

# HOBBIES WEEKLY

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*You can make this*

## MODERN FRUIT BASKET

MODERN furniture stores today display many examples of wooden and steel household articles designed with simple outlines. Reproduced here is an example of an up-to-date fruit basket which the woodworker can put together in an evening with little effort, and the minimum of tools and material are required. The ends are designed mostly as straight edges, so as to simplify cutting operations. Well finished in bright colours, it would be a useful addition to the home.

### Marking Out

Materials required are two pieces of  $\frac{1}{2}$  in. or  $\frac{3}{4}$  in. wood, each 7 ins. square, and six 3 ft. wooden dowel rods  $\frac{1}{4}$  in. diameter. Mark out the design direct on to one piece of wood and join the two pieces of wood together temporarily with panel pins. Keep the panel pins inside the design. Cut out to the design lines and after squaring all edges, separate the two pieces. Draw a line  $\frac{1}{4}$  in. from each edge and starting  $\frac{1}{4}$  in. from the top, mark out eight spaces on each side at intervals of  $\frac{1}{4}$  in., as shown on sketch (A). Two additional markings equally spaced along the bottom would be sufficient.

Using a  $\frac{1}{4}$  in. twist drill or screw bit, bore a hole at each marked position,



but only bore approximately half-way. Do not go right through the wood, as this spoils the effect, and if you are using a screw bit, see that the point of the screwed portion does not protrude.

Try a few sample holes on a piece of your spare wood until you are satisfied with the depth you can go. When you have found this, it is a good idea to mark the drill or bit with a piece of

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*For Modellers, Fretworkers  
and Home Craftsmen*

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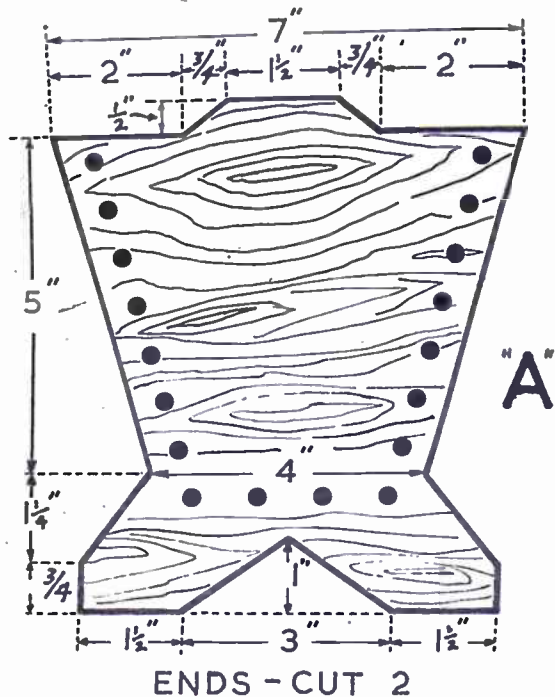
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gummed tape to guide you for depth when boring the holes in each end.

Cut the  $\frac{1}{16}$  in. dowelling into eighteen 12 in. lengths. Glasspaper the basket ends thoroughly. Also glasspaper the dowelling lengths, but be careful not to do the ends of the rods so much that they are a loose fit in the holes. Glue all the holes lightly and insert and drive the dowelling rods into the prepared holes in each end and bind the basket together until the glue sets. Try the basket resting on its feet on a flat surface to make sure the assembly is square before leaving it to set.

#### Glasspaper Thoroughly

When thoroughly set, clean off any excess glue, rub over finally with fine glasspaper and dust off. Give the basket a coat of undercoating or flat paint and finally finish in the colour selected, using a high gloss finish paint. For a superior finish give it a second coat after glasspapering the first high gloss coat. The ends finished in dark brown with the rods' yellow make an attractive combination. Alternatively, finished all over in cream it would look very fresh, but the colouring, of course, is a matter of individual taste. If you wish, you could decorate the ends with transfers. (R.F.S.)



E. M. Blackman writes about

## FIRST AID FOR CLOCKS

ALTHOUGH it seems incredible, the average clock takes about two hundred and fifty thousand steps every day of its life, often for years on end without oiling.

However simple the clock, it should not be allowed to go longer than two years without an overhaul. If it is not possible to get it attended to by an expert, you can try cleaning it yourself.

If the clock is an ordinary one with a pendulum, the first thing to do is to unhook the pendulum carefully, and then remove the works from the case. They are usually fixed in position by three or four screws, and it might be found necessary to take the hands off before the works can be taken out. It is quite likely that the pivot holes and other movable parts will be found covered by a thick black substance, which has been formed by dust settling on the oil, mixing with it and gradually drying it up. This is usually the cause of a clock suddenly refusing to function.

The expert would dismantle the entire works and clean them thoroughly, but it is not advisable for the amateur to attempt such an operation without being very familiar with the mechanism

of clocks. However, it is possible to achieve quite a good clean without taking it all to pieces.

Soak a piece of soft rag in carbon-tetrachloride or petrol, and rub it on the dirty parts to remove the thick oil. Attend specially to all the pivot holes, and the teeth of the escape wheel at the top of the clock. Care must be taken, however, not to damage or bend this in any way. Using fresh material, repeat the process until all trace of dirt has disappeared. Then wipe with a clean, dry rag, leaving for about an hour so that thorough evaporation takes place.

#### Don't Forget the Case

During this waiting time the case can be cleaned with a paraffin rag, which will collect up all the dust. This is also excellent for removing marks from black marble cases, which should afterwards be rubbed over with boot polish. Furniture polish will smarten up wooden cases.

All movable parts of the clock can then be given a small quantity of good thin machine oil. Too much oil will encourage the accumulation of dust, but

too little will result in it drying up in a few weeks.

A good plan is to take a piece of thin wire and hammer out the end. A flattened blob will be formed which will hold one drop of oil which is sufficient for each moving part; the pivot holes, the slot in which the pendulum swings, and the rocker's two faces where they engage with the escape wheel teeth.

Screw the clock back in the case, and hook the pendulum on carefully. The little spring on which it swings is very delicate, so be careful in this operation.

When the clock is intact again, stand it level and listen to its ticks, which should be of equal length. Uneven ticking indicates that the wire behind the pendulum spring requires bending to the right or the left.

Regulating may be needed after a few days. Should the clock be losing, the nut on the pendulum needs screwing up. If it is gaining, it will need letting down.

So treat your clocks with care. Remember they need a drink occasionally, and give them that careful and prompt attention which they require if they are to render good service.

It's quite easy to make

## NEW TRAYS FROM OLD FRAMES

OLD wooden picture frames do not often fit in with the decoration of the modern home, and they usually find their way either to the attic or the junk shop, where they may be purchased for a few pence each. Before discarding, it is worth considering them for a new lease of life, as many can be utilized to make modern painted trays, for example.

Choose one of suitable size. The glass, picture and backing are removed, and in their place wood is substituted of a thickness to bring it level with the back of the frame. This need not be expensive wood, providing the surface is free of knots and can be glasspapered smooth. As an alternative, thin wood,  $\frac{1}{8}$  in. thick, can be used for the top surface, backed by and glued-on to strips of wood taken from orange boxes. This is held firmly by a backing covering the whole to the outside edges of the frame itself. (Fig. 1).

#### Enlarging a Design

A design is then selected or an original one drawn to the shape of the frame. (Figs. 4 and 5 show suitable designs.) If not of the required size, the design can be enlarged, or reduced as the case may be, by squaring up. This

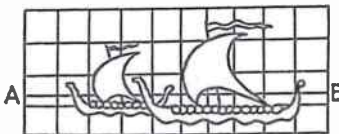


Fig. 2a

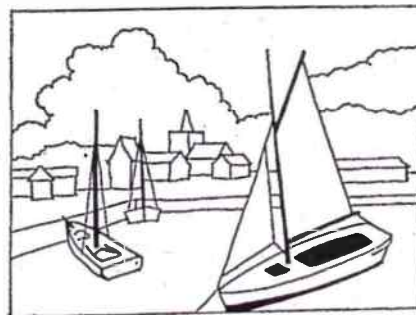


Fig. 4

method consists of dividing the original design into squares, and then dividing the panel to be painted into the same number of squares. Each square section of the design is then copied to fit into the new squares. The drawing should be

Says D. Y. Gooderson

kept simple, cutting out all unnecessary detail, for detail is not easily done with oil colours, neither is it essential in decoration for a tray. Fig. 2a shows the original design which is squared up to

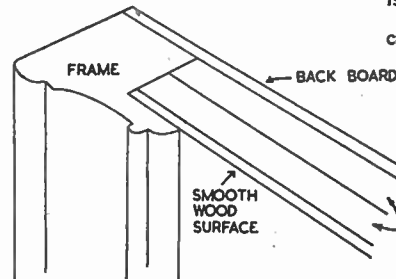


Fig. 1

useful, a small one for the edges and a larger one for filling in. To save continually cleaning the brushes, each part of the design can be marked with its appropriate colour. One colour is then selected and all parts of that colour filled in. When dry, the second colour can be used, and so on until the picture is complete.

At each end of the tray two grooves can be cut at the back to enable the tips

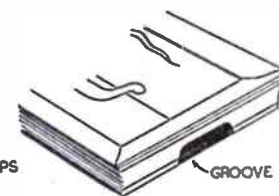


Fig. 3

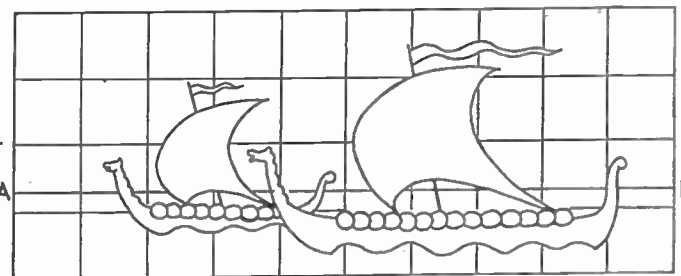


Fig. 2b

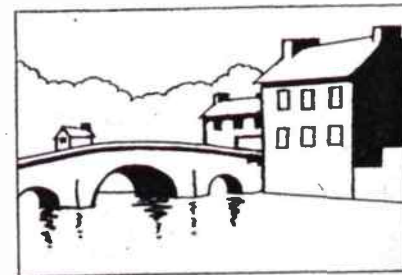


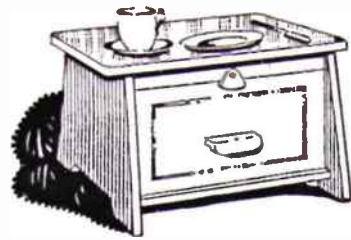
Fig. 5

size as in 2b. (A-B indicates the horizon).

A small sketch is made on which the colour scheme is tried out. The oil colours used can be few in number, for here again simplicity in colour is effective. Few colours and a good basic drawing is better than many colours used on a bad design. Two brushes are

of the fingers to be inserted when lifting off the table (Fig. 3). Alternatively, plastic handles such as those supplied by Hobbies Ltd. (No. 710, 2s. 6d. pair and No. 711, 1s. pair) will add a distinctive touch. Finally, the frame is painted to fit in with the colour scheme, and the whole assembled and glued together.

# A Picnic Stool or Table



Start work on the ends (A) by setting out the outline in Fig. 3 on a piece of wood  $\frac{1}{2}$  in. thick, 12 ins. by 15 ins., made up in two or three widths as desired. A strong glued joint should be made and dowels let in if thought advisable. The mortises should be set out carefully from the centre dotted line given in the diagram. The two rails (B and C) are each 18 ins. long by 2 ins. wide by  $\frac{1}{2}$  in. thick, and the tenons on the ends of (B) are made according to the small diagram in Fig. 1, while those on the ends of (C) are as the small diagram on Fig. 3.

The back of the stool is 16  $\frac{1}{2}$  ins. long and 9  $\frac{1}{2}$  ins. wide and consists of two

section. Then above those are fixed the two drawer guides (G) 10 ins. long by  $\frac{1}{2}$  in. square in section. This completes the stool itself, and it remains now to make the drawer.

A clear detail of this is given in Fig. 5. Two sides (H) 16  $\frac{1}{2}$  ins. long by 7 ins. wide, and  $\frac{1}{2}$  in. thick, and two ends (I) 10  $\frac{1}{2}$  ins. long by 7 ins. wide and  $\frac{1}{2}$  in. thick, are lock-jointed together as shown and glued securely. The floor (J) consisting of a piece of  $\frac{1}{2}$  in. plywood is cut to fit over this and is glued and screwed. To make a neat finish to the front of the drawer a piece of  $\frac{1}{2}$  in. plywood (K) is cut to size and glued and screwed to the front (H), all edges being afterwards cleaned off with glasspaper.

THIS useful stool or low table can be made for summer use in the garden for picnic teas, etc. There are no awkward or difficult joints to worry about in its construction, and, therefore, it can be made in quite a short time.

The stool consists of two shaped ends held together by three cross-rails with simple mortise and tenon joints, a solid back, and a plain oblong top. There is a spacious drawer which may be divided

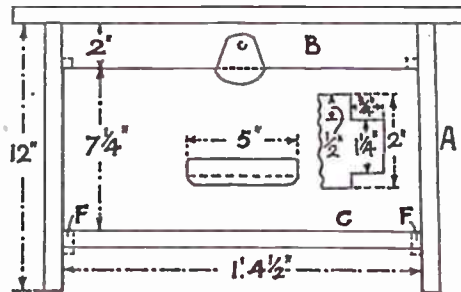


Fig. 1

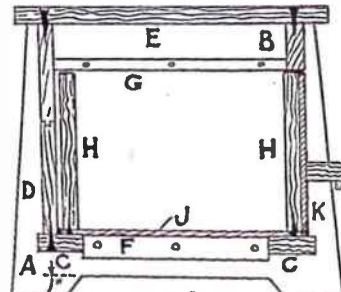


Fig. 2

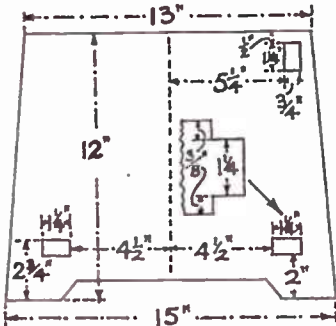


Fig. 3

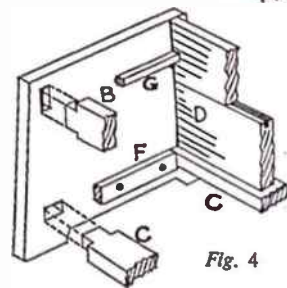


Fig. 4

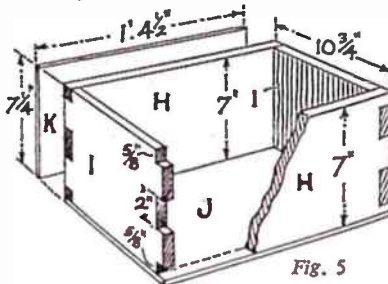


Fig. 5

boards grooved and tongued together and screwed to the back rail (C) and to the ends (A), countersunk screws 1  $\frac{1}{2}$  ins. long being used for the latter.

The top (E) is a plain oblong piece 21 ins. long by 14 ins. wide. This, again, might be in two widths glued up. Note that the top overhangs  $\frac{1}{2}$  ins. at the ends, and is to be countersunk screwed to the rail (B) and to the back and ends. The corners should be rounded and made smooth.

Two drawer runners (F) must next be fixed between the rails (C) in the manner shown in Figs. 2 and 4. The two pieces are 8  $\frac{1}{2}$  ins. long by about 1 in. by  $\frac{1}{2}$  in. in

A simple handle made of two pieces of wood is screwed to the front of the drawer (Figs. 1 and 2). This completes the construction of the stool and its drawer, and seeing that the article will be used mostly out of doors, no better finish could be suggested than paint. If this is decided on, first clean off all surfaces with coarse and fine glasspaper, then fill the grain of the wood with a good filler. When this is quite dry, give a good glasspapering. Then give two coats of undercoating paint, glasspapering between each, and then finish with two

● Continued on page 167

# AMATEUR BOAT BUILDING

By R. H. Warring

PROBABLY the ideal 'trainer' for the amateur yachtsman (and the amateur boat-builder) is a well-designed sailing dinghy of between 10ft. and 11ft. overall length. We say 'well-designed' for we want a small yacht which looks well and handles well. All sailing craft can be tricky enough at times and one which shows up awkward characteristics just at the wrong time can easily give you a ducking at a second's notice.

required curvature, gunwales, chines and stringers may all require steaming. Sometimes you can get away with the

wood dry; sometimes pouring boiling water over the wood will soften it sufficiently to bend easily without cracking. So much depends on the quality and type of material—and the design curvature called for.

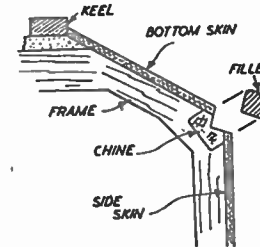


Fig. 1

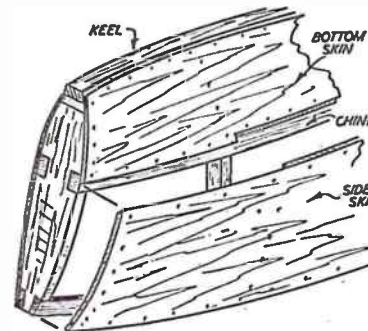
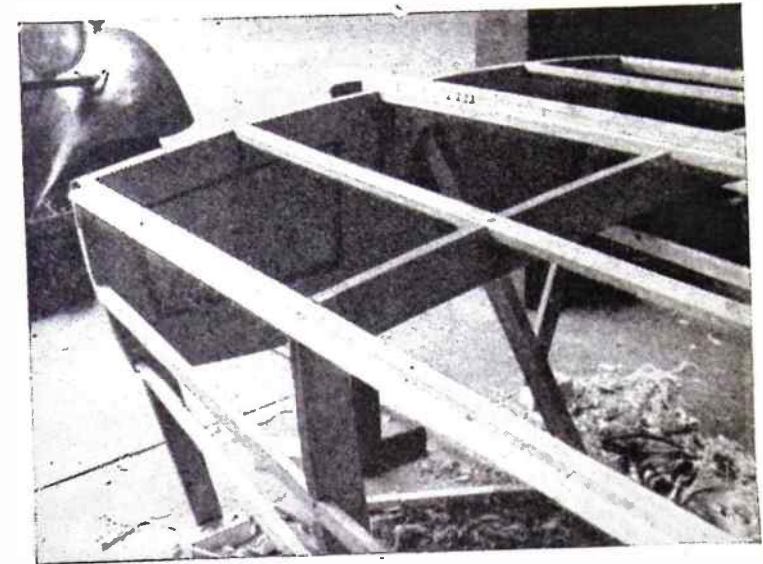


Fig. 2

Still sticking to our 'amateur' method of construction, very pleasing hulls of the 'hard chine' type can be produced, both with pointed stems and 'flat' bows, like the pram dinghy. The latter is now more of a constructional dodge to make building easier than anything else. Accordingly the forebody is pulled in more and the bow transom width is only a fraction of that of the full beam. The ten-footer becomes a two-seater, with half decks and an open cockpit. Being a sailing dinghy, too, we do the job properly with a mainsail and a foresail—fifty to sixty square feet of canvas to drive her along at a spanking rate in a fresh breeze.

Finishing off a curved and pointed stem with plywood 'skinning' is probably one of the trickiest jobs for the amateur builder. To pull round to the



The framework of a typical home-built boat 'faired off' ready to receive its plywood skin



An electric drill saves a lot of back-breaking work!

If steaming becomes essential, then there is nothing for it but to 'scrounge' a length of rainwater piping or similar piping. The strips of wood are pushed into this as far as they will go without protruding from the other end. Set up an electric kettle at this end and direct the spout into the piping, plugging that end completely with rag to prevent steam escaping. An approximate rule for steaming is one hour per inch of the smallest dimension of the wood—e.g. timber 2 ins. by 1 in. section would require one hour's steaming to render flexible. Usually only the last 4ft. or 5ft. of the length of timbers require steaming, which means that you do not need an excessive length of drainpipe. Just make sure, though, that the kettle does not boil dry in the process!

After the timbers have been bent to shape, screwed and glued down and then faired off, the next tricky part comes in matching the ply skin panels for fit. Over the majority of the frame, fitting is quite straightforward, since any curves are quite shallow. Almost certainly the ply will not be long enough for one-

complete piece to be used to cover a whole panel on craft of the size we are now contemplating. Manufacturing difficulties limit production of marine ply to a maximum panel length of 8ft. Any longer panel length thus means using two pieces, jointed as neatly as possible. Usually this is done by letting a

then filled with a fillet strip to produce the required 'square' edge. Not only does this simplify construction, it also covers all edge joints in ply and gives you a double chance of sealing any gaps between ply skin and chine member.

Another favoured method—Fig. 2—is often considered neater, but you

cannot afford to make any mistakes with it. In this case the bottom panel is always fitted first. About 2ft. or 3ft. from the stem the plans call for a change-over from an overlap to a butt-joint, which means that the edge of the bottom panel must be carefully trimmed to suit. Equally carefully, the side panel

#### MATERIALS USED IN AMATEUR BOAT-BUILDING

PART	MATERIAL
Frames	Mahogany
Transom	Mahogany, Mahogany Ply
Hog	Mahogany, Oak
Keel	Mahogany, Oak
Chines	Cypress, Sitka Spruce, Oak
Stringers	Sitka Spruce
Gunwales	Cypress, Sitka Spruce, Oak
Floorboards	Fir, Pine, Plywood, Cedar
Decks	Marine Quality Ply
Planking and Skinning	Marine Quality Ply
Masts	Prime Sitka Spruce
Rudders	Mahogany Ply, Dural, Galvanised Iron
Centre Boards	Mahogany Ply, Dural, Galvanised Iron
Fastenings	Brass Screws, Copper Nails
Glues	Aerolite, Cascophen (Marine Glues)
Fittings	Brass, Galvanised Iron
Finishes	Marine Varnish Marine Paints and Enamels



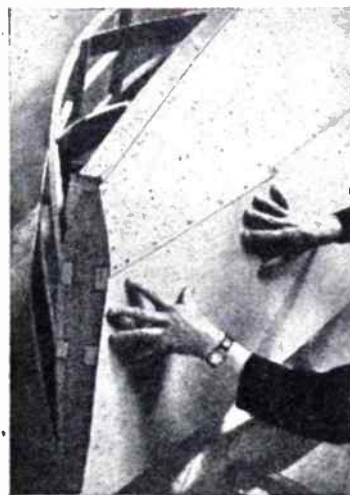
Shaping off the bows of a ply-skinned boat. Edges of the ply are trimmed off flush and the pointed bow proper is shaped from a block of wood which is then glued and screwed in place

jointing strip in flush with the frame where the panel joint occurs and butt-jointing the two plywood pieces over this strip. Copper nails are used to clinch ply panels and jointing strip together which, together with the glue used, means that the actual 'skin' in this region is actually stronger than anywhere else.

#### Gaps Filled by Glue

Even if you do not get a perfect butt-joint between the two panels, any gap will be filled by excess glue oozing into it and setting hard. The copper nails require clenching over from the inside and the heads then punched down just below the surface of the ply. After sanding down and painting it should then be just about impossible to detect that there is a join in the skin there at all, if you have made anything like a reasonable job of it.

Attaching the ply panels around the region of the stem will need more careful workmanship. Some designs favour the amateur in using a chine member which is cut out with a right-angled trough, as in Fig. 1. This means that the top and bottom ply panels can be fitted separately, trimmed down flush after they are fitted and the notch



A change-over joint between side and bottom ply skinning. This job is a little tricky but, properly done, gives an exceptionally smooth finish. (Photographs by courtesy of the Bell Woodworking Co.)

must be trimmed to match over the front portion—'trim and try', as we mentioned in the first article. It would be impossible to pre-fabricate panels to give the builder the fit required, since there must always be small variations between individual craft built to the same plans.

#### Don't Worry

One worry that would-be amateur boat-builders always seem to have can be dismissed at this stage. Most people starting to build a boat are fearful that they will make some fearful constructional error, so that the finished hull will leak, or, perhaps, split apart after it has been in the water for a time. Provided you use the right materials for the job (see table) and just average workmanship, your boat will be quite seaworthy, working from the plans of an accepted design (or, better still, a kit). If you do make errors—and everyone will, at some stage or other—they can usually be remedied with a little thought and extra work. Provided you do re-make all faulty parts, all that will suffer in the long run is the appearance of your finished boat.

With a few simple tools—

# You Can Make Your Own Mouldings

says W. J. Ellson

IT is quite possible to make several patterns of moulding with the simple appliances illustrated, and save time and money by so doing. Most woodworkers often need a short length of moulding, but not every woodworker lives near a shop where such moulding is procurable. Under such circumstances, the means of shaping up a length, suitable to the job in hand, is of value.

For the main tool, illustrated, a stout

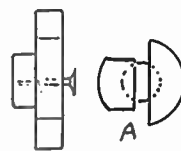


Fig. 1

mild steel screw is employed as the cutter. The screw is driven into an octagonal block of thick wood. A smaller piece of wood is glued to the back of this block, as in Fig. 1, to make up sufficient thickness for the screw to enter. An enlarged view of the head of the screw is given at (A), showing how to file it to get the best results. The inner face of the screw head, where it cuts the wood, should be filed concave with a round file.

#### Various Patterns

A selection of possible mouldings with the tool is shown in Fig. 3, but this by no means shows the limits of its usefulness. Many other patterns will, doubtless, occur to the user himself. Pattern 1 shows a simple design which could, with ease, be worked on the edges of a table, or similar piece of furniture. For this it is only necessary to cut a bead at top and bottom, then to file off the sharp corner angles outside. Pattern 2 shows another equally good for the same purpose. In this case, the bead is worked at the top and edge also, and the lower part of the edge bevelled off with a plane. Both patterns, with some modifications, perhaps, would be suitable to finish off the outside faces of the legs of a fancy table.

Pattern 3 is that of a familiar design of beading used in so many jobs. It is quite easily shaped up from a length of wood by first working a bead from one face side, as in (B), Fig. 4, then using the

tool as in the drawing to remove the surplus left on the edge. The square edge on the opposite side is shaped quarter round with plane and file, finishing with glasspaper.

Pattern 4 shows a useful flat design, necessary to finish off many articles of

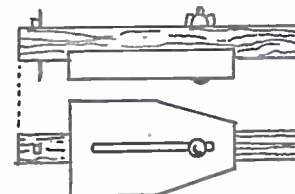


Fig. 2

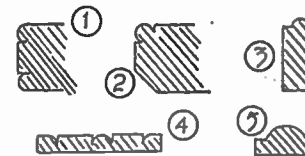


Fig. 3

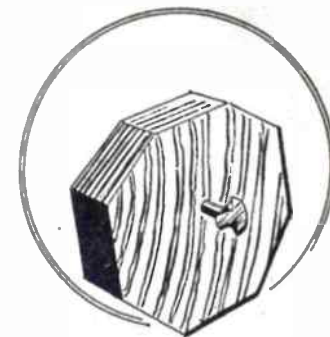
woodwork, or handy for picture frame moulding. It is worked easily enough by cutting the end beads first, then working a double bead in the centre. It may be mentioned that for patterns 3 to 5, stripwood, of suitable section, is most handy, and a supply should be kept ready for such jobs as above.

Pattern 5 is a moulding, familiar to every woodworker, for its many uses. To work this cut a bead first one side, and then the other, as shown at C, Fig. 4. The centre part can then be left with a partly flat top, and would not look unsightly in the least, but if a rounded top is preferred, a few strokes with a plane and a good rub over with glass-

Continued from page 164

## Picnic Stool or Table

coats of good paint or enamel, again glasspapering between each successive coat of paint. When the paintwork is quite dry and hard it may be necessary to rub down the sides of the drawer with coarse and fine glasspaper to make it just fit the opening and make it run in



paper will do the job quite well. The surplus at the sides can be removed with the tool, as in working the beading, 3, but if too deep for effective use of that tool, then the cutting gauge, shown in Fig. 2, should be made, and will remove the surplus wood quickly and well.

Side and underside views of the cutting gauge are given; it is quite a simple affair. A bar of lin. square wood, about 8ins. long, has a hole cut in near one end, into which a 1/4in. wide strip of steel, sharpened to a point, is wedged in as a cutter. A small metal wedge will be better than one of wood here. Quite a small one will suffice, as can be shaped



Fig. 4

up with a file from a scrap bit of metal. An adjustable wood guide is fitted. This is a suitably sized piece of 1/4in. thick wood, with a groove 1/4in. deep cut in its upper face for the bar to slide in. Adjustment is regulated by the bolt shown, working in a slot.

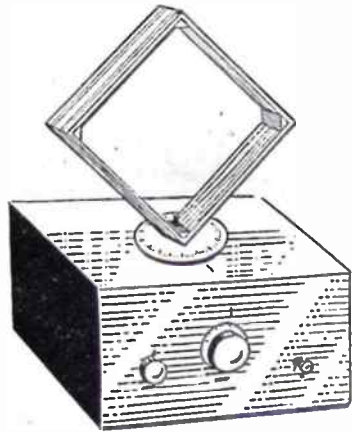
This latter tool will also be found useful for many jobs in woodworking. It would cut shallow small rebates very quickly for example, and also shallow grooves on the inside edges of a door frame to receive a panel. In the latter case the wood between the cuts would have to be removed with a chisel, of course, but that would present no difficulty.

smoothly on its runners.

A drop catch, made of 1/4in. wood about 2 1/2ins. square cut to shape shown and secured with a round-head screw and thin metal washer, will hold the drawer closed when it is necessary to move the stool about. (S.W.C.)

# Making a Novel D/F Portable

By F. G. Rayer



will be explained. A compass reading may be taken to ascertain the bearing of a station, or the location of the receiver found by taking bearings on two stations. The loop may also be rotated to cut out any unwanted station, or aligned with any desired station, to secure maximum volume.

**T**HIS D/F portable receiver should be of particular interest to the constructor and experimenter who is looking for a fairly simple design. For aerial, it employs a type of Direction Finding loop, or frame aerial, and this means that no external aerial or earth is required. The receiver may, therefore, be operated anywhere, for ordinary listening. An aerial loop of this kind, in free space, is able to operate at its best, and

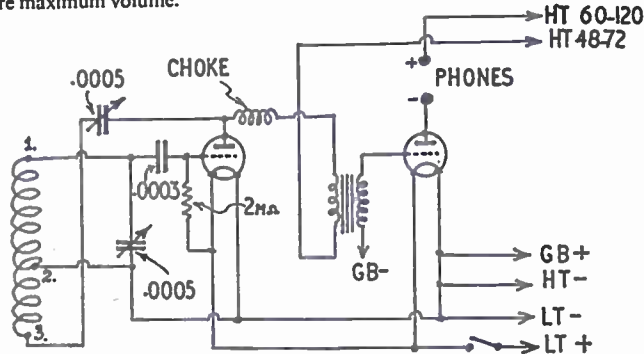


Fig. 1—The circuit

The circuit is shown in Fig. 1, and uses two valves, this being ample for headphone reception. The circuit itself is exceedingly simple, and there is

The L.F. transformer *must* be of the kind intended for L.F. coupling, and its ratio may be about 1:3 or 1:5. Particular care is necessary if an ex-service transformer is used, as this may not have been intended for coupling circuits of this kind, even if it has a ratio similar to that described.

In addition, two 4-pin valveholders

are necessary, an on/off switch, a .0005 mfd. tuning condenser with dial, a .0005 or .0003 mfd. reaction condenser with knob, a .0003 mfd. fixed condenser, and a 2 megohm resistor. The small high-frequency choke is also desirable, though not essential. Its presence helps smooth control of reaction to be obtained.

### The Frame Aerial

The construction of the frame aerial will become apparent from Fig. 2. The four sides are cut from 3-ply, preferably with the outside grain running the length of the strips, which are 1 in. wide. The corners are joined by small blocks, which may be made by taking two pieces of wood about 1/2 in. by 1/2 in. and sawing them through diagonally. In view of the difficulty of nailing, the pieces may be joined with small screws and glue, the screw heads being sunk flush with the wood. When the frame has been made, it should be varnished and set aside to dry.

A clearance hole is carefully drilled through the lower corner so that the frame can rotate, with its dial, on a short length of rod set upright in the cabinet top. For the dial, a protractor or disc marked with 360° is used, attached by two small screws. This is not finally secured in position until the frame has been wound.

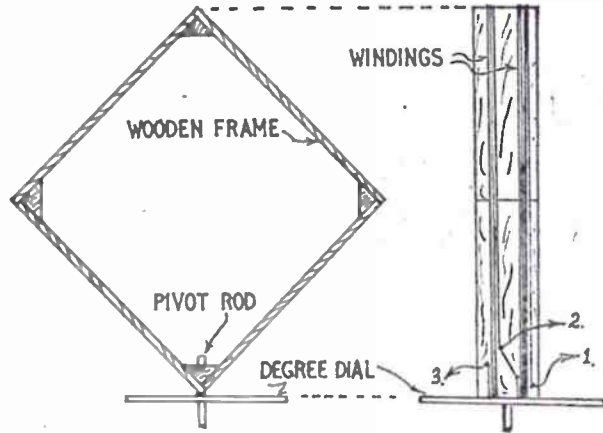


Fig. 2—How the aerial is made

the signal pick-up is rather greater than with a frame aerial enclosed in a cabinet and in close proximity to batteries or metal parts.

The loop itself can be rotated, and this serves a number of purposes, as

considerable latitude in the components which may be employed. Two 2-volt valves are used, these being robust and obtainable for about 2/- from ex-service component stockists. Or valves already to hand may be used.

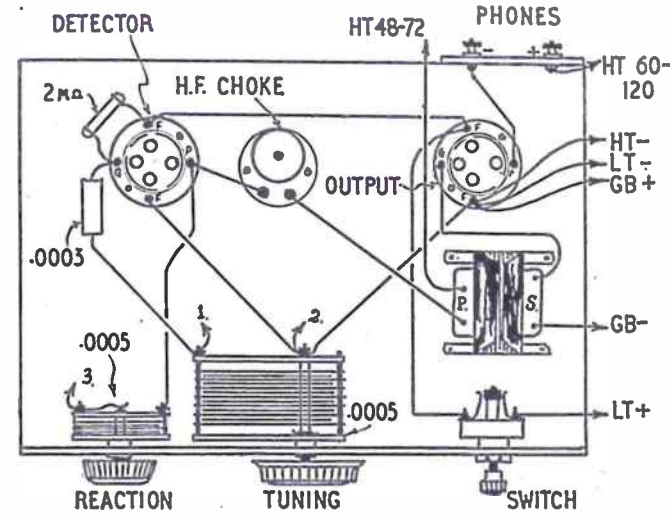


Fig. 3—Layout and wiring plan

The frame aerial itself may be made up in two sizes, the smaller being 6 ins. by 6 ins., and the larger 1 ft. 6 ins. by 1 ft. 6 ins. If portability and compactness are important, the small frame is recommended. If these features are not important, however, the larger frame can be used, and will provide somewhat increased signal pick-up.

For the small frame, 30 S.W.G. wire is suitable. The end of the wire is secured by passing it through a small hole and plugging, and 24 turns are wound on, side by side. A loop is then made in the wire, and plugged as before. The wire is then taken across to the other side of the pivot hole and 8 turns wound on. Both sections are in the same direction. The beginning of the 24 turn winding goes to the fixed plates of the tuning condenser. The loop goes to the moving plates of the tuning condenser, while the end of the 8 turn winding goes to the moving plates terminal or tag of the reaction condenser. It is desirable to use short lengths of flex between frame and receiver, so that the wires do not become fractured by turning the aerial about its pivot.

For the larger aerial, if made, 10 turns and 3 turns should be used, of 24 S.W.G. wire, connections being as mentioned.

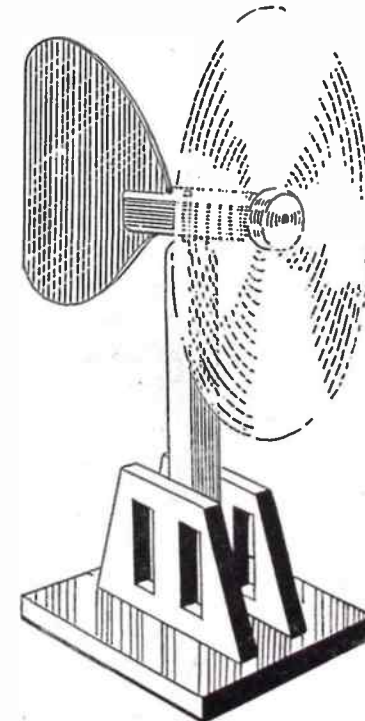
These aeriels tune the medium-wave band (about 200-550 metres). If it is desired to tune the long-wave band (about 1,000-2,000 metres) then a further frame may be made up, with 90 turns for tuning and 20 for reaction, where the perimeter is 2 ft., or 32 for tuning and 10 for reaction, where the perimeter is 6 ft.

All wiring and components for the

receiver will be seen from Fig. 3, which may be followed as connections are put on. A wooden panel and baseboard

# A Novel Toy Windvane

Full-size patterns are on page 175



**T**HIS week our pattern page shows full-size parts for making this novel toy. Correctly made, the slightest breath of wind will set the delicate propeller turning.

Use your fretsaw for cutting out the various parts and assemble them as shown in the diagrams. Cut the base (A) and the side pieces (B) from 1/2 in. wood. The upright (C) and piece (D) are of 1/4 in. square stripwood and the vane (E) of thin card.

### Beads as Washers

The feathers are trimmed and inserted into the cork at an angle, just like a real propeller in fact, and the cork is then pivoted to piece (D). Piece (D) in turn is pivoted to the top of (C). Use two beads as washers and make sure that everything works freely.

Paint the whole toy in bright colours, making sure that no paint goes on the washers. (M.p.)

### Using the Set

Valves should now be inserted, and batteries connected. For low tension, an accumulator is best, but a 3 V dry battery may be used with a series resistor to drop the voltage to two, for the 2 V filaments. For H.T., a 60 V

Continued on page 172

# Going Fishing this Season?



THE season for fishing with float tackle commences on June 16th, which is a great day for hundreds of thousands of anglers eager to go with rod and line to favourite waters. Most rivers, lakes, and canals in this country contain fish of the species commonly known as 'coarse' to distinguish them from the 'game' kinds like salmon and trout. This abundance of fish affords would-be anglers splendid opportunities for sport.

Few waters are free, and some are strictly private. Many rivers, lakes, and reservoirs can be fished on payment of a fee, by purchase of a ticket, or by joining an angling club or association. It is a good idea to become a member of an angling association in your locality, for then the beginner meets experienced anglers who will gladly give assistance and advice.

### Rod Licence Required

In some cases permission to fish is generously accorded by landowners and farmers or other people holding fishing rights on a river or other-kind of water. Always make sure you are in order to fish before doing so, and make any arrangements that may be needed beforehand. In most districts a rod licence, as issued by the River Boards, is required. On some waters boys under fourteen are allowed to fish without such a document. Licences may be obtained from tackle dealers, some riverside inns, and the clerks to the various river boards. Read your

licence carefully and conform to the rules and regulations printed thereon, and act strictly upon them.

Always be well prepared before you set out on a day's fishing. See that your rod and tackle are in good order. Carry a good supply of spare hooks, gut-bottoms, and baits. Before starting from home check over all the essential items of your outfit. Don't forget your lunch packet and flask of tea! Make sure you have in your pocket, licence, permit, or ticket to show the water-bailiff or keeper if necessary.

Equipment for 'coarse' fishing is as follows:

Light cane rod 10ft. to 12ft. long in three joints.

A free-running reel of 'Nottingham' pattern or similar.

A plaited silk line 30yds. to 40yds., or a line of Nylon material. The latter is supplied on spools in lengths 25yds. to 100yds.

Casts in 1yd., 2yds., and 3yds., of gut or Nylon to connect the line to the hook length.

Hooks to gut or Nylon in sizes from No. 6 to 14 will be suitable for the different kinds of fish you seek. Good patterns of hooks include crystal, gilt, round-bend (very useful when baiting with worm), Model Perfect, Limerick, etc. The crystal type is recommended for all-round float-fishing.

As to floats, smallish ones for still and slow-moving waters, as the crow-quill and the porcupine. For bigger

and faster waters goose quills and cork shoulder floats are required. Celluloid floats are also favoured. Never use a larger float than is necessary, for obvious reasons. Landing-net and keep-net. Bait tin, disgorger, and grease for the line when necessary to keep it afloat.

### Summer Fish

Among the kinds of fish worth seeking in summer are dace, perch, tench, chub, bream, carp, barbel, rudd and gudgeon. From June 16th to August, the first six in this list are the best to angle for; by August the remaining four are in fighting trim. Carp and tench in lakes, ponds, reservoirs, and canals are in prime fettle during July; bream in September; barbel from August to October; roach from September onwards; and perch right through the season.

All species of fish haunt the gravelly and pebbly shallows, the fast runs, and weir-pools during summer. They also seek the shade of water plants and weeds when the weather is hot. Chub bask under the foliage of overhanging trees and bushes. In the evenings of warm days during the height of summer many species, such as roach, chub, dace, feed freely. Early morning and evening find tench on the move, also carp. The latter is often caught after dark by specialists who angle through the night hours.

### On the River

The river affords good fun, if you employ light float tackle and practise the method known as 'trotting the stream' in which you cast the baited hook into the top of the stretch of water you elect to fish over, and let it travel down with the current as far as possible without the line getting out of control, before recovering the tackle to make a further effort. Fish every yard of water available from the spot where you sit or stand. Hold back the float by checking the line from time to time. This procedure permits the baited hook to travel slightly ahead of the float, and enables you to strike quickly when you discern a 'bite' as the tip of the quill dips under the surface.

On rivers the mill-pools and weirs are likely places to try out. Here many fish find congenial haunts and feeding spots—chub, dace, perch and pike especially. Watch the eddies under the banks and the edges of the streamy runs.

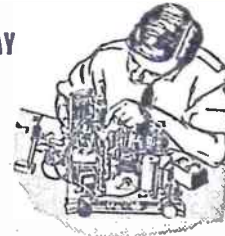
Roach and dace seem to like the runs between weed beds in hot weather. Chub

● Continued on page 172

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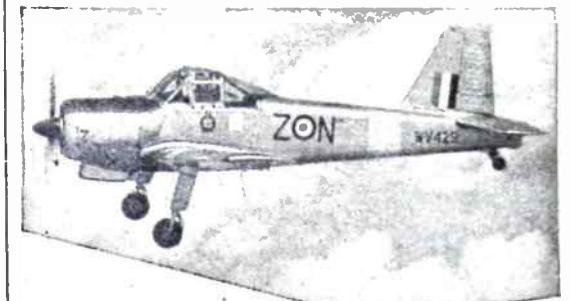
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lurk in bush swims where the water steadies up between bushes overhanging the water. Watch out for a hooked chub's first rush on feeling the hook after you've driven the barb home into his leathery jaw. He will try to reach the roots under the bank. Check him before he gets there, and trust to the soundness of your tackle.

Likely baits for summer-time include maggots or gentles, silk weed, caddis grubs, wasp grubs, creed wheat, stewed barley, hempseed, bread crust (for roach), flies and insects. Maggots may be dyed yellow or pink. Fruit such as cherries, gooseberries, etc., will attract chub during summer months. Artificial flies take chub, dace, and rudd readily on warm still days, especially at evening round about sunset-time.

#### Still Waters

Many species of fish dwell in ponds, dams, reservoirs, and lakes. Young anglers may spend happy hours by the margin of a weed-fringed pond in their summer holidays, questing for tench, perch, and roach and bream. Dawn is

the time for tench fishing, baiting your hook with snails, grubs, red worms, maggots, etc. For roach use fine hooks and bait with maggot or paste. Perch take red worms readily.

#### Clearing Weeds

Where a pond is very weedy it may be necessary to clear the weeds out, making several spots where you can fish in comfort, and not be catching straggling weed-stems with the hook. A long-handled rake or a roll of barbed wire fastened to a rope will do the job. It is as well to clear channels from open spaces of water to the bank, where there is a wide margin of pond-weed stretching out from the shore. You can then coax a hooked fish from the open water down the channel to where the net is waiting.

It often pays to fish close up to weed-beds, but be on the alert to prevent a hooked fish getting into the jungle of tough plants. Put pressure on him and keep him away. Use strong tackle for pond and lake fishing and you will have a better chance of landing a big tench

hooked in an open space surrounded by weeds.

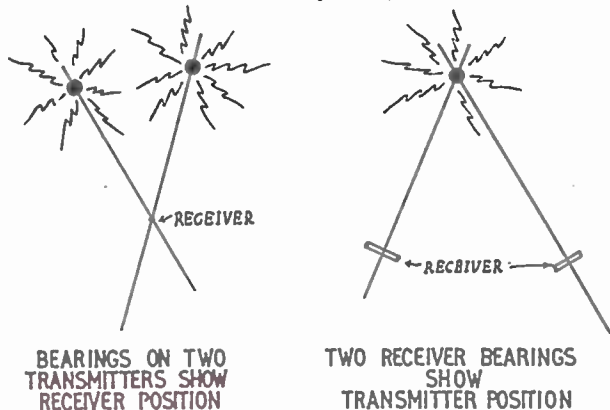
When fishing still waters, be careful to fish as quietly as possible. Do not keep running about the bank, or jumping up every minute or so from your seat. You simply *must* keep down, and not show yourself by standing right on the bank edge. Throw in the tackle as lightly as you can, so that it does not make a big splash. Remember, tench and carp are very wary fishes.

#### Use of Ground Bait

When summer fishing use ground-bait sparingly, unless baiting-up specially for barbel. It's not much use throwing a lot of ground-bait on top of weeds in pond or lake. 'Little and often' is the slogan when using ground-bait in either river or still waters. A mixture of bread and bran well soaked and kneaded together is about the best all-round concoction you can have for the purpose of attracting fish and keeping them nosing around in the same spot. (A.S.)

localities, or bearings may be taken with two receivers in different districts. The transmitter then lies where the lines cross. The first method (locating position of receiver) is most frequently used at sea, and in similar positions where this information is required. The second method (location of transmitter position) is used when life-saving at sea,

For direction finding, the scale on the frame is lined up with a compass, so that north represents zero degrees. The frame is then rotated until the station is



BEARINGS ON TWO TRANSMITTERS SHOW RECEIVER POSITION

TWO RECEIVER BEARINGS SHOW TRANSMITTER POSITION

Fig. 4—Direction and position finding

at minimum volume. The bearing may then be read off and marked as a straight line on a map.

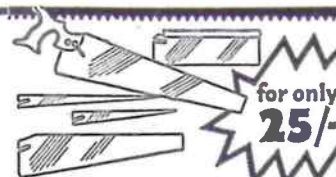
If the location of two or more transmitters is known, the bearing lines should be marked from these locations. The receiver then lies where the lines cross, as indicated in Fig. 4. If, however, the location of the transmitter is not known, then two bearings must be taken with the receiver in different

or any other circumstance where the location of a transmitter has to be determined. The constructor may find added interest in taking readings on transmitters in this way, quite apart from using the set for ordinary listening purposes.

If the frame is wound with enamelled wire, care should be taken that adjacent turns are not shorted by projecting screw heads.

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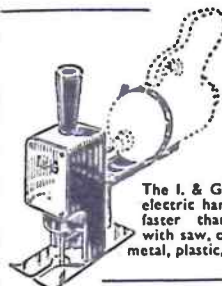
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Continued from page 169

## A Novel D/F Portable

battery is amply large, unless moderate loudspeaker results from local stations are desired, when a 120 V battery will be better. The grid bias voltage should be adjusted to the figure giving best results. This depends on the output valve and H.T. voltage, and will usually be about 3 to 6 V.

With the set switched on, the reaction condenser should be closed until a hiss is heard, showing that the detector has reached a sensitive point. Stations can then be tuned in with the tuning control, the reaction being adjusted from time to time when tuning, for maximum results. The best method of operating the reaction control will soon become apparent, and maximum results will then be obtainable. It should not be fully opened, or sensitivity will be very low. Nor should it be fully closed, or oscillation will arise and best results will not be obtained.

When stations are tuned in, the loop may be rotated for maximum volume. Volume will be at minimum when the axis of the frame is in line with the station. An undesired station may, if necessary, be cut out by turning the frame until its axis points in the direction of the station, as shown by minimum or zero volume.

When taking directive bearings, the bearing is taken on the minimum signal-strength position of the frame, since this can be found most easily and accurately.

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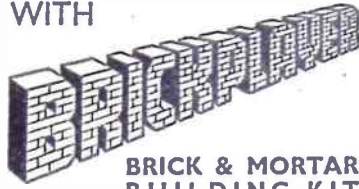
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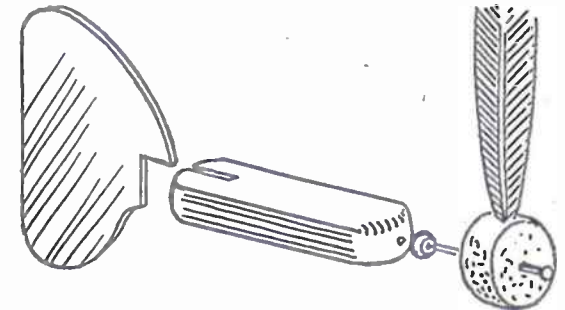
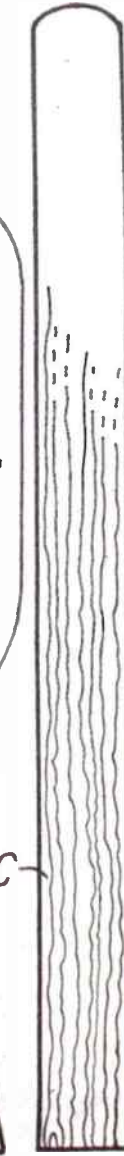
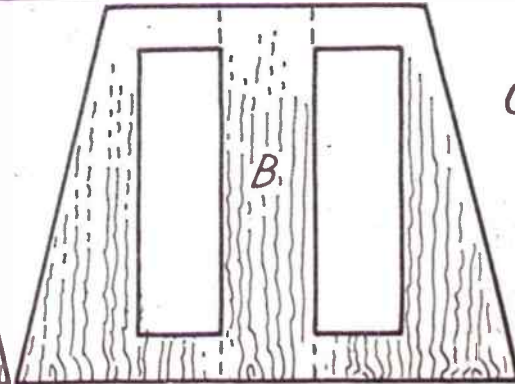
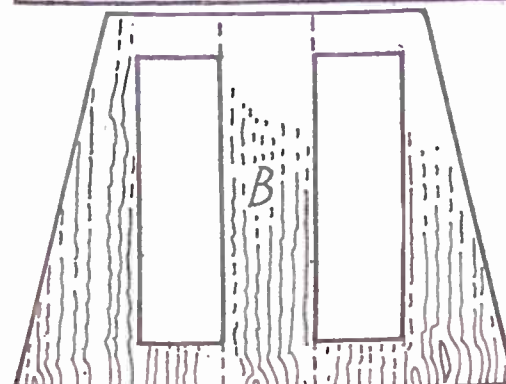
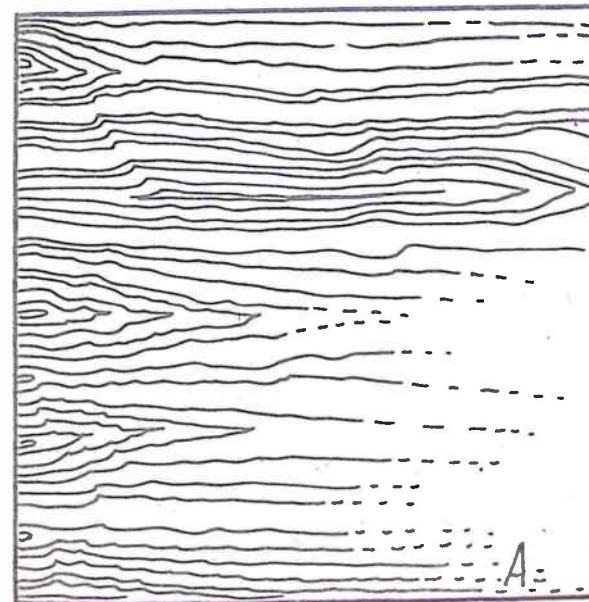
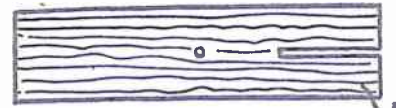
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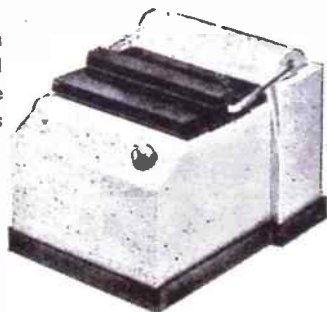
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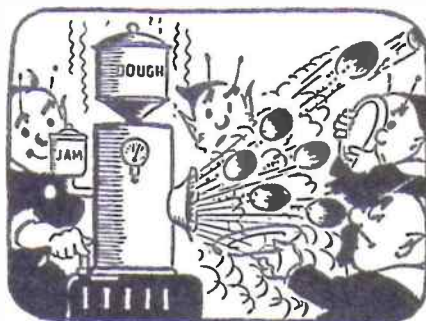


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