensions: sixty (60) inches high by forty-six (46) inches wide by thirty-four (34) inches deep.</p> <p>Net Weight: Sixty (60) pounds. Shipping weight: two hundred and twenty (220) pounds.</p> |
| 5304 | <p>EXPONENTIAL HORN (Code Word—VAPOR) \$105.00</p> <p>Exponential horn 5304 is identical in dimensions with exponential horn 5290 but is of considerably greater acoustical merit, due to the special treatment given the material in the horn, which provides increased acoustical efficiency when compared with exponential horn 5290.</p> <p>Net Weight: Seventy-five (75) pounds. Shipping weight: two hundred thirty-five (235) pounds.</p> |

DE FOREST

PHONOFILM

PARTS CATALOG

SECTION G

Vacuum tubes including pilot lamps, exciting lamps, etc., all component parts to be used with DE FOREST PHONOFILM EQUIPMENTS.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

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NEW YORK, N. Y.**

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**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**

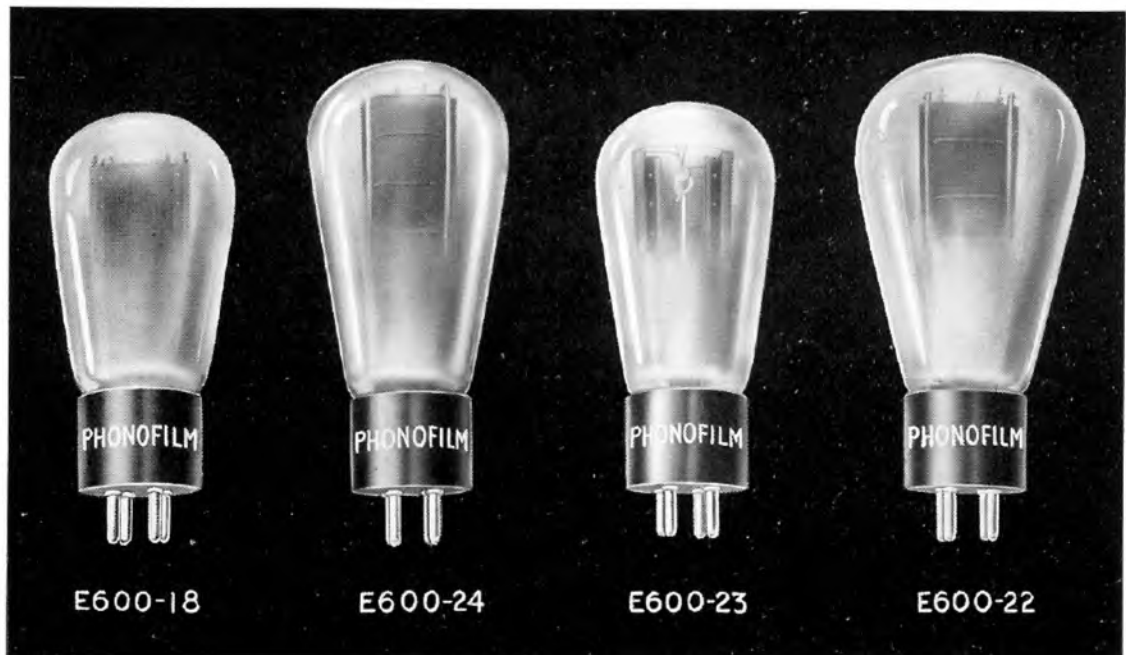


VACUUM TUBES

The vacuum tubes used with talking motion picture equipment are exceedingly important for the reproduced speech and music must stand the critical attitude of thousands of people who pay money to attend theatres and auditoriums and who expect and demand to receive perfect entertainment.

In reality talking pictures have been made possible only because of the development and perfection of vacuum tubes, and the use of perfect tubes in every piece of electrical apparatus and instrument used in a completed talking motion picture equipment is an absolute necessity.

The vacuum tubes provided for use with DE FOREST PHONOFILM equipments have been chosen with extreme care, the original design and the specifications of inspection and test being held to extremely rigid characteristics and under constant check by the engineering



division of the GENERAL TALKING PICTURES CORPORATION. In addition each and every tube is tested immediately prior to its shipment to an exhibitor.

It is obvious that the name of any tube manufacturer could be inserted in the above paragraph in place of GENERAL TALKING PICTURES CORPORATION and the statement made to express the quality of the particular tube manufacturer's product. Such words are more or less universally used—and with them the explanations end.

It is pointed out that with respect to vacuum tubes used with DE FOREST PHONOFILM equipments that the above paragraph is not a group of representative superlatives only, but a statement of fact.

It is a fact that tubes used in connection with the reproduction of talking pictures need to be chosen with particular care and that ordinary tubes quite satisfactory for radio work are not always satisfactory for use with a PHONOFILM equipment.

As an illustration, any tubes used in instruments that are voltage amplifiers (and in particular the photo-cell voltage amplifier using catalog number E600-17, type 01-A tubes) should be tested with extreme care to make certain that they are free from conditions that would cause microphonic trouble due to insecure or defective mechanical support of the elements within the tube. Due to the tremendous voltage gain of the amplifier system any minute defect in a tube of this character originating in the photo-cell voltage amplifier will receive sufficient amplification to make the "noise-level" as high or higher than the original dialogue or music signal.

Again, it is absolutely necessary that power tubes used in DE FOREST PHONOFILM amplifiers and power amplifiers be perfectly balanced, that is, that they are of identical characteristics. Amplifiers using tubes that are not tested and matched to meet such rigid specifications produce distorted reproduction.

E600-17	VACUUM TUBE	(Type '01-A—Code Word—YACHT)	\$1.00
E600-19	AMPLIFIER TUBE	(Type '26—Code Word—YAGER)	\$1.25
E600-20	AMPLIFIER TUBE	(Type '27—Code Word—YAIRD)	\$1.25
E600-21	AMPLIFIER TUBE	(Type '45—Code Word—YAQUI)	\$1.40
E600-18	AMPLIFIER TUBE	(Type '10—Code Word—YATES)	\$7.00
E600-22	AMPLIFIER TUBE	(Type '50—Code Word—YAULD)	\$6.00
E600-23	RECTIFIER TUBE	(Type '80—full wave—Code Word—YEARN)	\$1.40
E600-24	RECTIFIER TUBE	(Type '81—half wave—Code Word—YEAST)	\$5.00



RECTIFIER BULB

5296 RECTIFIER BULB
(Code Word—UMIAK) **\$8.00**

Rectifier bulb 5296 is used in battery chargers 5295, 5342, 5385, 5386, 5388 and 5389 listed in section "E" of this PHONOFILM parts-catalog and reference is made under the listing of each charger to the rectifier bulb.

It is recommended that at least two spare rectifier bulbs be kept on hand in the projection booth as spares to prevent possible delays and to make certain that storage battery 5302 will always be properly charged.

Obviously, as indicated in the listing of the chargers with which rectifier bulb 5296 is used, the one bulb 5296 is correct for chargers suitable for either 110 volt 50 to 60 cycle single phase alternating current or 110 volt 25 to 40 cycle, single phase alternating current power supply.



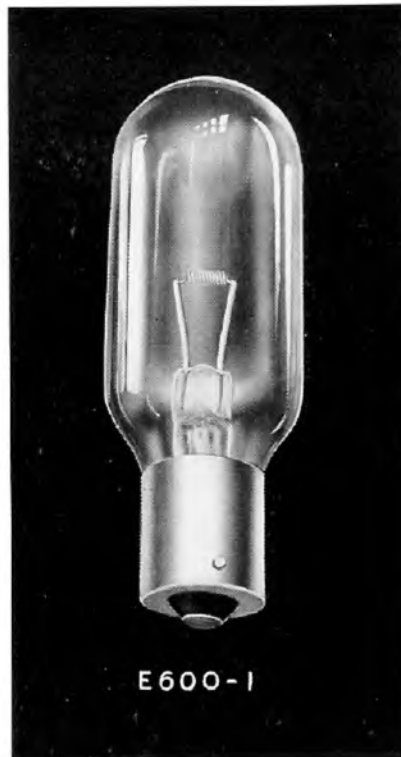
ELECTRIC LAMPS

- E600-26 PILOT LAMP** (12 volt—Code Word—**YESTY**) **\$0.30**
 This pilot lamp is a miniature base electric lamp operating from a 12 volt filament. The lamp is used in control panel 5207 behind a green signal plate indicating that the direct current circuit of the control panel is "on" or "of". It is recommended that at least one spare lamp E600-26 always be on hand in the projection booth as a spare and replacement lamp.
- E600-27 PILOT LAMP** (110 volt—Code Word—**YEUCK**) **\$0.40**
 Pilot lamp E600-27 is also used with power control panel 5207 and is placed back of a red signal plate to indicate that the alternating current power circuit is "on" or "of". Supplied with a candelabra base. Requires 110 volt filament supply. Spare lamps E600-27 should always be on hand in the projection booth for emergency replacements.

EXCITING LAMPS

(See illustration on Page G-6)

- E600-1 EXCITING LAMP** (In cartons of (6) six) (Code Word—**YELDE**) **\$1.25**
 Please note that by ordering exciting lamp E600-1 in quantities of six (6), the cost is \$1.25 each, instead of \$1.45 each as when purchased individually; or a saving of \$0.20 on each lamp, making a total saving of \$1.20 for the six lamps.
 Two exciting lamps E600-1 are used with each PHONOFILM ATTACHMENT as illustrated and described in section "A" of this PHONOFILM parts-catalog. A sliding bracket, part of the exciting lamp housing assembly 1700, in the PHONOFILM ATTACHMENT, carries two exciting lamp sockets permitting the use of either of the exciting lamps at will, thus making it possible to quickly shift from an unsatisfactory or burned out exciting lamp to a good one, if a lamp should burn out, or become defective, during the running of a sound picture.
 Exciting lamp E600-1 is a very important part of a DE FOREST PHONOFILM equipment. The original design of such lamps, and the inspection and test specifications, are held to the rigid requirements of the Engineering Division and only such lamps as meet



all of the requirements, and successfully pass the test specifications, are approved. Such tests are of course given to exciting lamps when received into stock and again duplicated just previous to shipment of lamps to exhibitors.

The filament current requirements for exciting lamps E600-1 are supplied by storage battery 5302. (See page E-4 of section "E" of this parts-catalog for detailed listing of the storage battery.)

In operation, the voltage across the filament of each exciting lamp should be between 9 and 10 volts, the filament current requirements of each lamp being between 7 and 7½ amperes direct current.

It is extremely important that the mechanical construction of the exciting lamp meet the requirements for talking picture projection. In the main, these requirements are that the filament shall be held absolutely rigid on its supports and that neither the filament nor the supports vibrate excessively, or in any mechanical sense cause the filament to be not in its original and approved position of alignment so that the beam of light produced by the lamp meets the requirements of the optical system 1800 (see page A-21 of section "A" for details of optical system) and of the photo-cell (see page A-22 of section "A" for details with respect to photo-cell).

Again insecure mechanical support of the filament may result in creating a microphonic or high "noise-level" condition as described in detail in the introduction to vacuum tubes on page G-3 and G-4.

As an illustration of the importance of exact specifications for exciting lamps E600-1 the test laboratory reject on the average twenty (20%) percent to forty (40%) percent of lamps due to the position of the filament being too high or too low in the bulb, such lamps being impossible to use because the lamp cannot be properly focused.

The electrical characteristics of the exciting lamps are of course fundamentally that the filament current and voltage requirements are met and that the lamp has a satisfactory long life, during which the emission of the light under the correct operating characteristics is uniform and constant, that is without undue variation in the emission of light due to variation in cross-section or composition of the filament, deterioration of the vacuum within the lamp bulb or the chemical deterioration of the filament under conditions of excessive voltage and current with possible attendant blackening of the interior surface of the bulb and consequent fluctuation and reduction of light emission.

In the design of the exciting lamp E600-1 all of these extremely important requirements and characteristics of exciting lamps have been taken into consideration and the final design and manufacture of this lamp meets in every sense the high standards of engineering and production necessitated by each and every component part of the DE FOREST PHONOFILM equipment, that the entire equipment may set, as it does, a "new-high-standard-of-reproduction" of talking motion pictures.

It is recommended that a number of spare exciting lamps always be in the projection booth for replacements in emergencies.

DE FOREST

PHONOFILM

PARTS CATALOG

SECTION H

Auxiliary Electrical Equip-
ment and Instruments.



GENERAL TALKING PICTURES CORPORATION

EXECUTIVE OFFICES

218 West 42nd Street, New York, N. Y.

TELEPHONE—WISCONSIN 7-8626 TO 8632—INCLUSIVE

IMPORTANT—PLEASE READ

DE FOREST PHONOFILM EQUIPMENTS AND SPARE AND REPLACEMENT PARTS AND ACCESSORIES FOR SUCH EQUIPMENTS ARE AVAILABLE ONLY UNDER THE TERMS OF LEASE CONTRACTS MADE WITH THE GENERAL TALKING PICTURES CORPORATION, NEW YORK, N. Y.

Please note that paragraph eight (8) of such lease contracts contains the following with respect to spare and replacement parts and accessories.

“The exhibitor shall not obtain any additional, renewal, spare, or assembled parts for the equipment otherwise than through the company * * * *.”

DE FOREST PHONOFILM equipments in use throughout the United States set a new “high-standard-of-quality-reproduction” of talking motion pictures.

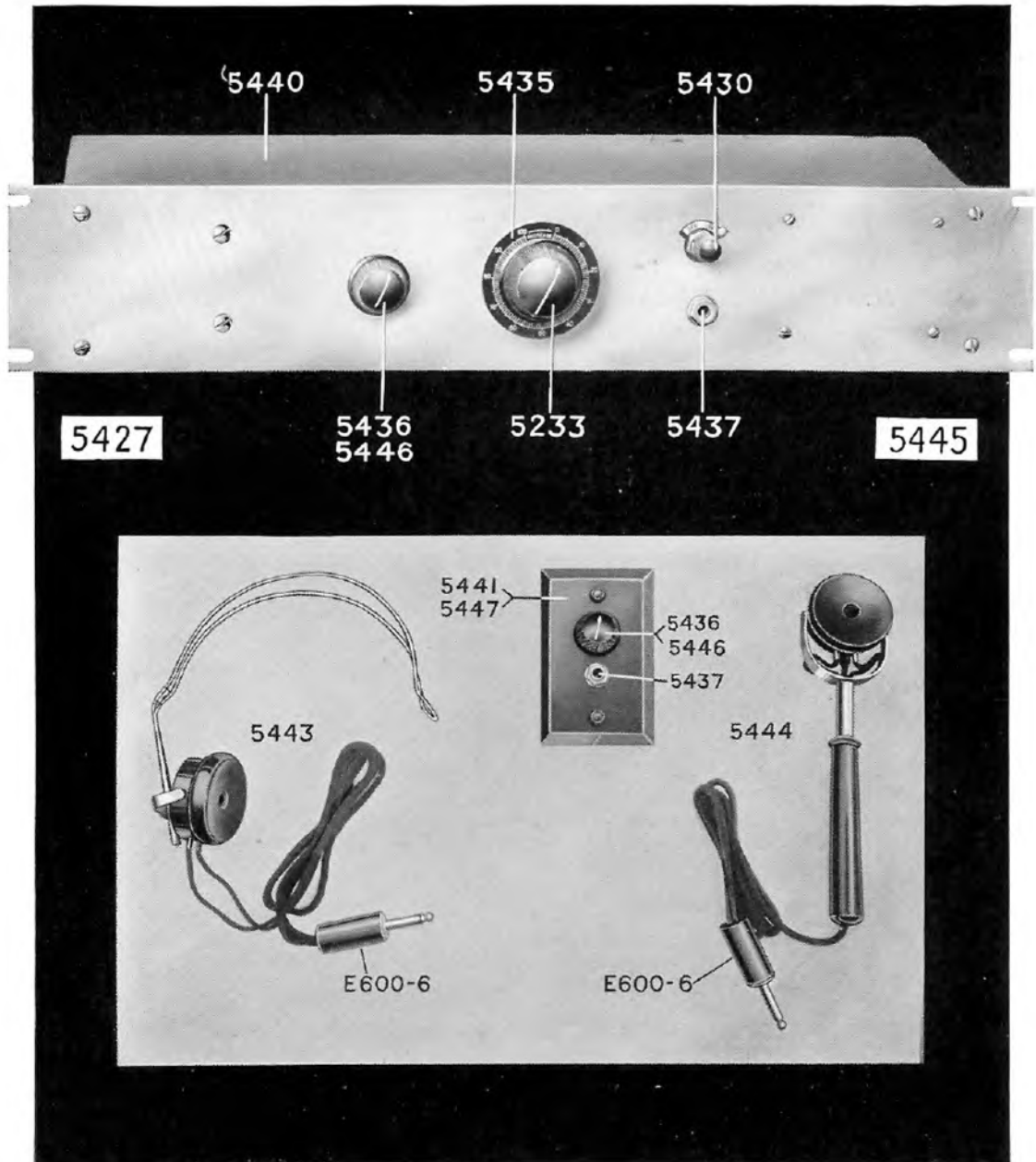
This “high-standard” has been, and is, a fact because of basically correct engineering principles of design and construction of PHONOFILM EQUIPMENTS and because of the extremely accurate methods of the many inspections and tests given each component part, each assembly and each completed instrument under the critical and constant supervision of the engineering and research division of the GENERAL TALKING PICTURES CORPORATION, each inspection and test allowing the approval of only the most perfect part, assembly or completed instrument to accomplish a given coordinated “high-standard” result.

It is the desire of the Executives of the GENERAL TALKING PICTURES CORPORATION to continue to utilize its financial resources, its engineering and research facilities, its manufacturing procedures and advantages and its equitable relationships with users of DE FOREST PHONOFILM EQUIPMENTS, so that users of its equipments will receive an extremely profitable return on their investment in such equipments.

To maintain the DE FOREST PHONOFILM “high-standard-of-quality-reproduction” and to assure constant and profitable “dollars and cents” return to exhibitors, users are cautioned not to allow the addition or replacement of any part, assembly or completed individual instrument to their PHONOFILM EQUIPMENTS except those illustrated and described in this parts catalog and obtained from the GENERAL TALKING PICTURES CORPORATION.

PRICES IN THIS PARTS CATALOG ARE IN ALL INSTANCES FOR INDIVIDUAL ITEMS UNLESS OTHERWISE SPECIFICALLY STATED.

**ALL SHIPMENTS AND DELIVERIES
F. O. B., NEW YORK, N. Y.**



PHONOFILM "HEAR-WELL" EQUIPMENT

Motion picture exhibitors throughout the country may increase their box-office receipts and in addition raise their civic standing in the community by installing PHONOFILM "HEAR-WELL" EQUIPMENT in their theatres enabling "hard-of-hearing" persons to hear as well as to see and enjoy talking motion pictures.

Such persons, although possibly unable to hear clearly with the natural ear, are able to hear effectively by the use of telephone receivers (similar to those used in the earlier "head-phone" days of radio) connected to the amplifying equipment normally used for the reproduction of talking motion pictures.

The utilization of the PHONOFILM "HEAR-WELL" EQUIPMENT in your theatre necessitates only the use of one additional panel type instrument in the projector booth attached to the same panel rack as are the other panel type instruments and amplifiers, and in addition, the wiring of your theatre for as many phones as you desire so that at each desired seat there is provided a phone outlet and a volume control.

The "hard-of-hearing" person in taking advantage of such an installation is supplied with either a head telephone or a hand telephone having a regular jack plug attached which is inserted into the outlet box usually placed at the side of each theatre seat.

The outlet box is provided with a small potentiometer, variable by a small knob, enabling the listener to increase or decrease the volume of sound as the program justifies or as is necessary to enable the listener to clearly hear the reproduced speech and music dependent again upon the individual ear.

THE GENERAL TALKING PICTURES CORPORATION supplies such "HEAR-WELL" equipment consisting of items as illustrated above and installs such equipment complete with the exception of such regular electrical wiring as is necessary between the projection booth and to as many seats as the installation calls for.

A complete "HEAR-WELL" equipment is made up of a single "hear-well" control panel and as many head-phones or hand-phones and as many individual control outlets as the exhibitor desires seats to be so equipped in his theatre.

For illustration, an equipment suitable for allowing ten "hard-of-hearing" people to listen-in to a talking picture program would include the following:

- 1—"hear-well" control panel 5427
 - 10—hand phones 5444
 - 10—individual control outlets 5441
- (see over)*

Other combinations of "HEAR-WELL" equipment can, of course, be supplied as the exhibitor desires, and for equipping from one to twenty sets in a theatre with such "HEAR-WELL" equipment.

"HEAR-WELL" CONTROL PANEL

- 5427 HEAR-WELL CONTROL PANEL (Code Word—TACKY) \$49.50**
Hear-well control panel 5427 is designed for a maximum of eleven telephone outlets which are for use with any combination of ten head-phones 5443 or hand-phones 5444.
- 5445 HEAR-WELL CONTROL PANEL (Code Word—TACNA) \$49.50**
Hear-well control panel 5445 is designed for a maximum of twenty telephone outlets which are made up of any combination of head-phones 5443 and hand-phones 5444.

HEAD-PHONE

- 5443 HEAD-PHONES (Code Word—TENIA) \$7.25**
Head-phone 5443 is complete with a regular telephone jack plug.

HAND-PHONE

- 5444 HAND-PHONES (Code Word—TAGUS) \$10.50**
Hand-phone 5444 is complete with a regular telephone jack plug.