

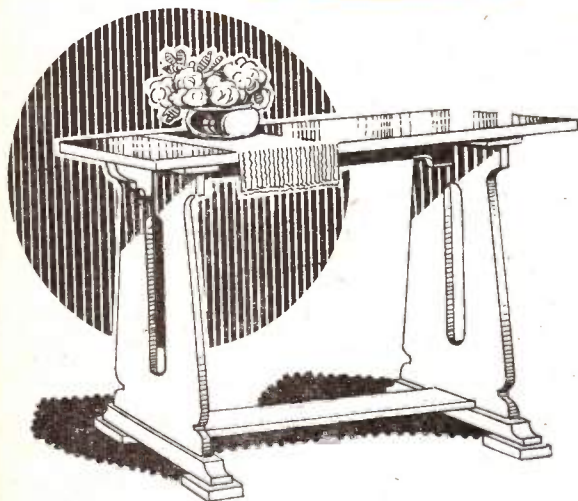
Hobbies

WEEKLY



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Make this small OCCASIONAL TABLE

The illustration (Fig. 1) shows that the table is both attractive and useful.

THE small occasional table described would be welcomed in many homes, and can be made by any average handyman. It would be suitable for the small hall or as a side table for the sitting room.

Ideal Wood

Oak would be the ideal wood from which to make it, but a number of other woods are suitable. If oak is adopted, there are various ways of finishing its surface. For a dark surface, successive coatings of oak stain may be given, finished with french polish or a rubbing with wax polish. If a light oak finish is desired, then the stain should be applied with a brush, quickly rubbed into the wood and then more or less wiped off. This gives a golden mellowed effect when it is polished over or varnished.

In Fig. 2 is a side view of the table, and in Fig. 3 a cross section, giving useful dimensions. The cutting list included at the end of this article will help when setting out the work and ordering the wood from shop or dealer.

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Wood $\frac{3}{4}$ in. thick is used throughout excepting for the two stretcher pieces (E) at the feet, which are $1\frac{1}{4}$ ins. thick.

When wood wide enough to get out the uprights (A) in one piece is not obtainable, two pieces can be used for each upright as shown, and a good glued joint made above and below a simple fretted opening. Each section of the upright will measure $24\frac{1}{2}$ ins. long by 5 ins. wide, and the actual shaping should be set out as a paper pattern with the one shaped edge and the half of the interior fret included. This can be plainly seen in Fig. 3.

Remember the Tenons

From the paper pattern, trace the shapes on to the wood and cut round with a coarse fretsaw, not forgetting to include one tenon at the top and another at the bottom of each section. The enlarged details (Figs. 4 and 5) show how the tenons are to be set out. Note here also, how a $\frac{3}{4}$ in. recess is cut at the top of each piece to allow the under rail (B) which is $\frac{3}{4}$ in. thick, to slide down and notch over the upright at each end.

Securely Held

It will be found that the two sections

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THE MAGAZINE FOR MODELLERS, HANDYMEN AND HOME CRAFTSMEN

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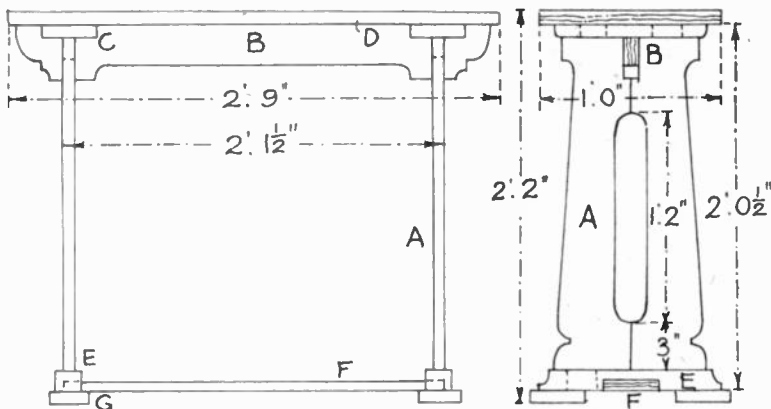


Fig. 2

Fig. 3

of each upright are very securely held when the tenons at the top and bottom are fitted into their respective mortises in rails (C) and (E) respectively. Rail (B) is shaped up from a piece $3\frac{1}{2}$ ins. wide, the ends being cut with the fretsaw to the simple outline shown, an outline being first made in pencil on paper so as to ensure both ends being alike. A recess is cut down on the top surface of the rail, $1\frac{1}{2}$ ins. in from each end, and $3\frac{1}{2}$ ins. long to receive the cross rails (C). The recess is shown on the rail (B) at Fig. 4. Rails (C) are quite plain pieces, having mortises cut in them to correspond with, and made to fit, the tenons of the uprights (A). The ends of the rails are rounded off on their undersides at back and front as in Fig. 2 and in detail Fig. 4.

The Top

The top of the table (D) is a plain oblong with either dowel holes or screw holes carefully set out to come centrally over the rail (B) and the leg uprights each end. Take off the sharp edges of the top with fine glasspaper. Dowels make the better fixing for the top, as their heads can be cleaned off perfectly

level with the main surface, while screws would have to be countersunk and afterwards filled with putty or a specially prepared filling.

The foot rails (E) are shaped at each end and will have mortises cut in them to fit the tenons exactly of the uprights. The detail Fig. 5 shows this, as well as

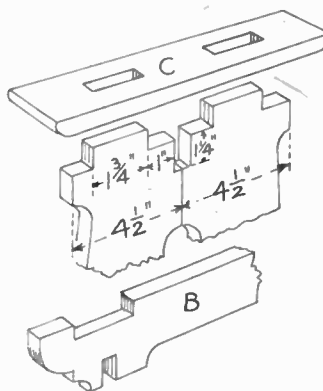


Fig. 4

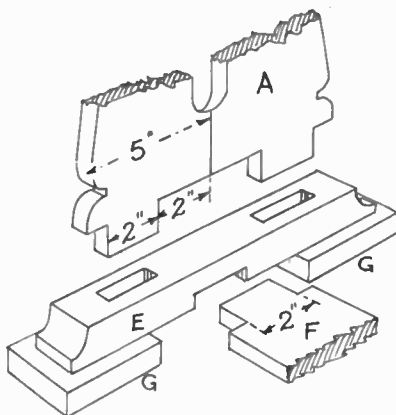


Fig. 5

CUTTING LIST OF WOOD

- A (4). 24 ins. by 5 ins. by $\frac{1}{2}$ in.
- B (1). 31 ins. by 3 ins. by $\frac{1}{2}$ in.
- C (2). 10 ins. by 3 ins. by $\frac{1}{2}$ in.
- D (1). 33 ins. by 12 ins. by $\frac{1}{2}$ in.
- E (2). 12 ins. by 1 ins. by $\frac{1}{2}$ in.
- F (1). 25 ins. by 3 ins. by $\frac{1}{2}$ in.
- G (4). 3 ins. by 2 ins. by $\frac{1}{2}$ in.

ELECTRIC TABLE LAMP AND SHADE

(Continued from page 340)

to do is to draw out this shape, shown to scale or full size, on a sheet of odd paper. Next describe a circle 10 ins. in diameter and set across the two lines through the centre as shown at (B). With a pair of dividers or compasses, divide one quarter of the circle into, say, six parts.

Now we come to the making of the full-size pattern of the shade by setting out the measurements shown at (C), Fig. 5. This, as can be seen, is taken from diagram (A) and described with compasses with lengthening bar attached. From any point on this arc, step out, again with the dividers, the six

divisions taken from (B), Fig. 5. These will finish at (A) on the arc and will, therefore, represent one quarter of the full diameter required. Now take up the dividers again and, with length set to (O), (A), proceed to slip round (B), (C) and (D), making the four equal divisions. Connect up point (D) with the centre point of the arc and you have the full shape or pattern of the shade. A marginal strip should be left as that shown shaded, for gluing up the cone when shaped and brought round edge to edge.

A sheet of parchment paper or oiled

cartridge paper rather larger than the size of the pattern should be obtained and the outline of the pattern transferred to it for cutting round.

The finished cone may be attached to a wire frame by means of narrow binding tape, which can be bought specially made for the purpose at almost any art dealers.

Decoration of the finished shade can be carried out in art stains or poster paint. It may be found beneficial to weight the base of the lamp to make it stand firmly. If this is needed, a piece of lead may be cut to shape and screwed in the recess formed as shown in Fig. 2.

(SWC)

You'll find it useful to have a LETTER BALANCE

THIS is a simple construction of balance, quite easy to make with a few scrap materials, and reasonably accurate for judging the weights of letters and small parcels. It makes an interesting job of work, a change, perhaps, from modelling, and is worth the little trouble involved.

The general appearance shows it consists of a wood stand, made in fretwood, with a swinging half disc from which the letter holder is suspended. Fig. 1 shows a front and side view of the stand, using $\frac{1}{2}$ in. wood for its construction. Other thicknesses of wood can be substituted, as long as the distance between the two pieces forming the pillar are kept $\frac{1}{2}$ in. apart. The pillar parts are 1 in. wide at the base, and taper a little towards the top. Note, only the right hand sides taper, the left hand ones being left vertical. A small extension at the tops, $\frac{1}{2}$ in. square is allowed for, and both are cut round, as shown in the drawing. Through the centre of these extensions, a small hole is bored, a tight fit for a wire nail on which the swinging half disc works.

Tenoned Pillars

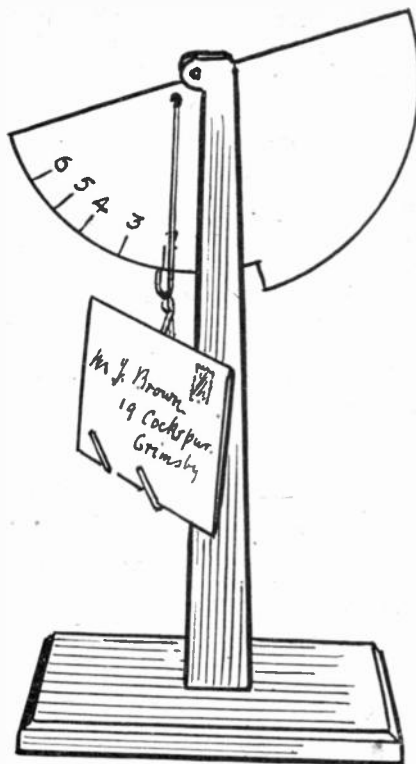
The bottom ends of the pillars are cut to form tenons for fitting the pillars to the base piece. A piece of $\frac{1}{2}$ in. thick wood is glued and nailed between the pillar parts to keep them that distance apart. Cut the base from wood, $\frac{1}{2}$ in. thick, or thereabouts, and in the centre

have its edges neatly bevelled, as in the drawing. It enhances the general appearance of the article, and if it is intended to stand upon a polished surface, table or desk, for example, a piece of cloth or baize would be useful to prevent scratches if glued to the bottom of the base.

For making the swinging half disc, Fig. 2, there is a choice of several materials. Perspex, celluloid or thin metal, even tinplate, are all suitable. Perspex would be a good choice, $\frac{1}{8}$ in. thick, as the ounce divisions on the scale can be so easily scribed on it. Whichever is chosen, make a pattern on thin white paper and stick down to the material, then saw or cut out.

Drawing the Pattern

To draw the pattern make a straight line $6\frac{1}{2}$ ins. long and below this a shorter line $\frac{1}{2}$ in. down from the top. At a point on this line $3\frac{1}{2}$ ins. from the right hand end strike the quadrant, then reduce the radius to 3 ins., and from the same centre strike the second quadrant. Drill a hole in the centre, from which the quadrants have been struck, to suit the wire nail pivot in the stand, and $\frac{1}{2}$ in. to the left of this hole a second hole through which the wire letter holder will be suspended.



Cut a length of about 2 ft. and bend at right angles in the centre. Pass through the hole (left hand one) in the half disc, grip with pliers and bend again, the two parallel lengths being $\frac{1}{2}$ in. apart. Grip again, this time just below the half disc, give the two a twist, then bend the ends outwards a little and bend up the tips, to form the shape depicted in the drawing. Any surplus should be cut away.

Now, with the wire nail, pivot the half disc between the pillars, with a washer each side to lessen friction. It should work quite freely, then it is ready to be calibrated. Get an envelope, stick the flap down and then slit across the top with a knife. Place this on the letter holder, and slip a 1 ounce weight inside the envelope. Take care the balance stands on an even table, then carefully mark on the scale where the wire crosses. Repeat this with heavier weights to the limits of the scale.

Readers not owning a set of such weights of their own should seek the assistance of a local tradesman, but not in his busy hour, of course. With the weights to hand, the work of calibration is soon done, and the pencil marks can be scribed in permanently at leisure. It may be added that those who may desire the balance to weigh packets, say, up to 8 or more ounces, rather than letters, should position the letter holder hole $\frac{1}{2}$ in. away from the pivot-hole, instead of $\frac{1}{4}$ in. or even a little less. (WJE)

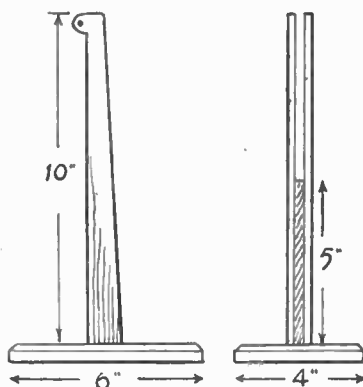


Fig. 1

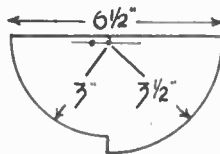


Fig. 2



Fig. 3

If the half disc is made of perspex or celluloid, clean and polish the edges; if of metal such as tinplate, it would be as well to enamel it. Any burrs left after drilling the holes must be filed away, as these might interfere with the free swing of the half disc. With enamelled tinplate it would be as well to glue to it a curved strip of paper to act as a scale; it would show the marks up much better and render an accurate reading of the weights indicated easier.

The letter holder, Fig. 3, is made from wire; any gauge within reason will suit.

of it, chisel or saw out two mortise slots to fit the pillar's tenons. Now glue the pillar parts in place. When the glue is hard, glasspaper the whole and varnish. The base, by the way, might

Instructions for an attractive Electric Table Lamp and Shade

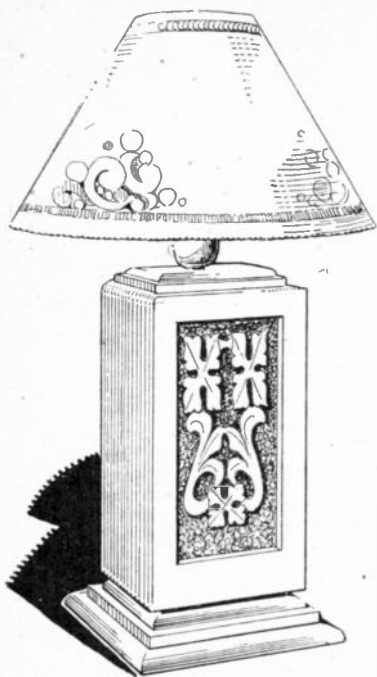


Fig. 1

THIS electric table lamp is one which many home craftsmen would like to tackle. In it is incorporated a front panel which can be carried out in ordinary fretwork, or in simple relief carving.

To help the worker, a page of this

by cutting the middle panel, as shown, from piece 1. This arrangement can be understood from the cross section of the base in Fig. 2.

Set out each part carefully from the patterns by pricking direct on to the wood the four corners of each and then joining these points by a good solid fine pencil line for cutting with the fretsaw.

The four edges of pieces 1 and 3 should be shaped with rasp and file and finished off with glasspaper. In Fig. 2 is shown how piece 4 is cut from piece 1 and glued to the top of 3. Also shown is the full $\frac{1}{4}$ in. hole which must be bored centrally through the base, and the

**Helpful full-size patterns
are on page 351 of this
issue**

groove in piece 1, for the passage of the flex.

In Fig. 3, the construction of the body is shown, with all necessary

piece and hinging it at one of the upright edges. Small fillets of wood may be glued along inside to prevent the door falling inwards, and a simple flat handle piece may be glued to the back for opening purposes.

The top of the body, to which the lamp socket will be screwed, is shown complete in Fig. 4. The top member is shaped around its upper edges as the circled diagram shows. A central hole will be made to take the lamp holder socket screw. Glue the top to the body section, care being taken to leave a margin of about $\frac{1}{8}$ in. all round.

The suggested panel decoration is given full size on the right of the pattern sheet. This may be cut from $\frac{1}{4}$ in. wood if it is to be simply an ordinary overlay piece, but if it is to be finished as a relief panel, then it should be $\frac{1}{4}$ in. thick. The shaded pattern on the left is intended to show the worker those parts which are rounded and set in relief. The backing panel may be punched all over with a matting tool, so as to give full relief to the fretwork panel.

The Lamp Shade

Many workers will, no doubt, prefer

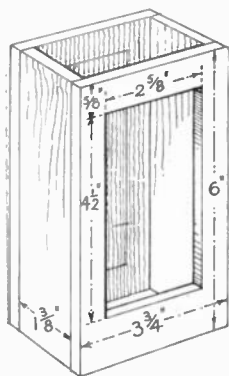


Fig. 3

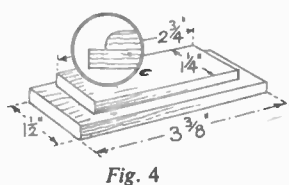


Fig. 4

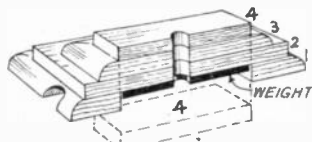


Fig. 2

issue has been devoted to full size patterns of the base of the lamp and the decoration which forms the front panel. Wood $\frac{1}{4}$ in. thick is used throughout and all the parts are simply glued together. There are two parts to the lamp, the base and the body section. The base is made up from the three pieces 1, 2 and 3 in the pattern sheet, piece 4 being got

measurements for setting out the four parts. Note the oblong opening in the front. This will later be backed up with a piece of wood measuring $4\frac{1}{2}$ ins. by 3 ins. and it is to this piece that the decoration is glued.

A door may be made in the back of the body by cutting round to the outline shown and then replacing the

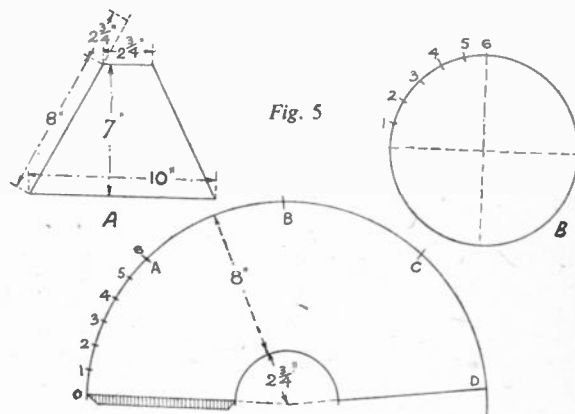


Fig. 5

to purchase a suitable shade for the lamp, but for those who wish to make one, details are given here. Any size of cone-shaped shade may be set out from the directions given. Say, for the sake of simplicity, that we require a cone made to the shape (A) in Fig. 5. The first thing

(Continued on page 338)



Cold Glue

CAN I have a recipe for making cold glue, please? I want to use it on parchment to stick stamps on same. (P.B.—Cork).

THERE are many cold glues; a simple form consists of ordinary flour boiled in water to form a stiff paste and a small amount of glycerine and a trace of oil of cloves well stirred into the paste. Another glue is composed of a solution of ordinary Scotch glue to which a quantity of glycerine is added, the surplus water is expelled by boiling and the residue used as glue. A third glue is composed of one part of sugar dissolved in four parts of glue solution. A photo mountant is composed of one part of glue solution, dissolved in ten parts of alcohol, and adding one part of glycerine.

Seconds Clock

IS it possible to convert an ordinary alarm clock into a seconds clock? I have made a small box room into a perfect dark room for photography, complete with a home-made vertical enlarger, and I have had perfect enlargements off a 2½ins. by 2½ins. negative up to 8½ins. by 6½ins. It is for this that I need a clock to register seconds. I have a spare clock in good order, but it has no seconds hand, so please tell me how to make the conversion. (H.L.J.—Canton).

IT is not a practical proposition to attempt converting a clock lacking a seconds hand, to a darkroom clock; apart from the work involved, the result is not quite satisfactory—the seconds dial being too small. We suggest you purchase a clock with a seconds hand from a watchmaker—one of the old pattern would serve and should be cheap. Conversion is quite easy with the following methods. Remove dial, glass and hands from the clock, and fix it with angle brackets to a 7in. square of plywood, with a ½in. hole bored in its centre. Fix the clock with the spindle of the seconds wheel in the centre of the hole, and glue the dial to the plywood front. Block out the present numerals, and print in place numbers 5-10-15 to 60, indicating seconds. To the stem of the seconds hand, solder a 5in. by ½in. strip of thin brass or tinplate, each end tapered to a point. Bend the two sides of this upwards, in line with the stem, then fit to the spindle. The two ends of this

pointer are then outwards over the dial, and the end not wanted as a pointer, folded over once or twice to shorten it. Fit the glass on, in a wood frame, and paint the pointer red or black and you will own quite a good seconds clock for your dark room at little expense.

Call Signs

PLEASE let me know where I might be able to obtain a book giving the Call Signs of all radio stations, including amateur, etc. (F.M.—Limerick).

VARIOUS lists and publications containing call-signs are published, but these tend to become out-of-date, especially as regards overseas stations, in time. If you are interested in radio as a whole, the Radio Society of Great Britain, 28 Little Russell Street, W.C.1 would help you; if your interest is primarily in Short Wave stations, the British Short Wave League, 53 Victoria

Street, S.W.1 would be more suitable. These societies provide certain facilities for the identification of stations, etc., and also issue various lists and other publications. If you write directly to overseas stations, upon hearing an English announcement, many will forward details of their broadcasting schedules, etc.

Painting Aluminium

I LIVE in a converted double-decker bus, the exterior of which is aluminium. Can you please tell me how to paint it so that the paint keeps its face? I have painted it twice with ordinary paint, but after about two months it goes dull. (K.A.—Cheadle).

IF it is possible you have used paint for the sheeting with a white lead base—quite unsuitable for aluminium. We suggest you remove the old paint and slightly roughen the surface of the metal with emery cloth. Over this apply a coat of aluminium paint, which usually adheres well to any metallic surface and provides an excellent undercoat for ordinary paint. You could then apply a coat or two of any coloured paint preferred, or one coat of flat paint and a finishing coat of clear exterior varnish. We think this will cure the trouble.

WORKSHOP NOTES AND HINTS—14

ON EVEN KEEL

ONE has to be extremely lucky (or skilful) to complete a four-legged stool, chair, table or similar article and find all legs perfectly adjusted and that the article stands firm without a wobble. Usually a trifle has to be taken off one or more legs to ensure an 'even keel'. We often see plant stands, and the like, with a wad of paper under one leg. This looks very unsightly and is not a practical propo-

make matters worse instead of better. Plenty of pictorial humorists have made play of the man who removes too much from an over-long leg, thus making the other three too long, and then, in adjusting these, makes the other leg too long or too short again, thus gradually reducing a 3ft. high table to an 18in. high stool!

The main requisite is a flat surface on which to test the article. The top of a dining room table usually serves quite well. By placing the smaller table on it one can easily tell if one leg is too short and can slip in a piece of lino, rubber from an old rubber sole, or something similar, to level matters up. This pad can be nailed on and neatly trimmed to shape afterwards.

Where, however, one leg is longer than the others, it is better to trim a bit off this. Here is a good, safe way of ascertaining how much to cut off. Arrange matters as in the diagram herewith. Keep three legs on the main table top and let the long leg overlap the edge. One can then mark off the amount of overlap and saw accordingly.

Before condemning a wobbly table, etc., make sure that you are testing it on a level surface. Apart from the nuisance of a wobble, a chair with uneven legs has uneven strains put on it. (322)



sition where an article has constantly to be moved, as in the case of a chair or needlework stand.

The levelling-up process needs to be carefully done since it is very easy to

A Simplified Model of a Sailing Barge

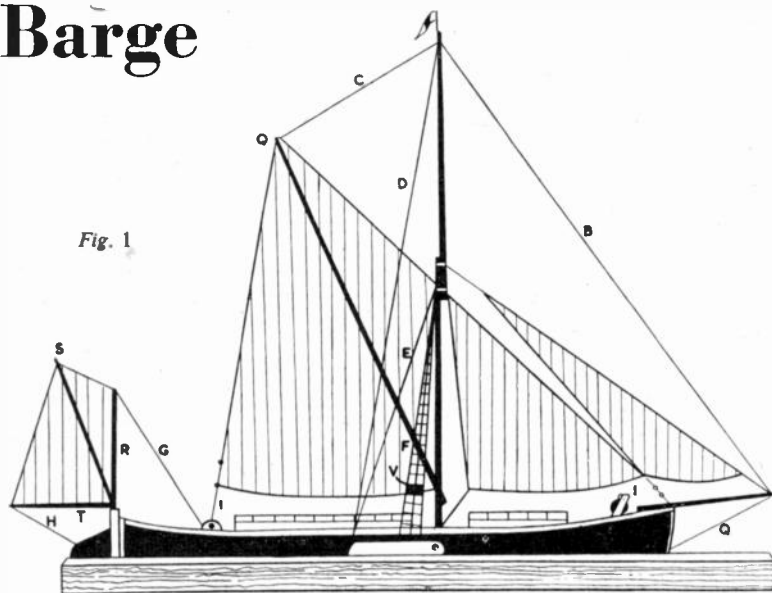


Fig. 1

THE best way to make a start on the construction of this little model is to saw and plane the baseboard (A) to the dimensions shown in the Part List—noticing that the board has a $\frac{1}{8}$ in. by $\frac{1}{8}$ in. chamfer on its upper edges. A piece of wood 7 ins. by $1\frac{1}{2}$ ins. by $\frac{1}{8}$ in. is used to make the hull block (B) which can be worked with a fretsaw and filed to the shapes shown in the diagrams Figs. 1 and 2.

Although the deck is flat in the region of the hatch covers—the hull-block has to be reduced from a thickness of $\frac{1}{8}$ in. at the stem end and $\frac{1}{4}$ in. at the stern to the thickness of the flat portion just mentioned—namely $\frac{1}{8}$ in. A file is the best tool for this job, although the top surface will need to be finished with fine glasspaper.

The hatch-covers are made next. These are simple rectangular shapes but

the lower surface of the forward hatch-cover (D) needs to be shaped to follow the general line of the deck. This process is accomplished by placing a piece of glasspaper (smooth side down) on the forward part of the deck and—using the deck as a template, work the hatch-cover from side to side across the deck until it is a snug fit.

The next part of the job consists of making the sails and fittings shown in Fig. 4. The sails are made from linen-faced notepaper which should be of a cream tint in preference to other colours. All the dimensions are shown in the diagram and the only point worth mentioning is that the arc at the lower edge of each of the sails is $\frac{1}{4}$ in. deep at the middle of its course.

The other parts are made of wood, card and paper to the sizes and shapes shown in the diagrams and Part List.

PART LIST			
A.	Baseboard	9" x 3" x $\frac{1}{8}$ "	Wood
B.	Hull	6 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x $\frac{1}{8}$ "	Wood
C.	Hatch cover (aft)	2 $\frac{1}{2}$ " x 1" x $\frac{1}{8}$ "	Wood
D.	Hatch cover (forward)	1 $\frac{1}{2}$ " x 1" x $\frac{1}{8}$ "	Wood
E.	Lee boards (2)	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " x $\frac{1}{8}$ "	Card
F.	Main sheet horse (ends) (2)	1" x $\frac{1}{2}$ " x $\frac{1}{8}$ "	Card
	Main sheet horse bar	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wire
G.	Rudder	1" x $\frac{1}{8}$ " x $\frac{1}{8}$ "	Wood
H.	Wheel	1" dia. x $\frac{1}{8}$ "	Card
I.	Winch (sides) (2)	1" x $\frac{1}{8}$ " x $\frac{1}{8}$ "	Card
	(Wheels, etc.)	see detail sketch.	
M.	Main mast	3 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wood
N.	Top mast	3" x $\frac{1}{8}$ " dia.	Wood
O.	Cross trees	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wire
P.	Pendant	1" x $\frac{1}{8}$ "	Paper
Q.	Main sprit	5" x $\frac{1}{8}$ " dia.	Wood
R.	Mizzen mast	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wire
S.	Mizzen sprit	2" x $\frac{1}{8}$ " dia.	Wire
T.	Mizzen boom	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wire
U.	Bow sprit	1 $\frac{1}{2}$ " x $\frac{1}{8}$ " dia.	Wood
V.	Navigation light boxes (2)	1" x 1"	Paper

The main-mast (M), topmast (N), main-sprit (Q) and the bow-sprit (U) are all made from wood $\frac{1}{8}$ in. diameter and made to taper slightly by rubbing down carefully with fine glasspaper. The mizzen spars (R), (S) and (T) are of somewhat lighter construction and

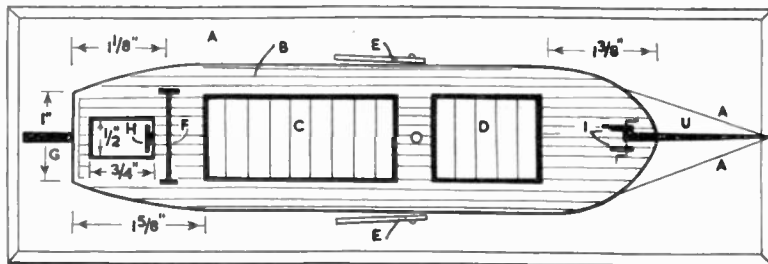


Fig. 2

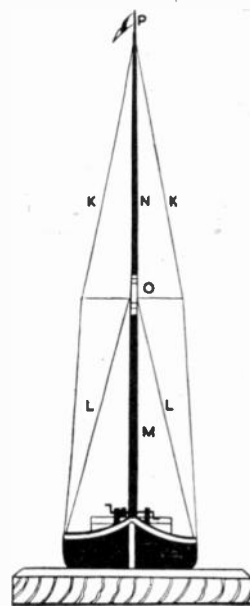


Fig. 3

More worthwhile hints on successful HOLIDAY PHOTOGRAPHY

SOME years ago an effort was made by interested persons to ascertain how many cameras were in use in Gt. Britain and how many films were exposed each year. The figures given were, obviously, only approximate, but, even so, they were most surprising, and, as the hobby has grown in popularity since those days, I cannot help feeling that if a census were taken now, the totals would be even greater.

Lot of Cameras

It was assumed that round about ten million cameras (one for every family) existed, and that the average number of spools used by each owner was about two and a half per year. Some of these represented eight exposures, others twelve. So, for our calculation, let us assume ten exposures for every spool, which means an average of twenty-five for every one of the ten million cameras. 250,000,000 exposures!

That is a colossal figure, and yet one is inclined to think that the average number of spools given seems a very low one. If this is fairly correct, then it just confirms the opinion that a very large number of so-called amateur photographers are only camera users during that fortnight of holiday making—and as the majority of holidays are taken during August, it follows that more 'clicking' is going on this month than at any other time of the year.

There is much to be said for holiday photography, for it does offer everyone a great variety of subjects ranging from beach scenes to architectural, or from the family picnic parties to the sedate tree or woodland scenes. With such a choice it is fortunate that the weather is usually fine and the light constant, otherwise the proportion of failures would be considerably higher than it actually is.

Exposure Hint

About ten years ago I was very interested in a series of exposure tables appearing each month in a photographic journal. On referring to these I notice that for the month of August it states that the exposure times given should serve as a guide for any fine day in the month between the hours of 10 a.m. and 4 p.m. My experience proved this to be very satisfactory, so I will pass on the suggestion. As examples, let us consider an ordinary landscape with not too much heavy foliage, or a river scene, or some friends in an open field. Now, if the



An interior view of Chester Cathedral

film in use is H.P.3, which is in the group known as Extreme Speed, and the stop you are using is $f/8$, then the exposure required is about $\frac{1}{125}$ sec. If the film is of a slower grade like Selo-chrome or Kodak Super-X, then $\frac{1}{60}$ th is correct. After 4 o'clock up to about 6 o'clock these exposure times must be doubled.

I would advise everyone to make a note of these figures, as they can be used as a very useful guide. Of course, one must take into account variations in both light and subject, and a little thought concerning the actual conditions prevailing will often reveal something that necessitates a slight modification of the exposure.

Interiors

There is one particular subject I wish to refer to this month. It is interiors. When we are on holidays, we usually find our way into some beautiful church or cathedral and I, for one, am very keen on including some efforts at interiors in each of my holiday collections. I quite agree that it is usually possible to purchase a postcard of the particular building giving a much better result than mine, but the fact remains I shall get greater satisfaction from my own record.

The knotty point we must all consider before taking a church interior is the exposure time. Having selected the spot where the camera is to be perched, I then take stock of all spots of bright light (such as windows), and also of any heavy shadows. I have found it is best to

avoid the direct light of the former, but this is not always possible or advisable, because a coloured window is so frequently a main feature of an interior. It may happen that the sun is not shining on that side of the building during your visit which might be an advantage; but in any case do not be deterred from making a shot, even if the window cannot be excluded.

A Difficulty

One of the difficulties is to find the most satisfactory spot to 'perch' the camera and, unless you have a tripod, you will have to devise some sort of resting place on the back of a bench, scrounge a table, or even use the font. The best tip that I can give you on this subject is: contact the vergor or even the vicar. I have found them most helpful and have been surprised how willingly they offer advice. In many instances they have proved to be amateur photographers themselves and of a very good standard. In any case make sure that the camera is perfectly level, otherwise the pillars, etc., will be out of parallel in your result.

Reverting to the question of windows, it is sometimes possible to get some most beautiful effects with rays of light from a side window in a transept where tombs, statues and memorials are usually placed. A wonderful and most pleasing example of this combination of light and statuary was exhibited a few years ago at the Royal Photographic Society's Exhibition. Its principal feature showed the tomb of a bishop, in the

side aisle of one of our cathedrals, flooded with rays of light from a close-by window. The result was, undoubtedly, a real picture and the artist had given it the right title: 'Until the Day Dawns'. It may have been a lucky exposure, but I can imagine the photographer getting an inspiration when on a visit to the cathedral, finding out the time of the day when the sun would be on that side of the building and then returning to secure his picture.

I mention this instance because it does demonstrate that when one talks of interiors it does not always mean the taking of a number of pillars and arches or some beautiful architectural piece. Some of these glorious and ancient places of worship can show us many pieces of carving in pulpit, lectern, choir stalls, etc., delightful subjects for the camera if you can spare the time.

Historical Details

I have always found that if you want to make this type of photographic print really interesting to your friends it is most advisable to be able to quote some historical fact either concerning the church or the actual subject. It is the sort of information that is found in the small guide books, costing three-pence or sixpence, usually to be obtained at the West end of the church, and a really interesting collection can be made of these booklets.

When spending holidays in a different and, perhaps, strange part of the country, one is frequently attracted to some novel and ancient piece of work. It may be a building or monument or a special feature of the town, or, possibly, it might be a peculiar form of vehicle. Whatever it is, it has something exceptional about it that has definitely interested you, although it is quite commonplace to the people who live in that neighbourhood.

Why not take a snap of it? We older amateurs are often annoyed with ourselves for not photographing some of those commonplace objects which at one time were a daily sight in our streets. How valuable some views of places and buildings that have been bombed out of existence would be to-day, and how much we should enjoy showing prints of the old horse buses and trams, or of the first motor cars, or even those old milk-floats with the well polished churns. And that old house which protruded on to the pavement and had to be pulled down when the High Street was widened—and the many other items that have disappeared in the last generation. Younger folks should be on the alert for anything that seems to suggest that it could be improved. You can be pretty certain that it *will* be in a few years time, and you will wish that you had a snap of the old version

among your records. It would be gladly accepted by the editor of a journal, especially if you could give a few interesting facts concerning it. But be sure of such facts.

Photographers See More

Most keen amateurs will agree that a photographer sees a good deal more on a ramble than the person who is not interested in the hobby, and many examples proving this can be given. The following is outstanding. Towards the end of the last war I was spending a few days in N. Wales and on one ramble the party passed a spot where a number of trees were being felled. The work was being done in what I thought was a most skilful manner, so I let the party go on without me. In a few minutes I was in conversation with the foreman and got his permission to make a few exposures. They were very successful, and have made a useful addition to my collection. Most have been used for illustrations—and when

them. Please do not forget your promise to send a set of the prints to the farmhouse in appreciation of the kindness shown to you.

Markers

Another source of good camera subjects is the old time market, where cattle and sheep, vegetables, fruit and all sorts of farm produce, together with many other things, are on sale either from stalls or in the auction ring. Look out for those little groups discussing the merits of a certain bull or pig. You will not have to wait long for a splendid snap or two of a keen argument being forced home by facial expression and arm action. Be near at hand while the auctioneer is trying to get a record bid for some special lot. Often he keeps the crowd in a happy frame with some good jokes and bids begin to get exciting. Have the camera ready then, and you will not be disappointed. Always remember that these open markets have a touch of the ancient about them,



Machine logging trees felled in N. Wales

the foreman received a free set of prints, he immediately ordered more for his gang of workmen.

Harvest Time

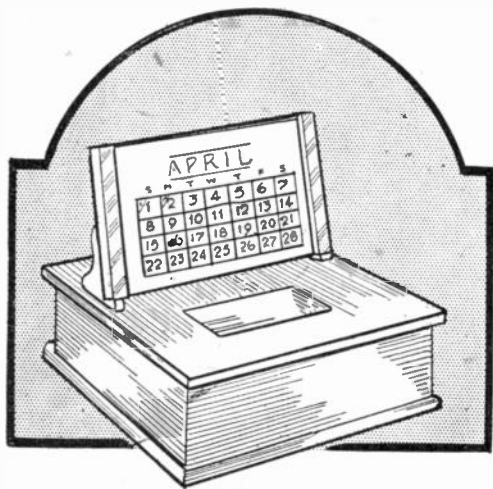
Should any harvesting or other farm work be in progress in the neighbourhood, take an opportunity to do some trespassing. Let the farmer see that you are interested, and usually he will become as keen as you are and give you permission to go where you like. You can be sure that something is wrong with you if you cannot get three or four really worthwhile snaps of real country life. Some of the mechanical devices used nowadays on farms are not so pictorial as those glorious 'shire' horses of the old days, but there are still some of the latter about, so keep a watch for

and some are altering each year. (454)

Improved Weather Glass

Here is a weather glass a reader has found to be quite accurate. All you need is a vial used for tablets, with screw cap as well. Put a very small hole in the middle of the cap, and next get a piece of tin about an inch wide and 4ins. long. Bend the tin to fit round the vial and hold it to a wall, and next fill the vial full of water. Attach to the wall with the vial cap downwards, and the weather glass is complete. When it is going to rain, the water will begin to drip, and when it is fine no water will drip.

A Dressing Table Box with a Stud Holder



HERE is a neat and useful little article made in perspex, which contains a receptacle for holding those elusive articles of attire—studs. The cavity is semi-circular in shape, enabling the studs to be easily picked out when wanted, and the box has accommodation for an emergency supply should those in use break or become lost. The whole is completed with a date pad to indicate the date when dressing in the morning. Such an article is not only useful to oneself, but makes a welcome present to a friend or for a Church bazaar.

The Parts

The parts of the box are detailed in Fig. 1, (A) being the box itself, with one side removed, and (B) the lid. Perspex $\frac{1}{4}$ in. thick is recommended for the work, and there are many pleasing tints of this material to choose from. Of course, the article can be made from $\frac{1}{4}$ in. fretwood, to suit those more experienced in wood working. Perspex, as bought, is covered with paper, and the dimensions of the box parts can be conveniently pencilled on it. After sawing out, the paper can be stripped off quite easily.

Cut the four sides of the box and file the edges square. The bottom of the box is cut $\frac{1}{4}$ in. larger all round so as to extend beyond the sides. File this extension quarter round. Now cement the sides of the box together, then cement the bottom on. Let the cement harden, then file the corners square and

level also the top edges. Finish the work with a good polishing all over. If care in cutting out has been taken, practically the edges only will need polishing.

Cut the lid of the box (B), and where indicated in the drawing, saw out the rectangle. This is the opening to the recess for the studs. The edges of the lid are filed square, and it is a good plan to round off slightly the upper sharp edges of the rectangular opening and make it more comfortable to the fingers when picking out the studs.

To form the recess, two pieces of the perspex are sawn out to the semi-circular shape depicted at (D) in Fig. 2, then a strip of the same material bent round them. This strip should be

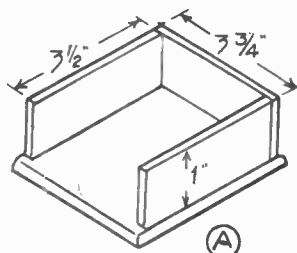
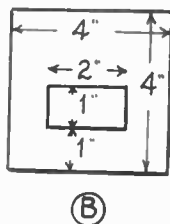


Fig. 1



2 1/2 ins. long and approximately 1 1/2 ins. wide. Heat it in the oven or over a gas jet or other source of heat. It soon softens, then bend it round a 1 in. diameter wood rod, broomstick for example. When cool it will retain its shape. Fix the parts (D) with cement at each end.

Filling the Edges

When the cement is really hard, file the top edges of (D) level with the sides of the curved piece. Get all edges quite flat. This is important. Then cement the whole to the lid, underneath the opening, as at (C). The lid drops on the box, and is kept from sliding off by four corner pieces of the perspex (E) cemented in the corners, about where indicated by the marks seen underneath the lid (C). Position these carefully by previous measurements to ensure a close fit.

Date Pad

The date pad fitting is, of course, optional, but worth the trouble of adding, not only for its usefulness, but also as a slight embellishment. The parts for this are drawn in Fig. 3, and consist of a holder (F), with a pair of supporting brackets (G). No dimensions can be given, as the holder must be made to suit the particular size of date pad in possession of the reader. The most useful of the pads are those of the perpetual variety, printed on celluloid sheet. A set could probably be obtained or ordered from most stationers.

Alternative

Alternatively, the pad from a Christmas almanac could be utilised, and, of course, replenished annually. The construction of the holder will be easily ascertained from the diagram. A back piece, $\frac{1}{4}$ in. longer than the pad is made,

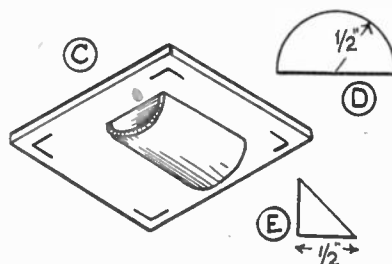


Fig. 2

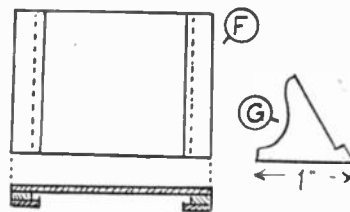


Fig. 3

and at each end $\frac{1}{4}$ in. wide strips of the perspex are cemented, the pad fitting between. Strips of the material, $\frac{1}{4}$ in. wide, and cemented over the previous strips to overlap them keep the pad from falling out.

The brackets (G) are cut to the shape, the slope being approximately 60 degrees, but this is not critical. Cement the bracket to the lid of the box, quite

(Continued on page 347)

An Old-Time Alphabet

MANY readers will welcome this reproduction of old-time lettering. It is particularly useful for galleon name-plates and can also be used for Christmas cards and cut-out house-names.

This particular letter is known as the 'Black Letter' or 'Gothic' and is still frequently used as an ornamental letter. Note that only the 'J' has been shown in the alphabet of capitals. The 'J' and 'I' are exactly the same.

For old-time galleon models the name should be printed in ink, preferably black indian ink, as shown in our illustration. Mark out in pencil first and finish off with a pen.

Cut-out Letters

If you wish to cut out the letters in wood, you should first enlarge the letters on drawing paper, then trace and transfer them to the wood. Plywood is the best wood to use, as the thinner strokes of the letters are less likely to fracture.

Drill the interior frets and proceed to cut out with the fretsaw, leaving the outline until last. If the letters are to be used outside, it would be better to cut them from sheet aluminium, which is much more durable, and cuts just as easily as wood. (M)

Prolonging the Life of Dry Batteries

A new lease of life can be provided for most batteries that have been discarded, by making a few holes in the black sealing mixture found on the surface, and soaking the whole cell in a strong solution of sal ammoniac. Then the cell is taken out, the surplus wet drained off, and the holes repaired with ordinary sealing-wax. This will make an old battery work for quite a long while.

The illustration shows the lettering used for a galleon nameplate



A B C D E F G H
I J K L M N O P
Q R S T U V W
X Y Z a b c d e f g h
i j k l m n o p q r s
t u v w x y z ' - ? ! &
1 2 3 4 5 6 7 8 9 0 . , ;

A Dressing Table Box with Stud Holder

(Continued from page 346)

clear of the stud recess, of course, then cement the pad holder to them to finish.

If Made in Wood

If the article is made of fretwood

instead of perspex, the sides of the stud recess (D) should be cut from wood quite 1/4 in. thick. The curved bottom part can be bent up from thin sheet metal, wide enough to leave a surplus

which can be bent outwards to form side flanges for fixing the metal to the underside of the lid. It is also nailed to the curved ends (D) as well. If brass or aluminium are used, the metal will need polishing only, but if a cheaper stuff—tinplate for example, a coating of enamel will be necessary to finish it off.

(WJE)

More Experiments with Aniline

WE devoted our last article on aniline to some of the dyes which this oil will form. Before going on to its other compounds it would be both interesting and useful to try out a few common tests.

Freshly prepared aniline is light yellow. If, however, you pour a few drops on to a watch-glass and leave it exposed to air and light, it darkens in a few days and later becomes thick and resinous. This decomposition tells us it must be kept in well-corked dark glass bottles if it is to stay unchanged.

Add 1 c.c. to 5 c.c. of water in a small bottle and shake. Most of the aniline remains undissolved. Add 25 c.c. of water and shake again. The oily drops of aniline disappear. Aniline is thus shown to be rather sparingly soluble in water. It is, however, very soluble in alcohol and chloroform, as you may see by adding 1 c.c. of aniline to 5 c.c. of methylated spirit or chloroform, when it dissolves immediately.

Solvent for Sulphur

There are not many solvents for sulphur. Aniline is one of them. To a little aniline in a test tube add a pinch of flowers of sulphur and warm. The sulphur dissolves, crystallising out again on cooling.

Dissolve one drop of aniline in about 50 c.c. of water. To half of this solution add a few c.c. of a filtered solution of chloride of lime. A splendid purple colour will appear. To the other half add copper sulphate solution. An apple green colour forms. These are two useful tests for aniline.

The green colour with copper sulphate is due to the formation of the compound aniline copper sulphate. It is worth while preparing this compound in the solid form, since it has a beautiful iridescent green colour.

Dissolve 6.7 grams of copper sulphate in 30 c.c. of hot water and let it cool. Shake 5 c.c. of aniline with 150 c.c. of water until dissolved. Mix the two solutions with rapid stirring, when the aniline copper sulphate will be precipitated. Add about 10 c.c. of methylated spirit to thin the semi-solid mass, filter it off and wash with 10 c.c. of meths. Then spread it on a porous tile to dry.

Aniline forms a similar compound with cobalt chloride; namely, aniline cobalt chloride. This is intensely blue. To prepare it, first dehydrate 6.4 grams of cobalt chloride by heating it in an evaporating dish until it no longer gives off steam and is blue.

After cooling, dissolve it in 35 c.c. of

meths. and, stirring rapidly, run in 5 c.c. of aniline. Spread the pasty mass on a porous tile, pour about 5 c.c. of meths. over it a little at a time and press it well down with a spatula until it is almost solid. Then dry it in a warm room. Bottle it as soon as it is dry, for it is slightly deliquescent if the air be damp.

Aniline is a base and forms salts. With hydrochloric acid, aniline hydrochloride is produced. This is used in the dyestuff industry and known as 'aniline salt'.

To prepare it, place about 10 c.c. of aniline in a beaker and stir in dilute hydrochloric acid until all the aniline has dissolved. If you now evaporate the solution to the crystallisation point and allow it to cool, aniline hydrochloride will crystallise out. Dry this on a porous tile. A further quantity may be had by concentrating the mother liquor. If you drop a few of the crystals into water you will find they dissolve very easily, and if you pour in a little sodium hydroxide solution, the compound will be decomposed and oily drops of aniline appear.

Many salts of aniline form new compounds on being heated. Aniline acetate, for instance, forms acetanilide. This you can prepare by mixing 10 c.c. of aniline with 15 c.c. of glacial acetic acid in a small (100 c.c.) round bottomed flask. This produces aniline acetate.

Boil Gently

Now attach a long glass tube to the flask to act as a condenser and boil gently over gauze (Fig. 1) for six hours. If you now pour this into 200 c.c. of cold water, a buff coloured precipitate of acetanilide will separate out. Filter it off and dry it. If you warm some with water it will dissolve and on cooling be deposited in leaflets. Acetanilide, under the name 'antifebrin', was once much used for reducing body temperature in fevers.

The salt aniline sulphate also changes on heating, sulphanilic acid being formed. To 18 c.c. of concentrated sulphuric acid contained in a small round bottomed flask add 10 c.c. of aniline a few drops at a time, mixing

well after each addition by revolving the flask. Cool the flask in a basin of cold water occasionally.

When all the aniline has been added, dip a thermometer in the mixture and heat it to 180 to 190 degrees Centigrade on a sand bath (with the sand heaped round the flask, as shown sectionally in Fig. 2) for four hours. Then add one drop to half a test tube full of sodium hydroxide solution. If no oily drops of

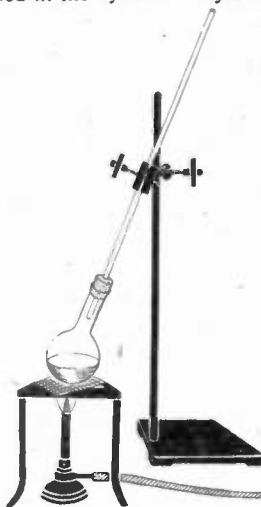


FIG 1

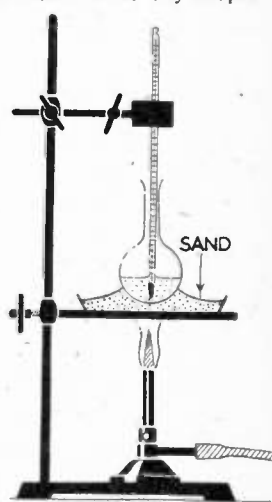


FIG 2

aniline appear, the reaction is complete; if they do, heat longer, testing occasionally until no oily drops form.

Acid Precipitate

Let the product cool, and then stir it gradually into 100 c.c. of cold water. Sulphanilic acid will be precipitated. Filter it off and dry it on a porous tile. Sulphanilic acid is used in manufacturing many dyes, the indicator methyl orange being one of these. Like acetanilide, sulphanilic acid is insoluble in cold water, but dissolves in hot water and on cooling crystallises out again. (LAF)

Keeping Paint Brushes

Expensive paint brushes can be made to last much longer if, after use, they are cleaned in turpentine and then rinsed in soda water and then in clear water. They can be re-shaped with the fingers, and if they are going to be put away, moisten the bristle with linseed oil. This will keep them soft and pliable.

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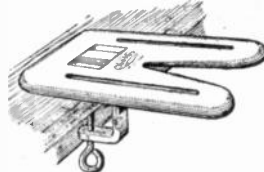
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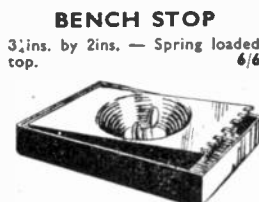
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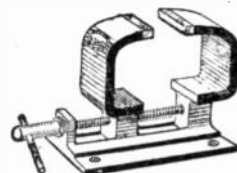
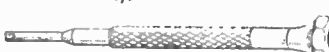


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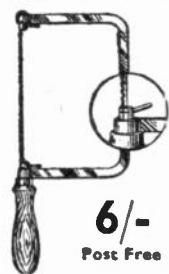
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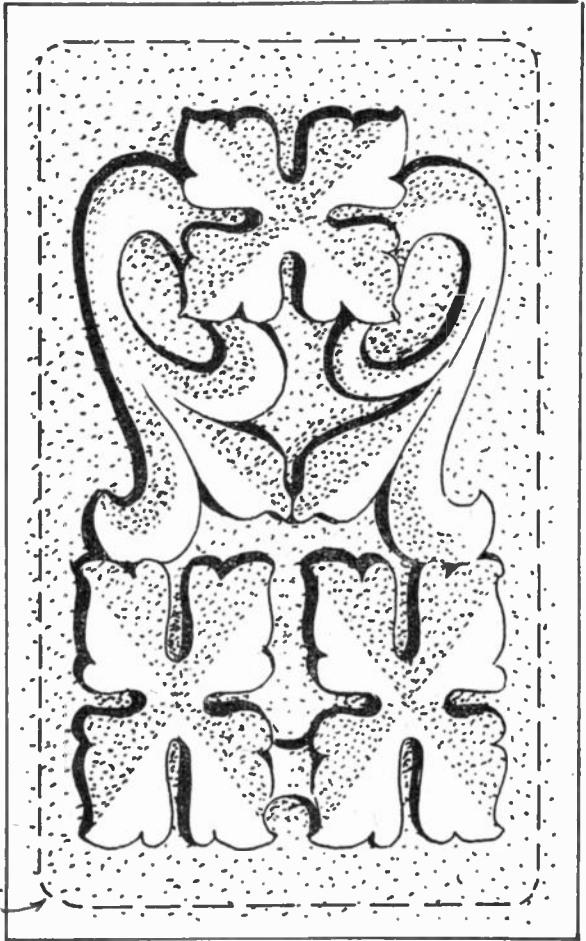
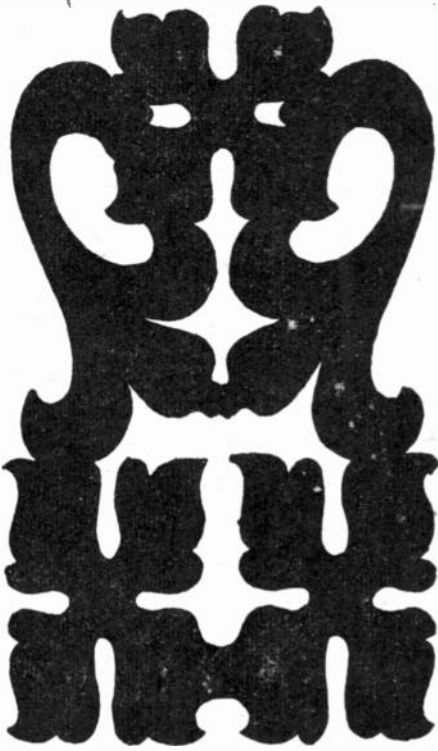
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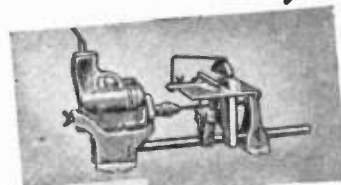


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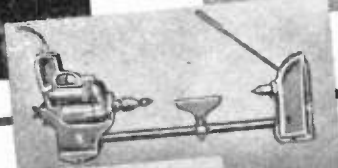
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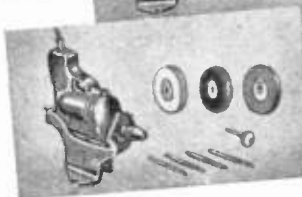


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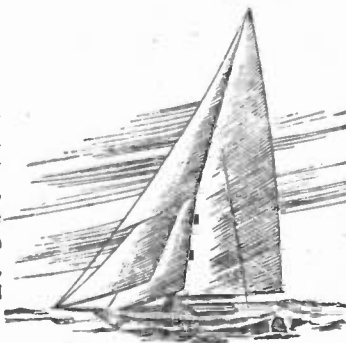


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