Hobbies WEEKLY

LARGE DESIGN SHEET FREE

A MODEL Roman Ship

HOW TO MAKE FIREWORKS

A NOVEL WATCHSTAND

A CARVED TRAY

2D

October 23rd. 1937

Vol. 85. No. 2192

THE FRETWORKER'S AND HOME CRAFTSMAN'S JOURNAL

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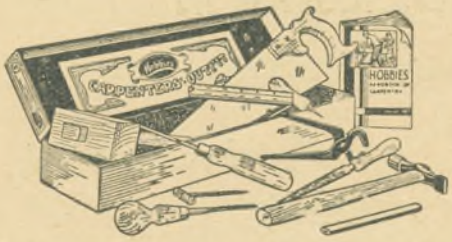

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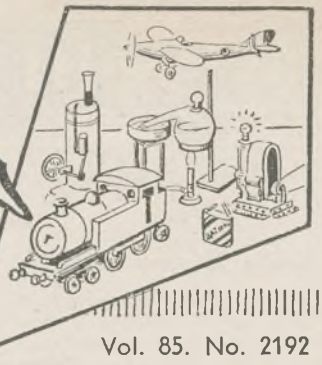
ALL WITH ONE BLADE!

Mr. E. V. Hughes, Co. Armagh, writes:—"I have just completed the model of the Lord Mayor's Coach, a smoker's table, model altar, pipe rack, model aeroplane, letter rack and the 'Home Shrine'—all with one blade, which is still intact. I think this is a pretty good record for a beginner."

HOBBIES BRITISH FRETSAWS

Hobbies WEEKLY



October 23rd. 1937 Vol. 85. No. 2192

I SAID last week you must look out for fireworks, and if you turn to page 85 you will see what I meant. There are so many who follow our interesting Chemistry Articles that the construction of home-made fireworks will merely be a simple matter of mixing chemicals. Of course, most of you who dabble in these matters at the "lab" know what "stinks" and "bangs" can be suddenly and awkwardly produced. But here you are really *trying* to produce a "banger" without danger to anyone or anything. Won't it be fine to make your own rockets, and crackers and catherine wheels? Another article on the subject will appear next week to give you time to prepare plenty of home-made fireworks!

WHAT a jolly fine range of model ships we are getting! This week we go back to the time of the Romans and construct a replica of one of their merchant ships. They were the days of real adventure—and much hardship as well. Fancy sailing in a boat such as you see, without a compass, without an engine, without wireless—and even without a rudder! They were literally setting sail into the unknown in those days—and it had to be done without fresh food—or even tinned stuff!

NEXT week, too, is going to bring you another fine issue. What about building a Home Cinema for yourself? I have had a model made in plywood which does actually work to take the ordinary standard films. Patterns of parts are provided and anyone with care and ability should be able to complete the whole thing and run his own cinema show from a pocket flash lamp battery. You just wait and see.

TWO readers tied for the prize in the overseas section of the Maze Competition in June last. The winners had only one mistake each and they were R. S. Williams of Durban, South Africa, and R. Armstrong of Codette Station, Saskatchewan, Canada. No doubt you would like to check your own findings with the actual list. The Maze contained outlines of tennis racket and stretcher, cricket bat, ball, pad, glove, stump and bail, fishing rod and line, winder, creel, gaff, shrimp-net, croquet mallet and hoop, bicycle, rowing oar, swimming costume, golf driving club, putting club, bag and ball. Well, what about it?

I HAVE a note of a hobby club in Edinburgh where they are specially interested in model railways. As, however, the members cannot always be playing trains they have introduced woodwork and fretwork evenings which have proved exceedingly popular. A real club room, with benches, handframes, treadle machine, etc., are all available and more members are wanted to use them. A splendid chance for lucky readers in and around Edinburgh. They should write to Alastair Matheson at 18 Hutchison Terrace, Edinburgh 11 and he will be delighted to give them more details.

MOST of you need no reminder that the Index is now available for the volume which ended in September. It contains a tabulated list of all the articles from April to that date, and is a really helpful means of looking up something to do or to find out when some particular instructions appeared. I shall be happy to send this Index (for Vol. 84) to any reader for 4½d. post free.

CONTENTS

GIFT DESIGN—Model Roman Ship

Next Week's Gift Design—Two Wall Vases

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

READERS in and around Birmingham should visit the Model Exhibition being held this week at Tony's Royale Ballroom. It is 6d. before 5 o'clock for those under 16 and 1/- for grown-ups—and well worth it! There is a really splendid display of working models such as will delight the heart of any reader and the exhibits include railways, ships of all kinds and aeroplanes.

The Editor

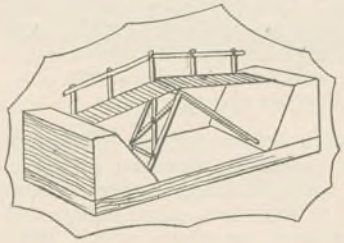
Send your own simple tips to The Editor Hobbies Weekly, Dereham, Norfolk Keep them short and add rough pencil sketches if possible.

HINTS AND TIPS WORTH KNOWING

For original Tips published the sender will receive a Hobbies Self-Filling Fountain Pen. We cannot acknowledge or print all tips sent.

Model Monkey Bridge

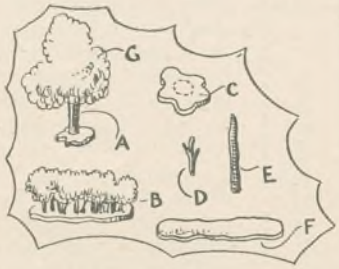
HERE is an interesting tip for making a Monkey Bridge. First get a piece of plywood, and at each end build up two banks of earth and grass, or paste on some imitation grass which costermongers use on their fruit-barrows. In the centre give the



wood a coating of glue and sprinkle fine sand over it. Then cover with a piece of glass tacked down under the banks to give the impression of water. Build the bridge with thin twine (such as macramé) and this material or thin string or cotton can be used for the lashings.—(K. Mercer).

Model Trees from Loofahs

HOW to make trees and hedges are fully shown in the diagram. These are painted green and brown. A is a finished oak tree and B the finished hedge. C shows the oak tree base made



of 3-ply cut with a Hobbies fretsaw. F is the hedge base made in the same way, whilst D and E are both twigs which are left their natural colour. Glue the base to the twig and glue the twig in the loofah part of the tree G.—(G. H. Thomas).

Keyhole Covers

UNSIGHTLY worn keyholes that are not used on bedroom chest of drawers, can be made to look quite neat by covering same with one of "Hobbies" small diamonds over each hole and stained or painted to colour.—(W. H. Wallace).

Narrow Cuts

WHEN filling in features or narrow lines with ink which are too fine to cut, run a razor blade or a penknife along the line first. Then run your pen along the groove.—(F. W. Mabbott).

Stamp Collector's Tip

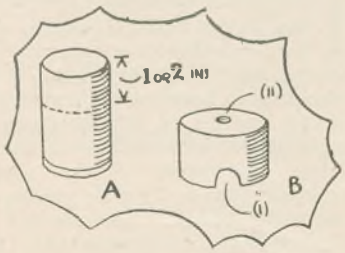
WHEN putting stamps in an album you should have all paper removed from the back. To do this take the used stamps and float them on water. Do not let the face of the stamp get wet or you may spoil its colour.—(D. Wilcock).

Chemical Weatherglass

A QUITE effective weather glass can be made as follows. The ingredients cost only about 6d. from a chemist. Dissolve 2½ drachms of camphor in 11 drachms of alcohol (a good substitute for alcohol is pure methylated spirits as this is not so expensive as alcohol). Then dissolve 38 grains of saltpetre and 38 grains of salammoniac in 9 drachms of distilled water and add to the camphor solution, shaking well. Place the mixture in a bottle (a plain medicine bottle is quite satisfactory) cork tightly and then pierce small hole through cork with fine hot needle. The weather signs are as follows. For fine weather the liquid remains clear, all solids settling at the bottom. If rain is approaching the solids rise and crystalline stars float about. In windy weather the liquid thickens and flakes float on surface.—(G. Hallam.)

A Cheap "Beehive"

A BEEHIVE is sometimes not included among the contents of chemistry sets, but here is a way to make one. Take a round



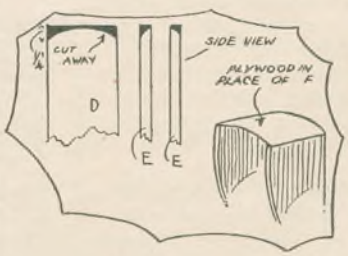
tin and cut a piece 1-2ins. from its bottom Fig. A. At (i) (Fig. B)., cut out a deep notch (only on one side). At (ii) make a circular hole of about ½in. diameter and the shelf is completed.—(P. Auret).

Cheap Floor Covering

ROOFING paper laid on the floor with two coats of paint and a final coat of varnish, makes a pleasing and inexpensive substitute for linoleum for the shed or workshop.—(R. W. Hollyoake).

A Design Suggestion

HERE is a useful suggestion in making the Doll's Cradle in Hobbies Weekly dated July 31st. First cut the piece of wood marked (D) as in sketch. Chamfer the top edges of both sides of (E) as sketch. then cut a piece of 3/16in. plywood 7ins. by 3¾ins. by



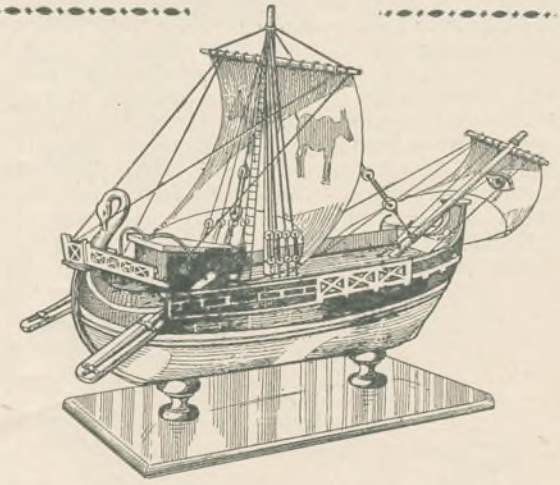
3/16in. and nail on top of (D) and both tops of (E) this is then used in place of wood marked (F). This top piece will then match with the foot of cradle.—(H. W. Scurrell).

Model of a ROMAN SHIP

THERE is an ever-increasing popularity for the building of model ships of various periods, and we have no hesitation in saying that this week's design will be made up in its hundreds just as the others have been.

Departing from the usual period of galleons, we have now gone back to the Roman era of about the second century A.D. The ship illustrated, which can be made from the design sheet and these instructions, is a Roman merchant ship of that time. These ships traded between Rome, Egypt and the Levant, carrying corn. It had a capacity of about 250 tons and was under 100ft. in length.

The actual model we built is a pleasing replica of the actual ship, and follows out as faithfully as possible the original. One peculiarity, it will be noted, is that the swan figurehead is at the stern of the ship, and not, as would at first appear, at the bow. The raised platform in this stern provided the navigator a clear vision forward over the deck cabin immediately in front of him.

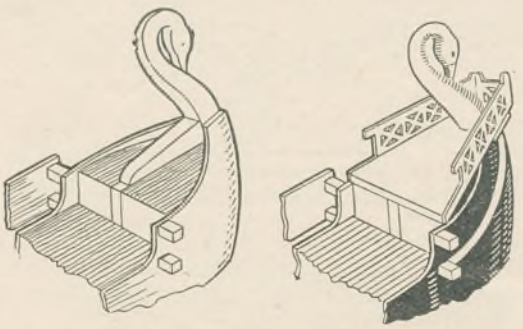


Completed from Design No. 2192

Sails and Sweeps

He operated two large flat sweeps to steer the boat, as can be seen in the model. These sweeps pivoted through the projecting sides, long handles being provided to reach up to where the navigator stood. There was one mainsail and one forward one fitted on a bowsprit which passes over the bow, and fits at an angle into the deck. The boats themselves were very squat in comparison with our present-day streamline models, being very broad in the beam and almost flat at the bow and stern.

It is this shaping, of course, which will make the actual boat look good in the finished model, and care must be taken to get the curves nicely



Two views of the stern deck construction

sweeping downwards to the keel and towards the bow and stern at the ends.

Full size patterns are provided for all parts on the design sheet, and the building actually is quite simple with a few fretwork tools. The parcel of wood is also supplied, as well as the pulleys, wire, rigging cord, eyelets, etc. as well as the two anchors which lie on the foredeck with one flange hanging over the side.

The completed model is 11½ins. long and stands 7½ins. high in itself.

A base should, of course, be built and this is arranged for both on the sheet and in the parcel of wood provided.

Construction of the Hull

The construction of the actual model is after the same lines as our previous ones. An upright keel piece in ¼in. wood is cut to the shape shown, and on each side of it are glued the two thick hull pieces A and B. The lower is ¾in. thick and the upper ½in. and deal should be used in order to provide soft wood for shaping.

These parts should be glued so that the piece B (the upper part) is in line with the lowest edge of the sunk portion of the keel. It will be noted that when in place the keel projects about 1/16in. beyond these hull pieces, and this is as it should be.

Now having glued the blocks in place, take a chisel and a rasp and rough down to the shape required, taking care to get both sides evenly balanced and symmetrical. Having got roughly to the shape, finish off with a coarse and then a fine grade of glasspaper, holding the whole thing firmly in a vice during the operation.

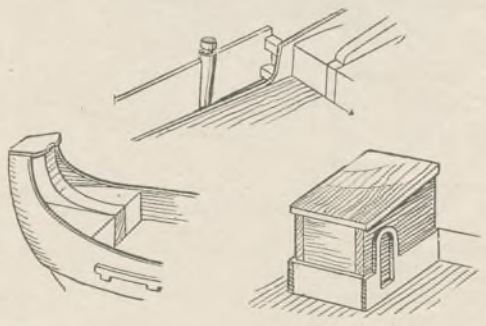
The Main Deck

Next we can fit on the deck and its position is obvious by the cut fore and aft which fit over the upright keel pieces. On top of this deck a further block is glued each side of the keel piece both at the bow and the stern, as can be seen in the details herewith. The outer edge of these blocks must be symmetrical with the deck and the hull.

Now comes the main upper sail, and this is cut from very thin plywood then bent round to the

shape of the hull itself. It is glued in position so the sunk part in the middle is flush with the top of the deck which should bring the stern rest portion to cover the stern block. Steam the plywood if necessary to get the correct bend, and pin it in place temporarily until the glue has set, then nip off the pins flush with the wood.

Be sure to get this plywood close up to the hull, and to the blocks fore and aft. A good plan is to tie string round and pad it out where necessary with paper to hold the whole thing until the glue has set. An outer side to the hull is also provided in this thin plywood. This is the fretted portion, the back end of which glues to the upper side of the hull. The actual position is shown by the dotted lines on the latter piece.



Details of bow, bollard (top) and the deck cabin

The wide or front end, however, does not glue to the hull itself but projects in order to allow the sweep or guiding oar to pivot through. This again is shown in the detail.

Two little blocks A and B of ⅛in. wood are glued to the hull at the stern end with just room enough between them for a piece of dowel forming the shafts to the oars. These two projecting blocks must be glued securely to the hull itself. The fancy portion of the outer hull is then glued to the other end of them.

The Bollards

About ¾in. inwards from where these blocks are glued, comes a bollard. This is a ⅞in. length of 3/16in. dowelling. One end is tapered down wedge shaped so it may fit and be glued between the outer hull and the main body itself. It projects just over ¼in. above the top of the outer side and helps to hold the whole thing together.

Notice the long strip which also has to be glued to the hull. This is only ⅛in. wide and passes the whole length. Glue it and pin it to the main hull block 3/16in. below the plywood side.

At the bow end we have a single piece of 1/16in. plywood glued to the flat top of the keel and to the sides to form the fancy platform. Against this platform and in the notch provided, rests the bowsprit, or as it was then known, "artemon." Taper down gradually from 3/16in. dowelling and cut off one end at an angle to fit the deck.

Deck Cabin

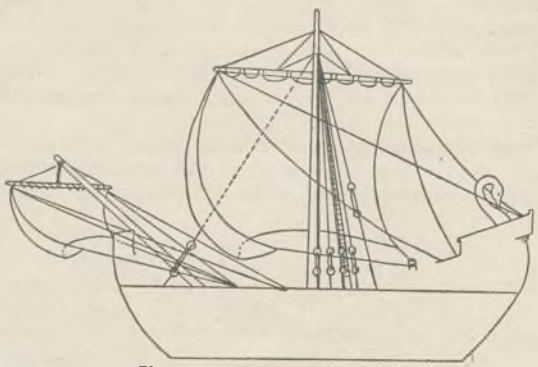
Of course, if you prefer, you can sink it slightly into the deck itself to glue there and to the bow platform. On the deck itself is a cabin made up of two ends, two sides and the roof. The ends go between the sides, and the roof overlaps evenly all round. All is made of ⅛in. material then round the bottom edge are fitted 1/16in. overlay pieces.

In these pieces are the two doors, one on each side, and when the whole thing has been fitted independently it can be glued to the deck close up to the stern blocks, and with the roof sloping forward towards the masts.

Sweeps

The oar pieces can next be made, and a detail of one of these is given on the design sheet. When complete it is put through between the two little blocks A and B with the handle projecting about 1in. It is fixed by means of a nail carefully driven through the outer plywood into the main hull itself. Before doing this, however, fix an arc of brass wire leading from the handle of the oar to the centre of the roof of the cabin. This represents the handle which the steersman used when standing on the stern deck.

This stern deck is actually a raised piece of ⅛in. wood which fits over the swan head, and is glued to the top of the plywood sides as well as in the corner of the cabin and stern deck itself. The edge to this raised and sloping stern deck is provided in fancy rails. Glue the side ones then the stern one over the ends.



Showing details of the rigging

The Mainsail

The mainsail is added by means of a long cross spar which is tapered towards each end. A sail to the bowsprit is added in a similar way, and parchment is supplied for both these pieces. The animals indicated by the outline should be painted before the sails are added.

(*Continued on page 92*)

YOU can be assured of a spectacular display for " The Fifth " if you go in for a good show of rockets and Roman Candles, for both these fireworks give off coloured stars and are always popular.

Why not try your hand at making them yourself ? The job is quite simple and perfectly safe, if you go the proper way about it and use the ordinary explosive precautions.

The case is the first part to take in hand in the making of any firework and this is how you should set about constructing one for a useful size of rocket.

Get an 18in. length of ¾in. diameter dowel rod and make sure that it is perfectly cylindrical and straight. Saw a 4in. length from one end and taper both sawn ends neatly. Drill a small hole in the exact centre of each end and drive a 2in. nail into the longer piece. Cut off the head and trim the end so that it slides fairly easily into the hole in the shorter piece.

Making a Rocket

A glance at the sectional drawing at Fig. 1 should make the construction of this case roller quite clear.

Now secure a length of strong string or thick gut, to the wall, with a piece of wood at the end to act as a hand grip and the apparatus for case making is complete.

Fairly thick brown paper is best for making the type of case now in hand and this should be cut into strips 6ins. wide. Paste the strip all over, except the portion which comes into contact with the roller, and laying the roller on it with about an inch projecting over the tapered portion, roll the paper around by pushing the roller forward on it. Work on a flat surface such as the table top.

In order to consolidate the case, roll it with a piece of flat, smooth board, using this as one would a rolling-pin.

Now take a single turn of the string around the case just at the point where the nail comes between the two lengths of rod, and pulling hard on the string, run the roller up and down a few times. This forms a " choke " in the case and is a most important part of the process. Continue wrapping pasted paper and choking the case until it is about ⅛in. thick in the wall, when it must be removed from the roller and laid aside until quite dry.

Charging

The best way to remove the case without damage to it is to pull away the short end of the roller and then, gripping the case firmly with the left hand, pull away the long roller with a sharp, twisting motion.

The charge for rockets consists of meal powder with a proportion of very fine steel filings added in order to give a brilliant display of sparks. The proportion is one level teaspoonful of filings to each pound of powder.

Sprinkle the filings over the powder after it has been spread out on a sheet of paper and well mix by working up together with the fingers.

Tools Needed

The tools necessary for filling consist of a wooden or copper rammer which slides easily inside the case, and a wooden mallet of fair weight.

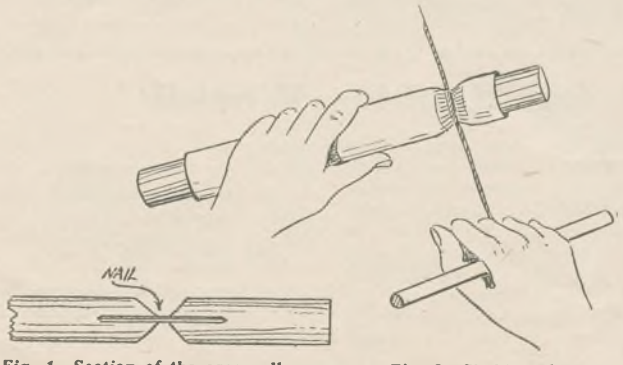


Fig. 1—Section of the case roller as explained

Fig. 2—Choking the case

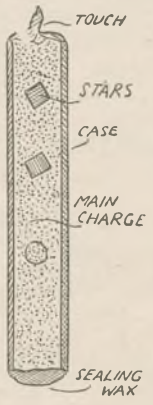


Fig. 4—A section of a Roman Candle

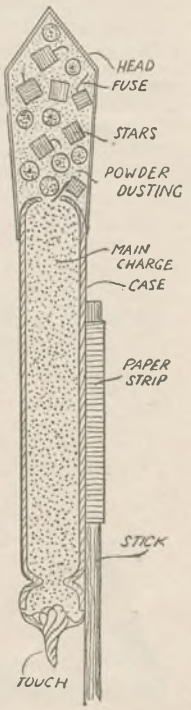


Fig. 3—Section of the completed rocket

To charge the body of the rocket, push a tiny twist of paper into the choke hole and rest this downward on a solid, level surface. Pour one teaspoonful of the powder mixture into the case, drop in the rammer and give it three moderately heavy blows with the mallet. Take great care to keep the case perfectly upright while so doing.

Continue filling and ramming in this manner until the case is filled within about ½in. of the top, when the walls of the case at this point are turned in to cover the filling and tapped gently down.

Precautions to Take

Here are some precautions which must be observed when dealing with gunpowder in any form. Never work by artificial light other than electric. Never work where a fire is burning and do not make and use anything else but wood or copper for ramming purposes.

The head of the rocket is made by pasting two or three turns of light paper around a tapered former of wood, the lower end of which should just slide over the end of the case already filled Make a conical cap in a similar manner just to fit over the head and paste this on as shown in the sectional drawing at Fig. 3. Do not fix the head to the case yet, but proceed to make up the coloured stars with which to fill it.

Make a number of cases of light paper by rolling two or three turns around a roller of ½in. diameter and then cut them off to the same length, ready for filling with the star mixture.

Coloured Stars

It is possible to make up the coloured fire mixtures for oneself, but this means using certain chemicals which are highly dangerous for the amateur to use, and, as a matter of fact, are illegal in the making of fireworks.

Rather buy the coloured fires ready made and make up the stars with these. They can be obtained in red, blue, green and amber and will give a most colourful display whether used as a one colour rocket, or mixed,so as to give a number of stars of various colours.

To each part of coloured fire add one part of finely powdered white flake shellac and after mixing this up well with the fingers, dampen it with methylated spirit and make into a stiffish paste. Press this paste into the little cases made from the thin paper and place them to one side to dry and harden.

A number of the stars should be treated so they are delayed from firing until thrown well clear of the bursting rocket. This is done by pressing a short length of quick match fuse into the centre of the paste as the cases are filled.

Filling the Rocket

Place a number of stars into the rocket head and dust a little meal powder in with them. Now open the end of the large case, invert the conical head over it and secure it in place with a touch of paste or gum. Take the twist of paper out of the choke and wrap a strip of touch paper around it, tying it in the groove with a length of thin string.

Dust a little powder into the choke and twist the touch lightly up together, pressing it down gently into the choke end.

A stick is fitted to the case with a band of pasted paper and the rocket is ready to be fired when quite dry. Balance the rocket by holding the stick across the finger just below the touch. The stick should then be just a trifle on the heavy side and the rocket will soar straight up into the air.

Roman Candles

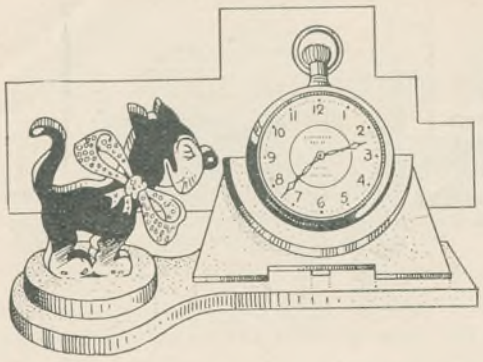
Roman Candles are made in a similar fashion, except that the case is not choked and no head is fitted. The stars are made in the same way, but are placed in with the powder filling, two or three being a sufficient number.

Ramming must be very carefully done, a light press down with the hand being sufficient or the stars will be damaged and will fail to shoot out properly.

Letting them Off

When letting off home-made Roman Candles, do not hold them in the hand, but fix them to a suitable stand, for should the ramming have been carelessly done the case may have become " cramped " and the firework in this case would explode suddenly instead of blowing gently and emitting its stars at intervals. Fig. 4 shows the construction of a Roman Candle and on comparing this with the interior of the rocket you will see the difference in construction and filling. Note how the bottom of the candle is turned in, rammed in gently and sealed with a touch of sealing wax.

A NOVEL WATCHSTAND



"WHAT a remarkable cat!" friends are sure to say, once they set eyes on the finished replica of the novelty illustrated. Of course, you will nod acquiescence, for, coloured properly with enamels and completed with a silk or linen bow, it does look out of the ordinary—in the fretwork line, at least.

The watch stand is a neat little affair, tilted back to hold the watch, i.e., to keep it from slipping over the semi-circular flange which it might do if the stand stood upright on its base.

Making the Stand

Assuming that the watch in your possession conforms with the dimensions given at Fig. 2, mark and cut out the flange and support from ¼in. birch plywood. You could use 3/16in. plywood, of course, providing you cut the mortises to suit the thickness. The back of the holder is cut from ⅛in. thick stuff, but 3/16in. material could be incorporated.

Having cut the stand parts, clean them over with a fine grade of glasspaper. Before actually gluing them together, it would be advisable to mark and cut out (from ¼in. plywood or 3/16in. stuff) the base detailed at Fig. 3.

Insert the support to the back, and see that the tenon fits properly in its mortise in the base. It should not be too loose, nor should it be necessary to bevel the bottom edge of the back to suit the oblique tilt (see sketch).

Meanwhile, glue the support to the back, including the watch flange which is glued to the face side flush with the ledges of the shape.

The cat and its base or dias outlined in ½in. squares at Fig. 1 are cut from ⅛in. and ¼in. thick plywood respectively. When cutting out the cat, cut around the outside and within the legs only. The features are only painted on.

At the moment, glue the dias to the tenon of the statuette, then glasspaper the underside. Screw the dias to the base (as indicated by the dotted lines) from underneath with two flathead screws.

The dias could be glued to the base. Being a permanent fixture, however, it would be in the way when enamelling the work in colours. All three parts should be separate.

Use Good Enamel

To colour, use a good quality cellulose or enamel paint such as the "Crusoe" Brand listed in the Handbook. The cat is first painted WHITE all over, then when dry, coloured BLACK and "touched up" with a pencil brush as seen in the sketch. Its base or dias could be enamelled GREEN.

The base should be RED or BLUE, while the stand would contrast well if painted YELLOW or ORANGE. When the enamel has dried, scrape the support tenon and glue it to the base mortise which may need cleaning out with a penknife.

Screw the dias to the base, then cover the underside of the latter with green baize. A 2in. circle of thin, black velvet and a ¼in. wide (or ⅜in. wide) strip of the same material is glued to the face of the holder and around the inside of the flange. Complete the work by tying a neat bow of silk ribbon around the cat's neck. Strips of "shower of hail" linen also serve.

MATERIALS REQUIRED

1 piece plywood (base) 6½ins. by 3½ins. by ¼in. thick.
1 piece plywood (holder parts) 6ins. by 3ins. by ¼in. thick.
1 piece plywood (dias). Cut from waste of the above.
1 piece plywood (cat) 3ins. by 3ins. by ⅛in. thick.
1 piece plywood (back) 4ins. by 3ins. by ⅛in. thick.
2 iron flathead screws 3/16in. by 4.
1 piece green baize 6½ins. by 3½ins.
1 piece black velvet 5ins. by 4ins.

Fig. 1—Cat and base outline

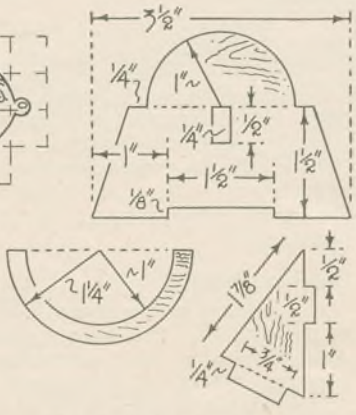


Fig. 2—Size of stand parts

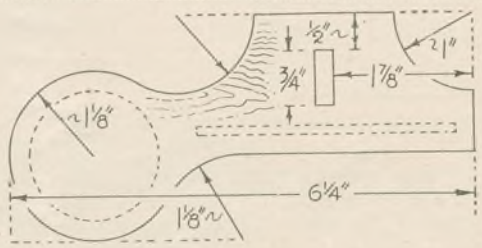
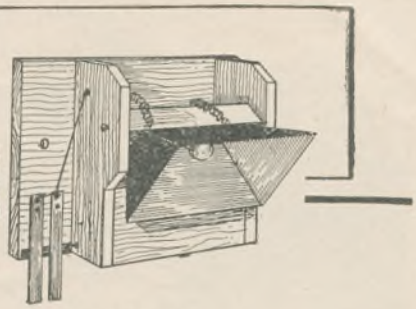


Fig. 3—Shape of the base



AUTOMATIC CELLAR or CUPBOARD LIGHT

THIS lamp is primarily intended for installation in a coal cellar or dark cupboard and is automatic in action. When the door of the cellar is opened on goes the light, switching itself off when the door is closed. Those who have experienced the awkwardness of shovelling coals, etc., in a pitch dark cellar or trying to find things in a cupboard, will appreciate the usefulness of this little gadget. It can also be a good idea for a pantry.

The case is made from 3/16in. fretwood to dimensions given in Figs. 1, 2 and 3. Though not shown in the drawing, the box enclosure which houses the battery should be fitted with a cover to keep out dust and prevent the battery from falling out.

The Contacts

The contacts, A-B, are two pieces of springy brass—the short terminals from a disused flash lamp battery will do for these. Secure with small round-headed brass screws and bend to curve inwards. Contacts C-D, Fig. 3, are the long terminals from the batteries, screwed ⅛in. apart. Bridging piece E, is a small strip of brass, screwed where shown.

A brass lamp holder, obtainable from any electrical stores will be needed. This is screwed to a piece of ½in. sq. stripwood which is fixed between the sides of the case with a screw each side. Bore the holes for the screws a tight fit so that the stripwood moves rather stiffly, otherwise the lamp may drop from the position it is adjusted to.

The reflector is easily made. Cut a rectangle from bright tinplate to the size given in Fig. 4. Cut a ¼in. off each corner and in the centre cut out a rectangular space to clear the lamp holder.

At each corner cut down the lines to the centre dotted rectangle, bend up each side to an angle of 45° and solder the joints, that portion between the cutting lines and dotted lines being the overlap. A glance at the drawing of the completed article will explain this. Now fix the reflector to the stripwood with screws.

Electrical connections will be seen in Fig. 3, shown as thick black lines. D.C.C. copper wire will do and suitable holes must be bored in the case for the wires to pass through.

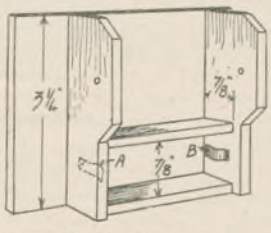


Fig. 1—The case

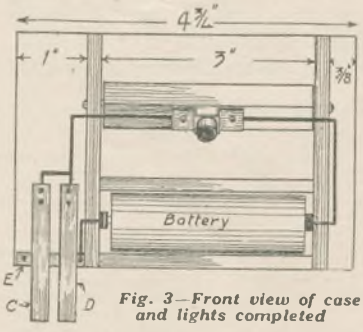


Fig. 3—Front view of case and lights completed

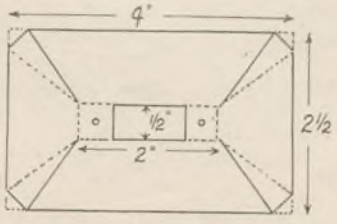


Fig. 4—The reflector shape

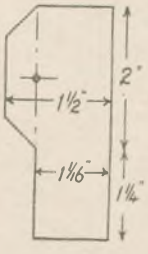


Fig. 2—Side of case

Fig. 5—Fitting the contacts

Fig. 6 - The door contact block

Connect E to A first, then C-D to one side of the lamp holder and B to the other. Both these latter connections should be a few inches longer than a straight connection would be, the surplus being neatly coiled round a pencil so as to allow of the lamp being adjusted to the best angle for illumination.

Lamp and Battery

Fix a lamp in the lamp holder and a battery in the box, and the lamp should light up. If it doesn't, look at the connections and see that contacts A-B press both ends of the battery.

The size of the box is for admitting one of the small round batteries now extensively used in

electric torches such as a No. 8 Ever-ready for example.

To avoid wasting the battery, just slip it out of the box after testing.

The completed article can now be screwed to the inside of the coal cellar, just above the top left corner of the doorway, with contacts C-D projecting downward far enough to be in line with the top of the door when closed, as in Fig. 5.

To the door itself screw a small block of wood, as in Fig. 6, projecting far enough to press the contacts of the lamp about 1/16in. backwards.

Go inside the cellar and close the door, then replace the battery and directly the door is opened on will go the light. The lamp should be adjusted until the beam of light gives the best possible area of illumination.

It may be wondered why two contacts, C-D, are provided—the reason is this. The springy brass terminals suggested are likely in time to lose some of their springiness, especially if forced too far back, but one at least will usually return to make contact.

If a material of a more springy nature is used, such as a length of clock spring, one contact only need be provided. Unfortunately clock spring is hard stuff to drill, so the springy brass is recommended—it is easily worked.

SIMPLE CARPENTRY INKSTAND AND PEN RACK

THE little article shown in the accompanying illustration, while being extremely simple to put together, carries out very effectively its job of holding safely a standard bottle of ink and so preventing those annoying spills. It also keeps a couple of pen holders ready to hand.

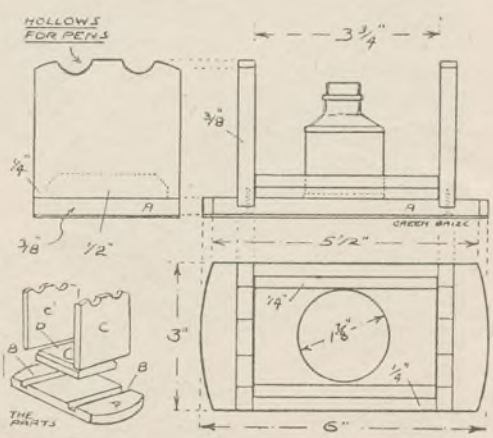
Carefully finished with a suitable stain or polish the stand would make an excellent present, or bazaar-stall article, as it is very neat and sturdy.

First make the base (A). This is shaped from a rectangle of ⅜in. material 6ins. by 3ins., the ends then being rounded away for a ¼in. to either side as shown.

At ¾in. from either end mark off the channels (B) ⅜in. wide, and cut them out to about 3/16in. deep.

Next prepare the two uprights (C and C1). These are also from ⅜in. material 3ins. wide and 3ins. high to the centre. Cut the two semi-circular depressions to hold the pens ⅝in. wide and about ⅜in. deep and bevel off the outer edges of the tops to a slight angle.

The centre piece (D) is fashioned from a rectangle of material 3¾ins. by 2½ins. By scribing lightly the diagonals find the centre and about this scribe



a circle of radius 15/16in., and then cut the enclosed wood right out.

This is best done by first cutting the inside roughly away with an ordinary flat chisel and then finish close up to the line with a gouge. Bevel the top side edges of the pieces as shown for ¼in. in, which will just bring the upper edge almost up to the circular opening.

The parts are now complete and should be as indicated in the sketch. Assemble them now roughly to see that all fits well and then take apart again for staining, or staining and polishing.

Any good stain will do but a too dark tint is not recommended. Deal with each of the four parts separately and when stained to your satisfaction and dry, re-assemble.

The uprights are held by three small diameter inch nails in each, driven up from below, and the lower ends which fit in the channels are given a touch of glue. The main thing is to see that the uprights are quite perpendicular to the base. (D) is now placed in position with a little glue on the under side and is secured by four ¾in. sprigs from below. A sprig at either end driven in horizontally from the uprights to the end of (D) completes rigidity.

As a finishing touch, a piece of green baize is glued to the under side of the base and trimmed neatly up to the edges.

The circular opening in (D) takes the standard sized bottle of ink and if the stand is being made as an article for sale at a bazaar it has added attractiveness if completed with a bottle of ink and a somewhat brightly coloured penholder.

It's "Uphill" that Does It

A LITTLE over a century ago men said that no railway engine would ever succeed in moving the slightest distance uphill. It seemed obvious to most people that smooth iron tyres on smooth iron rails were not going to give a "grip" except downhill and on the level.

How mistaken these pessimists were time has proved. The enormous uphill speeds attained by modern streamlined trains, rising even to 100 m.p.h., brings into topicality a very interesting fact about the value of high-speed uphill travel, and one which explains how the L.M.S. and L.N.E.R. have recently shortened certain journeys by whole hours at a time.

Do you know that if you increase your speed uphill you shorten the journey time far more than if you increase your speed downhill? That doesn't seem to make sense. But think! . . .

Suppose a train ordinarily covers an uphill section of track at 50 m.p.h., and you decide to increase its speed by 25 m.p.h. (the engine being willing!): that means that you are increasing the speed by a half, bringing it to 75 m.p.h., which will enable the train to cover the distance in half the time. So far, so good.

But when you do the same thing to a train on a downhill stretch of track, which may ordinarily be covered at a rate of 75 m.p.h., you will get a surprise. For, by increasing this speed by the chosen 25 m.p.h., so putting it up to a thrilling 100, it is easy to see that you are increasing the speed only by one-third. Obviously, therefore, the train shortens its journey time only by one-third! The catch!

When you bear in mind, also, that high uphill speeds tend to eliminate the necessity for furious downhill canters, so minimizing wear and tear of track and stock, and reducing the chance of uncomfortable swaying on curves, it is easy to understand the point of urging drivers of fast trains to "let her rip" when climbing banks, and to spare the spurs when running with gravity.

Building Better Locos

BRITAIN is no longer to lag behind Germany, France and the U.S.A. in being without a first-class loco testing plant. Not again shall we have to repeat the ceremony of sending a crack new engine over to France to find out exactly what it's worth, as we did with the L.N.E.R. "Cock o' the North."

For the L.M.S. and the L.N.E.R. are jointly going to build a magnificent testing station where their lines cross at Rugby.

Each company will also provide a dynamometer car of the latest design, so that tests made at the station can be co-related to loco performance in actual traffic. Big news, this!

The Hack-Saw Trick

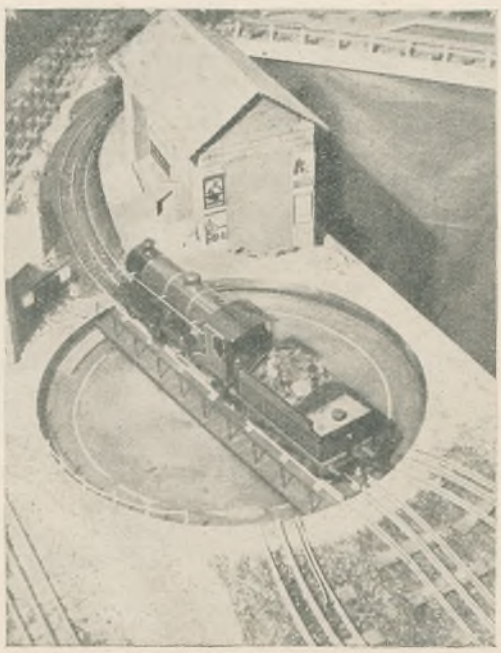
THE photograph we reproduce this month, showing a handsome "O" gauge 4-4-0 express engine on a turntable, has one or two useful tips to offer.

We have in previous Notes described how to improve the appearance of a loco tender by gluing into position two carefully cut pieces of cardboard to form the ends of a coal bunker, the space in between being filled with real coal, also lightly glued; the tender in this picture shows the result.

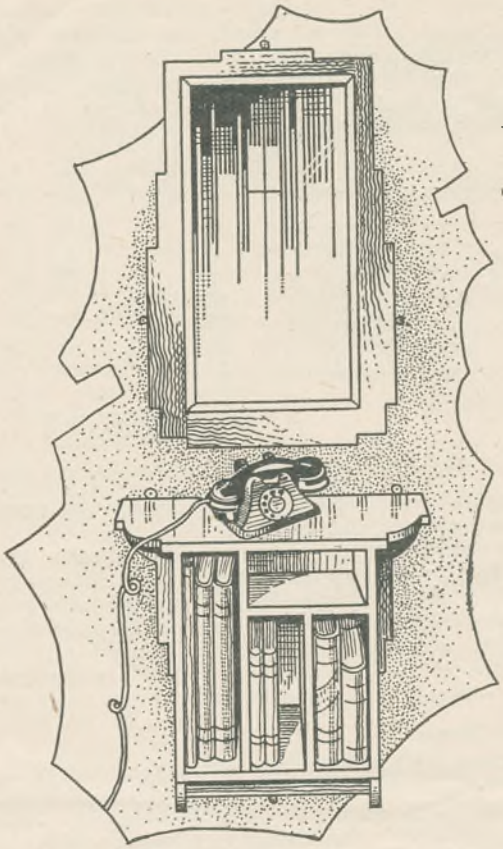
Now look at the turntable itself. You know how the surface of tables at real depots often consists of a row of contiguous sleepers.

Well, look closely, and you will see the faint parallel markings across the model table that mark the sleepers in true style. But it's a trick! The table is really made of one piece of wood, and very shallow grooves have been delicately cut with a hack-saw. This trick can be used for other representations of contiguous sleepers, such as a wayside station platform.

High Pressure



A TELEPHONE FITMENT AND WALL MIRROR



MANY telephone subscribers will appreciate this simple and attractive fitment. It has been designed to meet the needs of the small home in every way conceivable. For instance, unlike the table—or if the electric main box has been affiliated—it requires no floor space and, as can be seen, it has compartments for street directories, the usual 11ins. by 8½ins. Exchange directories, notebooks, etc.

If you prefer to be seated while using the 'phone, the height should be 30ins. or 33ins. from floor to top. For standing, this is determined according to individual needs, the usual being from 36ins. to 42ins. high. The mirror, of course, is adjusted accordingly; it is affixed about 3ins. or so above the top of the fitment as in the sketch.

Construction of Fitment

The wood used in making both articles could be ½in. oak, mahogany, satin walnut, or just plain deal, which is cheap and looks as good as the latter when stained and polished similarly. Any local yard will supply you with suitable planed boards.

It does not always happen that you will get it exactly ½in. thick, however. It is usually nearer the ⅝in. mark, the reason being that ¾in. planks are planed both sides, and in reality, you are buying such planks, not ⅝in. stuff which, when finished, would be about ⅜in. thick, and consequently, too light for the job in hand.

Commence work by marking and cutting out two gables or sides the size and shape as in the end elevation at Fig. 1 (for nett sizes see Material List). The next step is the top (Fig. 2) and a lower shelf piece 10ins. long by 9ins. wide.

Nail the shelf (with 1½in. oval nails) to the sides at the distance indicated by the dotted lines, then attach the top. Square the plywood back to finished size and attach with panel pins.

The Partitions

In fitting and nailing the other upright partitions, fix the 12in. piece first, nailing at the lower shelf and then at the top. This leaves the T-shaped partition. Nail it thus, then affix inside.

We should mention that, if you prefer it, the fronts of the two upright partitions could have been scalloped for convenience in removing the contents of the shelves. Same could be a 2in. semi-circle cut in the centre of the left-hand upright, the same distance being applied to the other.

The side wings detailed in the front elevation at Fig. 1 are cut from ½in. stuff and fixed with glue and 1in. nails. All nail heads must be sunk and filled in prior to polishing, of course. Plastic wood, putty or coloured wax are the best filling-in materials.

Mirror Frame

If desired, the mirror could be dispensed with. If there is any available space at all, however, we would include it, partly because it is useful and stylish and because it is easily and inexpensively made.

The frame is made from four pieces of ½in. wood shaped as in Fig. 3. The ends are simply half-lapped, then glued and secured together at the back with ⅜in. flathead screws.

Having done this, clean up the face side and glasspaper. In order to give a flange or rebate for the glass, pieces of ½in. wide half-round moulding (No. 35) are mitred around the mirror space to project about half the width, that is, ¼in.

MATERIAL LIST

Fitment—
2 sides 15½ins. by 9ins. by ½in thick.
1 top 18ins. by 9ins. by ½in. thick.
2 wings 9ins. by 3ins. by ½in. thick.
1 partition 12ins. by 9ins. by ½in. thick.
1 partition 16ins. by 9ins. by ½in. thick.
1 plywood back 16ins. by 11ins. by ⅛in. thick.

Mirror Frame—
2 stiles 22ins. by 2ins. by ½in. thick.
2 ends 13ins. by 2ins. by ½in. thick.
1 plywood back 18ins. by 9ins. by ⅛in. thick.
2 lengths moulding 20ins. by ½in. wide (No. 35).
6 brass hangers (No. 6134).

To ensure an even flange, pencil or gauge ¼in. margins along the framing pieces, then fit and affix the lengths of moulding accordingly. Use glue and small panel pins. A piece of ⅛in. plywood is fitted neatly into the aperture, after which all could be polished.

Fitting the Mirror

The mirror is a piece of 150z. or 20 oz. sheeting measuring 17⅞ins. by 8⅞ins. Any local glass merchant will supply a piece for quite a modest sum, and indeed, if you care to take the frame with you, the glazier will ensure the mirror is made a neat fit.

This is always better than given measurements, because if the glass does not fit properly, then the glazier can blame no one but himself and

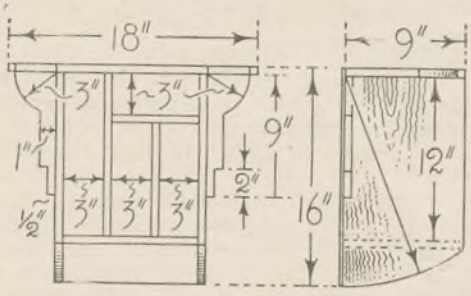


Fig. 1—Front and end elevation with helpful dimensions

make good his mistake without causing you any further bother or expense. Take care, all the same.

If cut slightly more than the framing space allows, many glaziers get over the difficulty by "chipping" the glass edges, or more frequently, by casually remarking:—"There, it only needs that much taken from the framing to get it in!"

Do not tolerate this. If, nevertheless, the trouble is slight, you can be obliging; but on the other hand .... So, prior to cutting, ask the glazier to fit the glass slightly less than the aperture say about 1/16in. all round, and add that you do not care very especially for the "shimmers" and "whirls" that abound in cheap glass of this kind, particularly foreign glass. If you *should*

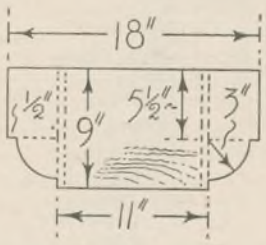


Fig. 2—The shape of the top

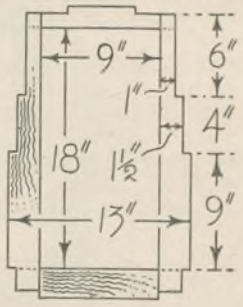


Fig. 3—Mirror frame sizes

happen to get a piece with a tiny blemish upon it, be content and thankful.

Before fitting the mirror in place, blacken the surface and edges with drawing ink, including the rebate of the frame itself. This prevents any white reflections showing when the mirror is looked at askance. The plywood backing is set on top of the glass and held with fillets of wood, the ends being either mitred or butt-jointed.

Wall Hangers

Brass wall hangers (No. 6134) are screwed to the back of both articles. If the wall is of brick, it will be necessary to plug for the screws. Ask a friend to hold the fitment in position while you mark for same with a pencil "circled" in the "eyes" of the hangers.

Punch directly over the resulting marks with a serrated plugging tool or you could drill the wall with an old twist drill (for metal work), then knock in rawplugs or pieces of wood and screw everything in place.

Model Roman Ship—(*Continued from page* 84)

They are fixed by means of the cord being twined through at holes about ⅜in. apart, then the rigging is fixed from the mast to the spars and so down to the deck as can be seen in the drawing of the finished model. The deck has little eyelets to hold the ends of this cord.

Painting Plan Provided

The whole model should be finally cleaned up with glasspaper then painted. The hull has a light natural grain with a darker enamel used on the main pieces of plywood. The decoration of the rails is painted white. The deck is stained light then varnished over and lined for planking. The cabin also is painted in two colours. The overlays and roof are buff, and the main body brown. The stern sloping back can also be buff colour, whilst the swan head is white with suitable eye and beak.

A detailed drawing of these colourings is obtainable on request from the Editor if you enclose 3d. in stamps.

Little pulleys are provided in the rigging, and 20 of these are required. Four lines of ropes to the deck are trailed up to the masthead, whilst a rope ladder is fitted from the deck between the cabin and the mast. A further rigging with two pulley blocks is drawn from the masthead to the bowsprit base or about ½in. upwards from it.

It is a good plan, by the way, to shape off the swan's neck at the stern by rounding the parts slightly to give a more realistic finish.

The Base

The base is a piece of ⅜in. wood preferably mahogany or some fancy wood, 3½ins. wide and 8ins. long. Then 1½ins. from each end on a centre line, two fancy turnings should be fixed in. These turnings are supplied as a complete finial and it will be necessary to cut off the top tapering portion as shown on the design sheet. Cut this off flat first, then fit in a groove to take the keel of the boat which should rest firmly and steadily in place.

GASLIGHT PRINTING

THE invention of gaslight papers gave to amateurs a medium for making prints during winter evenings after they had finished their ordinary work. It meant that they were independent of daylight and that they could keep their hobby going all through the year; that they could use electric, gas, oil or even candle light for making prints.

After the worker has mastered the one or two little details of the process and has successfully controlled that old 'friend' exposure, gaslight printing becomes fairly easy.

For gaslight printing it is necessary to have two dishes, a printing frame and a darkroom lamp. The cost of the last mentioned depends on whether it is for oil, gas or electric light but there is a very large selection ranging from 1/- upwards. Some developer is required also and a supply of fixing salts.

Developer and Paper

As regards the last two items it is always advisable to use some of Johnsons Metol-Quinol usually known as M-Q and obtainable in 3d. packets and some of their Acid Fixing sold in tins at 7d. for 4 ounces, or 10d. for 8 ounces. The 8-oz. tin is very useful as it has a lid that holds two ounces and this is handy for measuring the right quantity.

Gaslight papers are sold in 6d. or 1/- packets or, for those who require larger quantities, it is more economical to buy the boxes of one gross pieces. All sizes, grades and surfaces are obtainable so the amateur can always obtain supplies to suit his particular requirements. Vigorous is for thin and Soft for dense negatives.

Gaslight printing can be done in any ordinary room. It is not necessary to have a darkroom, but there should be the ready means to turn out the white light and to exclude daylight because the paper is obviously sensitive to white light.

Sort the Prints

Before starting to print a batch of negatives the amateur should very carefully sort the stock into three groups. One to consist of all those that are on the thin side, the second those that are normal and the third is for all those that are dense. This grouping will save endless time when there is a big batch to print and further will prevent many mistakes. It is also a step towards standardising the work—an important point not only for the beginner but also for the advanced worker.

It is almost impossible to give exact times for the exposure of all papers and all negatives but, as a guide, the following will enable you to make a few experiments and you will certainly be somewhere within the region of correct timing. For normal negatives (the second group), at a distance of 12ins. from the light give six seconds for a 40-watt electric bulb, six seconds for incandescent gaslight and 30 seconds for a duplex-paraffin burner. For the other two groups increase or decrease these times.

Keep a Standard Distance

The question of distance—12ins.—is again bringing us to the point mentioned before of standardising. This is a useful distance for almost all types of work and therefore should never vary. If your light is in an inconvenient position for working at such a distance you can perhaps overcome the difficulty by placing a chair on your table to bring the frame nearer the hanging pendant.

A very novel box has recently been placed on the market for printing gaslight and bromide papers. It has at one end a white and an orange electric bulb. By switching off the one you switch on the other. At 12ins. from these bulbs there is a fillet let into the base of the box and

The " test " with four exposures for correct timing

repeated at every 6ins. so the operator is always at a regular distance from the light. With such a piece of apparatus gaslight printing is very much standardised and mistakes are reduced to a minimum.

The developer is prepared by dissolving the contents of one packet of M-Q in 4 ounces of water. In another bottle dissolve 2 ounces of the Acid-fixing in 30 ounces of water. Take about 4 ounces of this, pour it into one of the dishes and the developer into the other.

To print the paper place the negative face

upwards in the printing frame with a piece of the paper face downwards on it, this must be done only when the white light has been turned down. If you have an orange or red light or glass in your lamp use that, but never have the paper exposed while the white light is up. Close the frame and see the packet or box of paper is closed down.

Developing

Now stand the frame 12ins. from the illuminant and switch up. Make the exposure next, then take the piece of paper from the frame and very carefully pass it into the developer. Make quite sure it is completely covered with the solution for development is very quick. It only takes from ½ to 1½ minutes, according to the paper, but if the picture fails to appear in 15 to 30 seconds, you have badly under exposed.

If it flashes up, however, as soon as you place the paper in the solution then you have grossly over-exposed and you must try again.

An Experimental Strip

At this stage you do not want to go on making mistakes in exposing. It is very costly, both as regards time and material, so you must make a trial or test strip in the following manner. Fill the frame as previously mentioned and cover with a piece of card ¼ of the frame and negative and expose for half the time you reckon it requires. Switch off and cover only half of the negative with the card and expose for the same time as for the ¾ and switch off again.

Now cover only quarter of the negative and expose exactly as for the other two, switch off and remove the card altogether so the whole of the negative is free to be exposed. Now give it the same time again. Then, when you develop that print, you will have got four different exposures on the one piece of paper and one of these is sure to be correct or near enough to put you right.

When the print is developed pass it immediately into the acid-fixing bath and again be certain it is really under the solution. Keep it on the move for a few seconds, and after it has been in the fixing for ten minutes you may turn up the light to see the result. After this remove it to be washed for half an hour or so in running water.

If Stains Appear

Now, it is common knowledge that many folks give up printing on gaslight papers because they get so many stains. But let it be understood that such experience is in no ways due to the paper or process, it is entirely their own bad manipulation.

There are three principal causes of stains—under-exposure and forcing development is the most common. Then there is always a desire to inspect the print before putting it into the fixing bath and the exposure to air will thus cause the developer on the print to oxidise.

The remedy for this is to wait till the print comes out of the fixing before examining it. The third cause is the use of a fixing bath that is exhausted and is therefore not doing its work to time.

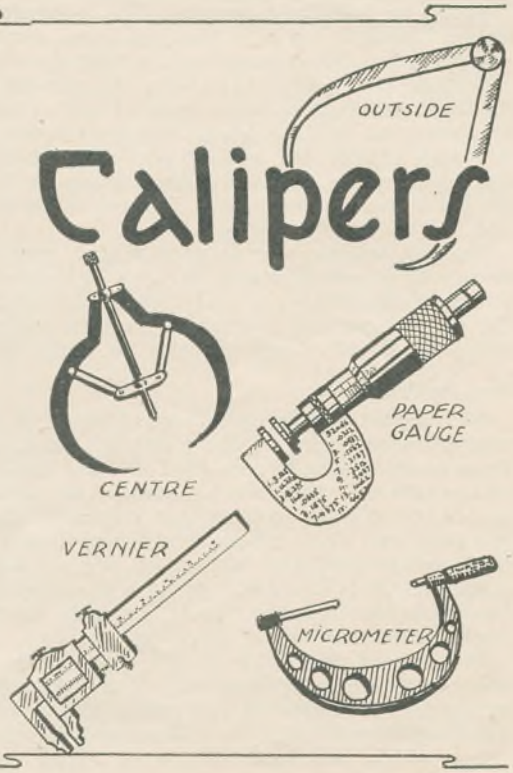
Tools and their uses

Calipers

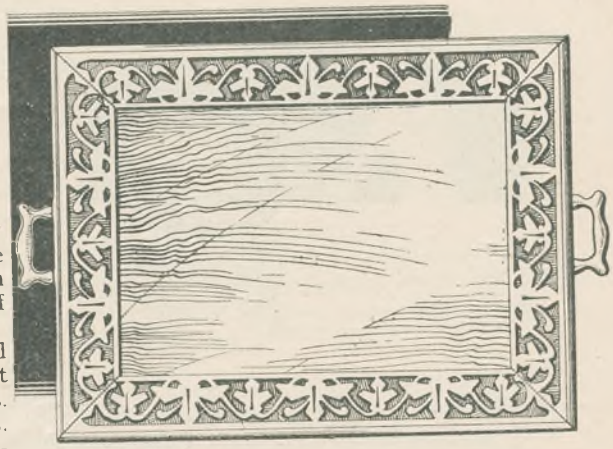
THE usual types of caliper are outside, inside and centre. The first is used in measuring diameters, such as cylinders of metal, shafting, etc. The second is used for gauging the inside *diameters of pipes, tubes, etc. The third is for finding and marking the centre of a round bar or disc.*

Special calipers are used for more delicate work. The vernier can gauge to accurate fineness the thickness of metals, etc. The micrometer caliper is also used for accurate measurements, and has a locking device.

Of more delicate adjustment still is the complicated instrument used for gauging the thickness of paper. In the paper-milling and printing trades this is a valuable tool, and thicknesses of so many decimal points to the inch can be measured.



A SIMPLE PIECE OF WOODCARVING



WE show on this page a useful and decorative tray formed from a curved moulding which is glued and screwed down to a backing of either plywood or solid mahogany.

The design is arranged for simple carving and permits the size of the tray to be varied to suit individual needs and taste regarding proportions.

The size of the tray shown in Fig. 1 is 18½ins. long by 13½ins. wide, but by the special arrangement of the sections of the design or pattern the sizes may be varied by multiples of 2¼ins. as shown in the diagram Fig. 1, on page 102. On this page too, is given a full-size corner of the tray with the carving design drawn also full-size ready for direct transfer to the wood.

It will be seen that almost any size tray can be made by the simple arrangement of the 2¼in. sections. A long narrow tray measuring 20¼ins. by 11¼ins. would make an ideal serving tray for glasses, while one 20¼ins. by 15¾ins. would make an outsize for breakfast in bed.

Make Your Own Size

These sizes, it will be observed are all made up from the 2¼ins. unit. To make the tray shown here, a piece of wood as backing will be wanted measuring 18½ins. by 13½ins. by ¼in. thick, these sizes allow for a ¼in. margin all round outside the carved border.

The latter consists of two pieces 18ins. long and two pieces 13½ins. long by 2ins. wide by ¾in. thick shaped and planed up as the section Fig. 2 shows on the same page as the patterns.

The sunk surface in this section only indicates to what extent the carved portions will be cut. Satin walnut, mahogany or American whitewood are woods from which choice may be made, the lighter kinds of woods being most suitable where lines have to be made for guidance in carving.

The Baseboard

The bottom of the tray may be prepared first. Set the piece cut square and round the edges with coarse glasspaper, finishing off with fine paper.

The edging strips will be cut off in say two 2ft. lengths and two 18in. lengths and then planed down to the section and measurements given in Fig. 2. The mitreing will be left until after the carving has all been done. The full size design for the carving may be easily transferred to the wood by means of carbon paper, but before the carving is actually commenced the lines should be gone over with a firm black lead pencil line.

Full size pattern given on page 102

The carving is executed by cutting down into the wood all round the edges of the design with a fine chisel and then roughing out to a depth of ⅛in. or just over. The stems of the design and the shaped and tapered stamen-like projections are set in with gouges and finer chisels after which the ground is levelled and matted with a small steel matting punch and hammer.

The carving of this design, once it is set out on the wood, should not be difficult to even those who have had but little experience with the handling of tools, and after this simple exercise has been carried through the way will be paved for more intricate and delicately lined work.

Corners

One point which calls for notice is the mitred corners. It will be seen from the full size diagram that the actual cut for the mitre is on a plain surface, the line for guidance is thus easily seen and the carved work finished neatly up to it.

The centre veins of the leaves may be carved in with a V tool or a very sharply pointed knife.

All the border strips when carved and the mitres cut and fitted and cleaned for final fixing, are coated thinly with glue and clamped down to the backing board.

A few ⅝in. or ¾in. screws run in from the back will bind the whole together and it is now only necessary to screw on a pair of Hobbies handles No. 3 to complete the tray.

Four No. 20 toes screwed on the underside, one at each corner raise the tray sufficiently to clear the handles which come on the underside.

CUTTING LIST

1 piece ¼in. mahogany 18½ins. by 13½ins.
2 pieces 2ins. by ¾in. American W.W. 2ft. long.
2 pieces 2ins. by ¾in. American W.W. 18ins. long.
4 No. 20 toes.

A SILHOUETTE ASH TRAY

NOVELTIES with silhouettes or statuettes of the fair sex in various artistic attitudes are quite the fashion nowadays. They look very modern and pleasing to the eye, and although the commercial type are cut from metal, they look just as well if cut from plywood and enamelled in bright colours.

Consequently, they are within the sphere of the average fretworker. The ash tray and figure is a novel affair and should appeal to the worker and recipient (or buyer) alike. As alarm clock bells or bicycle bells are used for the actual tray, the question of obtaining sufficient—should it be your intention to construct several for a sale of work, bazaars and similar functions—might prove a drawback.

Figure and Base

The figure outlined in ½in. squares at Fig. 1 should be cut from ⅛in. birch plywood, whereas the base (Fig. 3) should be cut from ¼in. stuff. With the former, the grain of the wood should run upright with the statuette and *lengthwise* with the base.

If desired, it would be comparatively easy to cut the statuette from 1/16in. sheet brass, copper or aluminium. You should be able to pick up scrap pieces of the aluminium cheaply at most coach-builder's yards. It is easy cut with an ordinary fine fretsaw blade, but care must be taken to work the fretsaw frame gently and evenly and not negotiate corners too quickly or—ping!—a new saw is needed.

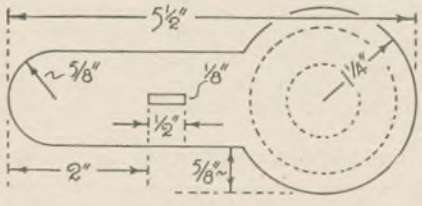


Fig. 3—Shape of the base

The aluminium has a mirror finish and only requires a few deft touches with a fretsaw file here and there on the edges to finish it. If you prefer to incorporate this material, be sure to allow sufficient for a tab. This could be ½in. square, then bent backwards and drilled for a roundhead screw.

The tray base is composed of a tier or dias made from three plain discs of ¼in. plywood of different diameters as seen at Fig. 2. There are two methods in building the tier. It may consist of plain discs glued evenly together and affixed to the base by means of a screw also serving to hold the tray. The other way is to cut an 1in. circle in disc A. This must be done with a fine saw, for the waste portion—which should cut out in one piece—is glued to the base to hold the completed tray temporarily in place.

Therefore, glue the discs together in their correct formation as seen by the illustration. At this juncture, the parts could be coloured with a good enamel paint. The base could be coloured light green (to depict the figure kneeling on grass) or a grey shade could be employed to represent concrete, or you could be fantastic and paint the base purple, blue, etc.

The statuette itself should be (if cut from plywood) pure white or cream or primrose. The ash tray tier would look nice if painted bright

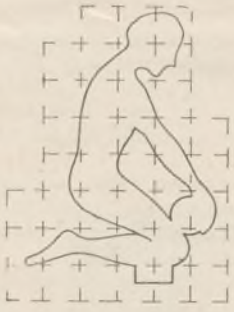


Fig. 1—The figure drawn into ½in. squares

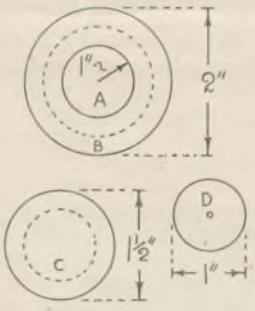


Fig. 2—Details of the ash tray base

red. If the bell is new and brightly polished, it should not be painted. If old and rusty, it can either be painted (on the outside only) black or burnished by burning in a fire. This would be its only finish—and its finish if you let it burn too long, for it should not be coarse and flaky.

Complete the novelty by gluing the figure to its mortise in the base and screwing the bell and tier in place. With one method, an 1in. by 6 roundhead brass screw is used, and with the other, a ½in. by 6 roundhead screw. Green baize should be glued to the bottom of the article.

LIST OF MATERIALS

1 piece plywood (figure) 5ins. by 3ins. by ⅛in. thick.
1 piece plywood (base) 6ins. by 3ins. by ¼in. thick.
1 piece plywood (discs) 4ins. by 3ins. by ¼in. thick.
1 piece green baize 6ins. by 3ins.
1 1in. by 6 roundhead brass screw.
1 ½in. by 6 roundhead brass screw (alternative).
1 ⅜in. by 4 flathead iron screw (alternative).

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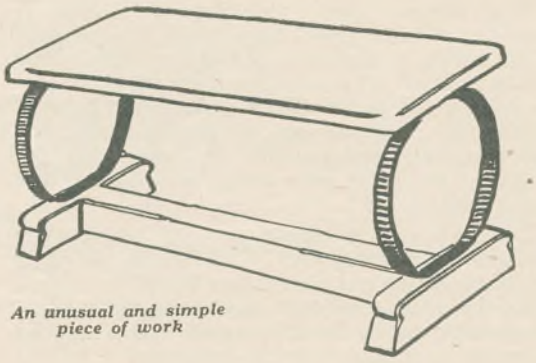
HALL SEAT IN WOOD AND STEEL



An unusual and simple piece of work

MANY striking modern designs exist in steel tubing, some incorporating upholstery, but we think this bench is something new, and moreover can be made in the home. Although it is possible for the home worker to bend steel tubing with care, yet the mild steel strips used in this design are much easier to bend, and the woodwork is much simpler than in any straightforward piece of furniture.

The seat consists of a piece of birch 1in. thick and 3ft. by 11ins., and the pediment consists of three pieces of 3in. by 2in. birch which may be halved, or better still, tenoned together to form the required "I" shape. The metal parts are made from 1¼in. by ¼in. mild steel strips, and a piece of apparatus must first be made to bend these to exactly the same curvature.

This consists of a piece of 9in. by 3in. planking, 12ins. long, worked on one edge to the shape shown in the drawing. This edge is then covered by nailing on a strip of sheet iron to prevent the hot bars from burning away the wood, and may also be soaked in water for some time before use to minimise charring.

The Steel Work

The steel is cut into strips 22ins. long, and two ¼in. holes drilled at each end on the centre line, and respectively 1in. and 3ins. from the end of the strip.

These are to accommodate the screws securing the steel to the wooden parts, and may be countersunk, or round head screws may be used. The seat will be secured by ¾in.—10 gauge screws, and the lower ends fastened to the pediment by 1½in.—10 gauge. The strips are now ready for bending, and must be brought to bright red heat in the kitchen fire, a good stout pair of tongs being used to manipulate them when hot.

Alternatively a pair of smith's tongs or even a large pair of pliers may be used. When the required temperature is reached the strip is laid over the shaped wood block and hammered to its contour with a flat faced hammer of 1-2lb. weight.

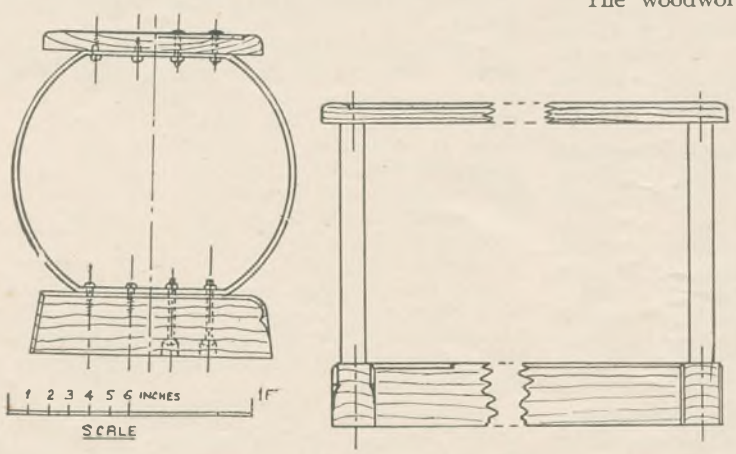
Great care is necessary to avoid leaving hammer marks on the steel and the blows must be perfectly square and care taken to use as few blows as possible. Do not work the metal when it has cooled below a dull red, but remove and reheat.

Another Method

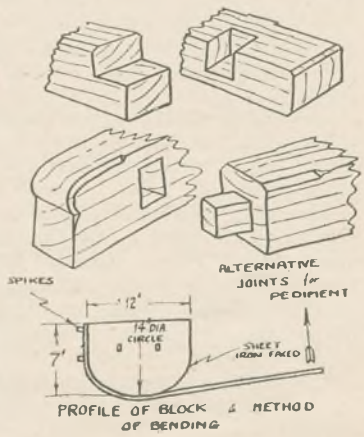
An alternative method of bending is to use a larger piece of steel, say 4ft. long, which is cut later. The wood block is for this method spiked to the floor or a large heavy piece of timber, and a spike is also driven at one end ¼in. from the surface of the block. The end of the heated steel is slipped between this spike and the block, and the bending done by levering the cold end towards the shaping block.

In many ways, although entailing further preparation, this method is the more satisfactory and there is no question of marking the steel. Four curved pieces must be bent to identical form, care being taken also that they are of exactly the same length.

The woodwork, as previously stated, is very



Sectional views of the seat with scale drawing



simple, the seat merely requiring careful finishing from the piece of planed birch which is purchased. This should be triplaned carefully, smoothed, and finally scraped. On no account should glasspaper be used if the best finish is required. The pediment may be made by the skilled worker by tenoning the pieces together, or more simply by halving, the centre piece being carried below the end pieces.

In any case the chamfers must be carefully worked to meet exactly. With the exception of the inside of the end pieces these can all be worked with the plane, although again considerable individuality can be attained by the use of stopped chamfers as indicated in the drawing.

Carved Decoration

Again, the skilled workman may decorate the seat by low relief carving, but it must not be forgotten that the keynote of this style of furniture is simplicity, and too much decoration may easily spoil the design.

Before finally cleaning up, the holes for the screws must be carefully marked out and drilled. Instead of screws if preferred the bench may be fastened together by wood bolts and nuts, the lower fastenings being countersunk under the pediment. The strips must be so fastened as to appear as one continuous circle, slightly flattened at top and bottom.

The finish suggested is to cellulose the metal parts, screws and bolts included, with one of the dull black cellulose paints now on the market. The woodwork may be finished after scraping by filling the grain with plaster of paris paste or a proprietary wood filler, and either oil polishing or french polishing with white polish.

Alternative finishes will, however, suggest themselves to the home worker, but in any case the contrast between the metal and the woodwork must be kept as wide as possible.

MATERIALS REQUIRED.

3ft. by 11ins. by 1in. Planed Birch.
5ft. by 3ins. by 2ins. Planed Birch.
8ft. by 1½ins. by ¼in. Mild Steel.

Three Ingenious Novelties

A Cheap Candlestick

YOU are often annoyed when you are unable to find a candlestick just where it is wanted. It is not a good plan to carry a candle about in the hand, and an empty bottle is a poor substitute.

If however, you have in the larder a small tin, which once contained salmon or fruit, wash it out, and then towards the centre of the bottom on the outside, cut three wedges or tongues, an inch long, one at each corner of an imaginary triangle, and far enough apart to slightly support the candle. Set the candle in the midst of them, and you will find it an excellent " stick."

Flower Pots for Birds' Nests

IF you wish to study more closely the habits of birds, it is always a good plan to make some provision for them, by offering them rent-free, desirable sites for their homes. Here is a good plan.

Take three or four empty flower pots, and enlarge the hole in the bottom until it is big enough to admit any of the commoner birds such as tits and starlings.

The pots, of course, should be of comfortable size. Get a board a few feet long, and at least 4ins. wider than the diameter of the pots. Place the pots a few inches from each other on the board, bottoms upwards, and fasten them securely in position by means of wooden cleats screwed down with brass screws.

The cleats must be sawn to a slope corresponding to that of the pots, and four will be needed to support each pot. The board, with the pots must then be stoutly nailed to a discarded clothes post, and erected in the garden. You will find that the birds will become grateful tenants and appreciate food supplied especially in hard weather.

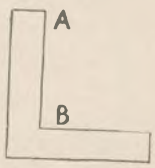
As a precaution against the attentions of cats, nail on some wire netting a few feet from the ground.

A Good Scissors Sharpener

BLUNT scissors are a nuisance, and as one hasn't always a grindstone at hand, let us consider how a little contrivance may be made as a substitute.

Take a small block of wood—say ½in. thick, 1in. wide, and 1½ins. long—and cut out a piece lengthwise with a saw to a shape as shown in the sketch.

Now rub the sawn surfaces smooth with emery paper. Glue to the face A.B. a piece of fine emery cloth, of a size to fit the face exactly. See that it does not overlap anywhere. When the glue has dried, place the scissor blade against the emery and rub it to and fro, keeeping the back of the blade flat in the angle B.



Test for sharpness and then treat the other blade likewise. You may think it is quite sufficient to rub the blades in the emery cloth in the hands, but such a method is not nearly as efficacious as using the block.

The size of the block will depend on the size of your blade, but for ordinary scissors, the dimensions indicated will be found quite suitable.

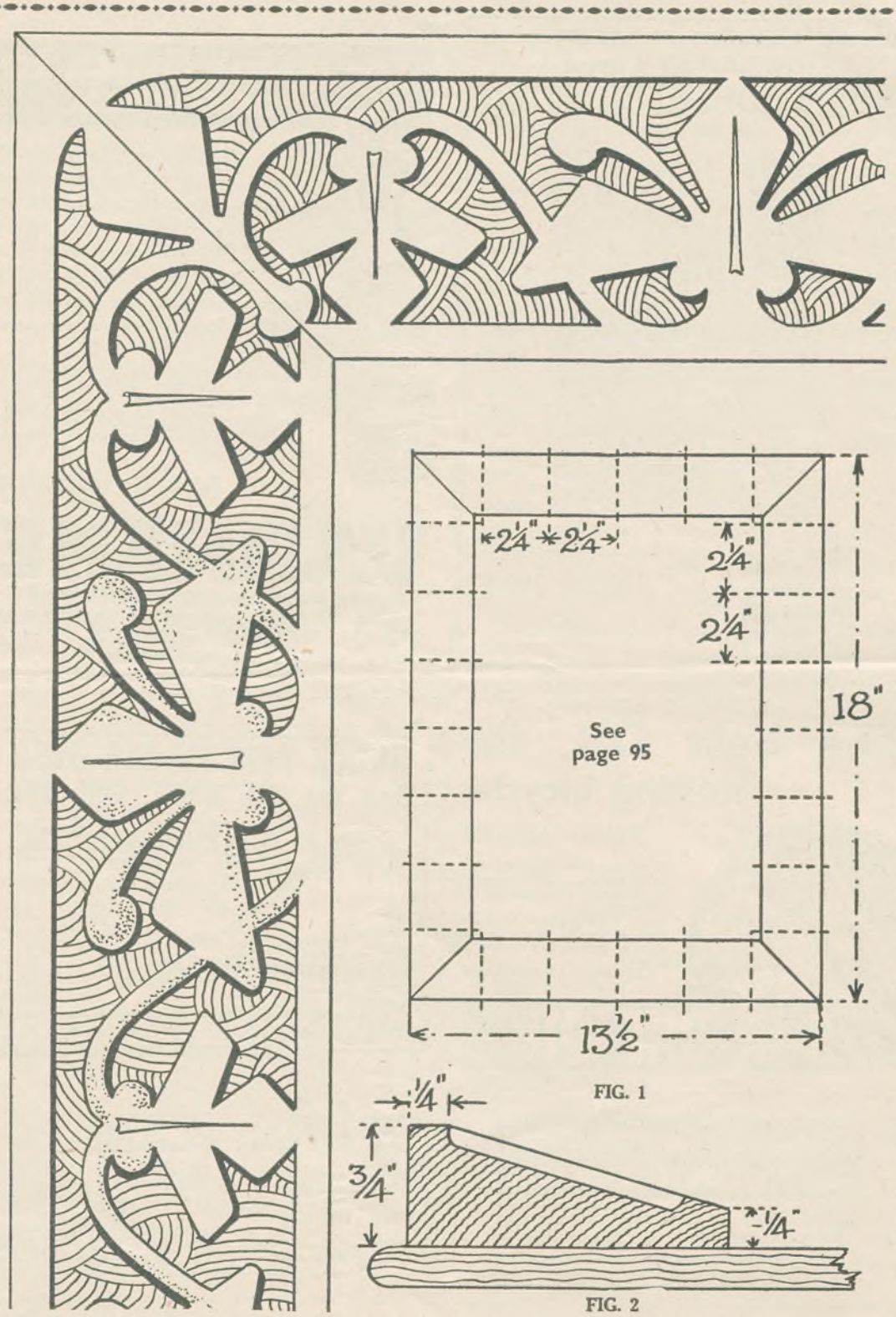


FIG. 1

FIG. 2

NOTES AND NEWS

THE first thing which we have to do in these notes is to recall with regret the death of President Masaryk of Czechoslovakia. The Czechoslovak State came into being in 1918, comprising the countries Bohemia, Moravia, Parts of Silesia, and Slovakia, and on November 14th 1918, Professor Masaryk was elected the first President.

Thomas Garrigur Masaryk was born in 1850 in Moravia. According to the constitution no one may be elected President for more than two successive terms of seven years, yet an exception was made in this case. The first portrait of President Masaryk appeared on the stamps of 1920, but since then we have had many issues showing him, the last being that of 1935.

One wonders what readers think of the new ¼d. stamp from Grenada, showing the portrait of H.M. King George VI. In the opinion of the writer it is excellent, and far in advance of any which have been seen so far.

Even so, there are two points which, again in the opinion of the writer, might be improved. The line on the left of the stamp appears to be too much like one of the old Jubilee Lines. These of course had a very definite purpose, and the line as shown has not got the same. Indeed it does not seem to serve any purpose at all, and would be better away.

Secondly the white ¼d. is unnecessary. The value has been expressed in words, and if it is required to put the same thing again it should not be shown so very blatantly as to detract from the very nice portrait of H.M. the King.

If you look at this stamp you are almost compelled to look away from the king's head to the white farthing. This is the first time that Grenada has issued a stamp of such a low value.

The United States of America has come out with a stamp to commemorate the 150th anniversary of the Ordinance of 1787. This particular stamp could give us an excellent and long lesson on the early history of U.S.A.

The Declaration of Independence of the thirteen States of which the American Union then consisted was adopted by Congress in July, 1776. In 1782 Great Britain acknowledged the independence of the United States and on September 3rd, 1783 the Treaty of Peace was concluded.

The form of government of the United States is based on the constitution of September 17th, 1787 to which of course, amendments have since been added at various times. The thirteen original States which formed the United States, can be picked out quite easily with a glass, and then we note the strip of land which was claimed by Spain in 1795.

As a map it is poor, because it is difficult for anyone who does not already know something about the region to learn, and surely that is the main idea underlying the production of a map.

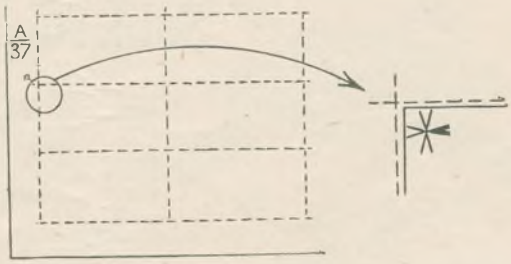
The last note and illustration in connection therewith is that of a block of six stamps of the Coronation issue of Great Britain,

From Czechoslovakia *The Grenada ¼d. stamp*

and at the first sight one wonders why these should find a place in these pages.

Those who read these pages some two years ago saw a note on the Jubilee stamps, and in particular a note on a block of four stamps showing the "extra flagstaff" stamp of the Windsor Castle type. Well, this block has a point of interest of a like nature; and how many readers would find this without having it pointed out to them? No, it is not the fact that the control A/37 is showing, neither is it the fact that just below this there is a small 12. That is the cylinder number.

Look at the first stamp of the



The block of six with a drawing of the faulty Maltese Cross

middle row, and the top left hand corner of that stamp, and you will notice that there is a thick prong to the Maltese Cross in the top left hand corner. The small sketch will help to make this clear.

Whilst this error or variety approximates in a sense to the extra flagstaff variety of the Jubilee stamps, there is not quite the same chance of finding one of these because while the extra flagstaff was found on the stamps from a number of different places this variety is only found in the stamps from Gt. Britain, and not by any means did every sheet have the thick cross.

There were not quite so many errors and varieties in the Coronation stamps as there were in the Jubilee. At least not so many have been chronicled to date, though there may be a few more later on.

At present, the chief seem to be the one here shown overprinted "Tangier." Others are as mentioned. A number of re-entries on the Newfoundland stamps. The overprints of the word Niue have not all been perfect and in some cases the tops of the letters NIU are missing.

The lack of a hyphen in the case of the stamps of South Africa as already mentioned, and in the case of Papua the King's head has the appearance of having a halo.

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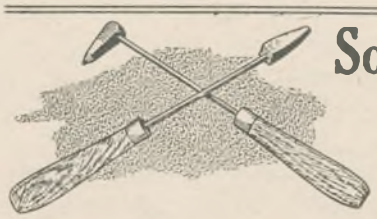

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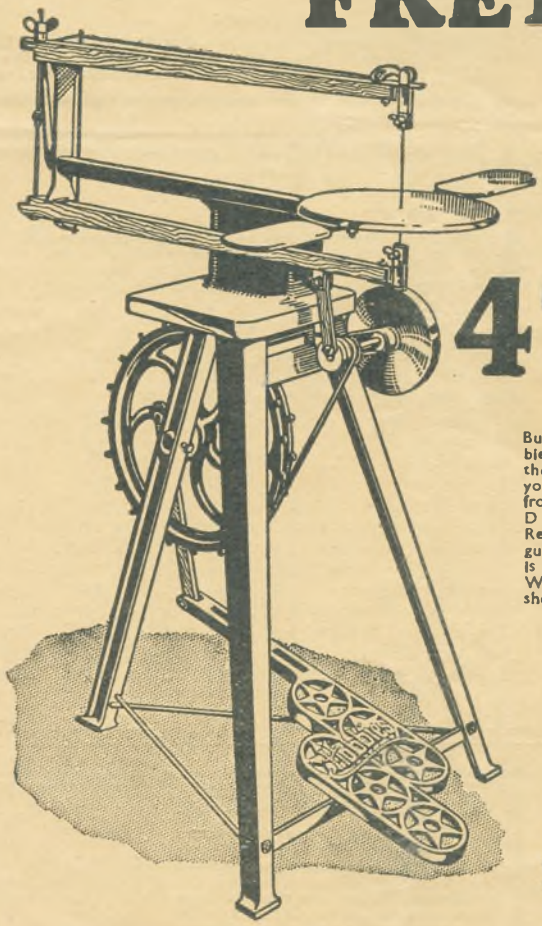

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