

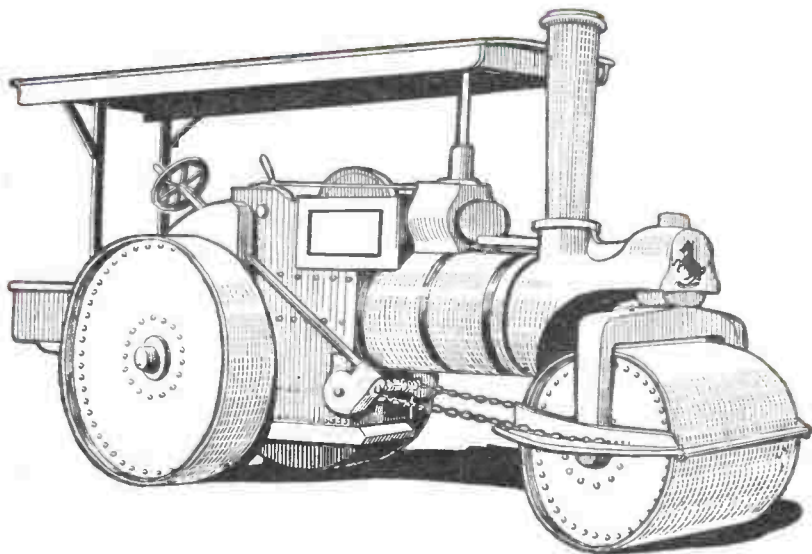
MINIATURE SHIPS IN BOTTLES

Hobbies

WEEKLY

A MODEL STEAM ROLLER

Gift
Patterns
Inside



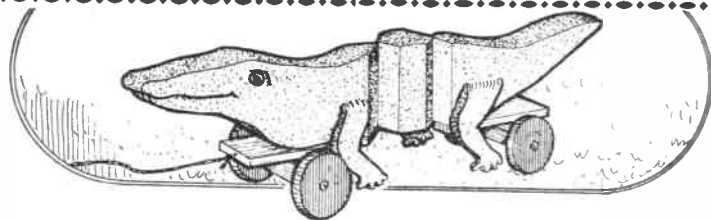
December 17th, 1941

Price Twopence

Vol. 93. No. 2409

◆ FOR THE FRETWORKER AND HOME CRAFTSMAN ◆

A novelty toy to make is this CRAWLING CROC



A FEW odd pieces of wood only are needed to make this kiddies toy. It would just suit a young child for Xmas and help to fill the stocking. Now is the time to begin and a quaint toy like this will serve as a gift in many directions. It is for a pulling crocodile which wriggles its way along in amusing fashion.

For the body of the crocodile, two pieces of $\frac{1}{2}$ in. thick wood will be needed, 15 ins. long and 3 ins. wide. Cut both to the exact dimensions. Copy the design in Fig. 1 (which is drawn over 1 in. squares) on to thin paper and paste it to one of the crocodile pieces or transfer through carbon paper.

Flexible Strip Centre

Fix the two pieces together temporarily, with nails, and on lines A & B saw through. Each side of the crocodile will now be in three pieces, and where these are to be jointed bevel off the edges to 45 degrees.

Get a strip of calico, the same size as the wood pieces, and lay it flat over the table with a piece of newspaper under it. Take the wooden pieces of one side of the crocodile, and glue to the calico.

Turn the lot over and rub down any creases. Then glue the opposite side pieces to the calico. The whole will now appear as in Fig. 2.

When the glue is dry, cut out the shape of the crocodile very carefully, either with a coarse fretsaw or a bow saw. Clean up the edges and sides with glasspaper.

The tail could be tapered off to a

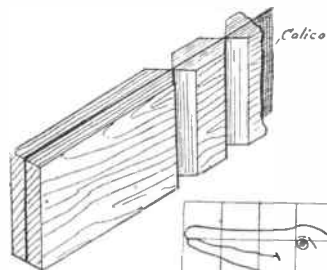


Fig. 2—Details of body and centre strip

blunt point and the body shaped up a little according to the skill of the maker. If inexperienced in wood carving then a plain sawn outline will suffice as a youngster is not likely to be hypercritical on the shape.

The legs should be copied as accurately as possible and be cut out of fretwood. The base pieces, C and D are cut from $\frac{1}{4}$ in. wood, 1 in. wide and 4 ins. long. Fix these below the crocodile with glue and screws where shown. Trim the inner ends of these to conform with the bevelled joints.

Axle Bars

A front view (Fig. 3) shows the length of the axle bars. Cut these from $\frac{1}{2}$ in. sq. wood and nail where shown. The wheels are discs of $\frac{1}{4}$ in. wood. These should be sawn out very accurately and the holes for the screws bored truly central.

Take a little trouble over these as wheels mounted out of centre, or "wobbly" quite spoil the toy.

Stout, round-headed brass screws will serve for fixing the wheels. Drive them in just tight enough for the wheels to rotate smoothly.

Now fix the legs to the body with glue and nails and take care they are $\frac{1}{2}$ in. at least free from the ground. Bevel off the tops of the legs so they slope outwards a little, as in Fig. 3.

Painting

For a finish, paint the crocodile green and put in details in black. The remainder can be painted as desired. The wood bases can be varnished and the wheels painted a bright red. Brilliant colours attract children and make the toy look more like the professionally made article. See the joints move freely by working them backwards and forwards for a bit. Then attach a length of fine cord.

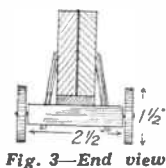


Fig. 3—End view

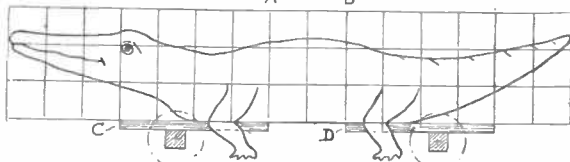


Fig. 1—Side view showing shape to draw

Interesting Replies to Readers' Letters

Accumulator Tops

TELL me the best way to melt the kind of black pitch round the tops of accumulators. (P.R.T.—London).

THE pitch or Chatterton's compound filling for the tops of accumulators can be melted in an old clean iron saucepan, over a gentle fire—e.g., the gas stove with the jets low, but take great care not to let any part of the pitch come in contact with the flame, otherwise it will catch fire.

Re-Magnetizing

I WOULD like to know how to re-magnetize a magnet to lift about 7 lbs. (E.W.—Morley).

WE presume the magnet to which you refer is a permanent one, in which case the re-magnetization is done by coiling a fairly stout gauge (say 22 to 16 gauge) insulated wire, around the magnet and then passing a heavy current of electricity through the wire. The supply should be D.C. not A.C. and must be switched on and off several times.

Repeat the process until the magnet has reached the saturation point. It can be done professionally for a small sum—probably through the local garage or magneto repair works, and this course is recommended.

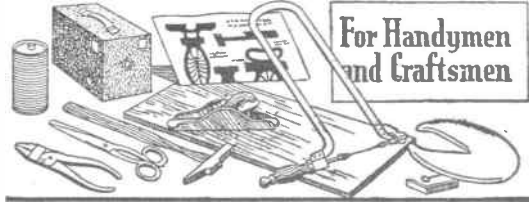
Soap Impressions

HOW can I make a soap impression of something—a key, for instance? (J.W.—Leyton).

SOAP impressions of keys or other small objects of no great thickness, can be made successfully by using a fairly new compact soap such, for example, as "Sunlight" soap.

Take a piece of ample size, flatten one face by scraping with a knife, or by rubbing on a smooth flat surface.

Clean the key or other object and dry it thoroughly, then lay it flat on the prepared surface of the soap and press it firmly downwards. If sufficient pressure cannot be obtained by the hands alone, put the soap and key in a bench vice and squeeze it in under pressure. The key will usually fall out if the soap is turned face downwards and sharply tapped, but some grades of soap (and also soap that is too wet) are a trifle sticky and the key will not come out cleanly; in such cases dust the key and the face of the soap with fine French Chalk, or Fullers Earth—this prevents adhesion.



Complete patterns for a MODEL STEAM ROLLER

ANOTHER interesting model is provided by the sheet with this issue and readers with the help of the parcel supplied can make up a realistic model steam roller of a modern type. It is, of course, completed in wood and is 10½ ins long and 3½ ins. wide.

In the preparation of the patterns we have been assisted by Aveling-Barford Ltd., of Grantham, who are the makers of many types of steam roller used virtually all over the world.

Study the Parts

Before beginning, you must have a good idea of how the whole thing is put together, and a reference to the side view on the sheet and the various details here, as well as attention to the picture of the finished model are essential.

The work of cutting is undertaken originally with the fretsaw, and then where shaping has to be done, glass-paper or a knife are useful.

There are many small pieces to fit into place and the maker must have patience as well as ability. All the parts necessary are lettered in themselves, and then a cross reference given as to their position in the side view on the sheet.

The model is not in itself an actual working model, but is provided with the possibility of being turned into it. The steering gear can be correctly linked up to the front roller and made

to turn. The piston and crank inside by the driver, can also be made to work when the flywheel is revolved.

The whole model when cut and completed is painted a dark grey and brown and, of course, the various rivets and metal parts are painted on in black as can be seen by the picture of the finished model herewith.

The front of the engine over the roller bears a little horse rampant with "Invicta" underneath, and this can be carefully painted on in black or gold as the definite name of the type of Steam Roller made.

Notice in this connection that the floor D and the front of the box C do not come right down to the bottom edge of the side. Piece C is glued flush with the top so there is a space about ¼ in. at the bottom. The floor D thus passes straight across to the back where it is fixed to the cross piece B.

At the back end, however, the sides come flush with the bottom edge of the floor. It is perhaps advisable to have the axle of the wheels completed so you can put them through the holes in the sides to help guarantee the

correct position. The box L projects on the outside of the back and is not added until later.

Views are given here of the inside of the framework and you can see how the various parts are glued on. The piece G is the crankcase which holds the steering rod. This rod rests in a semi-circular groove cut across piece G. It passes down to the worm drive in JJ.

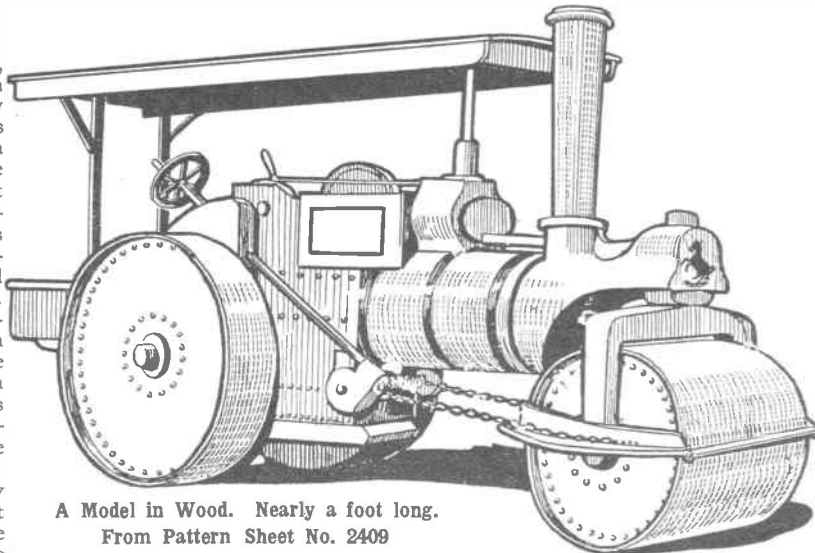
These, of course, are merely planed pieces glued on the outside of the sides at the points shown in the side view. The part KK takes the end of the steering

rod, whilst JJ is fitted exactly opposite on the other side.

The rod can either be glued in place or made to turn if a little washer is fitted to it near the top gear box to prevent it sliding down.

A little turned wheel is nailed to the top of the rod and you may have a little metal toy part which will fit this better than shaping up the wood.

The flywheel and its driving mechanism are shown in the detail herewith. This flywheel is fitted into the sides on a spindle and the gears can be made to work with the



A Model in Wood. Nearly a foot long.
From Pattern Sheet No. 2409

The model is built round the framework of the driver's box, and this is a hollow frame consisting of the two sides A with the various cross pieces B, C, D, E and F as shown. Cut these carefully and correctly and glue them firmly and horizontally in the position marked.

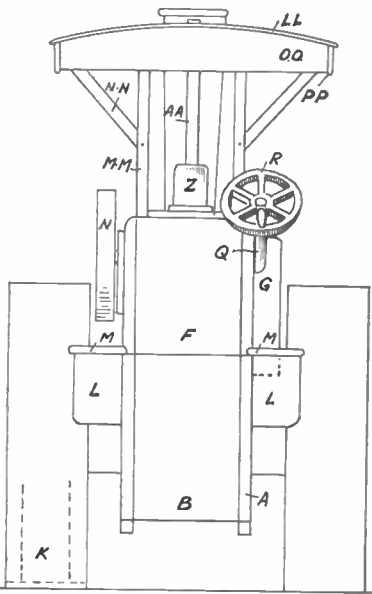
It is not advisable, by the way, to paste the paper patterns down, but rather to mark them out in pencil on the actual board. You then have the original pattern to refer to and to check off positions with dividers and ruler.

MATERIAL SUPPLIED

For making this model we supply a parcel of wood 2/9, post free 3/4.

piston rod driving into the cylinder.

This little cylinder is made of two pieces GG. These are glued together, shaped round and then 3/16in. diam. hole bored through the centre to take the working rod of the piston. The



Rear elevation with parts lettered for construction

fitting of this, of course, demands great care, and if you prefer, can easily be fixed by gluing the various parts together.

Next we should turn to the boiler which is fitted to the front of the box as seen in the side view. The boiler is completed of three circular discs U with cross struts (T) let in and

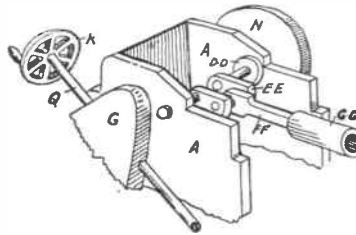
glued, then round the whole thing a piece of card is bent and glued with the joint coming on the underside.

Boiler and Funnel

Rubber bands should be put round the card to hold in place until the glue is fixed. This completed boiler is glued to the front, and then in front of that again comes the solid portion bearing the funnel and the lead to the front roller.

This part is shaped from three pieces glued together. The pattern BBB is cut from a piece of 1/2 in. and two pieces of 1/2 in. wood to the outline shown. The three are glued together and then with rasp, file, penknife and glasspaper you must shape very carefully to the curve and angles shown here.

The back edge, of course, will be



Lettered parts of the driver's wheel and mechanism

flush and finally finished as a complete circle. It is then glued to the front of the boiler, being a little smaller in circumference.

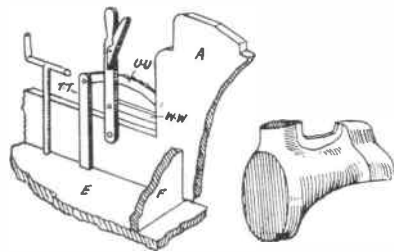
The funnel has a washer SS at the bottom and another capping piece RR at the top. Notice that the funnel is circular, tapering downwards. The roller itself is made up in

a similar way to the actual boiler with disc strips and a cover piece. Round this fix the piece AAA which holds the roller in place.

The little flat pieces which take the chain on each side are shown in detail here, and they are glued to the main framework AAA. This chain runs from the side platform passing back to the spindle which comes between the two parts of the side leading to the worm drive of the steering rod.

The Road Wheels

The main wheels consist of a 1/2 in. thick circle of wood round which a strip of card is glued. Measure off the length by the actual wheel and cut the card 7/8 in. wide. The wheel is fixed on to the back axle and held there by a washer.



Interior detail of levers, etc.

Shape of the boiler and funnel base

A washer must also be placed inside to prevent the wheel running inwards. The supports for the canopy fix on to the front of the engine piece and into the back of the box portion. The shape is provided by the pieces OO which fit between the valances PP. A piece of card is glued on the top to form the actual cover.

Just read how easily you can make this SIMPLE BAROMETER

WHY not keep a record of the barometric pressure each day?

An expensive instrument is not needed; an old ketchup bottle, and a two pound jam-jar can be made into a serviceable barometer.

First of all, clean off all the labels that are on the two bottles in warm water. Now fill the ketchup bottle with coloured water of any shade you like. Red shows up well.

In Reverse

Having done this, turn the jam-jar upside down over the bottle. Then reverse both of them, taking care to keep the jar against the mouth of the bottle. Stand them on a level surface.

Now lift the bottle a trifle, allowing a little of the water to run into the jar. After this, mark off a graduated scale on the side of the jam-jar.

If you wish to have a very accurate scale, you will have to check your model with an aneroid barometer to ascertain how much of your scale equals an inch on the actual thing.

It will take two or three readings to get it correct. You can then number the scale.

Make It Steady

If the "barometer" is likely to be shaken slightly by any vibration near-by, it is advisable to hold the bottle in position by a piece of wire.

First, it is passed around the neck of the jar just under the lip, over the edge, and around the bottle. It is then threaded through the wire at the opposite side and secured.

Here is briefly how the barometer works.

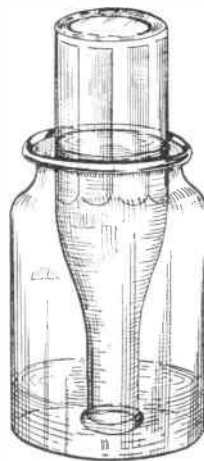
When the air is dry it expands, forces down on the liquid in the jar, and thus sends it up inside the bottle.

It is, consequently, lower on the scale.

Remember that as the most convenient place for the scale is on the jam-jar, it has to be reversed.

Therefore, when the air pressure is falling, it is rising on your barometer. The scale can, of course, be on the ketchup bottle, then it would be the right way up.

This scale can be nicely painted so it will show up against the liquid and air behind. Do it with a fine paint brush and leave to dry.



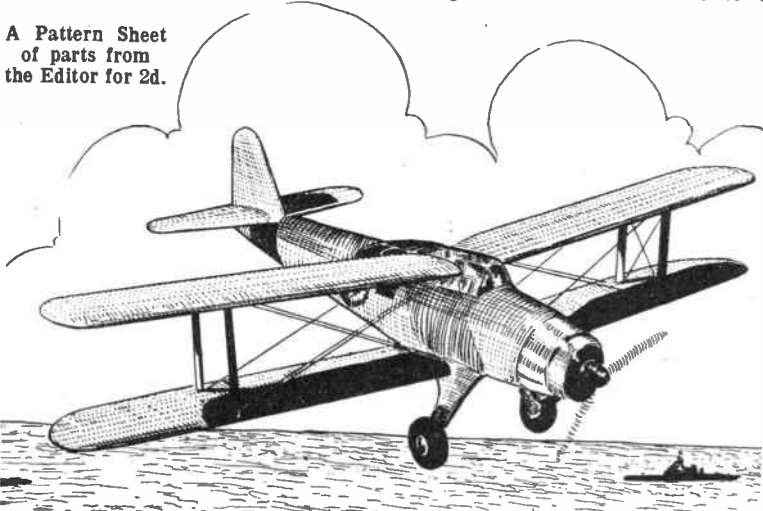
Another simple miniature model to make is this FAIREY "ALBACORE"

CONTINUING our series of miniature plane patterns, we provide details for making the Fleet Air Arm Fairey "Albacore." This model is, like the others, published on the small scale and the span of the wings is $9\frac{1}{2}$ ins. It is the same proportion as those shown in the Hobbies Handbook, and anybody who has undertaken the earlier ones can quite easily complete the Albacore.

Full-size Patterns

Full size patterns are provided and these can either be pasted down to the small pieces of wood required, or traced from the pattern sheet. The latter is probably the better way because one then still has the actual design sheet to use as a working drawing. The various parts are clearly marked. The complete out-

A Pattern Sheet of parts from the Editor for 2d.



line of parts are printed on the Miniature Albacore Sheet costing 2d. from the Editor.

If you have pictures of the Albacore, use them as a guide in building the model, but with the drawing herewith and the details set out on the design sheet, there should be no trouble in completing the whole model.

The patterns are, of course, cut round with the fretsaw, then the various shaping can be done with a penknife or chisel, and finished with glasspaper. The wood used for these models should be a close-grained fancy variety, and if you can purchase any satin walnut or American white-wood, either of these can be carved easily and cleanly. Failing that, beech is quite good but oak is not to be recommended because it is apt to be too brittle for shaping in such thin boards as are required.

The wing is complete in one length cut from a board $9\frac{1}{2}$ ins. long, $1\frac{1}{2}$ ins. wide and $\frac{1}{16}$ in. thick. It is shaped on the top only to a rounded leading edge tapering to a fairly sharp trailing edge. On the right half of the design pattern the wing ribs and the flap markings are drawn. The former are provided on the finished model by drawing thread tightly across and gluing it in place. This is done after the flap markings are added in ink, but all of it is done after the model has been thoroughly cleaned, painted and constructed.

The Fuselage

The fuselage is $\frac{7}{16}$ in. thick piece of wood cut carefully to the shape shown. At the tail end the saw goes straight through along the solid line, turns down where the section of the tail is shown, then proceeds again down the solid line to the

of which the propeller boss (H) is afterwards fixed. It is into this that the actual propeller spinner is fitted, and the detail of it is shown on the sheet.

At the back end of the fuselage is fitted the tail wheel by means of a staple-like piece of wire driven in at a slight angle. The undercarriage portion is shaped in a similar manner to the wings and provides the struts for the wheels which are fixed on the

FAIREY "ALBACORE"

A bi-plane of the Fleet Air Arm, acting as torpedo-spotter-reconnaissance aircraft and dive-bomber. It has a 1,065 h.p. Bristol Taurus air-cooled engine, a wing span of 50ft. and a length of just 40ft. Performance figures have not been released, but a top speed is known to be in the neighbourhood of 200 m.p.h.

ends as shown in the front view on the pattern sheet.

Fitting the Wings

Notice that the lower wing fits into the little shaped slot cut in this undercarriage and so helps to make the whole thing rigid. The under wing is glued in a little recess cut in the fuselage. Its exact position is given on the fuselage pattern by the shaded piece let in. The top wing is rounded so it will just fit into the shaped slot cut in the top of the fuselage.

Notice in both the top and bottom wing the dihedral angle is rather great towards the tip (see front view). This is made by sawing almost through the wing at the centre, then gradually bending upwards and outwards until the right angle is obtained.

Wing Struts

The struts are cut from rounded wood glued into the wings the correct position shown in the front view, and then pieces of cord put from wing to wing in a cross bracing. Drill a tiny hole for the thread in the wing itself, put the thread through it and then glue in place taut.

The torpedo is a circular piece with paper fins at the back hung under the fuselage in the position indicated, by a couple of headless pins or gramophone needles.

The oil cooler is also cut and shaped as shown, then glued to project forward under the engine. The tail and fin are cut from $\frac{1}{16}$ in. wood, slightly rounded and glued in position on the rear of the fuselage. Add a little putty or similar filling material where the join of the fin and the tail come, to stiffen that part up.

(Continued foot of next page)

bottom. The tail and fin as shown are, of course, separate pieces to be added later. The fuselage is shaped according to the sections shown at A, B, C and D. and the patterns provided can be cut out as templates and held up to the model as we gradually shape it off.

Cabin Cover

The cabin is the shaped bulge on the top of the fuselage, and the marking shown on the pattern is for the cabin window frames to be painted on afterwards.

The engine at the front is completely rounded and the exhaust pipes are shown as an additional piece glued to the side. The engine itself is made up of the pieces E, F, and G glued to the front end of the fuselage near A. Notice that the pieces E and F are solid, but that the outer rim G is merely a ring of wood in the centre

The handyman can easily undertake this SMALL OCCASIONAL TABLE

A TABLE such as shown in our illustration here would be suitable for standing in a corner of the room supporting a bowl of flowers. Or it could very well be used as a card or smoker's table for winter use round the fire.

The construction of the table is very simple. The table top being fairly large and octagonal in shape, should be made in two or even three widths glued together. Glue up the pieces, and weight them down when the glue has hardened.

Start with the Top

From the measurements given, set out the square and draw the two diagonals across the board. Take one half of a diagonal and measure from each corner of the board each way along the edges to determine the points at which to cut off the corners. These will, of course, be 45 degrees with the edge. Connect the points, and then cut off the four corners to the lines, using a coarse fretsaw or a small tenon saw.

Next set out the positions of the two cross rails which go beneath the top. These are shown by the dotted lines. The two rails are each 12 $\frac{3}{4}$ ins. long overall by 2 ins. deep and the

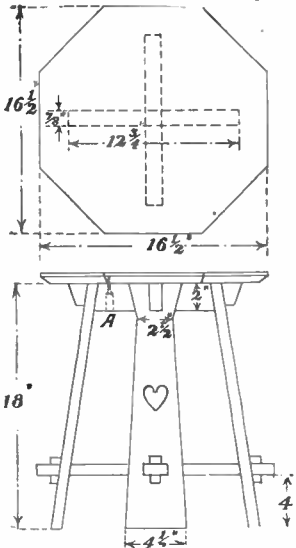


Fig. 1—Detail of the parts

ends will be set out as shown in the elevation of the table (Fig. 1), and in the detail (Fig. 2).

Fixing the Top

Each leg fits against a shoulder on the cross rails and is thus held rigidly when screwed. At A in Fig. 1 a method is shown whereby the fixing of the top to the cross rails is hidden.

A hole is made with a brace and bit half way through the width of the rail, and beyond this a smaller hole is made to admit a screw which is run up from below into the table top.

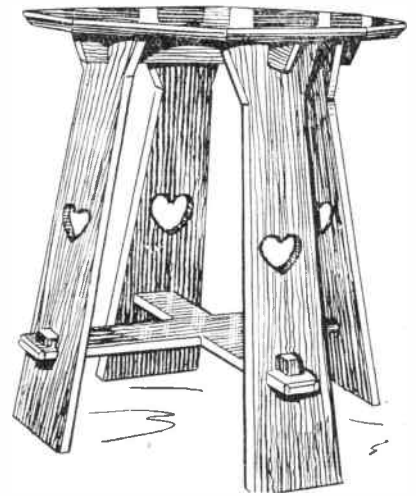
Another method of fixing the top to the rails would be to run screws down through the top into the rails beneath. The screw heads would need to be countersunk and afterwards filled with plastic wood or putty filling.

Cross Rails

The two lower cross rails consist of flat boards 17 ins. long, 2 $\frac{3}{4}$ ins. wide and from $\frac{3}{4}$ in. to $\frac{5}{8}$ in. thick. At each end of the rails set out the tenon and its wedge hole as shown in Fig. 3. Carefully set out the angle at which the legs rest in relation to the rails. This can best be got by setting out a full-size detail and making an angle square for final checking.

The two rails will be halved together in their centres and cut down and cleaned out as Fig. 4 shows. Two screws run in from below the rails will hold them secure, while the legs are being put on.

The legs are each set out and cut from wood measuring 18 $\frac{1}{2}$ ins. in length, 4 $\frac{1}{2}$ ins. in width and from $\frac{3}{4}$ in.



to $\frac{7}{8}$ in. in thickness. Draw in the mortise for the lower cross rail 1 $\frac{1}{2}$ ins. long, and in width according to the thickness of stuff used.

Taper Sides

Taper the sides of the leg to 2 $\frac{1}{4}$ ins. wide at the top, and cut in the slot to fit on to the end of the upper rail as shown at Fig. 2. The heart-shape cut out with a fretsaw in each leg measures about 2 ins. deep by 1 $\frac{3}{4}$ ins. wide. In finally putting the legs on to the rails, fit them carefully, first examining the angles and bevels and cutting and trimming wherever necessary.

Four tapered wedges or keys are cut as shown in the detail Fig. 3 and driven through the slots in the lower rails. To fasten the legs to the top rails either glued angle blocks can be put in the angle at the back of the legs or countersunk screws run in from the sides of the legs at the extremity of the taper.

Suitable Finish

If oak has been used it should be stained down to the tone required and then either wax-polished or oiled. If, however, mahogany is used, it should be stained and French-polished. The top of the table may be lightened by chamfering on the lower edges as in the view at Fig. 1 and in the sketch of the finished article.

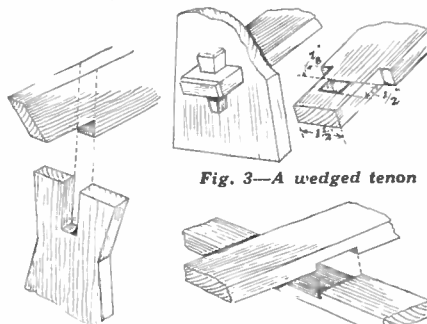


Fig. 3—A wedged tenon

Fig. 4—The flat rails halved

Model "Albacore"—(Continued from previous page)

After the model has been thoroughly cleaned smooth with glasspaper and finished, it can be painted with the usual drab camouflage colours and lined in black. The plane has a "sea" camouflage of slightly lighter brown than the land colours, with a

pale green-brown base. The underneath is of black or silver, depending on the duties. The usual red, white and blue target comes under the wing and on the side of the fuselage, with the red and blue one on top. A tri-colour strip is put on the fin, not the

rudder, but does not extend to the top.

A suitable base can easily be made or you can raise the plane on a rod to fix it at a flying or diving angle, as the wheels are not retractable.

The bottom wing is shown as a half pattern only.

The fascinating and intriguing mystery of getting SHIPS IN BOTTLES

DOUBTLESS many readers have seen a model rigged ship in a bottle and have wondered how it was done. The secret lies in the arrangement of the rigging, which can be folded flat to the deck and allows the whole to enter the bottle. Afterwards the rigging is raised in position.

The hull of the vessel should be carved from a piece of fairly hard wood, and should not be larger in cross section than one half of the bottle neck, inside measurement, as in Fig. 2.

A number of small holes must be bored in the hull, the position of which will be apparent as the rigging is proceeded with. As the hull itself will doubtless be of small section a fine drill bit will be necessary.

An alternative method of boring the holes is to use a red hot needle, fixed, for convenience in handling, in a piece of dowel rod.

A Suitable Ship

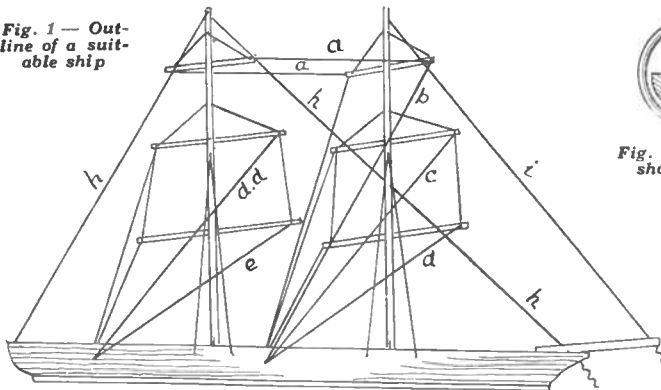
Fig. 1 shows a view of a suitably rigged vessel. It is on the simple side so readers can better understand the system to be adopted.

The masts and bowsprit should not be too slim as some strain is imposed on them. The bowsprit is firmly fixed in position. The masts have a fine hole bored through near the bottom and a length of wire is pushed through and bent down each side, just like a long staple.

Bore holes through the deck for the legs of the staple, push through, and bend the ends outwards at the bottom of the hull. This arrangement will allow the masts to be lowered to the deck.

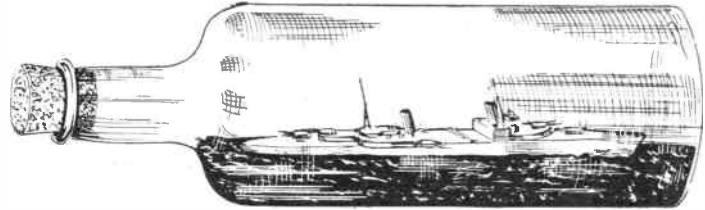
The spars have a hole bored in the centre of each, and holes are also bored through the masts where the spars are to go. The method of fixing these is shown in Fig. 4.

Fig. 1—Outline of a suitable ship



Make a knot at the end of a length of silk thread, or cotton, and pass through the mast and spar. Then pass the thread round the spar and back through the hole again. Thread through all the spars on one mast in the same way, and tie off.

pass through a hole, as at Fig. 3, f. Now through a hole in the mast and down to the opposite side. Thread through a hole, then through the next hole, up to and through the mast again and finish off at g. Tie off here.



Showing one of our Miniature Naval Ships in place

The spars can now be turned in line with the masts as required. Tie a length of thread to the end of each spar, pass through a hole in the mast higher up, and tie to the opposite ends of the spars.

A touch of glue at the ends will prevent the threads from slipping off.

The two top spars are connected together by threads, A-A. To one end of the top spar on the fore mast tie a thread, b, pass it through a hole bored right through the hull and up the other side.

Fitting the Spars

There tie it to the opposite end of the same spar. Follow the same procedure with the lower spars at c and d. All these threads pass through the same hole in the hull.

Connect the rear lower spars with threads dd and e in the same way. These threads allow the spars to be inclined after erection.

The shrouds are in skeleton form only, consisting of two threads each side (black thread for preference) to each mast, but more can be added, if desired, if the same procedure of using one thread only is used.

Take a length of thread, knot it and

The final threading is done to the masts as follows. Fasten a thread (h) to the stern of the vessel, then through a hole near the top of the mast.

The Hinged Masts

Pass through a hole in the fore mast lower down and then through a hole in the bowsprit. A thread (i) is tied to the top of the foremast, then passed through a hole near the end of the bowsprit. Leave both these threads with a good length to spare for handling afterwards.

By careful slackening of the threads, where necessary, the masts can now be lowered towards the stern. Twist the spars lengthwise, and the vessel is ready for inserting in the bottle.

Clean the bottle thoroughly. A blue coloured putty is required to imitate the sea. This can be made with powdered whitening to which a little dry blue colour is added, and the whole worked to a putty with linseed oil.

Put this into the bottle, a small piece at a time, and flatten down to a suitable surface with a piece of wood, shaped like B, in Fig. 6.

Be careful to avoid touching the bottle at any point where the putty is not wanted, or a smear will result.

Push the vessel through into the bottle, and when in the right position press down into the putty. Get it level and firm as possible.



Fig. 2—End view showing hull

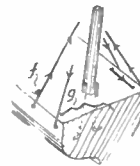


Fig. 3—The hinged mast

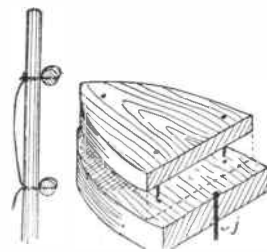


Fig. 4—Spar fixing

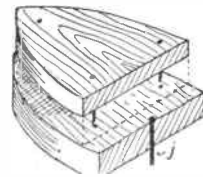


Fig. 5—A foredeck

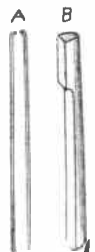


Fig. 6—Tools to use

Now, with the aid of a piece of wire, with one end bent to a hook, pull the masts upright. Draw the threads h and i tight and fix so with a spot of glue at the exit holes. Pull the spars horizontal and incline them by adjustment of the threads. Tighten up all threads where necessary.

Leave for awhile for the putty to harden, then burn off the spare ends of threads h and i with a red hot needle and seal the bottle.

The miniature vessels, patterns of which have appeared in Hobbies on several occasions, are also suitable for insertion in bottles. These are built as directed, but are not glued together. Instead, the parts are temporarily fixed with fine wire dowel pins in this manner.

Take, for example, the forward part of a model destroyer, as in Fig. 5. Instead of gluing it in place, fasten it with fine fretwork nails, or pins.

Prise up and cut off the nails sticking out below to leave $\frac{1}{4}$ in. pin dowels. The holes in the base which the nails have made can be slightly increased in size with a fine drill bit. Some parts of the superstructure can be so fixed with a single nail.

When the vessel is completed, paint it. Leave to dry, then take the pieces apart and lay in order for re-assembly.

The base should have two holes bored through it at convenient places, large enough to take 1 in. or less wire nails. These nails should stick out below the base about $\frac{1}{2}$ in., as Fig. 5, j.

Push the base through into the bottle and press down to the putty. The nails are then seized in a pair of tweezers, passed through and pressed down through the holes in the base into the putty to help anchor it.

For handling the various parts, a pair of long tweezers should be used, or a home made grip, like that drawn at Fig. 6, A. This is made of stiff wire.

Pass a thread through the wireless mast, tie it, push the mast into the bottle, first giving it a touch of glue at the bottom, and work it into its proper hole.

The other parts of the stern portion of the vessel should be glued in turn, pushed through and worked in position.



Birds on Stamps (ii)

NORTH Borneo 1909 24c and British Solomon Islands 1939 2/6 both show birds described as megapodes. This means that they are birds which, unlike most birds, leave their eggs to be hatched either by the heat of the sun or else by the heat which is generated by a heap of rotting leaves. Naturally the young will be able to fend for themselves and get their own food as soon as they are hatched.

In the case of human beings it is generally the lady who likes to adorn herself and make herself look as attractive as possible, but with birds this is quite the reverse. It is the male bird which has the beautiful feathers and bright colours during the mating season.

New Guinea 1931, all values, shows a bird of paradise and so does the 2d. value of Papua 1932. The 5c of British North Borneo 1894 shows the argus pheasant which reminds us of our own peacock.

Gay Males

In addition to fine feathers being used to make the female notice the male, we have many examples of birds going through curious antics. Such as the cranes, for instance, which appear on either side of the king's head on the 1c, 20c and 10/- stamps of Kenya, Uganda and Tanganyika. These birds, the males that is, will actually dance in order to attract the attention of the female.

The 8d. stamp of the 1935 issue of the Bahamas showing us a picture of flamingoes in flight leads us to think about the shapes of beaks. Although in this case it looks very clumsy, it is wonderfully well adapted to the duty it has to perform. That is to scoop and sift the mud at the bottom of ponds,

for in this way it gets the food which is lying there.

Another curious beak is that of the hornbill on the 16c stamp of the 1909 set from British North Borneo. These hornbills are captured for the sake of the casques or helmets, in order to be carved, as they are of a substance resembling ivory.

The Parson Bird

The New Zealand 3d. of 1898 shows the Huia or Parson bird. Look closely at the illustration which is shown here and note that although both the birds are Huias, yet the beaks are of different shapes. That is because one of them is a male and the other is a female. The latter is the one which has the long downward curved beak, the male having a slightly shorter and less curved beak.

These birds eat grubs. The male does the tapping on the bark of the tree and then the female with her more curved beak gets it into the hole made by the male and pulls out any insects.

A Prolific Source

North Borneo has given us a number of pictures of birds and, to quote this country again, we have the cockatoo on the 12c of 1909. New Zealand in 1898 had the hawk-billed parrot, and the same bird appears on the 2/6 of Tonga. Perhaps this is a rather high value stamp for the average collector, but since many of the stamps of Guatemala show us a picture of a Quetzal, there is no reason why you should be without a specimen showing a beautiful bird.

Quite a number of collectors will have one of the Australian stamps showing a picture of a bird which looks very much like one of our own kingfishers. This is the Kookaburra

and belongs to the same family. It has other names, one of which is the Laughing Jackass—a name which it gets from its peculiar cry. It is also known as the Settler's Clock, from the fact that it seems to utter this cry mainly just before sunrise, at noon and again at sunset.

Two much more familiar birds are to be found, one on the 12 cents of the 1897 issue of Newfoundland and the other on the stamps of St. Pierre et Miquelon. The first is the ptarmigan,



A Megapod



North Borneo Hornbill



Note bills of Huia Birds

and this is to indicate that there is sport in Newfoundland.

These birds are particularly difficult to see, due to the fact that their plumage so closely resembles the ground on which they are to be found. Also since their plumage undergoes a seasonal change, the difficulty applies all the year round. The second is the ordinary gull, so well known that it hardly requires any description here.

There are many occasions when you may need A HECTOGRAPH COPIER

A HECTOGRAPH copier is extremely useful as it enables you to duplicate drawings, programmes, leaflets, etc., without any trouble, whenever you may require them. Readers are frequently writing in to know about the process and here are some helpful details.

The actual number of copies that can be taken off varies to some extent with the copier, and also the type of material being duplicated. With a little experience, however, 30 good copies should be available.

The idea underlying the hectograph is to get the matter to be duplicated reproduced on a "jelly" with a special hectograph ink which is capable of printing off the number of copies previously mentioned from the original which is "laid" on the jelly.

The Tray

First of all a shallow tin in which to put the "jelly" is required. The size will depend on the size of the work being duplicated but a biscuit tin lid is usually good enough. Or it may be made as shown. Cut out a piece of sheet tin as shown, bend it up along the four edges, fold the corners round, solder them up and the tray is finished.

Hectograph compound can be bought already prepared in tins, but quite effective "jellies" can be made at home if you can obtain the ingredients. These are of two types, one with a glue base and the other with a gelatine base, which are prepared as follows.

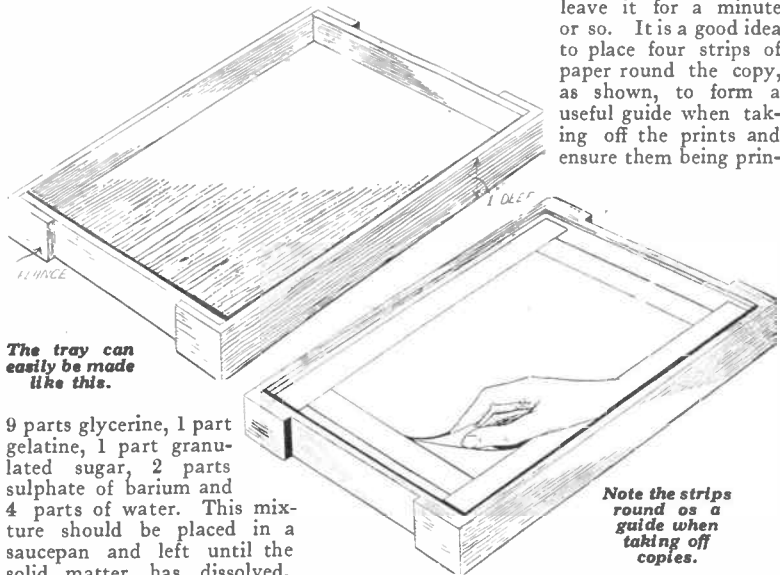
Take 2 ozs. of good quality glue and soak it in cold water until it is a jelly, add 10 ozs. of glycerine, place in a jar and stand the jar in a saucepan of water, simmer gently, stirring from time to time to make sure that the ingredients are well mixed. As a preservative to keep the jelly from going mouldy, stir in about a dozen drops of oil of cloves and then pour the whole solution into the tray.

A gelatine "jelly" can be made with

If there are any bubbles these should be removed by drawing the edge of a piece of paper over the surface.

While the "jelly" is cooling you can prepare the inked copy. This should be executed in Hectograph Ink on a smooth paper and allowed to dry naturally; it must not be blotted.

When the jelly has thoroughly set, place the copy face downwards on it, smooth it down with a soft pad and leave it for a minute or so. It is a good idea to place four strips of paper round the copy, as shown, to form a useful guide when taking off the prints and ensure them being prin-



The tray can easily be made like this.

9 parts glycerine, 1 part gelatine, 1 part granulated sugar, 2 parts sulphate of barium and 4 parts of water. This mixture should be placed in a saucepan and left until the solid matter has dissolved, then simmered gently and well stirred until it has the consistency of treacle, when it can be poured into the tray,

ted centrally on the paper.

These must be carefully laid in the first place and will be taken off before the jelly is dealt with for the next occasion. The strips, of course, should be clean white paper, fairly thick and unlined.

Taking Off Copies

When taking off the copies, place the paper carefully in position, smooth it over to make sure that the whole of the surface comes into contact with the ink, then lift one corner and peel off the print. Naturally, as further copies are printed the ink on the jelly becomes weakened and to counteract this the paper must be left on the jelly for gradually increasing periods.

When the required number of copies has been taken off, the surface of the jelly should be washed immediately with warm water and a sponge or non-fluffy cloth. Do not try to take off prints unless there is a good surface on the jelly. This can always be restored by re-melting. Should the jelly become too hard add a little more glycerine when re-melting it, stirring it in as before.

Model Ship-making Hints

Ship's Shrouds

IN the making of the rigging on the Galleons I have found that it is hard to get it to stick to the masts. Bore a hole through the mast and run the twine through it before gluing. If you have the twine coming from both sides, put it through as before but leave a bit so you can tie it. Then when the glue is dry cut off the ends you have tied. —(E. Pierce, Westbury-on-Tyne).

Imitation Portholes

I HAVE found a very good idea for painting portholes on the hull and superstructure of model ships. Dip the head of a fret-nail into a tin of paint, and press it against the side of the vessel. When taken away this will leave a very realistic porthole. —(M. Hill, Nottingham).

Hollow Lifeboats

WHEN making small lifeboats for ship models make a groove with your penknife to the shape you want to take out. Then get a piece of fairly thick wire red-hot and hollow the lifeboat out. After it is painted over you will not notice the burns.—(R. Doyle, Blackley).

Ship's Funnel

IF you want a funnel for a model ship, get an empty bobbin, cut one of the cheeks off, and glasspaper. When you have done this paint the top quarter black and the rest red. If you want a whistle at the back, you have a piece of wire and shape it like one. Get two staples and fix the wire to the bobbin.—(G. Young-husband, Swinton).

WRITING A STORY OR WAR EXPERIENCES ?

Here is an infallible Guide to the Beginner's Success

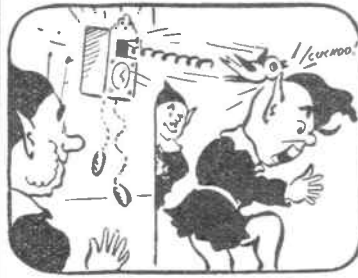
The Art of Story Writing

In Cap. 8-vo. Black Leatherette. 5th Autographed edition.

(By a Famous Author). Writing the complete story in seven graduated stages, style, polish and professional "touch" speedily acquired. Its presentation, negotiation and chances of "acceptance." Also included "The Author's Guide (1941-2)" a complete and classified list of every Newspaper, Magazine and Periodical, its respective minimum and maximum Length for Article, Story and Serial "acceptable." The only published Guide of its kind. A veritable gold mine of essential facts that earns for you immediate profit from your writing. The previous publication had over 20,000 sold copies and this reprint is very strictly limited. Direct from the publishers.

STONE LITERARY AGENCY (Publishing Department H)
Established 1928. REDCAR, YORKS

The "FLUXITE QUINS" at work



"Time waits for no man, they say"
Moaned OI, "Oh ye gods, what a day!"
Then the old cuckoo clock sprang to bits—what a shock.

"Ten to one it needs FLUXITE" grinned EH
See that FLUXITE is always by you—in the house—garage—workshop—wherever speedy soldering is needed. Used for 30 years in Government Works and by leading Engineers and Manufacturers.

OF ALL IRONMONGERS, IN TINS, 4d., 8d., 1/4 and 2/8

Ask to see the FLUXITE SMALL SPACE SOLDERING SET—compact but substantial—complete with full instructions—7/6

Write for Free Book on the Art of "SOFT" SOLDERING and ask for Leaflet on CASE HARDENING STEEL and TEMPERING TOOLS with FLUXITE.

TO CYCLISTS! Your wheels will not keep round and true unless the spokes are tied with fine wire at the crossings AND SOLDERED. This makes a much stronger wheel. It's simple with—FLUXITE—but IMPORTANT!

The "FLUXITE" GUN is always ready to put "FLUXITE" on the soldering job instantly. A little pressure places the right quantity on the right spot and one charging lasts for ages
Price 1/6, or filled 2/6

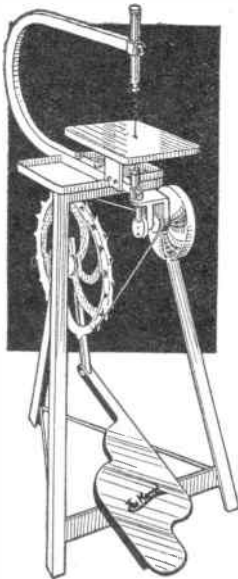
FLUXITE LIMITED, Dept. H.,
Bermondsey St., S.E.1



FLUXITE

SIMPLIFIES ALL SOLDERING

Every model maker needs a MACHINE



Cheap to buy, simple to use and understand, with nothing likely to get out of order. Here, indeed is the Fret-machine everybody can afford. Hobbies "Marvel" cuts wood up to 1/2 in. thick almost without effort. It has a welded steel frame, vertical stroke, adjustable saw tension, whilst the working parts are in hardened steel. There is a clearance of 17 ins. between saw and back of frame.

Hobbies "Marvel" Treadle Machine 42/-

Each machine is carefully tested before despatch, and is sent in a crate in complete working order ready for use. The purchaser pays carriage on delivery.

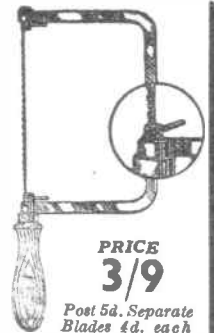
Hobbies Limited, Dereham,
Norfolk

HOBBIES "MARVEL" FRET MACHINE

Is This Saw in Your Kit?

You can cut almost anything in wood with this Coping Saw. The blade is 6 1/2 ins. long and can be turned to cut at any angle. No tool-kit is complete without one. Get yours NOW.

Buy from any Hobbies Branch, or direct from Hobbies Ltd., Dereham



PRICE
3/9

Post 5d. Separate Blades 4d. each

HOBBIES BRITISH FRETSAWS

Sharper . . stronger
. . the fretsaws with the longest life.
Used all over the world. The best you can buy.

BLUE LABEL	YELLOW LABEL	SILVER LABEL
6 ^{D.}	8 1/2 ^{D.}	11 ^{D.}
Per Doz.	Per Doz.	Per Doz.
5/6 Gross	8/- Gross	10/6 Gross

Postage 2 1/2d. extra per dozen or gross, from Hobbies Ltd., Dereham, Norfolk

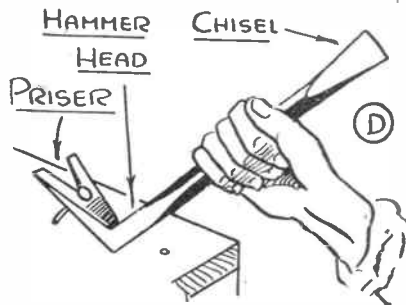
Look for the coloured label on every bundle.



HOW TO USE IT... COMBINATION TOOLS

A RATHER handy combination tool, or universal tool, as it is generally called, is shown as A. In this gadget we have a hatchet, case opener, nail extractor, and hammer all in one. Such an article is invaluable where packing jobs are concerned, but every house should have one.

If you do possess such an imple-



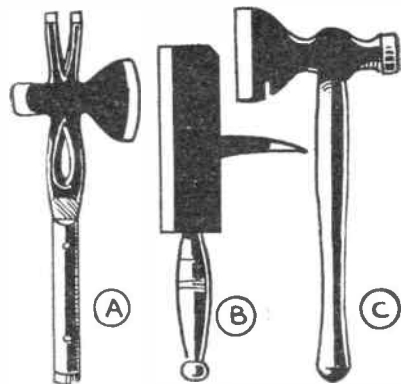
ment, take good care of it, for hatchets, hammers, etc., are rather scarce and expensive these days. One thing about an universal tool is that it saves buying three or four separate tools, takes up less space and each implement is always ready to use on the instant.

A Slater's Tool

The article shown at B is a slater's axe and pick combined. At C we show a scaffolding hammer. For household use, there is a useful coal hammer, hatchet and nail extractor. The case opener at D is almost a similar implement.

This is definitely a packer's implement, used mostly in opening up wooden cases. Two openers are really necessary or, at least, one opener and a hammer. We show method of prising up nails with the extractor end.

To use this combined implement, first hammer the chisel end beneath



The three types of tools

the lid of the box and prise it up a little, then bang the lid down. This usually leaves the nail heads sticking up, same being then easily removed by the priser. The priser is equally useful for raising the lid as it gives more leverage.

The priser is again very useful if you wish to remove battens nailed on boards. The prongs are first knocked in beneath the batten, then the stem of the implement drawn, or hammered backwards. Any of these is a very handy tool for a handyman.

MISCELLANEOUS ADVERTISEMENTS, etc.

The advertisements are inserted at the rate of ad. per word or group of letters prepaid. Postal Order and Stamps must accompany the order, and the advertisements will be inserted in the earliest issue. Fretwork goods or those shown in Hobbies Handbook not accepted. Orders can be sent to Hobbies Weekly, Advertisement Dept., as below.

MONOMARK holders have permanent confidential London address. 5/- p.a.—Write BM/MONO 28, W.C.1.

GALLEONS, WARSHIPS and other old-time Ship Models. Easy and cheap to build from Hobbies KITS. Write for list.—Hobbies Ltd., Dereham.

STAMPS FREE to approval applicants. 2½d. postage.—L. Herbert (H.W.) 22 Whitacre Street, Deighton, Huddersfield, Yorkshire.

TOOL RACK, all steel. Keeps your tools neat and tidy. Holds 12 tools. Price 2/3. Larger size, 2/9. Post 7d. Hobbies Ltd., Dereham.

STAMPS FREE!! Twenty Unused (2½d.).—G. H. Barnett, Limington, Somerset.

FRETSAWS. Hobbies Saws are the best you can buy. Sharper. . . . stronger they outlast all others. 6d., 8½d. and 11d. dozen.—Hobbies Ltd., Dereham.

LONELY? Then write Secretary, U.C.C., 5B.B., Hay St., Braughing, Herts. Genuine. Est. 1905.

FRETWORK. Hobbies supply everything you need. Outfits, Tools, Wood, Machines, Designs. Our 45 years experience is at your disposal.—Hobbies Ltd., Dereham.

WILSON LORRIES. Britain's finest scale model road vehicles. Available built up and in kit form. Eleven splendid easy-to-build kits available. Send for Britain's finest Miniature Lorry Catalogue ever produced, 6d. post free. 4 m.m. scale (00 gauge) and 7 m.m. (0 gauge).—D. Murray Wilson, Dept. H, South Moreton, Didcot, Berks.

IS YOUR MACHINE NOISY? Hobbies Ball-Bearing Pitman makes any Fretmachine run quieter and ensures almost effortless treading. Easy to fit. Price 5/6. Post 3d. State Machine when ordering.—Hobbies Ltd., Dereham.

BE TALLER!! Quickly!! Safely!! Privately!! Details 6d. stamp.—Malcolm Ross, Height-Specialist, BM/HYTE, London, W.C.1.

OO GAUGE RAILWAY. Designs for making an Engine Shed, Signal Box, Footbridge, Railway Station, Fencing, etc., 8d. the set, post free.—Hobbies Ltd., Dereham.

CAST SCALE AEROPLANE MASCOTS, eighty types. Spitfire and Wellington, the pair in brass 10/6, bronze 12/6 post paid. Practical fractional horsepower engine castings. Big assortment. Catalogue 3d.—Butlers Engine Factory, Harrington Road, Littleover, Derby.

HOME PAINTING OUTFIT. Comprises six jars of fine art enamel and one brush. Ideal for decorating glass, leather, wood, pottery, etc. Price 3/-. Post 5d.—Hobbies Ltd., Dereham.

DOLL'S HOUSE papers, roof papers, etc. Hobbies have a wide range.—Hobbies Ltd., Dereham.

Hobbies Weekly—2d. every Wednesday—Subscription Rate 14/- per year or 7/- half year. Registered for transmission Canadian Magazine Post. Editorial Offices, Dereham, Norfolk. Advertising Dept., Dereham or Temple House, Tallis Street, London, E.C.4. Hobbies Branch shops at 78a New Oxford Street, London, W.C.1. 87 Old Broad Street, London, E.C.2. 326 Argyle Street, Glasgow. 10 Piccadilly, Manchester. 4 St. Paul's Parade, Sheffield. 10 Queen Victoria Street, Leeds. 25 Bernard Street, Southampton. 14, Anlaby Road, Hull. 14 Bull Ring, Birmingham. Agents in all Towns.

Make what you like



● *There's nothing like a Hobbies Outfit to keep a boy busy . . . and happy. Yes . . . and Dad, too! No more dull evenings. Get a Hobbies Outfit now. Prices from 2/6.*



“CROWN” OUTFIT

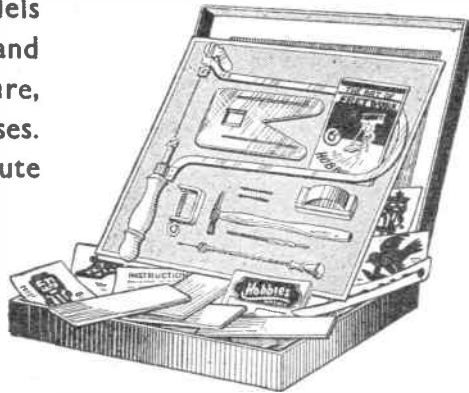
Contains a 12in. handframe, cutting table and clamp, one dozen fretsaws, drill with bit, glasspaper block, design on wood, and helpful 64-page instruction book.
8/6
Post 8d.



The mark of good value and a square deal.

A few fretwork tools, some wood and Hobbies patterns and you can make almost anything for use or ornament. Start off with a tiny model aeroplane no bigger than your hand. Go on to larger models of ships, planes or buildings and vary the work with furniture, novelty boxes or even dolls' houses. You'll be enjoying every minute of the hobby.

EACH ONE COMPLETE



The AI OUTFIT

The world's most popular fretwork outfit. All the tools you need, including the famous 'lever' handframe. Six designs and wood, and a 64-page book of instructions. In handsome box.
14/6 Post 10d.



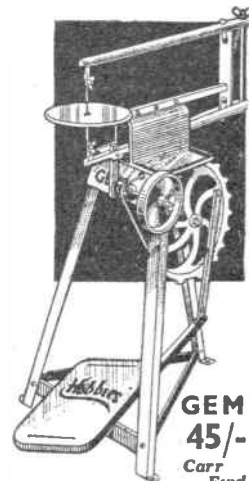
The Famous A3 OUTFIT

It's amazing, really, what you can make with a Hobbies Outfit. And the A3 is the best of all! It is a comprehensive set of tools including a 16in. 'lever' handframe, large cutting table, rapid-action drill, metal plane. Six designs and wood, and instruction book

28/6
Post 1/-

FRET MACHINE

A Hobbies Machine cuts wood up to 1/4in. thick easily and quickly. It is a factory at your feet! The machine shown is made almost entirely of steel, and is really amazing value.



GEM
45/-
Carr
Fwd.

Call at any Hobbies Branch or write to Hobbies Limited, Dereham, Norfolk