NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

PIECE A.
END.
CUT TWO 1/4in.

PIECE B.
OVERLAY ON END.
CUT TWO 1/8in.

STRENGTHENING PIECE E.
SCREW TO END A AND BOTTOM D.

BIRD OVERLAY.
CUT TWO 1/8in. AND GLUE TO OVERLAY B.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

THIS novelty is just the type of article to appeal to any little lady with a doll. The cradle is easily completed in thin wood 3/16 in. and 3/32 in. thick, and the inside measurement is 113/4 ins. which is quite large enough to take a reasonable size doll.

The construction is straightforward, can be carried out with a fretsaw and the usual few tools and the whole thing can, of course, be left in its natural state or painted one of the colours usually found in a nursery. There is no need to paste the patterns to the wood, for they can be easily copied off through carbon paper or traced off in the usual way.

Two ends are required 3/16 in. thick and between them the floor is added. This is a plain 3/16 in. piece 113/4 ins. long and 4 ins. wide with the long edges slightly chamfered to allow the sides to slope. The exact position of the floor and the sides is indicated by the dotted lines on the pattern at the ends. This position can be indicated by drilling small holes through the ends to give the screw holes where shown on the pattern.

It is imperative, of course, that the two sides and the floor be exactly the same length and this should be tested before final fitting.

The sides and floor make a trough and all are glued between the ends and afterwards screwed in from the outside. Actual positions should be marked in pencil before fixing this undertaking. The screws should be thin shank and countersunk, so they do not project above the surface of the end.

The floor is stiffened by little fillet pieces (E), again shown by the dotted lines on the pattern at the end. These fillets are glued and screwed first to the end itself and then upwards into the floor.

All the screw heads are covered by the overlay on the end cut from 3/16 in. wood. This is a simple outline and when cleaned is glued in place 3/16 in. down from the top edge and central between the sides.

On the face of this main overlay there is the bird overlay also cut from 3/16 in. wood. Cut one for each end but do not glue in position until the rest of the article has been painted. Clean everything with glasspaper and stain or paint according to taste. The inside can well be a light blue with a darker shade of blue for all outside surfaces.

A suggested colour for the bird is shown with the pattern and can be carried out in either flat or enamel surfaces. The edges of the wood are, of course, treated the same colour as the face. Let the bird overlay dry thoroughly before gluing on and remember to scrape the paint on the end part to make the glue hold.
DISCS GLUED TO F.7... OF HORSES. CUT EIGHT 3/8in.
SCREW WHEELS TO DISCS AND HOOFS OF HORSES.

HEEL.
CUT ONE 3/8in.

WHEEL ON HORSE.
CUT FOUR 3/8in.

CUT FOUR 3/8in.

THE ARROWS INDICATE THE DIRECTION OF GRAIN OF WOOD.

LENGTH ABOUT 34ins.

NOTE. This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

PANELS OF WOOD REQUIRED FOR THIS DESIGN.
THREE GD6
ONE LD6
ONE G4 ONE G2

MATERIALS FOR MAKING THIS DESIGN ARE SUPPLIED BY HOBBIES LIMITED, Dereham, Norfolk. Price on application.

DISCS FORMING HUBS TO WHEELS. CUT FOUR OF EACH 3/8in.

CUT ONE 3/8in.

REAR TIMBER BEARER. CUT ONE 3/8in.

CUT ONE 3/8in.

FRONT TIMBER BEARER. CUT ONE 3/8in.

CUT ONE 3/8in.

NAIL OR WIRE INTO UNDERCARRIAGE FOR EXTENSION OF DROP PIN

GLUED STIFFENING BLOCKS BETWEEN UNDERCARRIAGES AND AXLES. CUT THE EIGHT BLOCKS FROM THE ONE PIECE AS SHOWN 3/8in THICK.

HOLE FOR DROP PIN

POLE CONNECTING FRONT AND REAR WHEEL CARRIAGES. CUT ONE 3/8in.

PRINTED IN ENGLAND.
A novelty pull-along painted model

TOY TIMBER WAGON

This novelty toy can be cut from wood 1 in., ½ in., and ½ in. thick. The main part of the toy is in the thickest stuff, ½ in., thus making a solid and usable piece of work for any youngster. There is very little cutting in it, and when completed, the whole thing should be painted in bright colours to attract the owner. Patterns are shown full size and can be marked direct to the wood by means of carbon paper or taking a tracing.

It is not advisable to paste the paper down as you then have the design sheet to which to refer. Each pattern shows by dotted lines where adjoining pieces are to be fixed, and the construction is quite straightforward. Cut all parts with the fretsaw, clean up with glass-paper, and then fit together.

Two Wheel Units

The two sets of wheels are made as complete units, and held by the long pole bar coming between. This is pivoted on a pin at the front end, allowing for turning. The detail of the front undercarriage portion at Fig. 1 clearly shows its construction. On the top of the chassis portion itself is the circular turntable left loose. On this turntable a timber bearer is glued across in line with the projecting pieces on the table itself. This part, of course, is glued on edge with the aperture on the underside to allow the pole bar to come in.

This pole bar can be glued to the turntable later, and the whole thing is held on a pivot made by a piece of stiff wire run through the centre holes previously drilled. The wire can be flattened out or turned over at each. Note the two screws which are left projecting about ½ in. on the top of the undercarriage. This is to prevent the pole turning too far and so binding on to the wheels. On the underside of the carriage, the axle bar is glued on edge. In the rightangle formed each side of it, the triangular blocks for stiffening are also glued as can clearly be seen in Fig. 1.

Undercarriage

The rear undercarriage unit is shown at Fig. 2. It is built very much the same as the other, except that there is no turntable, and all parts are glued firm. The rear timber bearer has an aperture cut to take the pole, and is glued across at right angles to the undercarriage itself. To provide a channel for the pole, the bearer piece is glued in place, and then on the top of it two guide strips glued at the edges.

The under work of the wheels is the same as in the front, with the stiffening blocks added in the corners as before. Note the detail showing the metal strips. These can be of tin or Junee or strip bent to form a stirrup, and fixed with short nails on to the projecting ends of the timber bearers themselves.

Wheels

The four wheels are cut to the pattern shown, and on the outside of each, two discs are fixed forming the hubs. A circular disc ½ in. in diameter is also cut, and then glued to the end of the axle bar. The wheels are finally screwed on with round-head screws.

Painting

The horses, of course, should be painted before the wheels are fitted, and the lines shown on the patterns indicate what should be carried out in paint. Give the whole wood a coat of flat grey first, and allow it to harden in before adding whatever colour you are making the animals. They can be brown with the leatherwork traces, etc., a darker brown, or lined out with black. If you wish, the wood itself can be carved and shaped to give an even more realistic effect to the animals.

The shafts holding the rear horse in place are plain pieces held in position by a nail or wire run into the undercarriage at the point indicated by the dotted line. At the front end of the shaft, a little wire staple is added to make a loop for the reins to the leading horse. The rear horse is fixed between the shafts by another nail or screw driven through into the 'body' to form a pivot. This nail is put in 'gins. back from the front end of the shaft, through the edge of the wood. Bore a hole carefully so the material does not split.

The front wheels can be painted a bright red or black, and you can complete the toy by adding two or three fairly substantial 'twigs' of timber in imitation of the actual trees. They should be held down by small chain or thick string, in imitation of rope.
LETTER RACK

PANELS OF WOOD REQUIRED FOR THIS DESIGN

TWO H3

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.
Price on application.

INSTRUCTIONS.
CUT ONE OF EACH PART 3/16in. THICK:

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

SIZE—11 in. HIGH, 6 in. WIDE.

END

FLOOR

END

FLOOR.
A Wall Letter Rack

THIS is quite a straightforward piece of work, the design incorporated being of the Grecian Urn characteristics. It should appeal to the beginner because there is not a great deal of work involved, although at the same time it must be carefully undertaken to preserve the balance and the gracefulness of the curves. There are only five parts to cut, the letter pockets comprising four of them, and all being fixed to the main back.

Paste Patterns to Wood

The patterns containing the fretted work should be pasted to the wood. All the parts being in 1/8 in. material, cut them out as usual with the fretsaw and clean up with glasspaper, being careful in cutting the mortise and tenon joints at (A) and (B) to get a good fit.

Keep the fretsaw slightly on the inside of the slot and slightly on the outside of the projecting tenon piece. These mortise and tenon joints should fit together with hand pressure only, and if the parts have to be cleaned with glasspaper, be careful not to taper off the pieces either to make the wood thinner or to shorten the actual length. The making of a good tenon joint is one of the points that judges watch in competitions, and whilst it is not the easiest thing to do, it is perfectly straightforward with a little care and attention.

Having cut the three parts of the pocket, cleaned them up and temporarily fitted the ends, the whole part can be put together. The two ends are fitted on to the front at the joint (B), with a small portion of tenon projecting beyond. The floor comes between the two ends but projects slightly beyond the fronds which stands on it. The dotted lines on the various patterns clearly indicate where the adjoining pieces are to come.

If you are proposing to back up the fretted front of this, now is the time to do it, before fitting the pockets in place. A piece of fancy paper will make a suitable background, or, of course, you can obtain the special linen cloth or linen-faced paper which will add to the appearance. Cut it the shape of the inside of the front, and glue it securely and flat close to the fretted work.

Fixing the Pocket

The whole pocket is fixed to the back through the tenon (A), and fine fretnails or screws can be driven in from behind to stiffen the whole thing if necessary. Glue, of course, is added to the edges, in any case.

In order to hang the letter pocket, two little brass wall brackets must be added at right angles to the sides, near the top, or you can make a small hole in the main back between the two circular rosettes, to take a nail on which the whole thing will fit.
AN EXHIBITION MODEL

DIESEL TRACTOR

This tractor is one of those solid-looking diesel engine tractors machine largely used on big work with bulldozers, or for tree felling, in road making, building operations, forestry work, etc. The model mark is as realistic as possible on such a small scale, and the work of making should only be undertaken by those experienced in such work.

Take the body of the machine first. The floor (A) has a centre partition (B) and (C) and (D) glued upright. The sectional view at Fig. 1 shows this clearly. The various portions forming the driver's seat and floor (E, F, G, H, I and J) are added carefully, the shaping done as shown, and the ends are glued.

Note that part (K) is two pieces glued together, shaped to form the seat on the floor. The parts (L) and (M) are added to the ends of the floor (A). The dots show the position of the parts. The parts are added to the ends of the floor (A) and (B) glued upright. The sectional view at Fig. 2 is a useful guide in making up, and three views of pieces are shown, which at Fig. 3. A close study of the drawings is necessary.

Order of Assembly

The parts can be put together in alphabetical order, and the position of many of them is indicated by dotted lines on the pattern. The work is virtually in two units, the chassis underneath. The patterns need not be pasted to the wood, but should be marked out carefully. Cut out the parts you go along, shape them and place them solidly in position according to these instructions.

The track portion is a piece of card and glued to the face of the main sheet. It may, however, be as well to paste the model as two complete units before the tractor sides are glued on.

The Track

The completed track portion is finally glued on to the ends of (J) (see Fig. 4), the ends being bent over to form the track shoes. They are added carefully, the shaping done as shown, and the ends are glued. The track portion is a piece of card glued to the face of the main sheet in conjunction with the picture of the finished model. Glue it in position as shown in the picture of the finished model and the parts are glued together. The finished track shoes require patience and care, although there is nothing difficult in their fitting.

The Tractor

Now turn to the formation of the tractor and wheels, and study the full-size side view the sheet in conjunction with the pattern. The dimensions of the track shoes are shown in Fig. 6. The building is straightforward when you have cut out and shaped the parts, and the full-size side view Fig. 7. The building is straightforward when you have cut out and shaped the parts, and the full-size side view Fig. 7. The painting is, indeed, the next point to allow to harden in. The finished model is, of course, the various portions forming the driver's seat and floor, painted to look like real wood, brown for the tractor portion, red for the main body, blue for the floor, black for the tracks, and red for the track portion.

The Track

The completed track portion is finally glued on to the ends of (J). The sectional view at Fig. 4 shows this clearly. The various portions forming the driver's seat and floor (E, F, G, H, I and J) are added carefully, the shaping done as shown, and the ends are glued. The track portion is a piece of card glued to the face of the main sheet in conjunction with the picture of the finished model. Glue it in position as shown in the picture of the finished model and the parts are glued together. The finished track shoes require patience and care, although there is nothing difficult in their fitting.
SUPPLEMENT TO HOBBIES No. 2834.

THE WALKING DOG
A PULL-ALONG WORKING TOY
SIZE 13ins. LONG.

SHOWING METHOD OF FIXING WORKING PARTS.

SECTION SHOWING HOW BODY IS CUT WITH TENON SAW FROM A to B AFTER PIECES 1 to 7 HAVE BEEN GLUED TOGETHER.

PIECES 6 AND 7. CUT TWO OF EACH 1/4in.

PIECES 12. CUT FOUR 1/2in.

PIECES 4 AND 5. CUT TWO OF EACH 1/2in.

PIECES 1 and 2. CUT ONE OF EACH 1/2in.

TAIL 3. CUT ONE 1/2in.

EARS 8. CUT TWO 1/4in.

LEGS 9 to 12. CUT ONE OF EACH PART SHOWN 1/4in.

NOTE. — This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

THE ARROWS INDICATE THE DIRECTION OF GRAIN OF WOOD.

Panels of wood required for this design
THREE ND8 ONE H4

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.
Price on application.

PRINTED IN ENGLAND.
How to use our patterns to make

THE WALKING DOG TOY

This quaint novelty is an amusing toy of useful size, simple to make from odd pieces of wood and four wheels, or the complete kit of parts provided. The model is a solid piece of work, hinged in the middle, and fitted with moveable legs pivoting on wheels. When the toy is pulled along, therefore, the legs move quite realistically and the dog can be turned around or moved about by means of its hinged centre portion.

All parts are shown full size, and apart from cutting out with the fretsaw, there is just the gluing and pivoting together, and shaping up the body. The dog is of the typical dashboard type and the shaping of it is, consequently, quite straightforward.

The actual patterns can be pasted down if you wish, or you can mark them direct on to the wood. They are cut out to shape with the fretsaw, glued together, and then shaped as a solid block so far as the body is concerned.

Shaping

This shaping can be done with a penknife because the wood is soft, and finished off to the appropriate lines with glasspaper. There are one or two points to watch in consideration, but the whole job is really quite simple.

The outline of piece (1) and (2) is cut first in its entirety, and then sawn through the straight line in the centre of the body. The outline of (4) and (5) is then cut in the same way, but of this, two pieces are required. These two parts are glued one each side of the centre portion (1) and (2). Before finally gluing on one rear portion (3), however, cut and glue in the tail (3).

This is cut as a separate piece of wood in order to get the grain running the long way and so reducing the likelihood of breakage. Outside these come the parts (6) and (7), forming the actual outside of the body. The position of the various pivot holes, etc., should be clearly marked on the outside parts, and the holes for the axle rods bored.

It is a good plan, by the way, to bore these holes before the actual shape of the outline is cut. This will prevent the wood splitting. The holes can be bored with a bradawl or brace and bit, but must be sufficiently large to allow ½ in. dowel rod centre point of the end itself. Cut this across right through the block, taking care to keep the tenon saw upright. You will then have the two ends of the body coming to a point centrally to take the hinge later.

The body should be nicely rounded off, and the drawing of the head shown here, clearly indicates the curved effect required. Pay some attention to this work to get a nicely balanced animal with the sharp pointed nose, sunken eyes, and the long drooping ears. The ears can also be glued on if you wish, or can be left until you have tested the moving parts.

Leg Mechanism

The working of the leg movement is shown in the detail on the other side, and the actual shaping of the parts is shown here. Here again it is worth boring the pivot holes with a fretwork drill before you cut the outline of the part. The pattern, of course, are put on with the arrow running the length of the grain to provide strength. The part (No. 13) is ½ in. thick, and in each case is glued to the knee end of the thigh.

You can see its piece by the dotted lines on the parts concerned. Glue firmly. The actual thigh piece is, of course, pivoted to the main body. The lower leg is pivoted to (13). Near the bottom of the pivot runs through into the flat rim portion of the wheel. All these pivots are made by the round head brass screws provided with the kit, and the parts, of course, must work loosely in each case.

The Axle

The axle rod is a 3⁄16 in., length of ½ in., dowel rod. Smooth it and fit it through the projecting legs on the outside portion of the body. It must turn in these smoothly. Outside the legs is fitted a loose washer (14), and then outside these is glued on the wheel itself. The holes in the wheels as provided will have to be enlarged to fit the axle, and this is a good plan which will ensure a rigid fit.

Cut the central holes with a fretsaw, but do not make them a complete circle. On one side have a flat piece, then you can just file a flat shelf on to the end of the axle rods to fit in tightly. You can see this in the diagram of the axle and of the working movement. This flat portion provides an anchorage when glued in the wheel. These wheels are, of course, fixed to the ends of the axle rods, but do not press them tight up against the loose washers. Allow the parts to move freely.

Having fitted the wheels, you can screw on the front portion. In doing this, get the foot on one side at the bottom of the wheel, and on the other side of the animal at the toy. The fixing is near the edge of the wheel, but must allow clearance of the foot from the ground. The whole of this mechanism should be tested, but not fixed until after the parts have been painted.

Painting the Model

Paint the body first with two coats of brown, and also paint the leg movement. This is a good plan which will ensure a rigid fit. The wheels need only be varnished or given a brush polish. The two parts of the dog are finally fitted together by a ½ in. hinge. It is screwed into the same portion of each side, as shown in the detail on the section in the drawing. The weight of this dog when complete, should be sufficient to move the legs when the wheels are turned. For this reason, ensure that no paint gets into the pivot holes, and that all parts work easily.

You can add a narrow strip of leather for the collar, and fit a small eyelet beneath it in the chest to provide the pulling string. The mouth, of course, should be painted slightly inside with a little silver edge for the lips. The nose pad at the extreme front is black, and the eyes can be made more realistic by putting in the end of a match-stick or even a round-headed nail.
PETROL TANK 4 CUT ONE 1/8 in. AND TWO 3/16 in. GLUE TOGETHER AND ROUND OFF. SCREW TO 1 PIECE 2 CUT ONE 1/8 in.

PETROL TANK 4 CUT ONE 1/8 in. AND TWO 3/16 in. GLUE TOGETHER AND ROUND OFF. SCREW TO 1 PIECE 2 CUT ONE 1/8 in.

AND TWO 3/16 in. GLUE TOGETHER AND ROUND OFF. SCREW TO 1 PIECES 5 CUT TWO 1/4 in.

PIERCED STRIP % IN. ROUND ROD 6 AuE (PAINT ON)

SKETCH OF COMPLETED PETROL TANK.

ROOF 17 CUT ONE 1/8 in. SHAPE TO SECTION.

FRONT MUDGUARD 19 CUT TWO 1/8 in. ROUND OFF OUTSIDE EDGE AND GLUE TO 16 SIDES 16 CUT TWO 1/8 in. SHAPE TO SECTION.

FRONT 14 CUT ONE 3/16 in. SHAPE TO SECTION.

FRONT WHEELS MAKE TWO.

PIECE 24 CUT ONE 1/4 in. GLUE TO 23

PIECE 25 CUT ONE 1/4 in. ROUND TO SECTION. GLUE TO 2

FRONT NO. PLATE.

PIECE 38 CUT TWO 1/4 in. REAR NO. PLATE. GLUE BETWEEN CUT ONE FROM PIECES 36

PEER 39 CUT TWO 1/4 in. GLUE ON OUTSIDE OF PIECES 36

PIECE 40 CUT ONE FROM CARD.

FRONT NO. PLATE, MUDGUARD FROM CARD.

PIECE 41 CUT ONE FROM CARD. GLUE BETWEEN PIECES 36

PIECE 42 CUT ONE FROM CARD.

PIECE 43 CUT ONE 1/8 in.

PIECE 44 CUT ONE 1/8 in.

PIECE 45 CUT TWO 1/8 in.

PIECE 46 CUT ONE FROM CARD.

PIECE 47 CUT FOUR 1/8 in.

PIECE 48 CUT FOUR 1/8 in.

PIECE 49 CUT FOUR 1/8 in.

PIECE 50 CUT FOUR 1/8 in.

PIECE 51 CUT FOUR 1/8 in.

PIECE 52 CUT FOUR 1/8 in.

PIECE 53 CUT FOUR 1/8 in.

PIECE 54 CUT FOUR 1/8 in.

PIECE 55 CUT SIX FROM 1/8 in. ROUND ROD.

TRAILER MUDGUARDS 54 CUT FOUR FROM CARD.

PIECE 56 CUT ONE FROM CARD.

PIECE 57 CUT ONE 1/4 in.

HEADLAMP 21 CUT TWO 1/16 in. SHAPE SLIGHTLY TO FIT SLOPES OF FRONT. GLUE IN PLACE AFTER CAR HAS BEEN COMPLETED.

PIECE 26 CUT ONE FROM CARD. GLUE TO 2

PIECE 27 CUT ONE FROM CARD. GLUE TO NEARSIDE TRAILER MUDGUARD.

PIECE 28 CUT OUT AND PASTE TO REAR OF TRAILER MUDGUARD.

NOTE.-This design sheet is only presented free with the current issue of Hobbles and not with back numbers. Further copies may be obtained.

THE ARROWS INDICATE THE DIRECTION OF GRAIN OF WOOD.

THE PANELS OF WOOD REQUIRED FOR THIS DESIGN ARE SUPPLIED BY HOBBIES LIMITED, Dereham, Norfolk.

PRINTED IN ENGLAND.
The construction is according to the numerical order of the parts to. Study their position one with another, and particularly note where a double piece has to be chamfered or shaped. The model is in three units and can be built as a three-part tractor.

The cab and front tractor portion is pivoted on to the rear trailer by means of a stub pin. The mudguards are finished with paint and as you proceed with its construction, you must remember this and not fit any pieces which prevent you painting behind. This applies, for instance, to the inside of the cab, behind the wheels, etc.

Mark the patterns off on to the wood accurately, cut them out with the fretsaw and put their piece number in pencil on the reverse side. Build up as far as possible you go along, according to numerical order. Start with the chassis of the front portion, a detail of which is shown in Fig. 1. Before you make the framework of parts 1, 2 and 3, you must screw on the wooden petrol tank (No. 4), because otherwise you will not be able to get this in the inside. Note the position of the spring pieces (3) as indicated by the dotted lines on the pattern of piece 2. Although not provided for on the design sheet, it is as well to add an axle piece between the two drop sides.

At the front end of this chassis, the cab is next built. Engine, steering and seating are put together as a complete unit (see Fig. 2). Build these on part 4, shaping each one carefully. Note the sequence of the various parts is given by sectional details on the sheet. A single disc is cut through the centre of which is driven the long thin screw. A model for which patterns are provided on the other side, is 14½ins. long, and when completed and painted, is a pleasing replica of the actual article.

The construction of this model is simple and is not to be recommended to the beginner unless he is conversant with reading patterns, and is nimble and able enough to work out constructional detail. It does not mean there is anything really difficult about it. In the assembly a study of parts and constructional detail must be made before beginning. The kit of wood provides the necessary materials, apart from screws, glue, nails and odds and ends.

The cabin interior is shown lifted away for clarity. Where a double tyre is required, it merely means the solid black wheel is glued on to the front end and the whole lot screwed in place. The rear wheels of the trailer are shown at Fig. 11, and here the assembly is added.

Making the Wheels

The wheels and mud and the washer glued to each as shown. Run a long screw through the outer wheel hub, drive it into the chassis, and finally drive it along the solid wheel. Make sure the hole in the chassis is large enough to allow the screw to be rotated. The pin running through must work loosely through pieces 24, in order there may be a certain amount of up and down play for the tractor. The turntable itself works loosely on a stub pin into the trailer portion and allows the horizontal movement required. Fit these pieces carefully to ensure accuracy, and even movement.

Mudguards

The fitting of the mudguards of the rear end can be done as complete units. They are in the end, glued in place to rounded cap of that part. The construction of the various wheels is given by sectional details on the sheet. A single disc is cut through the centre of which is driven the long thin screw. Around this screw is added the raised hub portion, and to form the thickness of the tyre a collar of wood is glued on. This collar should be shaped in section before being added, and then the plain disc portion is also rounded to complete the illusion of the tyre.

The wheel, and the washer glued to each as shown. Run a long screw through the outer wheel hub, drive it into the chassis, and finally drive it along the solid wheel.
THE TIGER
A MECHANICAL WORKING TOY

SIZE
LENGTH 8½ins. HEIGHT 5½ins.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
ONE Q4 THREE GD6

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.
Price on application.

NOTE—This design sheet is only presented free with the current issue of HOBBIES and not with back numbers. Further copies may be obtained.

THE ARROWS INDICATE THE DIRECTION OF GRAIN OF WOOD.

DETAIL SHOWING WORKING MECHANISM INSIDE THE BASE. VIEW FROM THE UNDERSIDE.

BLOCK TO TAKE SCREW OF AXLE.
CUT THREE 3/8in.

SIDE VIEW OF TIGER SHOWING HOW TO PAINT IN THE STRIPES, ETC.

SIDES OF BASE.
CUT ONE 1/4in.

END OF BASE.

PRINTED IN ENGLAND.
MECHANICAL TIGER TOY

THIS is another of the easily constructed pull-along toys, cut from thin wood, painted and completed from the full size patterns on the other side. These pattern parts can be pasted to the wood, or the outlines traced through carbon paper or ordinary tracing paper. If the paper itself is the body are cut from fin. wood and from the full size patterns on the other side. These pattern parts can be pasted to the wood, or the outlines traced through carbon paper or ordinary tracing paper. If the paper itself is the body are cut from fin. wood and

As the tiger is pulled along, the head nods up and down by means of a simple mechanical contrivance. A piece of stiff wire is fixed to one of the wheels and to the inner end of the neck, so that as the wheels revolve they actuate the up and down motion of the head.

Foundation Parts

The whole thing stands on a base which is the first preparation to undertake. This baseboard is a plain rectangle, and on the underside of it are glued the two ends between the two sides. In one of the sides, a hole is bored to take the axle, but in all others the wheels are screwed straight on.

The side with the axle hole must be fixed with this hole at the same end as the slot for the wire. Behind the other three wheel positions—indicated by a screw hole—a block of fin. wood is glued to provide the substance for the screw itself. The hole provided for the movable wheel on its axle, leads to the eccentric movement of the wheel on the opposite side. An underneath view of this corner is shown in detail. The axle bearer is glued firmly to the end at the position shown and, of course, to the underside of the base.

Axle Running

A hole in this inner axle must come immediately in line with the one in the side. The axle is then put through both the bearer and the side, and should be smoothed so it revolves with a minimum of friction. At one end of this axle rod the wheel is glued on, and at the other, the pivot wheel is fixed. A good method of ensuring the wheels do not revolve on the axle is to drive in a small sliver of razor blade to go right across the axle and into the main wheels.

To give additional strength to the whole base, little blocks of pieces can be glued in the corners. You can now proceed with the construction of the actual animal. The two outer sections of the body are cut from fin. wood and between them is glued the middle section. Get these in alignment, so that the outer edge is the same, a position which is indicated by the dotted lines on the patterns of the outer body.

The underside of the body can be rounded inwards to make the legs stand out a little more. The tail can also be rounded and slightly tapering, but the end of it should be left square finally to glue on to the base itself.

To return to the mechanism of the head and wheel, you must prepare the piece of wire to the length and shape shown. Turn one end to an eye in one direction, and then twist the opposite end to a similar eyelet, but at right-angles to the other. The whole thing completed, should be fixed, long enough to ensure the satisfactory working. Use a long pin or a piece of stiff wire to make the pivot for the head. It is driven through the head. Since there are two sides, and the head itself, exactly at a point indicated on the patterns.

Drive it through all parts carefully, and then run a pencil mark on the side of the head, indicating where it comes in relation to the body. This will make it easier when you extract the pin and want to replace it.

Mechanism

A tiny screw eye is fixed into the back of the head portion at the point indicated on the pattern, and this is fastened on one end of the wire. Take the wire through the slot in the base and fix the outside of the pivot wheel by means of the small screw, as you can see in the detail. Now put the animal’s head in place, push the pin through and test that the mechanism is running satisfactorily.

The other three wheels are now fixed on to the base by means of fin. round-headed screws, keeping in line so all four wheels rest level when in use.

It may be that some added weight is required to the base to ensure that the wheels grip the floor sufficiently to revolve. If so, then it is a simple matter to add a strip of lead in the corners under the base. The head-covered electric cabling will do nicely for the purpose.

Again test the running parts, holding the body and head in place, then take the body away, so the whole thing can be painted. The wheels can be left in the natural state, but the base can be black with a green ground. Before undertaking the final coat, it is as well to give a first coat of grey to allow it to soak in hard before applying the final bright enamel.

Of course, all parts must be thoroughly clean and smoothed down with glasspaper, and it is a good plan to take the wheels off while the painting is being done. In painting the base, you can add the line effect of the paneling which you can see in the finished drawing, but if this cannot be undertaken neatly, it is better to leave the side plain.

Painting

The body of the animal can be painted natural colours, a light brown being given the whole body, with a deeper colour of shadow on the underside, and chocolate or black striped effect. The full size drawing on the sheet is a helpful guide for this painting. Before painting finally, add the ears, which are cut from tiny pieces of wood shaped as shown to a taper, and then glued in the position indicated. Add the eyes, nose and mouth, painting the inside of the mouth.

Take the pin out so the head can be painted independently to ensure that the paint will stick, and then glued in the position indicated, and a final test made with the head in place.

If you find the toy does not act as it should, it is probably because not enough weight is given to the base, and some more can be added. This, of course, largely depends on the surface of the material upon which the toy is used. It will act better on a carpet, for instance, than on a smooth table, but a little manipulation to ensure smooth running can easily bring about the desired effect.

For pulling, a piece of string is fixed to an eyelet or staple driven into the front end of the face near the top.
NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

PIECE A. THE BASE. CUT ONE 1/4in.

PIECE C. TOP. CUT ONE 1/4in.

NOTE. WHEN CUTTING SIDES B, ALLOW 1/fin ON EACH END FOR TRIMMING. SIDE B, AND MOULDING SHOULD FIT SNUGLY UNDER RIM OF TOP C, AS SHOWN BY DOTTED LINES.

RING. CUT ONE 1/4in.

CENTRE RING. CUT ONE 1/4in.

THIS PORTION, D, TO BE CUT OUT AND GLUED UNDER LID E.

HANDLE F. CUT ONE 1/4in. GLUE TO E.

RINGS. CUT ONE OF EACH 1/4in.

PARTS SHOWN ARE FOR ONE SERVIETTE RING ONLY. ENOUGH WOOD IS SUPPLIED TO MAKE SIX.

INLAY DECORATION. TO BE CUT OUT, STAINED AND GLUED BACK INTO PLACE.

LID E. CUT ONE 1/4in.

HANDLE F. DRILL HERE

SIDE B. CUT ONE 1/4in.

SIDES B. CUT ONE 1/4in.

SIDES B. CUT ONE 1/4in.

SIDES B. CUT ONE 1/4in.

SIDES B. CUT ONE 1/4in.

PANELS OF WOOD REQUIRED FOR THIS DESIGN

FIVE Q4

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.
SERVIETTE RINGS AND BOX

The articles which can be made from the patterns illustrated on the right side, form an ideal presentation gift set for any friends at any time. They are suitable for weddings, Christmas or birthday, with equal appeal, and are simple to make, as well as attractive in appearance. The wood used is pin, thick throughout, and as the patterns are all simple, there is really no need to paste them down to the wood. They can be easily traced off or measured up with ruler, square and pencil.

The construction, too, incorporates a simple idea of inlaid panel work which is very distinctive and attractive. At the same time, this can be omitted if so desired, with the sides and lid left plain. Another alternative, of course, is the addition of a simple transfer put on. The box is made to hold six serviette rings, and wood sufficient for them all is contained in the kit provided.

Simple Cornering
It also includes the special grooved moulding which makes the construction of the box simple. This moulding is shaped at the corners, but has a groove just deep enough to take the pin, wood of the sides. In construction, remember to get all edges perfectly straight, and all similar parts of a like size. The four sides of the box, for instance, must fit into the grooves evenly, and the whole lot have a square edge, top and bottom to ensure fitting between the base and lid portion without any gapping.

The base is a plain pin, piece, and on it are glued the four sides. If you are incorporating the inlaid motif suggested on these sides and the lid, here is the way it can be undertaken and, of course, the work must be done before the parts are glued together. Use a fine fretsaw blade, and make as tiny a drill hole as possible at the point indicated on the lid pattern.

Go carefully round the cutting line, returning to the drill hole so that the upper part of the pattern falls out, then cut the second shaded portion, taking great care not to run the saw into the wood away from the design line, because every cut will show.

Staining
The two parts so cut out, are then stained before they are returned to their former place and glued in position. A contrasting colour should be provided in each case, but the same pattern on each side should be the same colour throughout. Brown or green or even red ink can be used, and the little part is dipped in it for a short time, and then hung to dry before being returned to its original position in the side with the addition of glue on its edges to fix it.

Gluing
When all four sides are complete, glue them into the corner grooved moulding, then glue the whole thing down squarely on the base. To get the bottom edge flat, rub the box frame on a sheet of glasspaper laid flat on the bench. If thought fit, one or two screws can be added from the underside into the sides, but if so, their heads should be countersunk below the surface of the wood.

The rim (C) is the part which is added to the top edge of the moulding and sides. In cutting out this part, notice that the inside portion of wood is required to glue to the underside of the lid. Make a drill hole, therefore, at one of the corner curves and keep to the cutting line right through, until you return to the starting point. The piece which then comes out is the same size as the hole it leaves, and thus forms a stop piece if glued to the underside of the top. The lid piece has a similar overlay pattern as the sides, and the addition of a simple handle tenoned in at (F).

The whole box is complete and will look brighter if you give it one or two coats of clear varnish. The inside of the box, too, can be stained or coloured if you so desire.

Serviette Rings
The composition of the serviette rings is shown in the detail here. A centre ring is cut, and the outer edge rounded nicely with glasspaper. Four more rings slightly smaller are then cut, and the outer edge of the outer two is also rounded. The circles can be marked out with pencil compasses instead of pasting down the patterns, the radii required being shown in the drawings.

Now stain the centre ring and the two outer ones with their curved edges. Dip in colour and leave for sufficient time for the stain to soak well in. Hang up to dry, and then glue them together for a short time, and then hung to dry before being returned to its original position in the side with the addition of glue on its edges to fix it.

Now stain the centre ring and the two outer ones with their curved edges. Dip in colour and leave for sufficient time for the stain to soak well in. Hang up to dry, and then glue them together for a short time, and then hung to dry before being returned to its original position in the side with the addition of glue on its edges to fix it.

Serviette Rings
The composition of the serviette rings is shown in the detail here. A centre ring is cut, and the outer edge rounded nicely with glasspaper. Four more rings slightly smaller are then cut, and the outer edge of the outer two is also rounded. The circles can be marked out with pencil compasses instead of pasting down the patterns, the radii required being shown in the drawings.

Now stain the centre ring and the two outer ones with their curved edges. Dip in colour and leave for sufficient time for the stain to soak well in. Hang up to dry, and then glue them together for a short time, and then hung to dry before being returned to its original position in the side with the addition of glue on its edges to fix it.

Whether the ring can well be coloured with enamel or paint or, of course, if you have a very dark stain, black or brown, this may be used as well. Inside of the ring does not show the length of the stained parts. The half dozen rings made, will stand neatly in the box and make a very attractive presentation either as a gift to a friend, or for a Sale of Work.
OUTER SIDE OF CHAIR. CUT THE TWO FRETTED PARTS FROM 3/16-in. WOOD AND GLUE THEM TO THE INNER 1/8-in. SIDES.

INNER SIDE OF CHAIR. CUT TWO 1/8-in. TWO PIECES OF 1/8-in. WOOD MAY BE PINNED TOGETHER AND THE OUTLINE CUT AT ONE OPERATION IF DESIRED. GLUE THE OUTER SIDES TO THREE PIECES.

UPPER FLOOR. CUT ONE TO THE OUTLINE 1/4-in. THICK.

LOWER BASE. CUT ONE 1/4-in. AND CHAMFER ON THREE EDGES TO SECTION AND GLUE TO LOWER BASE PIECE.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
ONE H4 ONE H3 ONE G2

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk. Price on application.

NOTE:- This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.
How to make our small model of
THE CORONATION CHAIR

Most people know of the historical Coronation Chair used for the crowning of Kings in Westminster Abbey, and the model shown here is a replica of it, easily made in wood from the patterns printed on the other side. The Chair is of solid wood, supported by four metal lions at each bottom corner. Beneath the seat is the famous Coronation Stone brought from Stone in Perthsire to Westminster Abbey by Edward I in 1296, where it still serves its historic purpose. Now for the making of our model.

Thin Wood
The wood used in the construction is 3\(\frac{1}{8}\), 5\(\frac{1}{8}\), and 1\(\frac{1}{8}\) thick, and one each of the Hobbies panels is sufficient for all of it. The finished model, of course, should not be painted, but will be stained a suitable dark shade in keeping with the antiquity of the actual Chair. The patterns are shown full size, and should be copied off to the wood.

In the case of the fretted patterns, of course, these can be stuck down with paste, but then the outline of the back should be redrawn on to the wood direct so you may still have the actual design pattern sheet to which to refer. This is rather essential because the dotted lines on the pattern of the back are most helpful in measuring off distances, showing positions of the various pieces concerned. All the parts can be cut first, but in doing so test out sizes where necessary. For instance, the seat and the upper floor should be alike with an exactly similar length to fit between the sides.

Base Fixing
The long tenon on the back (at A) must be cut to fit through the two pieces, and these in turn must be glued together coincident with each other so the tenon itself will slide through with hand pressure and without undue forcing. Note, too, that the pattern of the upper floor is shown dotted, but will have to be cut as a separate piece. It is 3\(\frac{1}{8}\) long and 2\(\frac{1}{8}\) wide.

You can build the whole thing up from the base, or if you prefer, make the actual chair portion as a complete unit, and then fit it into the base itself. The base is composed of two pieces — the lower one of a solid part except for the slot at (A), and the upper one which is slightly smaller. The upper base is glued to the lower one with both back edges in line. This allows a slight projection of the lower portion, itself the upper edge of the top base will be chamfered slightly according to the shaded section shown.

The back can be fitted through the slot (A), care being taken that the flat edge of the lions rests snugly on the

How the sides and arm rests are made

The two front lions can be put in now by gluing them to the upper base to face outwards in the position shown by the dotted lines on the pattern.

Before finally gluing in, however, have the floor piece ready and see that it fits into the right angle cut at the back of each lion's head. The back edge of the floor, of course, is glued to the back itself, and fitted there\(\frac{1}{8}\), upwards from the base. Each side of the Chair is composed of two pieces, one fretted and one plain, and the detail herewith shows the construction of the whole side.

Inner Side
The fretted piece is glued to a similar part cut to outline only to form the inner side. To ensure this similarity, the parts can be pinned together when the outer edge is cut round as one piece. After cleaning, glue the two parts together.

On the front edge, a solid upright is formed, again by gluing two pieces of 3\(\frac{1}{8}\), wood and cutting to the shape shown. Notice that this complete thickness is a little wider than the actual seat, and so will project slightly on each edge. At the top, the shaped arm rest is fitted. Glue two pieces of 3\(\frac{1}{8}\), wood together, and then cut to the outline shown, afterwards rounding them off to make a shapely curved portion. If, of course, you have a solid 3\(\frac{1}{8}\), piece of wood, it will save the trouble of gluing the two together in every case.

The Arm Rest
The detail here shows the two pieces of the arm glued, and then how it is shaped. Here again there will be an overlap on each side. The two sides should be completed, and are then glued to the back with the upper floor at the bottom, and the seat portion 1\(\frac{1}{8}\), above it. Glue the parts securely to the back and ensure that they are at right-angles all round.

An ornamental top is provided by the angular overlay, cut in two pieces and glued flat to join at the apex. On each side there is also a rounded bead. These strips are cut from 3\(\frac{1}{8}\), wood and then glasspapered half-round so they can be glued two on each of the sides at the position marked (B) on the pattern, and as can be seen in the picture of the finished Chair.

Stained Finish
The actual construction is now complete, and the finished work should be finally cleaned and stained. Get the whole of the model dark, with the appearance of weathered oak, and do not attempt to add a polished or painted finish. The space between the seat and upper floor should be filled with something to represent the stone mentioned at the beginning. Possibly a piece of natural rock stone or limestone could be roughly shaped and slipped into the aperture provided. It should not be more than 1\(\frac{1}{8}\), thick and 2\(\frac{1}{8}\), long. The baseboard, of course, can be coloured flat or polished black, and the carving of the lions can be made more shapely with a penknife or small file. Those lions actually are metal, and can be stained much darker or even painted a flat metal colour.
CUT THIS OVERLAY FROM 1/4in. WOOD. ROUND OFF AND GLUE TO CAT.

THE CAT. CUT ONE 1/2in. AND PAINT BLACK.

WASHERS J. CUT ONE OF EACH 1/4in. AND GLUE TO AXLE AND 4in. WHEELS.

PIECE A. CUT ONE 1/2in.

PIECE E. CUT ONE 1/4in.

PIECE E. CUT ONE 1/4in.

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

DISC F. CUT ONE 1/2in.

PIECES M. CUT FIVE FROM 1/4in. ROUND ROD. GLUE INTO HOLES IN F.

PIECES B. CUT ONE OF EACH 1/4in.

PIECES C AND D. CUT ONE OF EACH 1/4in.

DISC G. CUT OUT THIS PATTERN, PASTE TO CARD AND COLOUR.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

SPINDLE L. CUT ONE FROM 1/4in. ROUND ROD. ROUND OFF THE ENDS AND GLUE INTO CENTRE HOLE OF DISC F.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

MAIN AXLE. CUT ONE FROM 3/8in. ROUND ROD.

FRONT AXLE N. CUT ONE FROM 1/4in. ROUND ROD.

PIECES C AND D. CUT ONE OF EACH 1/4in.

WHEEL J. 4in. WHEEL I. 2in. WHEEL

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

MAIN AXLE. CUT ONE FROM 3/8in. ROUND ROD.

PIECE B. CUT ONE OF EACH 1/4in.

PIECE E. CUT ONE 1/4in.

DISC F. CUT ONE 1/2in.

DISC G. CUT OUT THIS PATTERN, PASTE TO CARD AND COLOUR.

PIECES C AND D. CUT ONE OF EACH 1/4in.

DISC F. CUT ONE 1/2in.

PIECES B. CUT ONE OF EACH 1/4in.

PIECE A. CUT ONE 1/2in.

PIECE E. CUT ONE 1/4in.

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

DISC G. CUT OUT THIS PATTERN, PASTE TO CARD AND COLOUR.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

SPINDLE L. CUT ONE FROM 1/4in. ROUND ROD. ROUND OFF THE ENDS AND GLUE INTO CENTRE HOLE OF DISC F.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

MAIN AXLE. CUT ONE FROM 3/8in. ROUND ROD.

FRONT AXLE N. CUT ONE FROM 1/4in. ROUND ROD.

PIECES C AND D. CUT ONE OF EACH 1/4in.

DISC G. CUT OUT THIS PATTERN, PASTE TO CARD AND COLOUR.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

SPINDLE L. CUT ONE FROM 1/4in. ROUND ROD. ROUND OFF THE ENDS AND GLUE INTO CENTRE HOLE OF DISC F.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

MAIN AXLE. CUT ONE FROM 3/8in. ROUND ROD.

FRONT AXLE N. CUT ONE FROM 1/4in. ROUND ROD.

PIECES C AND D. CUT ONE OF EACH 1/4in.

DISC G. CUT OUT THIS PATTERN, PASTE TO CARD AND COLOUR.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

SPINDLE L. CUT ONE FROM 1/4in. ROUND ROD. ROUND OFF THE ENDS AND GLUE INTO CENTRE HOLE OF DISC F.

PIECE K. CUT ONE FROM 1/4in. ROUND ROD. A HOLE MUST BE BORED IN ONE OF THE LARGE WHEELS AND PIECE K WEDGED IN TIGHTLY.

MAIN AXLE. CUT ONE FROM 3/8in. ROUND ROD.

FRONT AXLE N. CUT ONE FROM 1/4in. ROUND ROD.
The Waltzing Cat Toy——

This novel mechanical toy is simple to construct with the fretsaw and a few tools, and when completed, is made attractive by colourful painting, such as appeals to any younger. The parts required are few, and the details herewith show the general construction of the mechanism. When the toy is pulled along, the black cat sitting on the top platform, waltzes round and round.

A pattern for one is shown where the wheel about $\frac{1}{4}$ in, from the rim. The stub joints at the bottom, fit into the main framework, with the wheels, and washers glued on. Each end of the rods turns loosely in the top so that when the toy is pulled along, it will revolve freely and at quite good speed when the article is in motion. As there is only one wheel and the spindle, the top can revolve independently of the rate at which the wheel is turning.

The cat has a small overlay (H) on the front at the foot, and when the part is cut from $\frac{3}{4}$ in, wood you may like to carve it with penknife or other cutting tool, roughly to the shape of a cat itself. The stubs at the bottom, fit into the holes of the platform but are not glued in place. It should be possible to stand the cat in place with hand pressure only.

The whole thing is complete so far as construction is concerned, and painting can now be undertaken. Use poster paint or bright enamels after having put one coat of flat paint on first to body in the wood. Bright reds and yellows should be introduced, although, of course, the cat itself is black with appropriate colouring for eyes, nose, mouth, etc.

If you have your own particular type of cat, you could probably copy this more or less realistically. The kit provided by Hobbies contains not only the wood, but the necessary wheels and spindle rod for all parts.

---

**Diagram:**

A pattern for one is shown where the various parts of the mechanism are indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

This position is important, and is clearly shown by the dotted indication on the spindle pattern. It can also be seen in the detail at Fig. 1. Get this spindle glued firmly.

The front wheels (2 in. in diameter) are glued at the end of a 1 in. spindle which works loosely through the hole previously bored in part (A). There is a space between the inside of the wheel and the part (A), but this allows for turning the toy when pulling.

An upside-down picture of the revolving top platform is given at Fig. 2. Cut the holes (M), then glue in the 2 in. spindle (L). This protrudes 1 in., above the centre, with the other end projecting about 1 in., and similarly rounded off. You should test out the mechanism now by pushing this long spindle (L) into the hole in the top of the toy and seeing it engages when the main wheel turns.

The platform spindle should revolve loosely in the top so that when the toy is pulled along it will revolve freely and at quite good speed when the article is in motion. There is no hole in (D) as the spindle in the revolving top rests upon this piece.

Get the box together (apart from B1), adding small freckles if you think advisable, to hold the inside parts. The piece (B1) is now glued and screwed to the straight upright edge of piece (A), and then the rest of the partly constructed box can be put to it and finally glued in place with (D) resting on the projecting brackets of (A) (see Fig. 1).

This should bring the axle holes in all the pieces in line, and the main axle itself can then be fitted. This is a 4 in. rod, and the position of the various parts is indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

Bore the holes on the small side in the wheel, and glue on firmly. Before this, of course, you must have added the $\frac{3}{4}$ in, loose washer and the fixed washer (J) which is glued to axle and wheel. In one of the wheels only a 1 in. spindle is fitted to project inwards. A hole is bored through the wheel about $\frac{3}{4}$ in, from the rim.

---

**Diagram:**

A pattern for one is shown where the various parts of the mechanism are indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

This position is important, and is clearly shown by the dotted indication on the spindle pattern. It can also be seen in the detail at Fig. 1. Get this spindle glued firmly.

The front wheels (2 in. in diameter) are glued at the end of a 1 in. spindle which works loosely through the hole previously bored in part (A). There is a space between the inside of the wheel and the part (A), but this allows for turning the toy when pulling.

An upside-down picture of the revolving top platform is given at Fig. 2. Cut the holes (M), then glue in the 2 in. spindle (L). This protrudes 1 in., above the centre, with the other end projecting about 1 in., and similarly rounded off. You should test out the mechanism now by pushing this long spindle (L) into the hole in the top of the toy and seeing it engages when the main wheel turns.

The platform spindle should revolve loosely in the top so that when the toy is pulled along it will revolve freely and at quite good speed when the article is in motion. There is no hole in (D) as the spindle in the revolving top rests upon this piece.

Get the box together (apart from B1), adding small freckles if you think advisable, to hold the inside parts. The piece (B1) is now glued and screwed to the straight upright edge of piece (A), and then the rest of the partly constructed box can be put to it and finally glued in place with (D) resting on the projecting brackets of (A) (see Fig. 1).

This should bring the axle holes in all the pieces in line, and the main axle itself can then be fitted. This is a 4 in. rod, and the position of the various parts is indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

Bore the holes on the small side in the wheel, and glue on firmly. Before this, of course, you must have added the $\frac{3}{4}$ in, loose washer and the fixed washer (J) which is glued to axle and wheel. In one of the wheels only a 1 in. spindle is fitted to project inwards. A hole is bored through the wheel about $\frac{3}{4}$ in, from the rim.

---

**Diagram:**

A pattern for one is shown where the various parts of the mechanism are indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

This position is important, and is clearly shown by the dotted indication on the spindle pattern. It can also be seen in the detail at Fig. 1. Get this spindle glued firmly.

The front wheels (2 in. in diameter) are glued at the end of a 1 in. spindle which works loosely through the hole previously bored in part (A). There is a space between the inside of the wheel and the part (A), but this allows for turning the toy when pulling.

An upside-down picture of the revolving top platform is given at Fig. 2. Cut the holes (M), then glue in the 2 in. spindle (L). This protrudes 1 in., above the centre, with the other end projecting about 1 in., and similarly rounded off. You should test out the mechanism now by pushing this long spindle (L) into the hole in the top of the toy and seeing it engages when the main wheel turns.

The platform spindle should revolve loosely in the top so that when the toy is pulled along it will revolve freely and at quite good speed when the article is in motion. There is no hole in (D) as the spindle in the revolving top rests upon this piece.

Get the box together (apart from B1), adding small freckles if you think advisable, to hold the inside parts. The piece (B1) is now glued and screwed to the straight upright edge of piece (A), and then the rest of the partly constructed box can be put to it and finally glued in place with (D) resting on the projecting brackets of (A) (see Fig. 1).

This should bring the axle holes in all the pieces in line, and the main axle itself can then be fitted. This is a 4 in. rod, and the position of the various parts is indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

Bore the holes on the small side in the wheel, and glue on firmly. Before this, of course, you must have added the $\frac{3}{4}$ in, loose washer and the fixed washer (J) which is glued to axle and wheel. In one of the wheels only a 1 in. spindle is fitted to project inwards. A hole is bored through the wheel about $\frac{3}{4}$ in, from the rim.

---

**Diagram:**

A pattern for one is shown where the various parts of the mechanism are indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

This position is important, and is clearly shown by the dotted indication on the spindle pattern. It can also be seen in the detail at Fig. 1. Get this spindle glued firmly.

The front wheels (2 in. in diameter) are glued at the end of a 1 in. spindle which works loosely through the hole previously bored in part (A). There is a space between the inside of the wheel and the part (A), but this allows for turning the toy when pulling.

An upside-down picture of the revolving top platform is given at Fig. 2. Cut the holes (M), then glue in the 2 in. spindle (L). This protrudes 1 in., above the centre, with the other end projecting about 1 in., and similarly rounded off. You should test out the mechanism now by pushing this long spindle (L) into the hole in the top of the toy and seeing it engages when the main wheel turns.

The platform spindle should revolve loosely in the top so that when the toy is pulled along it will revolve freely and at quite good speed when the article is in motion. There is no hole in (D) as the spindle in the revolving top rests upon this piece.

Get the box together (apart from B1), adding small freckles if you think advisable, to hold the inside parts. The piece (B1) is now glued and screwed to the straight upright edge of piece (A), and then the rest of the partly constructed box can be put to it and finally glued in place with (D) resting on the projecting brackets of (A) (see Fig. 1).

This should bring the axle holes in all the pieces in line, and the main axle itself can then be fitted. This is a 4 in. rod, and the position of the various parts is indicated by the dotted lines. The rod turns loosely in the main framework, with the wheels and washers glued on. Each end of the axle is flattened down a little, which will allow a wedge to be fitted in to prevent it turning in the wheel itself.

Bore the holes on the small side in the wheel, and glue on firmly. Before this, of course, you must have added the $\frac{3}{4}$ in, loose washer and the fixed washer (J) which is glued to axle and wheel. In one of the wheels only a 1 in. spindle is fitted to project inwards. A hole is bored through the wheel about $\frac{3}{4}$ in, from the rim.
FRONT AXLE.
CUT ONE 3/8in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.

WHEEL FOR HORSE
3/8in.

HORSE
CUT FROM 3/8in.
AND PAINTED
UP TO THE LINES.

FRONT AXLE SUPPORT.
CUT ONE 3/8in.

DISCS GLUED ON
ENDS OF AXLES
1/4in.

DISCS GLUED TO
FEET OF HORSE
1/4in.
The toy caravan illustrated on the other side, can be completed from the patterns provided, with the help of these instructions. To have the sheet of reference, it is advisable to trace off the patterns direct on to the wood of the thickness suggested, the cutting out is done with the fretsaw, and the construction is straightforward. The finished article should be painted in bright colours.

The patterns themselves show the outline of the part to be cut, and also dotted lines indicating where other parts should join. These positions must be measured and marked out, and care taken to get a strong joint in every case, so the toy will stand up to the rough handling it is likely to receive.

**Main Body**

The main body of the caravan is built first as a complete unit. Cut the floor, two sides and two ends. The half door opening shown on the pattern of the front and back, should be cut in the back only. Fit the back and front between the two sides, setting it inwards just over \( \frac{1}{4} \) in., as shown by the dotted lines on the patterns concerned. This four-piece frame is glued together firmly and the windows are added inside in the corners.

As the sides slope outwards the angle at the bottom must be cleaned down to be flat. You could do this by taking the whole glued frame and rubbing it with a circular movement on a piece of flat glasspaper. Stiffening pieces forming the roof ribs are also cut and let into the extension of the sides at the point (A).

The window opening is cut in both sides, and you can add transparent material for imitation glass behind. There are four pieces forming the ornamental shutters; they are glued one each side of the window where indicated on the pattern. The actual shutter itself is painted on according to the marks shown.

The roof is made from stout white card, but need not be added at present, because by its omission you will be able to paint the inside more easily.

**Back Steps**

To the back of the caravan, the steps are added. They can be built as a separate unit (see Fig. 1), consisting of the two side shapes with the three treads between. Get them level and equidistant, and if you think fit, drive a small nail in through the outer side as shown. The steps fit into the back by the open section (B), and can be left movable or glued in position just as desired.

The back axle is a piece of wood glued beneath the floor at rightangles. It is set inwards \( \frac{1}{4} \) in., and the angle blocks cut to the shapes shown are glued in the rightangle provided, to stiffen the whole thing up, as seen at Fig. 2. Each end of these axles has a circular disc just over \( \frac{1}{4} \) in. long glued to the end, projecting slightly below, as you can see at Fig. 3. Be sure to get these discs alike at each end to ensure the true running of the wheels.

For the forward wheels you will need a movable portion such as shown in Fig. 3. The circular disc of turntable is glued to the front axle support. Now fit this piece underneath the floor with its centre point \( \frac{1}{8} \) in., from the front. Have a flat-headed screw countersunk into the wood, but long enough to drive well into the floor and so serve as a pivot. A good plan is to add a blocking piece inside the van into which the screw will turn. If possible, too, add a thin metal washer between the turntable and the floor, to reduce friction.

The axles bar is next built in the same manner as the other. It is glued across the front axle support as two angle blocks on each side, and the discs for the wheel pin on each end (see Fig. 3). Two tiny screw hooks are added to the front edge to link up with the shafts which can next be made (see Fig. 4). The tailboard is glued to overlap slightly each side, and the screws added to coinicide with the others in the turntable portion.

**The Horse**

The horse is cut to the outline shown. If you prefer to have one made thicker, you can glue two pieces of \( \frac{1}{2} \) in. wood together. There is still room for the \( \frac{1}{2} \) in. board between the shafts. This thicker outline will give you the opportunity of carving and shaping the animal to make it more realistic. If you cut the two in this way, remember to get the right action for the legs, so that the two offside ones are cut on one board, and the two nearside ones are cut in the other. Note the position of the hole for the pivot pin which goes through the shafts both sides as well as the horse itself. A fairly stout pin with its ends turned over, will serve. Do not, how-ever, fix the horse finally until all carving and painting has been undertaken.

If you are cutting the horse from one thickness of \( \frac{1}{2} \) in. wood only, you should add the discs to the feet as shown by the sectional view at Fig. 3. These \( \frac{1}{8} \) in. thick discs extend slightly below the hoof, and are glued to the horse itself. This provides a good thickness of wood into which the screw holding the wheels themselves can be driven. If you are using a double thickness of wood for the horse, the discs can be omitted. Here again, a thin washer between wheel and main body, will help in easy running. Have round-headed screws so that the parts can be taken off for painting.

The wheels of the caravan are simply circular discs cut with fancy spokes added on to the axle discs with screws, and if possible, washers between. The figure of the driver is cut to the outline shown, and after painting, is glued on the front of the caravan.

**Painting**

The rest of the work after cleaning, consists of painting. This should be done carefully to make a bright attractive finish. The markings of the horse can be painted on, the shutters, doors and windows can be indicated by lining if you follow the style shown on the picture of the finished article. There is no overlap to the sides, but the thick black lines would frame this up quite well. The shutter portion, too, is painted on in a contrasting colour from the caravan itself.

Paint the inside, add curtains to windows and doors, then glue on the roof. That part, too, should also be painted, possibly a dark brown or black.

The harness and trappings of the horse can be either painted, or better still, added in thin strips of American cloth or very thick leather for realism. The reins, of course, run from the bit to the hands of the driver. As the wood throughout may be absorbent, the best plan is to give a complete coat of matt light paint to fill up the grain, then add a second one of the colour desired.
MODEL OF
FLORENCE NIGHTINGALE
CARRIAGE

SIZE: 8½ins. LONG. 7½ins. HIGH.

CANOPY BACK CUT ONE 1/8in. SHAPE LOWER EDGE TO SECTION.

HOOD CROSS MEMBER CUT ONE 1/4in. SMALLER TO SECTION.

FRONT UPRIGHTS CUT TWO 1/8in. EACH TYPE SHAPE.

REAR UPRIGHTS CUT TWO 1/4in. EACH TYPE SHAPE.

STRENGTHENING PIECES CUT EIGHT FROM THIN WOOD OR CARD.

PIECE CUT TWO FROM PAPER. BEND AT DOTTED LINES.

DRIVER'S SEAT CUT ONE 1/8in. ROUND OFF FRONT EDGE TO SECTION.

SEAT BACK CUT ONE FROM THIN WOOD OR CARD. BEND TO WIRE, STAYS I22 WITH THREAD.

PANELS OF WOOD REQUIRED FOR THIS DESIGN

TWO Q4 THREE Q2 TWO P.P.M.

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

PRINTED IN ENGLAND.

NOTE. This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.
Construtional details for the Florence Nightingale Coach

The movable front chassis portion comes between the front of the coach and the support (10) under the floor. In Fig. 5 shows the fixed portion of the coach. The support (10) under the floor is added to the front at 13, 14 and 15. At 15, leave 1 in. loose, so it can go inside the coach.

Before the canoa is put on, the brack lever fits into a card or wood and stood by the model before creating the sections. It can be glued to the coach. But when the coach is turned around, it can be glued under the floor. Fig. 7—Details of brake mechanism

The model itself is only 8½ ins. long and 2 in. wide. The framework of the coach can be seen clearly in the drawings. These frameworks should be made after the drawings, should be made after the drawings, and should show the construction of the coach. The coach, blocks of wood, is the usual small tools for putting together the parts. The model is made of thin wood or card. The wood is the same as shown in Fig. 1, and the patterns should be marked on the wood or card by means of tracing paper.

The movable front chassis move in accordance with the dotted lines on the patterns concerned. A worker on the actual coach undertaking renovations can be seen in Fig. 5. A suitable panel of particulars is printed on the sheet. It can be glued to the coach. The model is made up of thin wood or card. The wood is the same as shown in Fig. 1, and the patterns should be marked on the wood or card by means of tracing paper.
OLD ENGLISH WEATHER HOUSE
SIZE:— WIDTH 8ins. HEIGHT 8ins.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
ONE K3 ONE H3

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.
Price on application.

Note:—WOOD 1/2 in. USED THROUGHOUT

UPRIGHT TO TAKE LOWER END OF GUT. CUT ONE.

HANDLE TO TAKE UPPER END OF GUT. CUT ONE.

HANDLE TO TAKE LOWER END OF GUT.

Note:—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

FLOOR FOR MOVING FIGURES. CUT ONE.

PRINTED IN ENGLAND.
OLD-TIME WEATHERHOUSE

THE Old English Weatherhouse illustrated on the other side, is one of those novelties comparatively easy to make, and always popular. The whole thing acts on a hygroscopic principle, the humidity of the air affecting the piece of gut by which the actual figures are hung.

This gut stretches and contracts according to the atmosphere, and, instead of turning slightly, if this action is connected to the figures, when the gut turns in one direction, the appropriate figure comes either in or out of the turns in one direction, the appropriate figure comes either in or out of view. Actual figures are hung.

The gut itself is glued. Now you can regulate the height in order to cut the gut the right length before fixing.

The front can next be cut, but before finally fixing, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

When you first put it in, the dampness or dryness may have already affected the gut so that the platform should have the figure out. The actual length of the gut required would probably serve the purpose better, being less likely to snap.

The front can next be cut, but before finally gluing it, the disc and handle portion in which the gutter passing through a hole previously cut at the point shown. A hole is bored through the disc, and then a slot again put into the handle portion in which the gut itself is glued.

The roof portion can be fitted, and it is screwed into position so it can be removed for adjustment if necessary later. Notice that the roof extends to the edges of the back, and therefore overlaps the sides about 3/8 in., as you can see by the constructional detail shown in the pattern of the back.

The front can next be cut, but before finally fitting, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

It is probably best also to test and fit the interior figures before finally gluing them to the front portion. The two figures are cut from the waste wood where shown, and the markings of the folds of the dress, features, etc. are cut in with a sharp knife or a V-tool. These figures, of course, should be slightly rounded at the edges to make them more realistic, and those who are clever with the paint brush can colour the parts appropriate to the period.

A detail is given also showing how the gut is fitted to platform holding the figures. This floor is 3/4 in. thick and has the usual upright which is glued firmly into the mortise and tenon joints. The upright, you can bore a hole with a fretwork drill about 3/8 in. downwards to take the end of the gut.

The roof portion can be fitted, and it is screwed into position so it can be removed for adjustment if necessary later. Notice that the roof extends to the edges of the back, and therefore overlaps the sides about 3/8 in., as you can see by the constructional detail shown in the pattern of the back.

The front can next be cut, but before finally fixing, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

When you first put it in, the dampness or dryness may have already affected the gut so that the platform should have the figure out. The actual length of the gut required would probably serve the purpose better, being less likely to snap.

The front can next be cut, but before finally fixing, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

When you first put it in, the dampness or dryness may have already affected the gut so that the platform should have the figure out. The actual length of the gut required would probably serve the purpose better, being less likely to snap.

Having the figures and floor in place, thread the gut through the hole in the roof and adjust for length before gluing the disc and handle to the platform. All the parts are shown cut from fin., and the markings of the folds of the dress, features, etc. are cut in with a sharp knife or a V-tool. These figures, of course, should be slightly rounded at the edges to make them more realistic, and those who are clever with the paint brush can colour the parts appropriate to the period.

A detail is given also showing how the gut is fitted to platform holding the figures. This floor is 3/4 in. thick and has the usual upright which is glued firmly into the mortise and tenon joints. The upright, you can bore a hole with a fretwork drill about 3/8 in. downwards to take the end of the gut.

The roof portion can be fitted, and it is screwed into position so it can be removed for adjustment if necessary later. Notice that the roof extends to the edges of the back, and therefore overlaps the sides about 3/8 in., as you can see by the constructional detail shown in the pattern of the back.

The front can next be cut, but before finally fixing, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

When you first put it in, the dampness or dryness may have already affected the gut so that the platform should have the figure out. The actual length of the gut required would probably serve the purpose better, being less likely to snap.

The front can next be cut, but before finally fixing, should have the various overlaps glued on. These overlaps consist of the columns on each side of the door and the arch of the archway above. Notice the way of the grain and hold the wood close to the fretsaw to prevent breaking. If you have a piece of 3/8 in. plywood this will probably serve the purpose better, being less likely to snap.

When you first put it in, the dampness or dryness may have already affected the gut so that the platform should have the figure out. The actual length of the gut required would probably serve the purpose better, being less likely to snap.
STRENGTHENING FILLETS FOR FLOOR.
CUT FROM 1 1/4in. WOOD, AND GLUE
TO ENDS AS SHOWN BY THE
DOTTED LINES.

FLOOR. CUT ONE TO THE
MEASUREMENTS GIVEN
1/4in. THICK.

STRENGTHENING FILLET FOR FLOOR
SCREW FLOOR SCREW

SIDE. HALF ONLY SHOWN,
CUT TWO COMPLETE SIDES
1/4in. THICK. ONE SIDE ONLY
NEED HAVE THE FRETTED
WORK INCLUDED.

OVERLAY ON
ENDS. CUT TWO
TOGETHER 3/16in. THICK WOOD.

NOTE.—This design sheet is
only presented free with the
current issue of Hobbies and
not with back numbers.
Further copies may be obtained.

PRINTED IN ENGLAND.
Patterns for making a Table

THE patterns shown on the other side are cut from 
1/2 in. and 3/4 in. wood as stated. Some duplication 
of them will be required first, as there has not been room to get all of them on 
the sheet. Note the pattern of the side of which half only is given. Paste this 
part to the wood, keeping one edge in line with the actual edge of the board. 
This will save one complete sawcut.

This pattern, however, is half only. The other portion of the pattern is 
shown in the top right-hand corner. Cut the paper down the centre line 
marked, and then paste this pattern by the side of the other one with the two 
centre lines together and the long straight edge of the pattern extending 
along the edge of the wood to be a continuation of the previous paper pasted down.

Pattern Details
This second portion of the pattern includes the fretted work, but the 
outline must, of course, be completed with pencil marks. Mark off the end 
across the wood 7ins. from the centre line to complete the rectangle. On this 
end line, carefully mark out the tenon (A), projecting 1 in. and being 2/12 ins. wide— 
that is, 1/12 ins. from each edge.

You now have the outline and pattern of one complete side, of which two are 
required. You can either have both these sides fretted, or if you prefer, leave the second one plain. If you are 
leaving it exactly like the first with its fretwork panel, then, of course, you 
must trace off the design and reproduce it on the second piece of wood. A second tracing will have to be taken of the 
overlay on the end, as two of these parts also are required.

The two sides are tenoned into the ends at (A). Note that the bottom edge 
of the sides must be chamfered slightly to stand flat to the floor, whilst the 
opposite edge—the upper one—is rounded to the shaded section shown.

The Floor
When the sides and ends are in place, fit the floor. Both its long edges are 
rounded, and they project beyond the upright sides when the part is in place. 
You can glue them to the sides and then add strengthening fillets to the inside of 
the ends. This is shown by the dotted lines on the patterns of the ends themselves.

The two fretted overlays cut from 
1/4 in. wood—or 3/8 in. if you prefer, and 
have the boards—are cut, cleaned and 
glued on the ends. The bottom edge is 
in line with the bottom edge of the main 
end, but the outline is about 3/8 in. 
smaller all round the other edges. You 
see this again by the dotted lines on the 
pattern of the end.

Hints on Finishing
If you are proposing to stain or colour 
the stand, it should be done before this 
final overlay is glued on. Or, of course, 
you can stain the end much darker 
where it will be behind the fretted 
overlay, to help to show it up.

Hand holes are cut in the ends, and 
you can make these smoother for 
handling by rounding the edges if you 
desire. One point to watch when you 
are constructing the whole thing, is that 
the four feet rest firmly and flat on the 
table. Be sure the parts do not wring at 
all whilst they are being fitted together.
NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.

OVERLAY ON OUTSIDE OF HANDLE. CUT TWO TOGETHER 1/8in. THICK AND GLUE TO 1/4in. SECTION OF HANDLE.
The patterns on the other side, provide the opportunity of building a useful practical tray in a variety of ways. It is intended for the service of comparatively small articles like a couple of cups of tea or two or three glasses for drinks, being only 12ins. long and 8ins. wide over all. The patterns provided, give the opportunity of several ways of completing it.

As shown now, the tray has a glass top which covers a striking and picturesque overlay of a galleon which essentially incorporates an amount of fretwork cutting. An alternative style is to omit the galleon, and to have a simpler decorative centre piece for a more formal part. Or again, you can omit the glass altogether, and have the tray as a plain wooden article.

If, however, you are wanting to make a really attractive piece of work, then you cannot do better than follow out the original suggestion of a galleon picture under glass. The wood provided is sufficient for all parts, and the construction is straightforward. The design of the galleon should be cut out in paper, and pasted on to ½ ins. wood, but apart from that, there is no need to paste the paper down as the measurements can be taken from the pattern sheet direct on to the boards.

Constructional Details

The two details here, show helpful constructive views, and a study of them with the patterns, should make the construction straightforward. The principal point is in getting the angles by which the framework of the tray are fixed. These are in the ordinary 45 or 60 degrees, and accordingly must be marked off with care.

Cutting them is best done, too, with a small tenon saw, both the tool and the wood being held firmly. As there are four parts angled at each end of the tray, it is essential to get them correct, and if only one is cut badly, then the frame will not fit together as nicely as it should.

For this reason, careful marking out is essential. Lay the pattern sheet on the wood with a piece of carbon paper between it, and mark through with a ruler exactly on the cutting line.

How to Cut

When you come to the actual cutting, keep the sawblade slightly on the outside of the line, so that the cut itself may not be inside the pencil marking provided. Moreover, if you cut the parts too small, you cannot get them to fit, whereas if they are slightly too long, you can always take off a piece more satisfactorily.

The flat overlays (D, E and F) should be cut out first, and framed up round the edge of the base. Test them before finally gluing in place, and note that they are set inwards equidistant all the way round. The exact position is indicated by the dotted line on the base itself, but checking must be done with the actual parts.

Outside this flat overlay is the upright edging with its rounded top. These are the parts (A, B and C). To get the ends correct, stand the edging piece upright close to the overlay previously glued to the board. If the end is overlapping the angle of this flat piece, then you can mark on the upright strip the actual angle required for cutting to a suitable mitre. Having cut one end, the part is stood in place again, and the opposite end marked and cut in a similar way.

Any duplicates of this part can be treated similarly, testing out each one as you go along, to see it fits in place. Cut and glue (A) in position on each of the long sides, and then build round the end strips (B) and (C) between. Ensure good close joints, and finally glue upright and behind the flat overlays as you see in Fig 1.

The Glass Base

A piece of 21oz. glass is required, and this can probably be obtained from a local glazier. It is slightly under 10ins. long and just under 5ins. wide. Have it cut square rather than fit too tightly. The actual shape can be traced off in the dotted lines or from the overlay in place, and should be taken to the glazier for cutting.

This glass is held in place by quarter-round edging strips. Various lengths are required, and here again the ends must be cut carefully to the angle to fit. They are glued above the glass, but before doing so you must, of course, fit in the galleon overlay or whatever decoration you are adding.

The Galleon Decoration

Remember, too, to colour the base of the tray as you wish. If the galleon is in whitewood, it will stand out attractively with the baseboard lacquer black. The galleon can be more attractively painted in its appropriate colours with a blue or a brown hull, tan sails and a coloured pennant. Glue the overlay of the galleon in place, and then lay the glass on the overlay framework. Glue the edging strips along, and if you wish, add one or two thin headless brocls from the outside tray edging. All parts should have been cleaned before the glass was put in, in case of dust getting beneath.

There only remains the two handles, and a section of these is given at Fig. 2. The main portion is ½ ins. thick, and on the inside a short overlap is added. A longer overlap is put on the outside. Notice that the straight line of the opening of the hand grip comes the same all through the three pieces, so that the upper and end edges can be rounded for comfort in handling.

To make the handle lean outwards, a long chamfer as shown by the section is made on the inside edge. Then the handle is glued in place centrally on the ends, and four screws driven in—two into the base and two through into the tray edging (see Fig. 2).
**Waterline Model of the 'HISPANIOLA'**

This is another one of those interesting ships of history of which we have produced quite a number, and all of which have proved popular. It is, of course, the ship that was made famous in Robert Louis Stevenson's famous story, "Treasure Island," and which has now gained further popularity under the name of the same name. It was, indeed, due to the assistance of the producers of the film, Walt Disney British Productions Ltd., that much of the detail of the model has been possible.

The Hispaniola, you remember, is merely mentioned in the story, but by making a model such as this, you can visualise the ship in which Squre Treaswine sailed with Jim Hawkins and the shipload of scoundrels. The adventures with Long John Silver stamping about with Israel Hands in attendance become more realistic by having the actual model on view.

**Building and Painting**

The work demands a certain amount of patience, and one must not be in a hurry to complete the model. The gluing of certain parts must be allowed to harden before the next can be added, and in painting, a great deal of care must be taken to get lines and colours correct. The kit of material provides all that is necessary, and the patterns on the other side are shown full size. They should be marked down direct to the wood through carbon paper, and carefully lined in pencil before cutting is undertaken.

If you are using the kits provided, certain parts need to be joined in their length, owing to the narrowness of the boards supplied. In that kit, two pieces of plywood are provided in two pieces, and also needs joining when fixed. If you have material full size in some odd wood, then you can quite well utilise it and save yourself the trouble of joining as mentioned here.

Read through these instructions first, and get an idea of how the thing is put together in conjunction with the details shown. Parts are numbered numerically so they can be built up, and dotted lines on various parts show the adjoining position of other pieces. All parts can be cut with the fretsaw, and are fixed together with thin glue after having been tested to place for accuracy.

**The Hull**

The main portion is the hull (part 1), a piece of thin, thick wood. The two pieces in the kit are glued together side by side, and then the whole cut to the shape shown, 40s. wide and 13½ins. long. Note that the bow end part is uppermost, as shown in the detail at Fig. 1, and refer to the pattern of the hull to see where these pieces overlap, and how they are added.

Part 3, for instance, is glued to the front and jib. If the surface is tapered slightly so that part 4 lies at an angle to rest on the deck at its back edge, Part 3 will be a similar piece at the stern, which is shown by the section as also slightly tapered. The deck goes above this to slope downwards towards the centre. These pieces overlap, as shown at 2A, and when finally glued, the whole is fitted to a flat surface sloping forwards and downwards (see Fig. 2B). The stern overlaps No. 7 is cut from thin wood or card, and is then glued down. It can be held in place by thin card passing over the step of No. 6 until the glue has set. When much additional (9) is glued along as the bulwark just overlapping the stern, you can either cut out of the rails and doors of the bulwark as indicated. Note the deck line on the pattern of the hull in the strip runs upwards towards the bow. Glue the bulwarks firmly, adding small fretsaws here and there, which can be withdrawn after the glue has set, or have their heads nipped off. The perspective view in Fig. 3 illustrates the detail at the stern.

**At the Bow**

The fitting of the bow parts 10 to 15 is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulkhead strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the steps for the bowsprit. This bowsprit is a tapering rod 3½ ins. long. The inboard is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulwark strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the stern overlay No. 7 is cut from thin wood or card, and is then glued down. It can be held in place by thin card passing over the step of No. 6 until the glue has set. When much additional (9) is glued along as the bulwark just overlapping the stern, you can either cut out of the rails and doors of the bulwark as indicated. Note the deck line on the pattern of the hull in the strip runs upwards towards the bow. Glue the bulwarks firmly, adding small fretsaws here and there, which can be withdrawn after the glue has set, or have their heads nipped off. The perspective view in Fig. 3 illustrates the detail at the stern.

**Building and Painting**

Much of the work can be indicated by painting, but the experienced worker can quite well cut out apertures, rails, etc. Fig. 6 shows piece 16 completed. The fancy steps are added each end, and a shaped piece 17 and to piece 18. The fancy steps are added each end, and a shaped piece 17 and to piece 18.

**Sail Rigging**

A view of the foredeck given at Fig. 5 shows the formation of the piece 23 and 24 in place, and the black and white painting round the lower gunport of the masts itself. Part 25 is merely a flat hatch glued just the mast hatches. These mort holes, remember, should be bored as a slight angle to give the rake for the masts themselves. The thin card hole in the deck is cut to make the mast slope slightly backwards—but only very slightly. On the well deck, the main mast hole, with its rails round (24) and the gun placed just behind. This gun is shown in detail at Fig. 7. A hollow hatch framework (27) is glued flush to the deck, and on this the two small shaped boats are glued keel downwards. The shape of the deck itself and the masts themselves is shown in the section, and must be carefully made and shaped before fitting.

**Stern Window**

There is a side window at the stern, as can be seen in the picture of the finished model. This is composed of parts 20, 21, 22, 23, 24, and 25. The outline of part 20 is shown dotted, on the bulwark pattern, and the position of part 21. On it is glued the rounded piece 22, which is sandwiched between two similarly rounded pieces 21 and 23. When the bow sections are shown, when the standing rigging lines are represented in gold. Of the masts, three sets are required, each about 3½ in. long. The inboard is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulwark strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the step for the bowsprit. This bowsprit is a tapering rod 3½ ins. long. The inboard is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulwark strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the stern overlay No. 7 is cut from thin wood or card, and is then glued down. It can be held in place by thin card passing over the step of No. 6 until the glue has set. When much additional (9) is glued along as the bulwark just overlapping the stern, you can either cut out of the rails and doors of the bulwark as indicated. Note the deck line on the pattern of the hull in the strip runs upwards towards the bow. Glue the bulwarks firmly, adding small fretsaws here and there, which can be withdrawn after the glue has set, or have their heads nipped off. The perspective view in Fig. 3 illustrates the detail at the stern.

**Sail Rigging**

A view of the foredeck given at Fig. 5 shows the formation of the piece 23 and 24 in place, and the black and white painting round the lower gunport of the masts itself. Part 25 is merely a flat hatch glued just the mast hatches. These mort holes, remember, should be bored as a slight angle to give the rake for the masts themselves. The thin card hole in the deck is cut to make the mast slope slightly backwards—but only very slightly. On the well deck, the main mast hole, with its rails round (24) and the gun placed just behind. This gun is shown in detail at Fig. 7. A hollow hatch framework (27) is glued flush to the deck, and on this the two small shaped boats are glued keel downwards. The shape of the deck itself and the masts themselves is shown in the section, and must be carefully made and shaped before fitting.

**Stern Window**

There is a side window at the stern, as can be seen in the picture of the finished model. This is composed of parts 20, 21, 22, 23, 24, and 25. The outline of part 20 is shown dotted, on the bulwark pattern, and the position of part 21. On it is glued the rounded piece 22, which is sandwiched between two similarly rounded pieces 21 and 23. When the bow sections are shown, when the standing rigging lines are represented in gold. Of the masts, three sets are required, each about 3½ in. long. The inboard is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulwark strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the step for the bowsprit. This bowsprit is a tapering rod 3½ ins. long. The inboard is shown in Fig. 4. The figurehead No. 16 is glued in the slot of the hull, and then the end of the bulwark strip drawn round to it and glued there. The piece 13 forms a platform in front of 4, and on this is 15 and 14, forming the stern overlay No. 7 is cut from thin wood or card, and is then glued down. It can be held in place by thin card passing over the step of No. 6 until the glue has set. When much additional (9) is glued along as the bulwark just overlapping the stern, you can either cut out of the rails and doors of the bulwark as indicated. Note the deck line on the pattern of the hull in the strip runs upwards towards the bow. Glue the bulwarks firmly, adding small fretsaws here and there, which can be withdrawn after the glue has set, or have their heads nipped off. The perspective view in Fig. 3 illustrates the detail at the stern.

**Sail Rigging**

A view of the foredeck given at Fig. 5 shows the formation of the piece 23 and 24 in place, and the black and white painting round the lower gunport of the masts itself. Part 25 is merely a flat hatch glued just the mast hatches. These mort holes, remember, should be bored as a slight angle to give the rake for the masts themselves. The thin card hole in the deck is cut to make the mast slope slightly backwards—but only very slightly. On the well deck, the main mast hole, with its rails round (24) and the gun placed just behind. This gun is shown in detail at Fig. 7. A hollow hatch framework (27) is glued flush to the deck, and on this the two small shaped boats are glued keel downwards. The shape of the deck itself and the masts themselves is shown in the section, and must be carefully made and shaped before fitting.
MECHANICAL RACE GAME

This novelty is just one of the things to make up particularly for Christmas, but also forming a pleasing game for any time. As can be seen from the illustration, the horses are mounted on a circular table and spin past the winning post on one side. By twisting the knurled handle at the top of the spindle, the horses gallop round until they gradually come to rest. By painting the jockeys in suitable colours, stakes can be laid, the one coming nearest the winning post being obviously the winner.

Marking the Patterns

The patterns provided should be marked out direct on to the wood, either through carbon paper or by tracing paper. The parts are cut with the fretsaw, glued together according to these instructions, and then the finished toy painted in bright colours. There is nothing difficult in the construction but, of course, care must be taken to see that all parts are properly cut, cleaned and joined together as they should be. Wood is provided in the kit for all the parts, and there is a length of wire intended to mount the horses in their respective positions.

The main portion of the game is the box base. This is composed of a top, the spindle itself being upright. To prevent the spindle falling through, and also to provide a suitable piece, an additional part is fixed beneath. This is the piece (H), and before it is screwed under the central hole, a circular or square disc of thin metal is fitted between as you see in Fig. 1.

Two discs are added inside the box, one on the bottom (J) and one on the underside of the top (J). The holes through these are all in line, and the spindle must revolve smoothly, but not too loosely in them. It will be as well to stiffen up the inside corners of the box by adding little blocking pieces from waste wood.

Circular Top

To make the top of the box circular, four segments of wood are glued on in line with the top, and halfway along each edge. They are supported beneath by a pair of brackets (F) set centrally but about 1 in. apart. They can be seen in the picture of the finished game. On one side, however, an additional piece is provided to form a stand for the winning post. Between these two angle pieces (F) is the spacing block glued (J) to the underside of the top (Part G). This is shown in the underview at Fig. 2.

The space between is occupied by the winning post base into which the winning post itself is glued by the tenon (K). This post and its base can be made into a complete unit, but need not be glued into the space under the top. It will thus be like the whole of the top movement detachable when the game is not in use. The circular top having been formed, a piece of card 8 in. in diameter can be cut and glued on. The actual shape of half of it is shown as a pattern with divisions and rims which can be painted on in bright colours.

Fitting the Spindle

Next you can fit in the spindle. This is a 4 in. length of 1 in. dowel rod with nicely smoothed surface. Round off both ends and on the bottom drive in a round-headed small nail or even a large pin. This will provide a suitable pivot to act on the metal disc in the base, thus ensuring smooth running when the spindle is turned.

Now prepare the four arms and the horses themselves. To provide strength, the arms are cut with the grain running longways, and then all are fitted between two central circular discs (K). Get these arms, of course, at right-angles to each other. On the outer end a further small circular disc (L) is added on the underside.

The wire holding the horses can now be driven through, but the horses themselves need not be added until later. A 1 in. length of stiff wire is sufficient for each arm. Bend about 1 in., at a right-angle, then drive the straight piece through the centre of the disc and main portion of the arm itself, leaving 1 in. projecting above. Now take the completed arms and pass the top of the spindle through them. Glue the disc and arms in place on the spindle so that the underside of (K) is 1 in. from the top. This will leave about 1/2 in. or 1/4 in. between the arms and the top of the table when the spindle is put in place. The exact distance of these pieces is shown dotted on the full-size drawing of the spindle on the sheet.

Near the top of the spindle itself, a further disc (J) is securely glued. The outer edge of this disc can well be provided with a number of upright grooves to form a knurled surface providing a better grip for the finger and thumb when turning. Get the whole of these moving parts to run smoothly and finally add the horses to the top of the wire supports previously fitted.

Markings

A suggestion for the markings of the horse and jockey is shown, and the parts should be painted before finally fixing in place. Bore a hole for the wire carefully through the thickness of the horse, and add a spot of glue to grip finally in position.

On the underside of the box at each corner, a small square foot is added. It should be glued with a projection of about 1 in. on two sides, rather than in line with the edge of the box itself. The toy should be painted in bright enamel or with poster paint, covered with clear varnish.
LIST OF PLAIN PIECES REQUIRED.

No. 4. CUT ONE 3/16in. 5 in. x 4 in.
No. 6. CUT ONE 3/16in. 11 in. x 4 in.
No. 7. CUT TWO 3/16in. 12 in. x 4 1/2 in. (These pieces form the roof and must be chamfered together at the ridge).
No. 9. CUT ONE 3/16in. 5 1/2 in. x 1 1/2 in.
No. 10. CUT TWO 3/16in. 5 3/4 in. x 1 1/2 in.

PIECE 5 CUT ONE 3/16in.

PIECE 5 OVERLAY ON ENDS. CUT TWO 3/16in.

No. 7 PIECES NO. 7 CHAMFERED AT THE RIDGE

OVERLAY No. 8

PIECE 2 CUT ONE 3/16in.
PIECE 3 CUT ONE TO OUTLINE ONLY 3/16in.

ENDS 1 CUT ONE 3/16in.
(OMITTING THIS WINDOW OPENING).

NOTE—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

Panels of wood required for this design
Two J.3 Four Q.3
Materials for making this design are supplied by Hobbies Ltd., Dereham, Norfolk.
Price on application.
0-GAUGE GOODS SHED

The drawings on the other side provide for the building of a typical goods shed suitable for an O-gauge railway layout. Most of the parts are drawn full-size and can be transferred direct to the wood in pencil. You can try the patterns down on to the board, prick through the corners, take away the pattern and connect up the holes with pencil marks.

On all marking out with ruler and square, and test dimensions in every case. Some of the parts are plain pieces, and a list of these rectangles is shown. It is not advisable to cut all parts out at once, but to do so as they are being needed for building. In this way, you can check off dimensions on the actual model as built, to ensure a good fit.

The Walls

The constructional detail drawing shows the position of the various pieces, and makes the whole thing quite clear. The two ends are the same outline, and with door arch, but only one of them has a window opening.

Parts 2, 3 and 4 form a three-sided box with the piece at the top (No. 4) glued between the two sides.

Part 3 is a plain outline only, but part 2 has a window and door cut from it. The piece to the top should be made so the part taken out can be used again for the door itself. It can be later hung in place with a narrow strip of tape glued inside to form the hinge. The pieces 2, 3, and 4 are glued together, and then the whole thing fitted to the inside of the end No. 1. Check up that the bottom edge of all these pieces are level, and with a square, to ensure a right angle at all joints.

The Back

The partition wall (5) is next added, being glued to the end of 2, 3, and 4. Notice that this part is 0 in. narrower than the actual end (1), leaving a little overhang on the top. Before fitting in place, cut out part 5 which forms the main back and is 1½ ins. long and 4¾ ins. wide. Test this piece in place, stand it on the inside of the end wall, and see that part 5 butts close up to it, still having its other edge in line with the front wall of part 2. Again, the bottom edge of all parts must be level.

The end (No. 3) and the long wall (No. 6) can now be glued in place, which will allow you to fit on the back wall (1a). Between this back wall and the centre partition piece 5, there is a little goods platform, which you can see broken away in the drawing, and the construction of which is shown in the detail of pattern part 3.

Platform

This platform consists of three plain pieces (Nos. 9 and 10) and before cutting them the length shown, measure the distance between the two walls to ensure a good fit. This space should be 5½ ins, but there may have been a little variation, and checking up with a ruler will ensure the platform when put together fits snugly between the two walls. You can, if you wish, add little blocking pieces inside this platform part to help to glue it to the end wall for strength. These little corner blocks should also be added, if you wish, to the inside of the main part of the building (2, 3, and 4).

The Roof

The whole model is made the more solid by adding the two roof slopes. These are 12 ins. long and 4½ ins. wide, to allow an overlap all round. At the top, where they meet, both edges have to be chamfered to form the ridge, and a detail of this is shown on the sheet. The ends of the building are decorated by a hollow triangle (part 8). Glue on the ends 1½ in. away from the roof. These parts should not be glued, of course, until the main walls have been papered or painted.

The construction is now complete. Add the windows by fitting the transparent material provided in the kit. Paint across the material in imitation framework, and also paint the door for panels. The building itself, of course, is covered with suitable brickpaper or painted in the usual way, and in keeping with the other parts of this layout.
FLOOR: CUT TWO PIECES AS SHOWN 3/16in. AND GLUE TOGETHER. SCREW ON CROSS FILLETS TO GIVE ADDITIONAL STRENGTH.

SIDE: CUT ONE 3/16in.
• STIFFENING FILLETS UNDER TOP. CUT ONE OF EACH 3/16in.

STIFFENING FILLET, CUT TWO 3/16in. TO LENGTH.

THE FRETTED DECORATION ON THESE ENDS IS OPTIONAL.

FLOOR SUPPORTS. CUT ONE OF EACH 3/16in.

END. CUT TWO 3/16in.

CROSS FILLET ON FLOOR. CUT TWO 3/16in. TO LENGTH. PRINTED IN ENGLAND.

SUPPLEMENT TO HOBBIES No. 2844.

FERN POT HOLDER
DESIGNED TO TAKE A 4 IN. POT

SIZE
10 ins. LONG
3 ins. WIDE
4 ins. HIGH.

FERN POT HOLDER
DESIGNED TO TAKE A 4 IN. POT

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
THREE H3

FABRICATED COLUMN.

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.
A FERN POT HOLDER

THE design provides for a typical piece of fretwork which can be undertaken by anybody used to handling the fretsaw. The fancy decoration in the sides calls for the usual care in cutting to see that the design is balanced, and with the curves flowing as easily as they do in the actual pattern. Linking pieces where one part adjoins another closely, should be cut very carefully to see that the sawblade goes neither too far nor stops short. These link pieces should be the same right through, and it is one of the points which judges in any exhibition pieces.

All one Thickness

The whole of the work is cut from 3/16 in. wood, and as usual, the kit of planed boards provides sufficient for all parts. If you do not wish to cut the fretwork in all four sides, you can, as suggested on the sheet, omit it from two of them. There is also the possibility of lining the inside of the box with some suitable material so that you cannot see the interior. Almost any veneer type of paper will do, although it is not advisable to get a fancy ‘flowery’ type which would detract from the beauty of the whole stand.

The upright sides to the box are cut in two pairs, and if you have a machine you will probably like to pin two boards together and do the operation in one. In such cases you must take particular care to see that the saw maintains an upright cut or you will find the pattern on the under-part will be substantially different from that of the upper, and entail some amount of filing to make it similar.

Pattern to Wood

In most cases, the pattern should be pasted to the wood, taking care that there are no air bubbles or creases. It will mean that you should clean this paper pattern off afterwards, but this is not necessary entirely if these parts are placed with the paper inside the box. It will be essential to clean the paper away at the corners where it would be seen, in any case.

There are two long sides, each of which contains two mortises as (A). The other two sides are shorter and bear the projecting tenons as (A). See they fit nicely and firmly together. The length of the tenon allows for projection through the wood, but this will not be at all unsightly. Make the mortises and tenon joints to fit comfortably with hand pressure. Do not have the mortises so small that the tenons have to be forced home hard. If you do you will break the narrow neck of wood across the grain and do considerable damage.

Marking for Joints

Having cut and cleaned the four parts, test them together and then mark the position with a pencil on the inside to show where the actual joints come. They can thus be replaced in the same position after having been taken apart for final cleaning. The position of the floor should also be indicated, and that of the support strip which is glued along each side to hold it. Their actual place is indicated by the dotted line on the patterns. Mark it off with a pencil line, and also glue the floor supports in place. Be sure to get them level with each other so that when the floor is laid in position, it rests evenly on all of them.

Floor Stiffener

The floor itself is stiffened across the grain with a cross fillet 4 ins. long and 1/2 in. wide. These two strips are glued to the top of the floor 1 in. inwards from one edge. Not only do they thus stiffen the wood itself, but provide a support for the flower pot and raise it to allow the air to get underneath to the plant.

The four sides and floor having been put together, the top is the next and final piece. It is mortised on to the tenons of the sides at (B), and in order to stiffen it up there are also the strip fillets glued just beneath. These are 3/10 ins. long and glued on edge to the sides in line with the bottom of the mortise opening. They thus provide an increased surface for the glue, which can be applied to them as well as to the edge of the box framework itself.

By the way, in cutting these tenons in the top, it is advisable to do them and test their accuracy before cutting out the centre circle for the pot. This provides a more substantial piece of wood to work on, and so reduces the likelihood of breakage if the operation is done in the reverse order.

The whole stand is now complete, and should rest firmly on its four feet without any ‘wobble’. If you have decided to add interior lining to the fretted sides, this must have been glued on before the top is fitted.
TWO NOVELTY SWING TOYS

HEIGHT OF TOYS WHEN MADE UP
A, 7ins. AND B, 9ins.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
SIX G3

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.
Price on application.

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

LEAD WEIGHT APPROX. 3/4 OZ.

PRINTED IN ENGLAND.
TWO SWING TOYS

THE two swing toys shown on the other side, are the sort of little novelty to be made from odd pieces of wood ¼in. thick, and when painted, make quite pleasing little toys for young friends or even to sell. The kit of wood provides panels sufficient to make both of them. As you may be likely to undertake making several, a good plan is to trace off the actual panels through to the wood itself. This can be done by means of carbon paper between the wood and the pattern, or by tracing the outline off on tracing paper, turning it over and then duplicating it on to the board.

The only work involved is with the fretsaw, and the few usual tools, and there is no elaborate jointing to be done beyond that shown in the base. Each is built the same, being a swinging bird which rests on a platform and swings between the two uprights. The actual momentum is created by a small piece of lead being fixed towards the base of the bird, cut out and so balanced that the whole thing swings.

Suitable Weight

This piece of lead can be taken from an ordinary piece of electric cabling or, of course, a thin strip of ordinary builder's lead itself. It does not have to weigh more than about 1oz. If you get a piece 1½ins. long and about ¼in. wide, it can be nipped round the wood and holds itself in place there. If the weight is too much, or it is not properly balanced, it could be moved about, and if necessary a slight piece pared off with a knife or file until the correct swing is obtained.

The actual swing is provided for by a sharp edge cut to the bracket holding the bird itself. This is shown in the crossbar of each pattern, where you see the section shows the edge being chamfered to a sharp point. This long sharp edge rests on the flat platform between the two uprights, and so forms the rocking base for the whole thing.

General Construction

Now for construction. Two uprights are tenoned into the base at points shown. Across the top a flat platform rail is fitted. It is glued to project beneath at each end, and a small fretnail or gramophone needle can be driven in for further strength. The birds themselves have a long central body piece as the main part. On each side of this, the wing treatment portion is added. Its position is shown by the dotted lines on the main part, and to secure the proper balance it is essential the pieces be glued in this position.

In the case of the parrot, the 'claws' fit over the upright crossbar by halving joint at (B). In the case of the other one, the fixing is a little different. The wings have an extension piece into which a halving joint provides the fixing for the crossbar at (F).

Glue on the wings first, making sure that the slots are in line, then you can slide the crossbar between them with its sharp edge projecting below. Trial and error with the lead temporarily added, will prove the balance to be correct.

Painting

The finished toys can be painted in bright enamel. The stands can be black and the birds follow the lines indicated in the black and white drawings. It is probably best to give the whole thing a coat of flat paint first, to provide the filler for the wood. Afterwards bright enamel should be used and allowed to harden before the toy is again handled. Blues, greens, yellows and reds can be introduced to make gay foliage for the birds themselves, with the features of the beak, eyes, talons, etc., lined in black.
NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

SUPPLEMENT TO Hobbies No. 2840.

A MEDAL CASE

SIZE OF INTERIOR OF CASE—
9ins. by 7ins.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

PANELS OF WOOD REQUIRED FOR THIS DESIGN
ONE G2 ONE H4 ONE K4

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

BACK (A). CUT ONE 10½ins. by 8ins. by 1 4ins. TO OUTER LINE OF FRAME.

FRAME (B) LOWER EDGE. CUT ONE 1/2in. by 1/4in. STRIPWOOD. ALSO FRAME (E). CUT TWO 1/2in. by 1/8in. STRIP.

PRINTED IN ENGLAND.
HOW TO MAKE A MEDAL CABINET

Quite a number of those who served in the forces during the war, or who had relatives or friends doing the same, will be glad of the opportunity of making a glass-fronted case in which to attractively display the service medals awarded for the various campaigns. The opportunity is provided by the patterns on the opposite side, and the kit of wood provides all the necessary boards from which the parts can be cut. Beyond the wood there is, of course, the piece of 'pin glass, and the backing of velvet or thick baize on which the medals can be hung.

**Main Back**

The main back is a solid piece of 'pin wood 10ins. long and 6ins. wide. Around the edge of this is fitted the narrow strip frame parts (B), (C) and (D). This is not glued in place, but merely at its mitred corners. Lay the strip on the backboard to ensure correct size, and when gluing the corners put in a piece of thin paper to prevent the glue running on to the backboard (A). You can see this piece in the detail at Fig. 1.

Three pieces of this frame are merely 'pin, wide strip 'pin, thick. The piece (C), however, provides the ornamental pediment with its fretted addition, and the date tablet. Behind this date panel a piece of thin backing is added, and on to this the tinny part which forms the hyphen between the dates 1939 and 1945. If you wish, a piece of card can be used, the size of (I) instead of the 'pin wood.

**Glass Holder**

To form the rebate for the glass, a framework of 'pin wood is now glued on. This consists of the parts (G) and (H), and their position is shown in Fig. 1. Notice the angle of (G) goes round the corner, and so when glued, helps to bind the mitred framework beneath. In addition to glue, you can add 'pin, fret pins if you desire. This frame, of course, is glued with the outer edges flush to the other parts so there may be a little rebate on which the glass will rest. The glass, by the way, must be 10ins. by 7ins. scant. If it is cut full, it will not fit in. In any case, check the measurements carefully before ordering the glass.

**Front Frame**

To hold this glass in place from the front, you have a further frame composed of the parts (E) and (F), which are 'pin, wide and 'pin, thick. Glue them again flush with the outer edge but, of course, with the inner edge over the glass to hold it in place. When the frame is complete, it will be possible to screw it to the main backing with 'pin screws through the back. You can see one in the section drawing on the sheet.

Before screwing up, a piece of velvet must be glued to the back to come inside the framework. Ensure it is the right size in order to allow the framework to be screwed down finally.

Now we can turn to the two stands which provide the sloping holder for the frame. These are cut throughout from 'pin wood and a duplicate pair is needed. Get the grain of the wood running in the direction of the arrow, to provide strength, and cut each pair of uprights correctly to the pattern. Each two uprights are held slightly apart by the 'pin, strip (L) and (K) (see Fig. 2). The bottom strip (L) is glued between the feet of the supports, and each end afterwards rounded to the shape of the fretted piece. The part (K) is glued between the long backs of the upright in the position shown by the dotted line on the pattern. One end of this piece (K) comes in line with the shelf. This allows a portion of the top to project slightly. You can thus round it off to be in line with the fretted side of the support itself.

Glue each two-piece support carefully, and ensure that the bottom edges are flat so provide an upright and rigid stand. The whole frame, of course, rests in the shelf portion provided, which you can see enlarged in Fig. 2. The usual staining and polishing or just plain varnishing can be undertaken to complete the whole work.
NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

SUPPLEMENT TO HOBBIES No. 2838.

PAIR OF BOOK ENDS

DETAIL SHOWING CONSTRUCTION

- SIZE -
  4ins. BY 4ins. BY 7ins. HIGH.

NOTE — This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

Materials for making this design are supplied by HOBBIES LIMITED Dereham, Norfolk.

Price on application.
Patterns are provided full size on the other side for making an attractive, shapely bookend. A kit of wood supplied provides the necessary material for a pair. The patterns themselves should be marked on to the wood direct, and not pasted down except in the case of the one containing the fretted design.

Lay the paper pattern over the wood, and prick through the corners. Take the paper away and link up the pin holes with a hard pencil line, then check all parts with a pair of dividers to ensure accuracy. Note that the pattern of the curved front is shown shortened. It is 7ins long in its full length, and the grain of the wood should run cross-ways.

Dotted lines on various patterns indicate adjoining positions, and the screw holes indicated, should be made with an awl so they are obvious when the time comes to put the screws in place.

Base Weighting

The cutaway drawing of one of the ends plainly indicates the construction. The article in wood is, of course, fairly light, and possibly to provide sufficient weight to hold it satisfactorily, you could put pieces of lead or lead shot or something equally heavy, in this interior. The lead could be tacked down and the shot contained in a suitable tin also fixed to the floor. The parts are cut with a fretsaw, taking care to get straight lines correctly so they can be glued up satisfactorily when butted to any adjoining piece.

First of all make the framework of the base—a three-sided piece to be glued at rightangles to the upright back. The two front parts of the strip are mitred, but the back end is square. When these parts are cut, glue them to the floor piece. The back edge of the floor must come level with the straight edge of the base strips, and the framework will then project slightly on three sides.

Fretted Sides

The whole of the base can now be glued to the upright. Use a square to ensure the rightangle is correct, and add a few fine screws if you think necessary, at the positions shown. On the inside of these fretted sides, is glued the inner side piece. One each is fitted, and then a stiffening fillet glued across on the floor and at the top. Have these fillets ready before gluing the inner side, and test out for their equal length to ensure a correct fitting. One fillet can be seen in the cutaway drawing, the other comes between the sides at the top, and as indicated by the dotted lines on the pattern of the main upright.

The inner sides being set back slightly, provide a foundation on which the shaped ends or front can be fitted. This curved front is of thin plywood 7ins long, and just wide enough to fit between the main sides. Test its width before fitting in position. Lay it along the curve of the inner side, and cut off the top and level with the top itself.

Wood Finish

Put in this top platform piece before adding the front, shaping it rounded on three sides before gluing to the top of the main sides themselves. As shown, it projects slightly each way. If you are going to weight the bookend, remember to add this inside before you finally fix the curved front. The whole part can be stained and given a coat of polish or varnish, and if you wish, some baize or similar cloth can be glued to the underside to prevent the likelihood of scratching the table when in use.
BASE AND CAPING TO WALL (2) CUT FOUR 3/16in.

OVERLAY ON CAPING (4) CUT TWO 1/8in.

DOORS (3) CUT ONE 1/8in. AND DIVIDE AS SHOWN. IT IS NOT ABSOLUTELY NECESSARY TO PROVIDE DOORS FOR THE SHED, BUT ENOUGH WOOD FOR THEM IS INCLUDED IN THE PARCEL.

END OF SHED (13) CUT ONE FROM THIN CARD. GLUE OVER ENDS OF WALLS.

NOTE.—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

PANELS OF WOOD REQUIRED FOR THIS DESIGN

ONE K3
ONE II 2 ONE Q 3 SEVEN Q 2

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk. Price on application.

PRINTED IN ENGLAND.
O-GAUGE ENGINE SHED

THIS typical Engine Shed is built to accommodate the O-Gauge models, and has been planned so the units shown can be extended to receive larger or a greater number of engines as required. The kit of wood provided allows for the building of the whole of the shed shown here, but this in turn is built in two complete units standing close up as you can see at the central buttresses.

As illustrated, it is open-ended, but provision is made for doors at one end. The end can be stood against a wall as a terminal shed, or you can add a sheet of stiff card to fill it in. Without the doors, the shed can be easily taken apart if the roof portion is merely laid on the top of the walls and not fixed. If the doors are added, the structure will become more solid as a complete article. As shown, the shed is 12ins. long, and will accommodate a double track of the ordinary O-gauge.

With or Without Doors

Before commencing, it is necessary to decide whether the parts are to be made as a complete whole with doors, or as previously mentioned, to be in separate pieces which can be taken down for storage when required. The wood used is 3/8in. and 1/4in. thick and patterns are marked in numerical order according to the sections of their building. Two details are also shown on one complete sheet, which almost clearly explain their position to each other. In most cases, too, a dotted line is drawn on the patterns to indicate where an adjoining piece is to be fixed. In the kit, transparent material is provided for the windows. There is also sufficient card for the complete back of the shed, and the long, small needed to form the folded ridge of the ventilators. Four small hinges are included for the doors at one end.

Commence with the construction of the walls first, two of which will be required for each unit. As most parts are cut together, it is essential for perfectly straight edges to be obtained in the cutting to give the glue a full grip. Even so, small screws or nails can also be driven through because they will be covered later with paint or paper. Put the wall upright centrally between the flat pieces (No. 2) and then on the ends add parts (3). On the top is part (6), which you will note is set back 10in. from each end. This is to allow the cross span of the roof (No. 9) to lie flat and snug in position. To make the shed shown, you require four sides of these complete walls so far mentioned.

The Roof

Next proceed with the making of the roof which is a double span built on the cross girders (No. 9). First of all, however, prepare the sloping roof pieces (No. 5). The ends are formed by (No. 6) on the inside of which a triangle of thin card is added, coming flush with all its edges. Glue the card to overlap first, and then with a sharp penknife cut it in line with the edge of the wood to ensure a similar outline to both. When these ends are complete, you can glue on the sloping roof pieces (5). The glass of the roof can have been added before fixing the part, so you can put it in position later. The transparent material is cut about 13ins. long and about 2ins. wide.

Do not glue one strip the whole length, because supporting frames are added to the under angle of the roof by the parts (5). These come at the two positions shown by the dotted lines on the pattern piece (9). The complex roof (5) is glued on to the support of (6), and is shouldered in the corner for strength. No chamfering of these edges is needed. To get the position of these roof pieces you should first of all glue the long strip (10) to the end cross strips (3) and (4). This piece (10) comes midway as you can see on the pattern of (9), and indicates where the long roof parts will fit. This position provides certain projection of the girder (part 9) which, as you can see by the detail, is made to fit into the top of the wall between (2) and (4). The ventilator portion of the roof is added by gluing pieces (11) upright along the whole length, and coming between the end roof supports (6). In this case, the top and bottom edge will have to be chamfered as shown by the section on the drawing of part (11).

Ventilator Card

The final covering of the ventilator piece is made by a strip of card (part 12). This is 4ins. long, 1 3/4ins. wide and the point of a knife should be run down the centre to score the card sufficiently for it to be bent to a clean angle the whole length. Windows of the transparent material can, of course, have been previously added to the inside walls of the shed, or can now be put in place. Cement the transparent material on firmly, and then paint with narrow white lines the framework between the panes.

The whole model can be finished by painting, or can be covered with brick and tile paper if you prefer. Probably the best way is to have a roughcast, stone effect by having that type of paper glued over the whole of the outside. Or you can use a cream for the walls, slate colour for the roof and, say, a brown for the projecting buttresses of the walls, etc. The inside should also receive attention in the same way.

Hinged Doors

If you are having the units removable, then the work is finished, but if you are making it a wholly rigid piece of work, then you can hinge the doors at one end and glue on a sheet of card as the back end. If doors are fitted, it is advisable to glue a piece of wood under the roof girder to form a stop. The doors, of course, should open outwards, and fit snugly to each other, being provided with a small wire catch for holding together when closed.
A PAIR OF BELLOWS

PUT NOZZLE ON HERE

DETAIL OF NOZZLE END OF BELLOWS.

NOTE—HINGE TO BE RECESSED INTO WOOD OF BLOCK B AND INTO MAIN FRONT.

OVERLAY TO BE CUT FROM MAIN FRONT.

COVER PLATE FOR NOZZLE. CUT ONE 1/4in. AND SHAPE TO SECTION.

VALVE COVER. CUT ONE 1/4in. AND SCREW TO MAIN BACK.

STOP BLOCK. CUT ONE 1/2in. AND GLUE TO MAIN BACK.

LOWER END OF OVERLAY SHOWING HOW IT IS CHAMFERED TO MEET THE CHAMFER ON MAIN OVERLAY.

DETAIL OF BLOCK A.

VALVE BLOCK. CUT ONE 1/4in. AND GLUE TO LEATHER SEATING.

NOTE—This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

PANELS OF WOOD REQUIRED FOR THIS DESIGN

THREE MD8 THREE LD6 ONE J4

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk. Price on application.

PRINTED IN ENGLAND.
Instructions and patterns for
MAKING A PAIR OF BELLOWS

The pair of bellows, illustrated on the kit of wood provided, in conjunction with the patterns. Apart from the actual fretted portion, the other patterns need not be pasted down, but can be traced out direct to the wood through carbon paper or by means of tracing paper. The parts are cut with the fretsaw and fitted together with glue. Apart from the wood, you will require a single hinge 1 in. or 1½ in. wide, with countersunk screws, and three pieces of soft leather. Two of these form the bellows portion, and the third is the small piece inside forming the valve.

Back and Front
Cut the parts to the shape, and clean them with glasspaper before gluing together. Note that one pattern is made to serve the three shapes for the back, the front, and the overlay. The back is cut from ½ in. wood to the complete outline shown. The front is similarly cut to the outline, but is ½ in. shorter at the narrower end, being cut across where indicated by the dotted line. The overlay from ½ in. material includes the fretted decoration of the pattern, although this, too, can be omitted if you prefer the plain board.

When cutting the back, you will also have to cut from it a hole 2 ins. by 2½ ins. at the position indicated by the small dotted line. Cut this block out with a fairly coarse fretsaw, as it has to be replaced later. From the centre of this block, too, a 1½ in. diameter hole must be either bored or cut with the fretsaw to form an air inlet.

The Valve Part
This complete block is glued to the valve cover piece so the whole thing can be screwed on to the back of the bellows as a shield type overlay. The centre hole of this valve cover piece is rounded, as shown by the section. The block which came from the back forms the foundation of the valve itself, and the detail shown indicates its construction.

A small piece of very soft leather 1½ in. by 2½ in. is fixed to the back of the block with a strip of ½ in. wood and two screws. At the other end of the leather is glued on the valve block. This is simply a piece of wood to form a weight to prevent the leather being forced away. Thus, when the air comes in through the hole, the leather is blown out, but the air cannot escape again because the weight of the block holds the material flat against the hole. This whole valve can, of course, be built but need not be screwed on to the back at present.

When the back is cleaned, the nozzle end must be made, and the detail in the top left-hand corner clearly illustrates this. The block (A) of ½ in. wood has a groove cut in its whole length. This is ½ in. wide, and should be rounded. If you can drill a hole straight through, so much the better. Glue block (A) with the rounded portion projecting beyond the end of the back. Above this, the block (B) is glued. It must be cut to the shape shown in the detail, and fixed to (A) to form a complete nozzle pipe.

Cover Plate
Over all of this is fitted the cover piece, the central hole of which should be tested to be the same as the diameter of the blocks before being actually cut. The nozzle itself will still project ½ in. beyond the cover plate, and if you have a suitable tube of brass or other metal, it can quite well be fitted over to form a good finish.

Behind block (B) comes the front of the bellows, and it is hinged there as shown. Let the hinge well into the wood so that the two pieces of the overlay are bedded flat. The overlay goes on to the front of the bellows, the bottom end in line with the knuckle of the hinge. Notice that this bottom edge must be chamfered to a slight section. A piece forming the lower end of the overlay is also glued on (part C). This also has to have its edge chamfered to allow the front to open satisfactorily without binding on the overlay itself.

A Stop Block
Before hinging on the front finally, glue on inside of the back the stop block shown. Its position is indicated by the dotted lines on the diagram of the main back outline. It comes about ½ in. above the valve block, and is glued on edge there to prevent the two pieces of the back and front closing together too much. The valve cover piece can now be fitted on to the back. It should be screwed there so to be removable in case the valve fails to work at any time. A fretted piece of overlay on the handle adds to the attractiveness of the front.

Edging Material
The approximate shape of the two pieces of leather which form the sides to the bellows is given. Cut it a little larger than shown, to allow trimming afterwards. The material should be soft to allow for bending, and it is held in place by a row of round-headed brass upholsterer's nails set close together along the edges of the back and front.

Commence nailing from the nozzle end, with the narrowest part of the leather. The other end, of course, will come between the handles, and cut to allow for an overlap to the piece coming up inside the handle, as shown on the detail. Glue securely here to prevent any air escaping.

Each of these strips is bent along its central length, half of it glued to the inside of the handle, and the other half to the joined portion of the sides. The overlap of this leather is shown in the detail herewith, and the small strip on the inside of the handle is detailed at (A). The whole work can be stained and polished as usual, or oiled or varnished, or even painted if your wood is not suitable for the other processes.
MODEL OF THE UNION-CASTLE LINE ROYAL MAIL SHIP "PRETORIA CASTLE"

The liner is 749 feet long and its gross tonnage 28,705.

Size of model not including base: 15½ in. long, 3 in. high.

Panels of wood required for this design:
- One MD8
- One H4
- One G3
- One LD6

(Base)

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

KEL. Piece A. cut one 1/2 in. and shape at bow and stern as section.

Bow section full size. Showing how the model should be painted up.

Funnel. cut three pieces of 1/16 in. wood to outline given and shape up to section.

Section through keel on line AA. Showing how upper side, made of card, is glued to piece G. To come flush with keel. Piece A.

Boat davits. cut twenty-four 1/16 in. pieces from the G3 panel to be used here, and rubbed down on glasspaper to about 1/16 in. 

Spare wood from the G3 panel to be used here, and rubbed down on glasspaper to about 1/16 in.

Printed in England.

Note: This design sheet is only presented free with the current issue of HOBBIES and not with back numbers. Further copies may be obtained.

The arrows indicate direction of grain of wood.

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

Piece Q. Cut one 3/16 in.

Piece R. Cut one 1/4 in.

Piece C. Cut one 1/4 in.

Piece H. Cut one 1/4 in.

Piece G. Cut one 1/4 in.

Piece F. Cut one 3/16 in.

Piece D. Cut two thin card and glue to edges of piece C.

Piece O. Cut one 3/16 in.

Piece P. Cut one 3/16 in.

Piece E. Cut one 1/4 in.

Piece S. Cut one 1/4 in.

Piece T. Cut one 3/16 in.

Piece U. Cut one 3/16 in.

Piece V. Cut one 3/16 in.

Piece N. Cut one 3/16 in.

Piece A. Cut one 1/4 in.

Piece I. Cut one 3/16 in.

Piece J. Cut one 1/4 in.

Piece K. Cut one 1/4 in.

Piece L. Cut one 1/4 in.

Piece M. Cut one 1/4 in.

Piece B. Cut one 1/4 in.

Piece D. Cut two thin card and glue to edges of piece C.

Piece O. Cut one 3/16 in.

Piece P. Cut one 3/16 in.

Piece E. Cut one 1/4 in.

Piece S. Cut one 1/4 in.

Piece T. Cut one 3/16 in.

Piece U. Cut one 3/16 in.

Piece V. Cut one 3/16 in.

Piece N. Cut one 3/16 in.

Piece A. Cut one 1/4 in.

Piece I. Cut one 3/16 in.

Piece J. Cut one 1/4 in.

Piece K. Cut one 1/4 in.

Piece L. Cut one 1/4 in.

Piece M. Cut one 1/4 in.

Piece B. Cut one 1/4 in.

Piece D. Cut two thin card and glue to edges of piece C.

Piece O. Cut one 3/16 in.

Piece P. Cut one 3/16 in.

Piece E. Cut one 1/4 in.

Piece S. Cut one 1/4 in.

Piece T. Cut one 3/16 in.

Piece U. Cut one 3/16 in.

Piece V. Cut one 3/16 in.

Piece N. Cut one 3/16 in.

Piece A. Cut one 1/4 in.

Piece I. Cut one 3/16 in.

Piece J. Cut one 1/4 in.

Piece K. Cut one 1/4 in.

Piece L. Cut one 1/4 in.

Piece M. Cut one 1/4 in.

Piece B. Cut one 1/4 in.

Piece D. Cut two thin card and glue to edges of piece C.

Piece O. Cut one 3/16 in.

Piece P. Cut one 3/16 in.

Piece E. Cut one 1/4 in.

Piece S. Cut one 1/4 in.

Piece T. Cut one 3/16 in.

Piece U. Cut one 3/16 in.

Piece V. Cut one 3/16 in.

Piece N. Cut one 3/16 in.

Piece A. Cut one 1/4 in.

Piece I. Cut one 3/16 in.

Piece J. Cut one 1/4 in.

Piece K. Cut one 1/4 in.

Piece L. Cut one 1/4 in.

Piece M. Cut one 1/4 in.

Piece B. Cut one 1/4 in.

Piece D. Cut two thin card and glue to edges of piece C.

Piece O. Cut one 3/16 in.

Piece P. Cut one 3/16 in.

Piece E. Cut one 1/4 in.

Piece S. Cut one 1/4 in.

Piece T. Cut one 3/16 in.

Piece U. Cut one 3/16 in.

Piece V. Cut one 3/16 in.

Piece N. Cut one 3/16 in.

Piece A. Cut one 1/4 in.

Piece I. Cut one 3/16 in.

Piece J. Cut one 1/4 in.

Piece K. Cut one 1/4 in.

Piece L. Cut one 1/4 in.

Piece M. Cut one 1/4 in.

Piece B. Cut one 1/4 in.

Piece D. Cut two thin card and glue to edges of piece C.
MODEL of the PRETORIA CASTLE

The patterns on the reverse side enable the model maker to make up a waterline model of one of the latest and most popular modern liners engaged in the South African Royal Mail service. This is the Pretoria Castle, which was launched in 1947—incidentally by radio telephony from Pretoria, 6,000 miles away from the actual spot. The boat is 749ft. over all, with a gross tonnage of 28,705, being one of the most recent of the well-known Castle ships renowned for the England—South Africa service.

The waterline model we can make is almost 16ins. long and 3ins. high. All the necessary parts are shown full size on the sheet, and the kit provides the necessary panels of wood from which they can be cut. Construction is straightforward, the cabin of the2 shaping is done with paper to get a final smooth surface and necessary curves. Care and attention must be paid throughout the building, and patience given to the tiny parts which have to be added.

Order of Construction

Study the side view and plan so you may realize where each part is to come. The pieces are lettered in alphabetical order according to their construction. Piece (B) goes upon (A), and piece (C) upon (B), etc. Dotted lines on each part indicate where adjoining pieces are to be fixed. The actual pattern should not be pasted, but the outlines marked off on to the wood and tested out for position and size before being finally glued in place.

Piece (B) is slightly smaller at the front than the hull itself. This allows the sides and forming the bow to be glued on, and some flush outside with the rest of the hull. Notice, too, that the small piece (B) extends towards the bridge in the plan (B) towards the end. The whole bow slopes slightly towards measurements with the side view should be checked off.

The deck has the tiny piece (B) fixed behind (B). This is in position in the section shown by the shaded part, and in side view in the plan above.

The various upper decks are now added, the position being shown by the dotted line in each case. Follow them through in numerical order, and check with the perspective detail here of the funnel portion and the bridge.

The various upper decks are now added, the position being shown by the dotted line in each case. Follow them through in numerical order, and check with the perspective detail here of the funnel portion and the bridge.

The various upper decks are now added, the position being shown by the dotted line in each case. Follow them through in numerical order, and check with the perspective detail here of the funnel portion and the bridge.

Boats and Davits

Boats are hung with a spot of glue on to the underside of the davits, which are glued along as shown. The davits themselves are shaped to the usual water curve, and have a shaping top radiating down the centre. Derricks, etc., are fixed to hold the lines and driven into the appropriate deck after a

hull. The deck is a natural wood with all superstructure painted white. The windows are painted blue. The funnel is red up to the line shown, and the part above it in black. Partholes also are black, as well as any doors or compass openings on the decks.

Baseboard

The baseboard is formed of a single piece of wood 17ins. long, 3ins. wide. To lift it is slightly, add four tiny 1 in. square pieces to overlap, as shown in the diagram. The baseboard should be provided with an imitation sea by having plastic wood or glue and sawdust or even Plasticine or putty put on it. Make it reasonably smooth for the sea, and paint it blue, flecked with white for wave effect. There should, of course, be a slight bow wave towards the front of the blue, and a stern wash behind.
TOY TELEPHONE MONEY BOX


PANELS OF WOOD REQUIRED FOR THIS DESIGN
THREE G3 TWO G4

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

NOTE: This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

CUT ONE PIECE BRASS OR TIN TO SHAPE.

RECEIVER HANDLE. CUT TWO 1¼ in. AND GLUE TOGETHER. SHAPE TO SECTION.

OUTSIDE DIAL. CUT ONE 3⅛ in.

INSIDE DIAL. CUT ONE 3⅛ in.

DISC AT END OF RECEIVER. CUT ONE 3⅛ in.

PAPER DIAL TO BE CUT ROUND AND GLUED TO FRONT (see front).

DISC AT END OF RECEIVER. CUT ONE 3⅛ in.

PARTITION. CUT ONE 3⅛ in.

BASE. FRONT. CUT ONE 1¼ in.

BASE. BACK. CUT ONE 1¼ in.

BASE. SIDE. CUT ONE 1¼ in.

PAPER DIAL TO BE CUT ROUND AND GLUED TO FRONT (see front).

DISC AT END OF RECEIVER. CUT ONE 3⅛ in.

PARTITION. CUT ONE 3⅛ in.

BASE. FRONT. CUT ONE 1¼ in.

BASE. BACK. CUT ONE 1¼ in.

BASE. SIDE. CUT ONE 1¼ in.

PRINTED IN ENGLAND.
MODEL TELEPHONE MONEY BOX

This little mechanical novelty can be made from the kit provided, and patterns set out on the reverse of this sheet. Mark the parts direct on to the wood by means of tracing paper or carbon paper, cut them out with the fretsaw and then build to form the completed article. The dialling is mechanically operated, the dial itself returning to its original position after use.

The receiver when lifted reveals a slot in the top, forming an aperture for the money box beneath. If you prefer, of course, the model can be made as a working toy only, and the money box part of it omitted. If this is being done, you should omit the coin slot in the top of the circular opening—for the extraction of the coins—underneath.

The Base
The base portion is a hollow framework with the floor glued upon the edge of the four narrow upright strips which you see in Fig. 1. The size of the floor is slightly less than the framework of these strips which project beyond it. Underneath you can stiffen with little blocking pieces to make a rigid base. On the top of this floor will be glued the two sides, the front and the back, and the centre partition. They cannot, however, all be put in at once, but should be cut, tested and cleaned first.

Erect the floor and ensure that the front will lie over the top of its edges and the back fit between the parts. Each edge of the front will have to be chamfered so it can bed down on the floor and come in line with the top later. The angle of chamfer is shown in the centre a hole is drilled to take the disc rod. Note also the position of the pin which forms the stop behind the front. It is important to drill this through so you can place the pin in from behind. Mark also the position of the curved metal piece which you see in the picture of the finished model.

The Mechanism
The mechanism on the back of the front is shown at Fig. 2. The inside disc has three screws driven in, and then the disc itself is glued on the length of 1in. rod indicated. Glue this securely, and then see that the rod moves smoothly in the front. Holding the inside disc with the projecting lug against the stop screw previously fixed, put on the front disc. Before doing this, however, you must have the front cleaned, and glue on the paper dial with its lettered and numbered circles. The exact position can be seen from the picture of the finished model. This paper is glued to the front, and then the disc is finally put over the dowel rod, and glued on it, making sure that the circles in the movable disc will come opposite the names on the front itself when the inside dial comes to rest against the stop pin. The part is held there by a short length of elastic—an elastic band will do—held at one end by an eye driven into the floor, and at the other end by the screw on the revolving disc. These parts should be fitted and tried before you add the inside partition. This partition is merely an upright piece glued between the sides, and on the floor 1 in. forwards from the front.

The circle cut from the floor is, of course, to replace and cover over on the outside with a piece of paper. This provides access to the interior compartment when the money is to be extracted. The back fits between the two sides, and the top rests above it. The dotted lines in the patterns of the sides show you the position. One end of this top has to be chamfered, and you will notice that the slot for the coin is nearer the front edge than the back.

Receiver
One end of the receiver is given at Fig. 3. It is made from two pieces tin, glued together, and then the outside edge shaped as shown by the section. Smooth the whole part off nicely for handling, then glue on the flat end ear and mouth piece. Each consists of two discs of wood (A and B) glued together, and then glued centrally over the hand piece. A length of cord fairly thick and coloured is used to connect the receiver to the instrument. The cord can disappear into the base through a hole in the back edge, the other end being fitted into a hole at the mouth-piece end of the receiver.

The whole model should be painted a glossy black, care being taken that the lettering remains in white, whilst the moving disc itself can be painted aluminium or silver.