

Hobbies

WEEKLY



How to make a
*Folding
Canoe!*



AND FREE
FRETWORK
PATTERNS

May 22nd. 1937

2^D

Vol. 84. No. 2170

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HOME CRAFTSMAN'S JOURNAL



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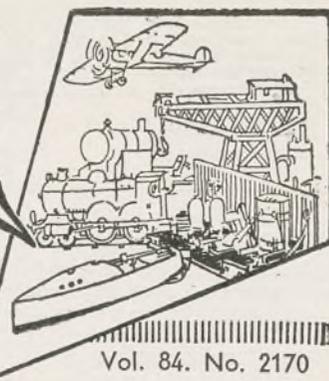
The Kit includes 14in. Aircrow, balsa, spruce, birch, gears, piano wire, 1½ yds. Jap Silk, "Durofix," 20yds. strip rubber, etc. and costs only 19/6; postage 6d. The design chart and instructions cost a further 6d.

A Flying Model
**LOW-WING
MONOPLANE**



Hobbies

WEEKLY



May 22nd. 1937

Vol. 84. No. 2170

THIS week's issue contains another batch of good things and proof that they are popular is shown by the number of readers who write and tell me so. It is very nice of you to do it, because then I know you are getting what you want. By telling me what you would like, too, I am able to get more good things ready for you.

And there are heaps of good things coming, believe me. Next week, for instance, you will all be making the Kite which I am telling you about, to say nothing of the Canoe, Punt, Beach games, Novel Models and so on which are coming along. So do be sure to take your copy every week so as not to miss a single issue. Oh! yes—just a word about model aeroplanes. Have you ever made one? A delightful game for the open air. Especially for those who have followed our recent practical articles on construction, parts, hints, etc. Well, just watch out!

THE Registrar of the Hobbies League has two points he wants drawn to the notice of readers, so I hope you will pay attention! He has received a letter complaining that members have not answered the letters sent to them by another member of the Correspondence Club. Now that's a shame, because if you have your name on our list and in our pages you should regard it as a matter of honour to reply to anyone who writes. This particular reader may have been unlucky, because I know most League members make excellent correspondents and many delightful and helpful friendships have been made in this way. Often the trouble is that there are so many letters to answer, and they get overlooked and forgotten. What would happen, I wonder, if I did that? Readers would jump up pretty quickly, I know! So if I think it may be some time before I can answer a letter satisfactorily I just acknowledge the

letter and say I will write later. So perhaps League Pen Pals can adopt the same process if they have been lax in this way previously. Just drop your friend a card to say you have heard and then write again when you have an opportunity later.

The other point for League Members is that there is now a League Transfer in bright colours which they can have as being suitable to add to their work. Its size is only $3\frac{1}{2}$ ins. by $1\frac{3}{4}$ ins. diamond in shape and costs $1\frac{1}{2}$ d. each, post free. Just the thing to fix to the back of anything you make to show you are a Member of a great world-wide band of organised and recognised workers.

THE National Eisteddfod of Wales will be held at Cardiff in August, 1938 and there are unusual competitions in the arts and crafts sections. Readers can write for details to the Rev. E. Ebrard-Rees at 1, Lanishen Cardiff. There are many prizes in sections which will particularly appeal to readers and the variety of sections is shown by the following list. In the open section there is Leather-work, Bookbinding, Glove-making, Upholstery, Jewellery, Pottery and Puppet-making. There are sections for Juvenile Instruction Centres, for the Blind, Social Service Clubs; for those under eight years of age and also for those under twelve. In the section for those under eighteen on March 31st, 1938, Wood-work and Metal-work. All these competitions are open to all readers of these pages.

CONTENTS

DESIGN—Tea Tray and Toast Rack

<i>Hints and Tips</i>	170
<i>How to make a Folding Boat</i>	171
<i>Small Tea Tray and Toast Rack</i>	173
<i>The Magic Bottle Diver</i>	174
<i>Simple Wind Vane Suggestions</i>	175
<i>Make a Cricket Set</i>	177
<i>Tea Tray and Toast Rack Patterns</i>	181
<i>Camera Focussing and View Finders</i>	183
<i>Readers' Snaps</i>	184
<i>Butterfly Hunting and Collecting</i>	185
<i>An Electric Clock</i>	186
<i>Railways, Real and Model</i>	187
<i>Replies of Interest</i>	188
<i>Clock Pattern Overlays</i>	189
<i>How to Identify Stamps</i>	191

Next Week's Design—Swing Photo Frame

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.

I WANT to thank the many readers who have sent me cuttings from local newspapers showing their model of the Coronation Coach. It is impossible to mention them all or, much as I should like to print the pictures in these pages. There can hardly be a town or district, however, where a model has not been photographed and shown in the local paper.

The Editor

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

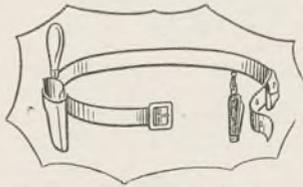
HINTS AND TIPS

WORTH KNOWING

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

Belt for Gardening Tools

HERE is a simple tip for gardeners. They only need buy a cowboy's belt as in sketch at



any cheap stores and in the place where the gun should be you can put a trowel or a pair of scissors, etc. Then put a knife on the clip and in the pocket you could put seeds.—(D. Earp).

Ink Stain Remover

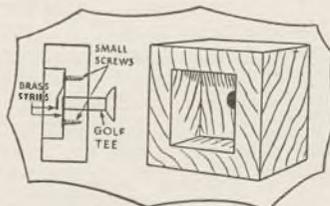
VERY often when a piece of polished woodwork is finished, one is disappointed to find it has been stained by ink having been accidentally spilled on it. A simple way to remove the stain is by rubbing with a mixture of vinegar and methylated spirits. This mixture will be found very useful also for general cleaning about the house.—(J. P. Keegan).

Soldering Tip

WHEN heating a soldering iron in the fire put it in a brass tube to prevent the iron getting dirty and covered with a rusty coating.—(B. Fryman).

A Simple Push

GOLF tee heads are useful for making electric bell presses and the only things needed are a golf tee with head about $\frac{3}{4}$ in. long, a block of wood $1\frac{1}{4}$ ins. by $\frac{3}{4}$ in. by $\frac{1}{2}$ in. The latter is hollowed out as



shown, and two pieces of brass strip $\frac{3}{8}$ in. by $\frac{3}{16}$ in. are added as shown in sketch. The spring strip makes contact with the second one when the tee is pressed.—(Charles Davies).

Rust Remover

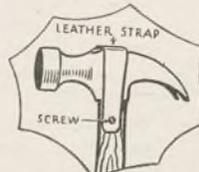
HERE is an easy and cheap way to remove rust. Get a small paste meat jar and put any sort of powder like "Vim," etc. to about half full. Then add the required amount of milk till it is a thick paste. Apply with a rag, rub it in, and finish up with a dry rag.—(R. F. Sanderson).

A Fixative

WHEN fixing pieces of baize or rexine for protection or for polished surfaces mix up some flour paste smoothly and add to the glue. This will make it far less liable to peel off.—(T. Craig).

For Carpenters

IT is a good idea to cover the top of a heavy hammer with a piece of thin leather as shown, so that if the head works loose it cannot fly off. Stretch the leather tightly over the head of the hammer and nail it to each side.—(G. E. Justice).



Drip Preventer

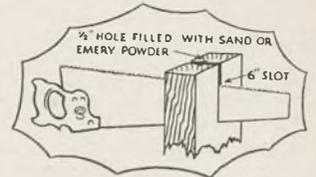
WHEN you set your sauce bottle on the table after using it you find that drops run down on to the tablecloth, thus making a dark stain. You can soon put an end to this with my simple device. Obtain a woolly type of pipe-cleaner and put this round the neck of your bottle so the drops of sauce absorb in it.—(J. Craig).

Nails in Plaster

HERE is a useful hint for readers. Very often nails in a plaster wall get loose; to prevent this, file notches in the side of the nail, and dip the nail in hot liquid glue before driving it into the plaster. Such a nail will hold well for an indefinite period.—(M. S. Varde).

To Remove Saw Stains

IN order to make a saw cleaner, fasten a piece of wood 3 ins. by 2 ins. in a vice. Bore a $\frac{1}{2}$ in. hole down the centre. Saw down



through the hole, then insert saw in cut upside down. Next, fill hole with sand or emery powder and water. To clean move the saw backwards and forwards and the action of the powder will do the rest.—(J. Miller).

Test Tube Vases

LARGE test tubes make useful vases and can be fitted to Hobbies designs. If cared they may be painted. I used a large tube and a smaller one in Hobbies Japanese Vase Holder, Design No. 2105 and they look very well.—(R. D. McKenna).

Model Liner Windows

A GOOD tip for showing the cabin windows on the model "Stirling Castle" or any liner is to paint a strip of paper black, then cut it up into small squares and glue them along the deck. Doors may be cut out as well in this way.—(H. Ormston).

Cycling Tip

HERE is a simple tip which will be appreciated by all cyclists. When cycling, the cold air rushes up the sleeve. To prevent this pull the sleeve tight



round the wrist and fasten with a trouser clip of the type shown in the illustration. This will keep the wrist and arm warm and dry.—(A. Gillard).

How to make A FOLDING BOAT

As a result of the many requests for this popular modern type of boat we give a complete practical article on its construction.

THIS is a pattern of boat very convenient for transporting from place to place and entailing no expense for storage. It is of light construction, and while naturally enough it is not made to stand rough usage, with reasonable care will give good service. As for the expense of making, even the most economically minded will not hesitate—a pound or less should cover it.

Fig. 1 shows a side view of the framework, less the stretchers which distend the sides. At a glance it will be seen how simple it is. All dimensions of the separate parts, not given in the drawings or text, will be found in the cutting list, also the most suitable timber.

The Keel

Trim the ends of the keel to a semi-circle, and in the centre of each semi-circle bore a hole for a 3in. wire nail. The lower ends of the stem and stern posts are also cut semi-circular, after which 2ins. is reduced to form a tenon. Cut a suitable slot in the ends of the keel and fix the stem and stern posts in with the wire nail as a hinge, as in Fig. 2, filing off the nail flush.

The block stop shown is a small piece of hardwood, glued and nailed to butt against each post to prevent them being drawn too far inward. The blocks are trimmed to an angle of 73 degs. on the side facing the posts to support the latter at that angle.

The gunwale batten has a ½in. hole bored in. from each end, and a right-angled cup hook is passed through each hole and screwed into the posts, as in Fig. 3. Do not screw the hooks in too far as a loose connection here is desirable.

The lower batten is connected to the posts in a similar manner, only instead of a hole being bored for the hooks a ½in. by 3in. slot is cut instead.

The stretchers, Fig. 4, are framed up at the corners as in detail, Fig. 5, a strong, well glued and brass screwed joint being necessary. The upper cross bar of each is cut to a curve from the solid. Cut from a

piece of 3in. wide wood so that the curve rises at the centre to 2ins. above the sides. The notches shown are ½in. by 1½ins., the battens lie in these.

At the centre of the lower cross bars bore a hole to take the shank of a 2½in. coach screw. Referring again to Fig. 1, at A and B, draw lines across the upper edge of the keel, just 15ins. each side of centre line, C, and on these lines bore holes for the coach screws.

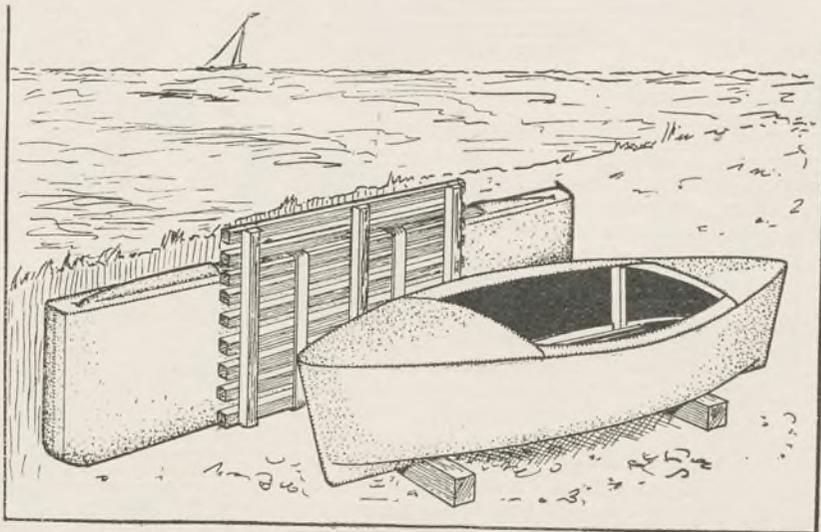
Put a washer on each screw, push through the stretcher rail and drive into the keel, as in Fig. 6, to fix the stretchers in place and allow them to be swung sideways when required.

These will force the battens outwards to give shape to the framework. When at right angles to the keel they can be locked in position by drilling a ½in. hole in the side pieces, say at D, Fig. 5, the hole extending into the gunwale batten, and pushing therein a split pin. Keep the pins from straying by securing each to the stretchers with a piece of whipcord.

Floor Boards

The flooring, Fig. 7, consists of a number of wood slats, fixed 1in. apart by cross slats underneath. The ends of the slats will rest upon the lower rails of the stretchers.

A low seat can be provided by sawing two blocks of wood to the shape shown in Fig. 8 and stretching tightly across a strip of canvas. The blocks need not be fixed, the weight of the body will keep them



from shifting, and the seat can be slid along to suit individual needs.

The whole of the framework should now be glass-papered and all rough edges rasped smooth, after which it can be covered with canvas. There are several varieties of canvas suitable for such a boat but do purchase a good quality; cheap stuff is a waste of time and labour.

Tarpaulin, at 3/- per yard, is quite good for the purpose and about 4 yards should suffice for the job.

It can be passed under the keel and temporarily fastened to the gunwale battens with drawing pins then drawn up at each end—the pleats being neatly spaced. A better method, which obviates any pleating, is to cut the canvas into two strips lengthwise, and fix to the gunwale batten with pins.

Then turn the boat over and drawing the edges together over the keel sew along the keel and up the posts. If this is done carefully and the canvas stretched properly no pleats will be needed.

Cut away the surplus to within 1in. of the stitching and sew this 1in. to the single thickness

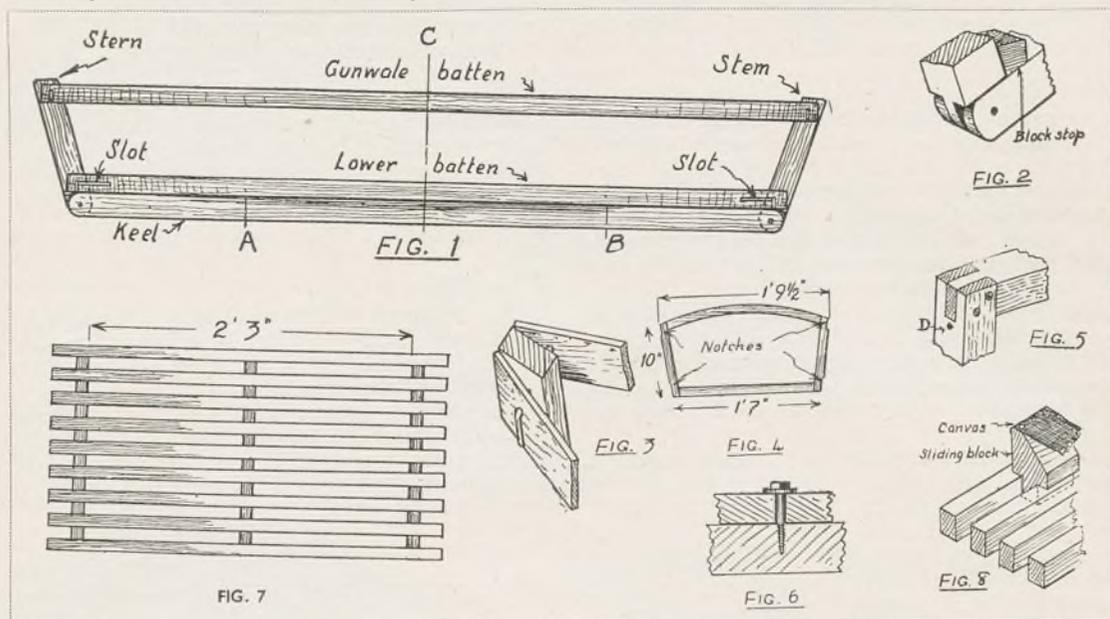
canvas as tightly as possible during the work of sewing. Finish off by hemming the cut edges of the cockpit opening. If this job is done carefully and the canvas is afterwards sprayed with water, to induce shrinkage, the result will be as taut as a drum.

Dress with Linseed Oil

The canvas, when dry, should be dressed inside and out with boiled linseed oil, to which a little driers has been added, to render it waterproof. When folding up for transport, withdraw the flooring and the split pins, then swing the stretchers in line with the keel. Fold the canvas of the top and bottom inwards and strap up all together.

If a slightly longer boat is preferred, such as might be more comfortable for a fellow with long legs, then the keel and battens can be cut 12ins. longer.

The stretchers can be the same size but their exact place on the keel should be found by experiment to distend the framework to a width of 2ft. 6ins. across the beam.



underneath. It will be necessary to remove the canvas for the second sewing. Use waxed thread for the job, and a strong needle.

Both can generally be got from a shoemakers. This done, stretch the canvas over the framework again and draw taut, keeping it so with drawing pins as before.

Fore and Aft Deck

Now cut the pieces of canvas for the fore and aft aprons or decks. These are connected together with 5in. wide strips, cut to the curve of the sides. This will be a more economical way of covering the top than using one long strip and afterwards cutting out the opening.

Sew the side canvas to the top stuff with an over stitch along one side first, then remove the drawing pins and sew the other side, drawing the

Portable boats of this description are easily managed after a little practise, but unless in shallow water, no fellow is advised to start learning to handle such a boat or a canoe without first learning to swim.

CUTTING LIST

	No.	Length.	Width.	Thick-ness.
Oak—				
Keel	1	5ft.	2ins.	1in.
Posts	2	12ins.	2ins.	1in.
Hickory or Ash—				
Gunwale batten ...	1	5ft. 11ins.	1½ ins.	½ in.
Lower batten ...	1	5ft. 5ins.	1½ ins.	½ in.
Oak or Beech—				
Stretcher sides ...	4	10ins.	1in.	1in.
Stretcher curved rails	2	1ft. 9½ ins.	3ins.	1in.
Stretcher bottom rails	2	1ft. 7ins.	1in.	1in.
Flooring slats ...	9	2ft. 8ins.	1in.	1in.
Flooring cross slats ...	3	1ft. 5ins.	1in.	1in.

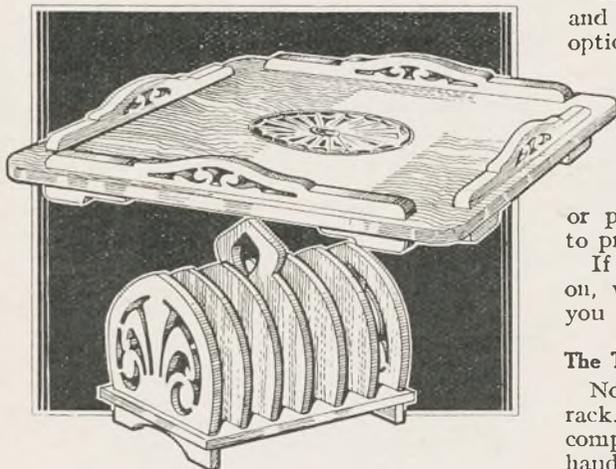
The FRETWORKER

A SMALL TEA TRAY AND TOAST RACK

THE patterns on the centre pages of this issue provide the fretworker with the making of two quite handy little articles for the home. There is not a great deal of cutting to be undertaken, nor is a large amount of wood required.

Indeed, Hobbies supply a complete parcel of all the necessary boards planned ready to the size needed. One big advantage of this is that the edges of the boards are cut perfectly straight so the patterns can be pasted down with one of their edges alongside and so save cutting.

Notice the direction of the grain on the patterns concerned before pasting them down to the necessary wood. All of it is $\frac{1}{4}$ in. thick and the construction is clearly seen from the pictures. The tray itself is a solid piece consisting of a piece



10½ ins. wide and 15 ins. long. This is the size of the mahogany panel supplied by Hobbies, which lends itself particularly to stain and polish for an excellent finish.

Get the baseboard out first, then the four pieces forming the edges. These are the long narrow strips which are cut according to the pattern, then cleaned up. Be very careful to get the long straight edge quite true because this has to stand down to the baseboard itself.

Corner Feet Pieces

As can be seen from the picture of the completed tray, these edging pieces do not extend the whole distance, nor are they fixed flush with the edges. All of them should be set inwards about $\frac{1}{4}$ in. so the ends of the edges come 1 in. inwards from the sides of the tray. Eight little feet are required to lift the tray, and these are cut the shape shown. Notice that four of them are shorter than the others.

The former come below the end pieces, whilst the longer ones are under the side strips. They are glued and screwed immediately in line with the upper edging, but, of course, come beneath the base of the tray itself.

The Edging Strips

The detail herewith shows these strips glued in place, and the additional screw which is run through the narrow part to hold them more firmly.

This screw, indeed, can be long enough to pass right through the tray itself, and into the edging strips above. Indeed, it is a good plan to have screws driven through into the end strips because these parts form the handle, and should be fixed very securely.

The tray is decorated by a transfer in the centre and reference to Hobbies Handbook will give an option of several likely ones. The diamond or square or elliptical transfers about 3 ins. long are quite suitable, and further to these, one can add the fancy corners provided for such work. The transfers are, of course, put down after the wood has been stained and polished and the final coat of varnish or polish given over the transfer to fix it, and to prevent scratching.

If you are not quite sure which transfer to put on, write to Hobbies about it and they will let you have a list of suitable ones.

The Toast Rack

Now we can turn our attention to the toast rack. This, too, is quite straightforward, being composed of a base, six partitions and a central handle, the whole being provided with feet beneath. Here again the wood used is $\frac{1}{4}$ in. thick and full size patterns are provided on the centre pages. Half the base only is shown, however, but it should be a simple matter to trace them off with carbon or transparent paper.

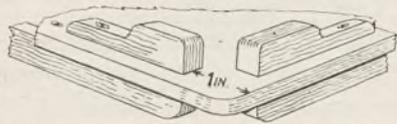
The base is cut to the outline, then the various mortises at A and B are taken out. Be sure to get these edges large enough to hold the upright pieces and cut them on the small side rather than too large. A good plan is to cut the upright pieces first, then test them out between the printed lines before actually cutting the wood. The parts themselves are all of the same outline, but the interior work varies slightly.

The centre one has a handle and has in addition to the tenon at B, a central opening for the fingers

WOOD SUPPLIED

Fretwood—
For making these designs we supply a panel of mahogany and other wood 2/9, post free 3/3.

at the top. Glue this into the centre mortise in the base (B). On each side of this central handle there are two plain uprights which go in the base at A.A. These four pieces have no interior work at all, but are cut to the same shape as the end portions.



A detail of the tray edging set back

The two end pieces themselves, however, have a small

amount of fretted work to be cut in them before they too are glued in the mortises at A.

If you wish, of course, you can back up this end fretwork by a thin piece of plywood again cut the shape of the outline of the part itself. Get all tenons glued rigidly in place and finally add two small feet cut to the shape shown. These are glued immediately underneath the outermost rack where the tenon A fits.

In this instance, of course, you will not varnish or stain or do anything to the wood after it has been finally given a thorough rubbing down with glasspaper.

THE MAGIC BOTTLE DIVER

THIS mysterious and interesting toy not only provides an endless amount of amusement, but illustrates many of the laws by which the operation of underwater apparatus is governed. It may be put into working order in a few minutes, and costs but a penny or two to make.

Suitable Bottle

First of all get a tall bottle with a fairly wide mouth—a quart milk bottle answers the purpose admirably—and wash it thoroughly inside and out. Next you must obtain a little doll made of celluloid, or a hollow lead figure—a lead soldier might be found to answer—but it must be fairly light. A large hazel-nut or a small walnut, with a length of fine wire and a piece of cycle innertube, completes the necessary equipment.

The Doll Diver

Take the doll in hand first and drill a tiny hole in the top of its head, then with oil paint, do your best to make it resemble a deep-sea diver—something after the manner shown in the sketch. Drill a hole at both ends of the nut and remove the contents by breaking the kernel up into tiny pieces and shake them out through the holes.

Now take the short length of wire and push one end into the hole in the doll's head; securing it in place with a touch of sealing wax; the other end to be passed right through the nut and twisted into a knot so that it will not draw through. The upper hole should be sealed with wax to secure the wire and render the hole watertight. The lower hole, however, must be large enough to allow water to enter and fill the interior of the shell.

Air and Water

The bottle is filled nearly to the top with water, a fair amount of air-space being left as shown. Now place the nutshell into water so that it is nearly, but not quite filled, and place it carefully into the bottle; care being taken to make sure that while so doing, the air that is in the shell along with the water is not allowed to escape, but slips up to the top of the shell as it is inverted.

The diver should sink into the bottle sufficiently to allow just the upper part of the nutshell to appear above the surface—again take a look at the sketch. This is most important, for unless the nut is correctly balanced with the doll, the toy will not function properly. Adjustments may be made by adding or taking away a little water from the shell—the smallest drop making all the difference.

A celluloid doll may be too light and this may be corrected by fixing thin strips of lead to the feet with shellac varnish—adjustment being then made as to correct depth by gently scraping away a little lead at a time until satisfactory.

A Rubber Top

Having obtained the correct balance, stretch a piece of thin sheet rubber tightly over the mouth of the bottle and tie it firmly around the neck. Make the rubber very tight by drawing it down under the string, for it is very important that no air must now enter the bottle.

Your diver is resting near the top of the bottle, but if you press gently on the rubber he will dive down to the bottom—remaining there until the pressure on the rubber is released. Movement is regulated by varying the pressure on the rubber; slow, gentle pressure will send the figure to any desired depth easily, while a quick, sharp jab will send it darting down, to rise with a flash again to the surface.

The Secret

The secret of the whole thing lies in the fact that, while air can be compressed, water cannot, and the pressure on the rubber while compressing the air in the bottle forces a certain amount of water into the nutshell, thus increasing its weight and causing it to sink. As the pressure of the finger is released, the tiny amount of extra water flows out, again reducing the shell to its normal weight and causing it to rise again to the surface.



SIMPLE WIND VANE SUGGESTIONS

MANY readers will welcome the opportunity of making a small wind vane and indicator for their garden, because these are always useful and pleasing adjuncts to one of any size. In this connection, too, the fretsaw is quite helpful because the actual parts can be cut out in wood or metal by this means. Wood is quite satisfactory providing it is coated with varnish or painted to make it weather-proof.

If cut in metal, Hobbies metal cutting fretsaw blades can be used, and iron, brass, soft steel or similar material can be cut from sheet form. The metal can be obtained from any ironmongers, and this, too, is best painted over when finished. Suitable colouring is black as this will make the silhouette of the outline stand out more strongly.

Some idea of the finished indicator is given here, and as can be seen, it consists of the directions, north, south, east and west, and a swivel top piece which points the way from which the wind is coming.

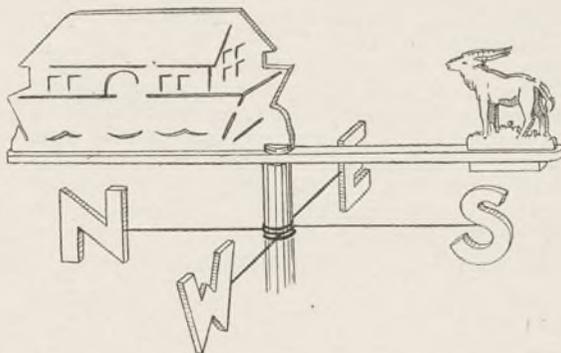
On Ball Bearings

The great need is, of course, to get the direction pointers accurate, and to see that the weathervane itself acts freely on a pivot. It must be able to swivel round to the lightest breeze, and for that reason it should be fitted with a ball race of some kind.

These are obtainable from a cycle shop or a complete one set in brass is found in the ball bearing pitman obtainable from Hobbies for 3/6. As bought, this pitman has a long arm of cast brass and this should be cut off so that only the circular end with its ball race centre remains. This complete bearing must be let into the crossbar which holds the vane, and a hole $1-1/16$ in. in diameter bored accordingly.

The Base Bar

This flat crossbar must naturally be wide enough to carry this, but can be thinned down on each side of it to the rest of the length. It need



A completed indicator with Noah's Ark

only be wide enough to take the upright portions for the back and front of the weathervane itself.

For the moment, let us finish the action of the vane on its pole, and return later to the pattern to be fitted. The ball race must be put in very tightly, then a little circle of wood or metal put over the top to prevent rain getting into the parts.

This ball race is fitted in turn to a short spindle which must be the same diameter as the hole inside the race itself. The spindle has to be driven securely into the top of the actual post, and it is advisable also to have a metal band round the post itself to prevent any likelihood of splitting.

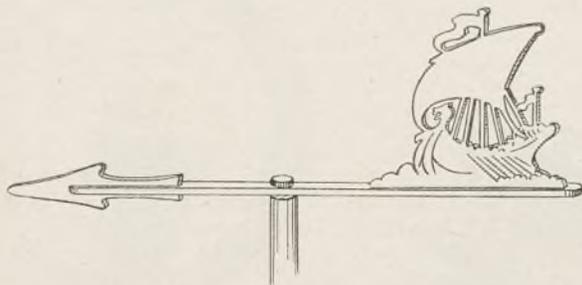
The actual direction signs of north, south, east and west are fitted at any point lower, and can be made of stout wire as a band round the post with arms leading outwards to carry the necessary letters. These letters can be cut in fretwood, and driven on to the ends of the wire after having been suitably painted and finished.

If you cannot draw out the letters themselves, an alphabet from which they can be taken is given on design sheet No. 724. Or, of course, you can probably obtain just the four letters from a printer's display bill. Cut them out in fairly thick wood, and fit them to the points of the compass correctly.

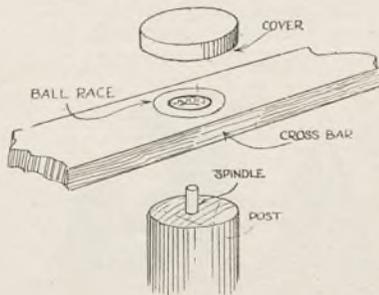
Wire Letters

Another method of making these letters is to bend up very stiff wire to their shape, fixing it to the arms of the indicator and soldering them there in place.

The bending of the wire must be done carefully with pliers in the case of the curved shapes, and



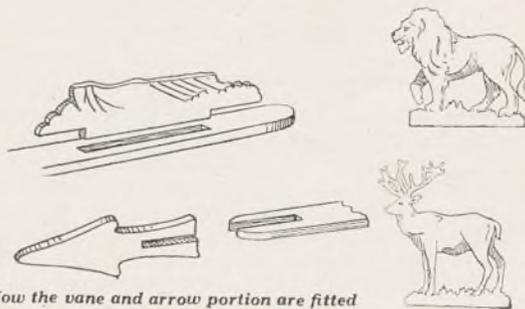
Another suggestion of wind indicator



Note the ball bearing and spindle

with vice and hammer in the case of the straight portions. No doubt most of our readers will prefer to have them in wood.

Note, too, that the letters should not be too large so as to look unduly heavy compared with the weathervane itself. Get them firmly fitted to the post with staples or screws after having first correctly obtained the direction of north and south. This you can probably do by sighting another weathervane in the same area, or by working it out according to the sun or to a church, or some similar local landmark.



How the vane and arrow portion are fitted

Two animals as suitable figures

Now we can turn to the decorative portion of the vane, which is fitted at the top. In this connection a number of the designs of *Hobbies* which have appeared in these pages and which are now reproduced in the Handbook, are exceedingly helpful. There is a wide range of them, and it depends on personal taste which is selected. The subjects, too, vary in size and it is advisable to decide upon one before going any further with the work.

The size of the decorative work will also decide the general dimensions of the race, of the vane and indicator. For it must be remembered that the base of the indicator portion must balance and be of equal weight on each side of the centre point where the ball race is fitted.

Get a Balance

Thus it may be necessary to have a long arm for the arrow head, and even then to add a little lead to counterbalance the heavier portion of the ship or animal, or whatever is put on.

This question of balancing can be tested out before the parts are fitted together, but after the ball race has been fitted in. It should be a simple matter to get a little strip of lead pipe to hammer flat and cut off enough to add to one end to balance it with the other.

Next comes the question of the decorative piece itself, and we show here some suggestions from various designs which readers may like to incorporate in their work. The owl and moon come from the Design No. 1993, whilst the ship is on Design No. 1764. Another suitable scene is the mill and two Dutch boats which are taken from the Design of the Pipe Rack No. 1718.

Two further suggestions are given showing the completed work, and in one we have the galley ship which is to be found on Design No. 2097. The other is quite a distinctive piece of work, having the Noah's Ark at one end and one of the animals at the other. The outline in all these cases is quite straightforward, and with the addition of one or two thin cuts in the subject, the picture is quite obvious.

Getting the Wind

In every case it must be noted, the more solid portion of the vane is at one end, in order to catch the wind and to turn the part round. The opposite end must, therefore, contain little to act as wind resistance, and for this reason the arrow head is quite the best idea. The Noah's Ark and animal, by the way, are taken from Design No. 2007, and there is also a range of animals on this sheet which can well be incorporated as the main theme of the indicator.

In addition to the various suggestions made here, the reader may like to incorporate his own drawings. There can be outlines of aeroplanes, modern ships such as the "Queen Mary" or "Stirling Castle," battleships or even figures taken from magazines or other drawings.

Or again, some of the pictures found on transfers of Dutch scenes, or of nursery rhymes can often be introduced, whilst dogs, cats and other domestic animals form equally practical decorations.

Fixing to the Baseboard

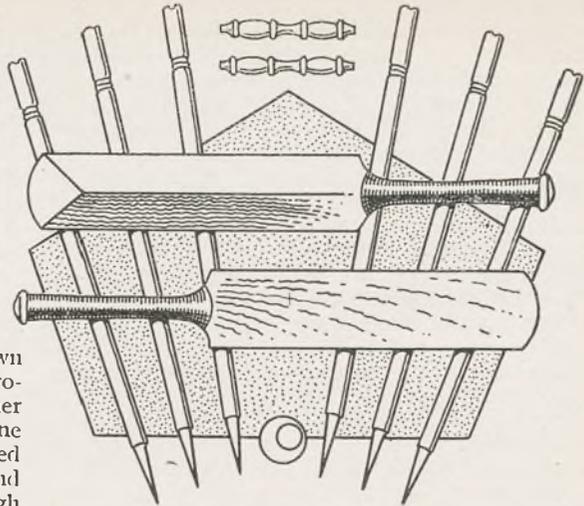
All these parts can be cut out in plywood about $\frac{1}{4}$ in. thick, and let into one end of the baseboard. This is done by means of a tenon mark on to the wood, as shown in the detail herewith. The other end of the base holds the arrow head, and this is halved into a solid joint as also shown in the detail. Make the parts to fit tightly, glue them in place firmly, then paint the whole part over with black or coloured enamel as it is desired.

(Continued on page 178)



Some of the patterns forming suitable vanes as described

MAKE A CRICKET SET



HAVE you ever thought of making your own cricket bats, wickets and balls? A professional bat, of course, would be rather difficult, for these usually consist of a good cane handle specially wax-thread bound and spliced V-shape into a strong English willow blade, and moreover, a double rubber insertion runs through the handle to ensure a greater and more comfortable driving force.

An excellent substitute for 10 to 11 year old "men" can be easily shaped from 1in. or 1½in. thick deal planking as detailed at Fig. 1. If, however, you would prefer a lasting and better-looking bat, you could use beech ash or american whitewood, the latter being slightly softer, but harder than pine or deal. White chestnut and light oak are two other alternatives that have quality and durability—still, considering the dimensions given and the batsmen generally, the whitewood lends itself admirably, both in texture and price.

Marking the Bat Shape

It is advisable to get a piece 30ins. long by 4ins. wide by 1in. (or 1½ins.) thick, for then you can work out the shape to suit the individual.

Thirty inches is a fair standard size for youths 14 to 15 years old, the average handle length being about 10ins. to 11ins. It's hard to state a definite size, because some boys are either tall or small for their ages and the "batsman grip" of judging is, therefore, strongly recommended.

Having purchased the wood, and assuming it is 1in. thick, strike out the shape with pencil and

compasses as suggested at Fig. 1. Do this on the best (face) side of the plank, then mark a central line up the back, with ½in. gauged lines running up the edges, after which the end of the blade can be marked to show the bevel required (see inset at Fig. 1).

Planing and Shaping

To ease planing, the handle and end shape could be cut with a keyhole saw; incidentally, the handle is 1½in. wide at the top and 1in. or ¾in. where it branches off at the shoulders. When cut out, clamp the planking in the bench vice and bevel the side nearest to you with a jack plane and spokeshave.

If you do not possess a bench vice, nail strips of ½in. wood along the bench to prevent the plank pushing away from you. Small tabs of wood single-screwed to this rough jig to project 1in. over the blade will keep it secure. A waste portion of the handle should be set in its original position to help towards firmness.

Having bevelled one side, reverse the wood in the jig and proceed with the other. The bevel at the blade end may be planed or sawn away, then trimmed with a block or smoothing plane. Regarding the handle, this is best shaped with the spokeshave and touched up with a wood rasp and glasspaper.

Shape and Thickness

If you are using 1½in. wood, the side view provided will give you some idea of the shape. First of all, mark out the shape, then set the wood in a vice (or over a stool) and cut down the handle *sidewise* to the shoulder distance and branch off as necessary.

Owing to the thickness, a cross-cut saw should be used. As the blade of same may not permit branching out at the shoulders, start a new cut from the other end to meet where you left off. Note that the handle top can be 1½in. square and not 1½in. by 1in. as in the former instance. Further, the bevelling, though practically the same, is 1in. wide at the shoulder and ½in. at the base.

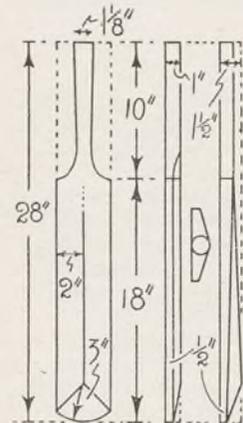


Fig. 1—Details of the bat

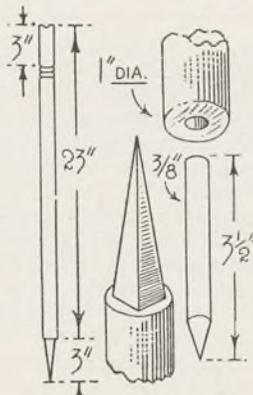


Fig. 2—How to prepare the wickets

You may find it difficult to plane the bevels because of the handle. Actually, the bevelling flattens out near the shoulders, so a spokeshave is the best implement to use, not to mention a rasp.

When the bat has been shaped and glasspapered to satisfaction, with the fretsaw, cut from $\frac{3}{4}$ in. wood a disc $1\frac{1}{2}$ ins. in diameter. With a rasp or coarse glasspaper, make it a "dome" shape and round the edges to protrude evenly with the top of the handle (see Fig. 4). Drill a hole in its centre and countersink it to take a 1 in. by 8 flathead brass screw, then attach as indicated.

You may, at this juncture, varnish the work or proceed with the binding and then finish off to taste. To do so, unscrew the handle cap and make a tiny notch in the handle edge with a penknife to hold the binding. The binding can be either black waxed thread (such as is used for boot repairing, etc.) or fine twist twine coloured or left white.

Insert the end in the hole and the notch as shown, apply a spot of glue, and screw down the cap. Now, this binding will take nearly a whole ball of twine, so be sure you have a plentiful supply of this or thread, otherwise it will mean a knot showing somewhere.

Starting from the cap notch, wind the twine tightly—very tightly—around the handle, keeping the spirals as close as possible and continuing in

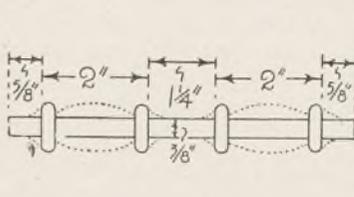


Fig. 3—Shape and size of bails



Fig. 4—Handle cap and covering

this manner until the shoulders are reached. To secure the end of the twine, press your thumb firmly on the last spiral, then with a bodkin or large sewing needle, bring the end up through the binding and tuck in with a smear of glue.

An alternative is to drill a tiny hole right through the face of the bat near the handle and bring the twine end through and tuck into the binding at

the opposite side. On the other hand, you could simply glue the end across the bat itself and tie the end to a temporarily nail or tack until the glue dries, the waste being cut away.

The wickets are simply cut to length from 1 in. dowelling and shaped as shown at Fig. 2. The size given is in proportion with that of the bat; if, therefore, you have made your bat 30 ins. long, the extra inches should be added to the length of the wickets—in fact, you can have these any reasonable length to suit yourself.

First of all, spike the ends as shown. This is done by drawing a pencil line around the dowel 3 ins. from the end, a cross being marked on the end itself. By setting the dowel end up in the vice or over a stool, especially the V-shape of the legs, you can cut down (slantwise) to the shoulder line with a tenon saw, then cut across at the shoulder mark to remove the four waste portions.

If you find this too complex, an easier way is to just "spike" the end 3 ins. and "shoulder" it with a rasp—or again, cut the dowel less 3 ins.

LIST OF MATERIALS

- 2 pieces whitewood, 30 ins. by 4 ins. by 1 in. ($1\frac{1}{2}$ in. thick)
- 6 dowels, 36 ins. by 1 in. diameter.
- 1 dowel, 36 ins. by $\frac{3}{4}$ in. diameter.
- 1 ball fine twine, (not supplied).
- 1 piece plywood, 6 ins. by 6 ins. by $\frac{1}{2}$ in. thick (opt.)
- 1 1 in. by 8 flathead brass screw.

and drill a $\frac{3}{4}$ in. hole in the centre and "peg" as detailed with dowelling. In the former case, the spiking is square and tapering, but in the latter instance, it should be round and tapering.

A rasp, three-cornered file and coarse glasspaper are used in decorating the wickets near the top as shown, two rings being sufficient. Instead of rings, you could simply cut kerf lines around the dowelling and leave it at that. To enable the bails to rest on the ends, cut a V-check and round with a file, or use a $\frac{3}{4}$ in. gouge.

The bails are made from a length of $\frac{3}{4}$ in. dowelling and four $\frac{7}{8}$ in. discs of $\frac{1}{2}$ in. plywood (see Fig. 3). The dotted lines indicate how you could rasp the shape from 1 in. dowelling to give a proper "turned" effect. These articles should be varnished a light brown shade.

Weather Vanes—(Continued from page 176)

If metal is being used, the parts can be soldered together neatly and the paint applied as before. Be careful, however, not to let any get into the ball race, or it is apt to clog it up.

We have also suggested previously, the addition of a capping part to cover the ball race. In this connection it is a good plan for this capping piece to be made to fit so it can be withdrawn.

This will allow the addition of oil round the ball bearing portion from time to time to ensure the indicator swings quite freely and without friction. A little grease, too, added round the spindle itself will facilitate the turning.

We have just given particulars for making a working model wind indicator, and now we have offered here some suggestions for a plain one.

A number of readers, no doubt, will finish their work off more artistically by painting and colouring in a more realistic fashion. Have a good look round for subjects before you make up your mind which to cut, and go through the Hobbies Handbook carefully to see if there are any others which make a stronger appeal than those mentioned. You may even be able to get an outline of your own house, providing the shape lends itself to the service required.

Then, too, study existing weathervanes and you will notice a variety of shapes at various times. Some of the older ones carry silhouettes of clippers, galleons and old-time ships which form a very pleasing picture, and these can often be incorporated in your own particular scheme.

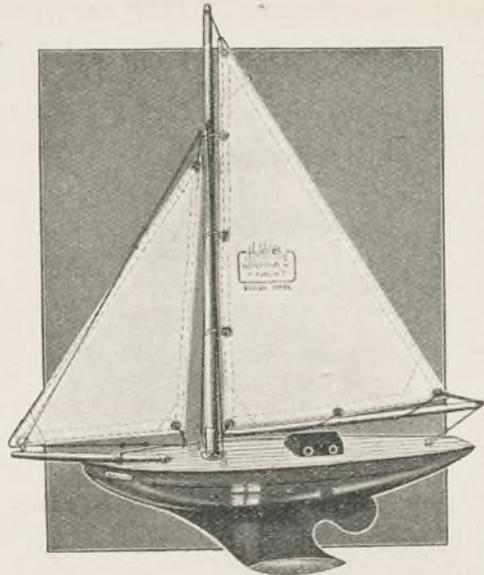
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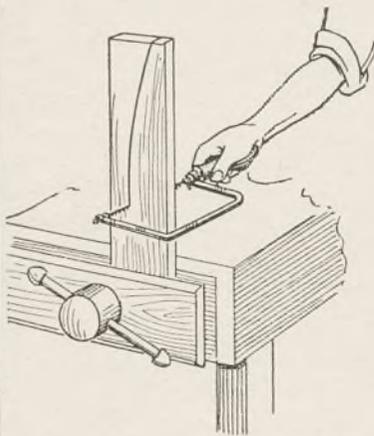
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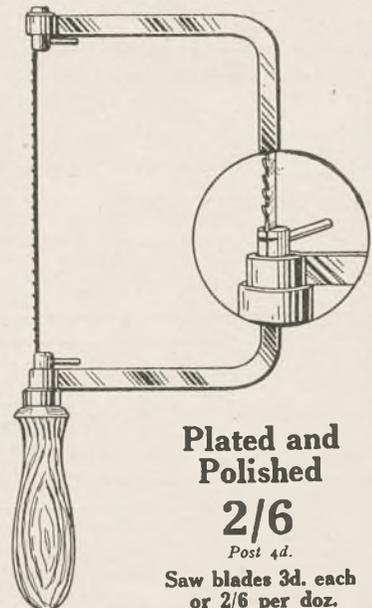
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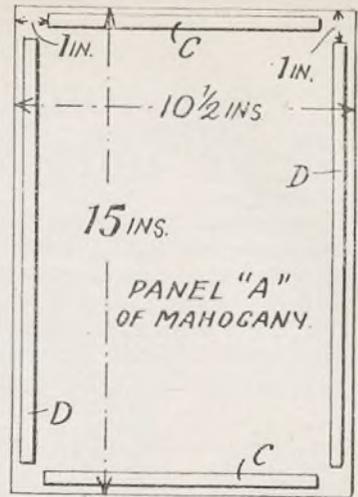
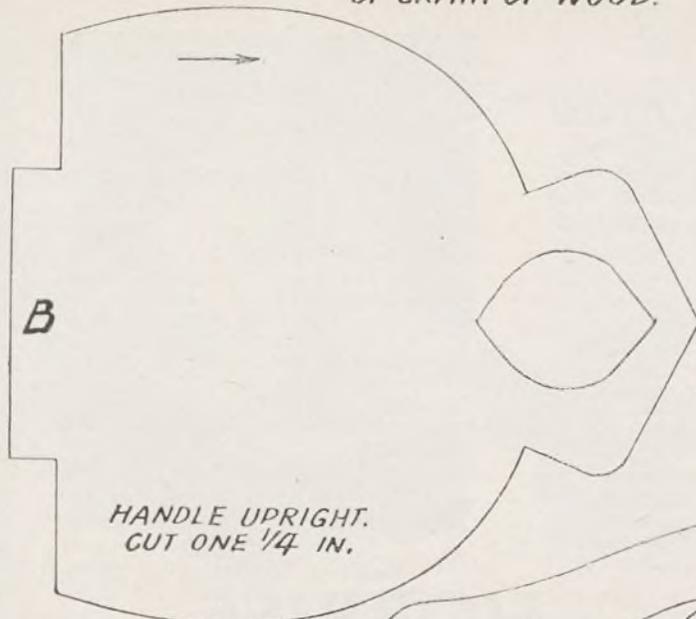
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Polished

2/6

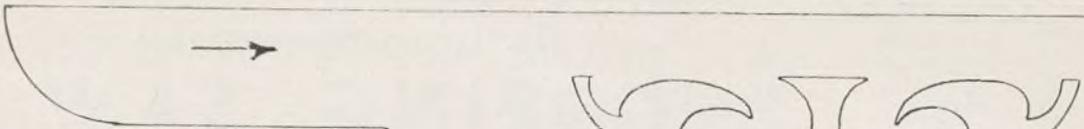
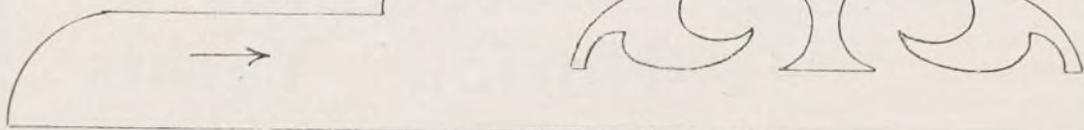
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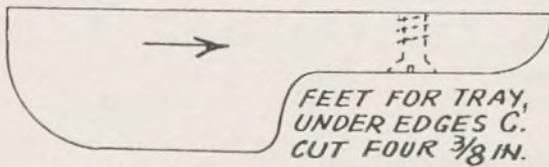
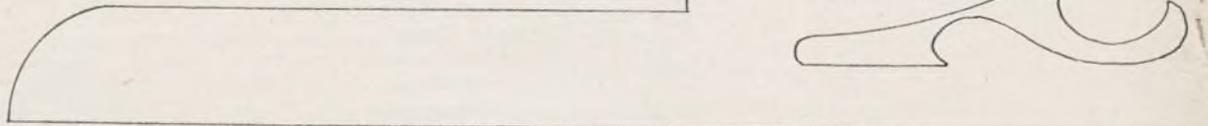
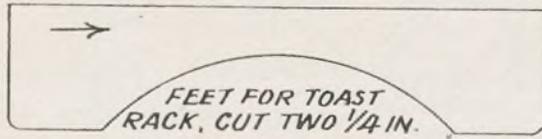
THE ARROWS INDICATE THE DIRECTION OF GRAIN OF WOOD.



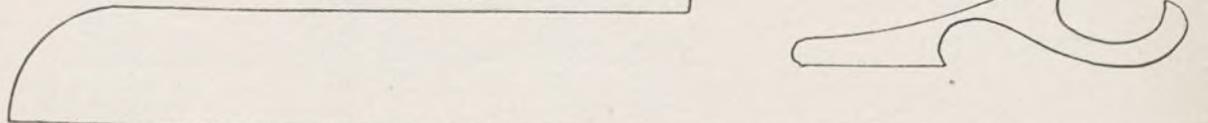
PLAN OF TRAY



EDGES C FOR TRAY,
CUT FROM $\frac{3}{8}$ IN.



EDGES D FOR TRAY
CUT FROM $\frac{3}{8}$ IN.

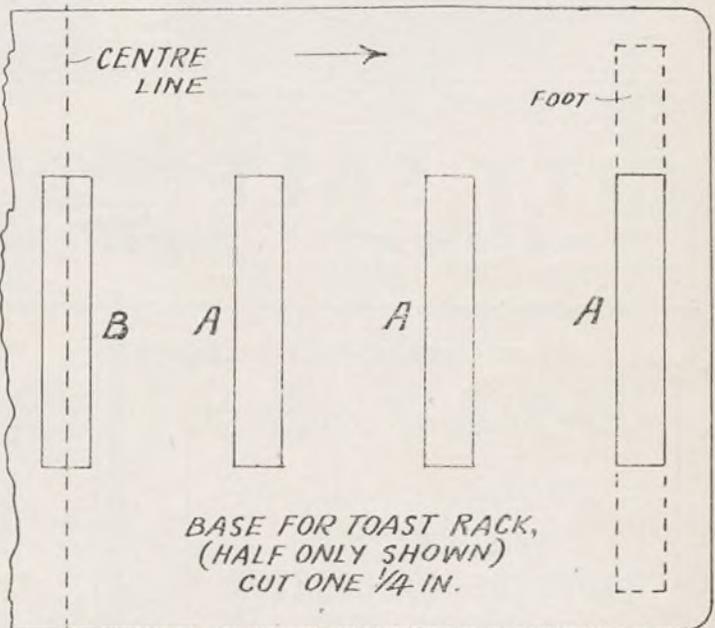


Complete Patterns for a SMALL TEA TRAY AND TOAST RACK

Below are given full-size patterns for making two useful articles with the fretsaw. They are illustrated complete on page 173 where instructions how to cut them out and put together are also given. Particulars and price of a parcel of suitable wood are shown there, too.

A

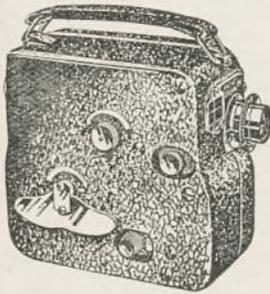
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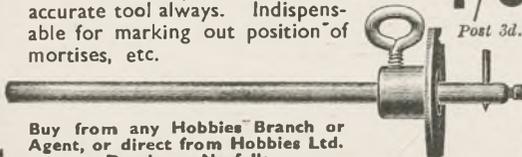
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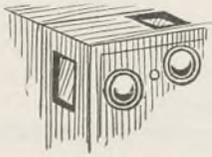
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FOCUSING AND VIEW FINDERS

THE progress and advance of photography over the last 50 years makes some very interesting reading for those who are just commencing and, for that matter, for any who have found enjoyment in the pursuit of what is unquestionably one of the finest and fullest of hobbies.

It seems almost a fairy story to say that 40 years ago professional photographers were very much inclined to think that amateurs would soon get tired of the work and it was only another passing phase. A few of the wiser and more far-seeing gentlemen of the darkroom did make a little money by giving instruction in the art, and even offered to develop and print for those who had not the convenience to do the work themselves. They



The duplicate finder of a box camera



The Folding Camera view-finder with changeable position

were very few, however, but as the years went by and more and more amateurs appeared and photographic societies sprang up in many places, and the professional began to talk of the amateur as a competitor rather than a help.

The coming of the hand camera and the roll film was unquestionably the real commencement of amateur photography as we know it today, for it enabled anyone to take snaps without much instruction and at a comparatively small outlay. From those days there has been continual improvement both in apparatus and sensitized material, till we have reached what can be truly regarded as a wonderful state of perfection.

Do It All

We want you to make a real companion of your camera and a real hobby of your photography. By this we mean that you are to learn all there is to know about the one and not to be just a 'button pusher,' but to take and make pictures and to get as much out of photography as it is capable of giving you. You can also do your own developing and make your own prints, first by contact and then later by enlarging, for it is so different to be able to say when showing your results to your friends, yes, these are my own making.

To have your own den or cupboard for doing this work is a luxury, but not everyone is so fortunate. This must not, however, deter readers who have only limited accommodation, for we intend telling you the way many of the difficulties can be overcome.

In the previous article we dealt with some of the more important parts of the camera, and before we can close down we must say a few words about two other parts, the Distance Scale and the View-finder.

If you have had experience with a type of camera called in the old days a Field camera, you would know what was meant by focussing.

These cameras were supplied with a piece of ground glass neatly framed and fitted at the back of the camera. After placing the camera on its stand and in position, you enveloped your head under a cloth which was also placed over the camera to exclude the light. You could thus see the image or view on the ground glass and then by racking the lens or front of the camera backwards or forwards you would be able to focus the image and get every detail of the picture quite sharp.

A Sharp Image

Well, whether you are using a field or any other type, you have still to get the image sharp, but obviously in the case of a folding or a cheap box camera it is impossible to give you a ground glass that will do the work for you. The difficulty of focussing is got over by placing a distance scale on the side of the baseboard of the camera with certain distances engraved on it, such as, 5. 10. 15. 20 feet and Inf.—this last means infinity.

When you extend the front of the camera you

OUR PHOTOGRAPHIC PICTURE FEATURE

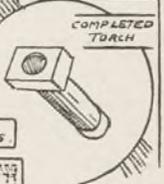
DARK ROOM GADGET.

SOMETIMES IT IS NECESSARY TO EXAMINE THINGS IN THE DARK ROOM THAT ARE REMOTE FROM THE RED LAMP, & SO HARD TO SEE, BUT UPON WHICH WHITE LIGHT CANNOT BE





RED GLASS



COMPLETED TORCH

THROWN FOR THIS PURPOSE THE GADGET SHOWN IS HANDY. IT IS A SMALL ROUND TORCH UPON THE TOP OF WHICH IS A CARD "PILL-BOX", A ROUND HOLE JUST THE CORRECT SIZE BEING CUT IN THE BASE. A SECOND HOLE IS CUT IN THE TOP & A PIECE OF RED GLASS FITTED AS SHOWN.

will notice on the side of it a small pointer and if, for example, you place this pointer to the 10 feet mark you will know that any object which is not less than ten feet away from your lens is in focus. Or, in other words, if you had a piece of ground glass in the place where the film goes in your camera and you could examine that glass with the black cloth over your head, you would see that the image was sharp.

Therefore when the film is in position and the pointer is on 10 feet you can take a portrait, or anything else, but it must be ten feet away and not nearer. If by some chance your results are not clear and sharp then you are either not placing the pointer on the right spot or else the scale is not adjusted accurately.

View-finders

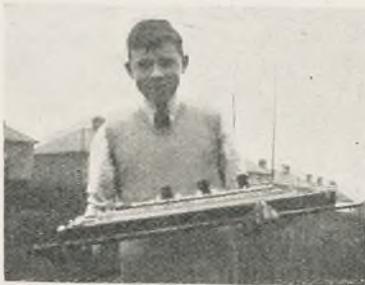
Usually these are to be found in the top corner of the front, and they serve to show you what to

expect on your film. They must, however, not be used as a focussing screen, as they are not for this purpose. Because the image looks quite sharp in it, too, it does not necessarily follow that you will get a picture equally sharp.

It is only to indicate as near as possible what part of the view will get on to your film. Now if you have a folding camera, the view-finder is usually fastened in such a way that it can be turned for viewing any subject in a horizontal position, and we would ask you to just examine yours and make yourself familiar with this.

It is very surprising how many people do not realise or know that they can get both upright and horizontal pictures with their camera.

In the box form of camera this is very apparent, because the finder is usually a double one, and, therefore, rather shouts at you to turn it over on its side to get the horizontal, or as it is sometimes termed, the 'landscape' shape of picture.



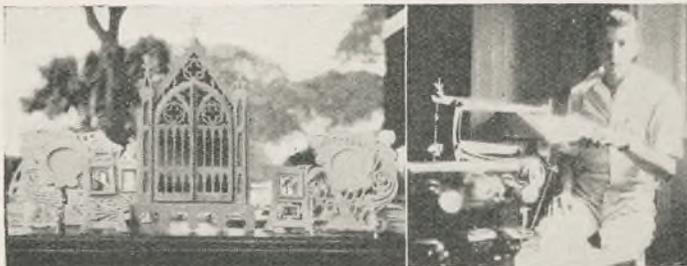
The homely picture on the right is from Alberta, Canada, and the maker and owner of the Lord Mayor's Coach—H. Amos—was offered \$30 (about £6) for it. The photograph, by the way, was taken with the aid of a gasoline lamp with $1\frac{1}{2}$ minutes exposure.



The laddie with the "Queen Mary" model is L. Parry of Acocks Green, Birmingham, and he is justly proud of his work. He has, of course made other models as well as the Mandolin from design 1883.



The canoe was built from one of our articles by Indian lads of the Recreation Club, Poona, India, under the direction of Sergt. Wyeth of the Royal Warwickshire Regt. who is in the boat. The snap was sent by Major H. Stedman who is in front in the water.



The picture shows what can be done with a machine. Work executed by C. Thomas of Seikgyi, Rangoon. In the making of the "Home Shrine" (design No. 1905) he cannot keep pace with orders. It is arranged as an altar over twice as large as our model, lined and fitted with electric light. The machine, by the way, is electrically driven and has cut 114 designs with complete satisfaction.

BUTTERFLY HUNTING AND COLLECTING

BUTTERFLY hunting is a good hobby indoors and out. Many enjoyable hours are spent in the fresh air tracking our "prey," whilst equally pleasurable hours are spent later in mounting the specimens. There is no sense whatever in collecting them if you are not going to mount them.

A net can be bought in a shop, but it is easy to make one ourselves. A loop of *thick* wire is taken, and bent into an oval hoop of suitable size. Two lugs are formed at the ends, and these are soldered to a short length of brass tubing. This is of such diameter that it will fit tightly over the ferrule of a walking-stick. The actual net is made of muslin. The lady of the house will settle this for you.

The net is thus removable, and may easily be carried flat in the rucksack. When it is required for use it is slipped over one's walking stick. Most naturalists carry a walking stick. Some are hollow and fitted with various gadgets. In any case the stick is useful for probing about bushes, etc., but if one is not carried, it is usually easy to cut a suitable stick on the spot.

Instead of soldering the wire lugs to a brass ferrule, the ferrule may be omitted and the lugs simply bound on to the stick with string when required. A ferrule is, of course, preferable. In making captures be careful that in the excitement of the chase you do not strike the net among thorny and prickly plants.

Killing

The captives must next be humanely killed without damaging their structure. They are literally gassed by poisonous fumes; poisonous, that is, to the butterflies. Most naturalists use a large glass jar containing a layer of plaster of paris worked up with cyanide of potassium at the bottom.

This is a dangerous thing to have about the house where young brothers and sisters might inquisitively get hold of it, so an innocuous "laurel" tin is used. As you may know, laurel leaves give off a sickly "thick" odour, which is enough to kill the butterflies, especially if the leaves are bruised and crushed to bring out the pungent qualities.

Take a round tin, such as those used to pack coffee, and see that the lid is a good tight fit.

The bottom half is filled with freshly crushed laurel leaves, and a perforated disc of cardboard dropped on top. Then follows a layer of loosely crumpled blotting paper, and another perforated disc. In the upper portion the butterflies are placed.

The killed butterflies must be handled gently, and two or three days before you intend mounting them they should be placed in a tin containing a layer of damp (not wet) blotting paper or cork. The dampness will relax the limbs, and enable them to be mounted better.

Setting Board

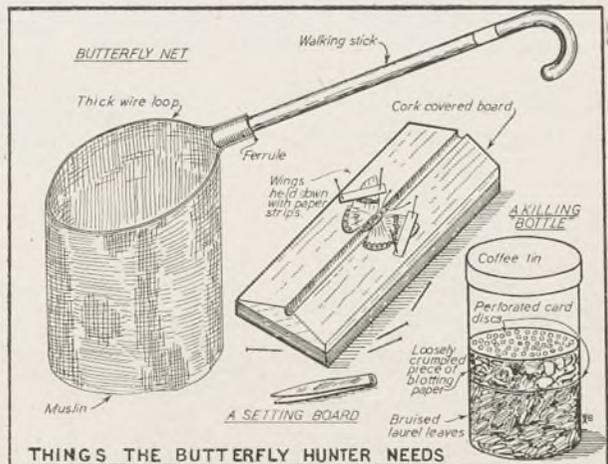
A setting board must be provided. If we have a block of cork we can carve our own. The illustration shows what is required—a board with a trough running full length, and having sloping sides. We can economise in cork by mounting it on a wooden base. The trough should just be large enough to take the insect's body.

Carefully take the butterfly and arrange it by means of pins and tweezers, to your liking. A pin is forced through the body. Use the thinnest you can get. Ordinary pins are rather too coarse. The wings are strapped down with slips of paper, as shown in the diagram. The antennæ are arranged between a "staggered" line of pins.

Thus the butterflies are left to remain for a fortnight after which they are placed in air-tight glass cases, great care being taken to see that no part of the butterfly touches the floor of the case.

As one's interest increases there are many books on the subject to be consulted at the public library, so that the specimens may be identified. We will occasionally find that we have a comparative rarity, and it is quite within bounds of probability that one of you who reads these words might, one day, land a real rarity for which collectors, if they hear of it, will offer unheard-of sums of money.

A visit to the natural-history section of a museum will provide one with ideas.



AN ELECTRIC CLOCK

IT is now possible to buy a really good reliable electric clock quite cheaply, and it must at once be admitted that such a clock has a distinct advantage over the spring or pendulum movement.

All that is necessary is just to plug in to a convenient point in the room and bring up the flex which passes through a hole in the back of the case and then attach the end to the movement. An excellent electric clock fitting can be bought from Hobbies for only 27/6. This is of 230-v. and fitted complete with plug and long length of flex.

Any handyman should be able to make up the attractive and practical clock case shown from the instructions given here. It can be made up in planed oak with dark oak for the overlays and a length of special (No. 304) corner moulding and three wood ornaments No. 231, a pair of No. 5308 hinges and a catch No. 5483.

Having the wood and the fittings, the former should be laid out and the several pieces sorted into their sizes according to the schedule.

The four pieces A, B, C and D forming the base

Materials Required

- A—one piece, 9½ ins. by ½ in. by ½ in.
- B—one piece, 8½ ins. by ½ in. by ½ in.
- C—two pieces, 3 ins. by ½ in. by ½ in.
- D—one piece, 9 ins. by 3 ins. by ½ in.
- E—two pieces, 9 ins. by 2½ ins. by 3/16 in.
- F—one piece, 7½ ins. by 2½ ins. by 3/16 in.
- G—one piece, 9½ ins. by 8½ ins. by 3/16 in.
- H—one piece, 9½ ins. by 8½ ins. by 3/16 in.
- I—one piece, 6 ins. by 2 ins. by ½ in.
- 1 piece overlay wood, oak—9 ins. by 6 ins. by 1/16 in.
- 1 piece, No. 304 corner moulding, 5 ins. long.
- 3 No. 231 wood ornaments.
- 2 feet, ½ in. angle fillet.
- 1 pair No. 5308 hinges.
- 1 catch for door, No. 5483.
- 1 electric clock movement.

of this case are cut square at the ends and glued together as Fig. 1 shows. Note that piece A will form the front as it runs through from end to end and thus shows no end grain of the pieces C.

Lay this base aside and next make up the case

Full size patterns for overlays are given on page 189

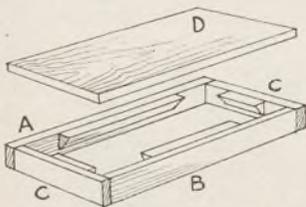


Fig. 1—How the base is built up

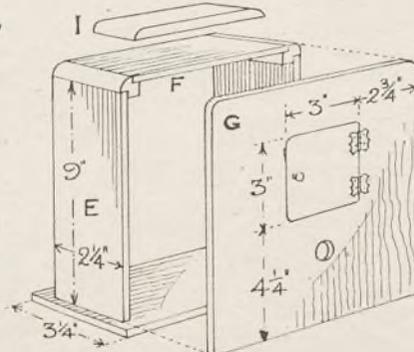


Fig. 2—A back view showing construction

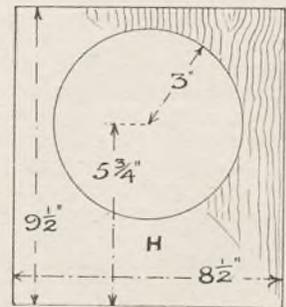
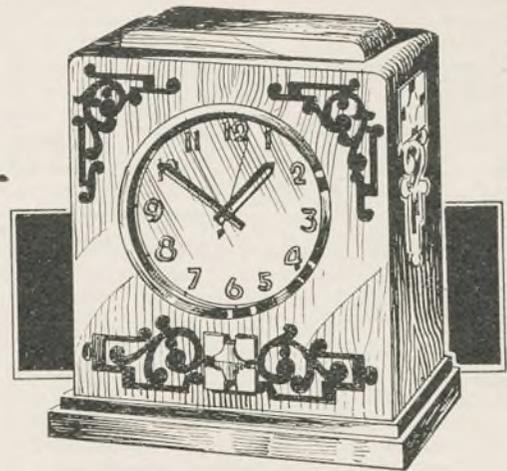


Fig. 3—How to mark out the front



which comes above it. Cut piece D to its correct sizes and with square corners, then two pieces E and one piece F. These three latter pieces will be glued into the two lengths of No. 304 corner moulding as shown in Fig. 2. The front of the case is then marked out and cut as Fig. 3. This front (H) has the circular opening cut according to the dimensions given, while the back (G) shown in Fig. 2, has the small door formed in it by cutting round to the sizes given and hinging to the case.

Both the front and the back are glued to the sides and top, all surfaces being flush and afterwards glasspapered down to make neat and, as far as possible, invisible joints.

Fancy Overlays

The floor (D) is next glued on and one or two long screws run in. The base is then glued underneath, with angle fillets fixed in the four angles as shown in Fig. 1. A plain piece I is cut, the two end top edges being rounded off with glasspaper and then glued on centrally to piece F.

The patterns for the overlays on the front of the case are given full-size on page 189 in this issue. All that is necessary therefore, is to cut these out and paste them down direct to the wood and cut with a fine fretsaw.

Careful cleaning with fine glasspaper should leave them ready for gluing down, the No. 231 ornaments being placed and glued down beforehand.



Africa Shows How !

IT was in 1933 that a big speed record was set up by an articulated Beyer-Garratt type steam loco, working over the French Colonial lines operated by the Paris, Lyons and Mediterranean Railway in Algeria. The 4-6-2 + 2-6-4 type engine concerned was the first articulated machine to be fitted with driving wheels so large as 5ft. 11in. in diameter.

During exhaustive tests, made over the Algiers-Oran standard gauge main line, the engine showed startling hill-climbing capacity, and proved its ability to haul 640 tons at 65 m.p.h. on the level.

Despite the new loco's great length, there was no trace of rolling at this high speed. The thrill of the tests came when, with a special light train of 118 tons and the engine travelling chimney rearmost down a very gradual slope, a top speed of 81½ m.p.h. was reached—not only a record for an articulated locomotive, but almost certainly the highest speed ever attained in the African continent.

Encouraged by the success of this pioneer high-speed Garratt, the French have now sent a number more of these monster locos across the Mediterranean. But the new fellows have their coal bunker and either-end water tanks enclosed in a neat streamlined casing. Perhaps the day will dawn when heavy streamlined trains in this country will be hauled by fearsome double-end goliaths of the Garratt type!

Meanwhile, Old King Coal keeps bringing new recruits to streamlining, such railways as the C.P.R. and C.N.R. of Canada, the Nord of France, and the South Australian Govt. Rlys. having joined up of late. The Pennsylvania Railroad of the U.S., with its 75 m.p.h. world's fastest steam expresses, has likewise fallen into line—such speeds are expensive without streamlining!

And here is good news for readers in East Anglia: the L.N.E.R. are building a streamlined edition of their "Sandringham" 4-6-0 type. This is to haul a new Norwich-Ipswich-London flier which will probably commence running this coming autumn.

Look Out for These !

AT opposite ends of Britain two interesting locos are now waiting to be "caught" by watchful enthusiasts. One is a new design of L.N.E.R. 2-6-0 locomotive, No. 3441 "Loch Long," classed K4. The smaller driving wheels (5ft. 2in.) and lower pitched boiler are the most noticeable departures from the familiar K3 2-6-0. "Loch Long" is working passenger trains between Glasgow and Fort William.

The other engine to be watched for is the rebuilt

S.R. 4-6-0 we spoke of recently, No. 857 "Lord Howe." As press time arrives, this loco is hauling important expresses from Waterloo (London) to Southampton and Bournemouth.

June is the month for the reappearance of the L.N.E.R. "Northern Belle" Cruising Train, and before our next notes are out this sumptuous hotel on wheels, with its 60 tourists (and a staff of 27 men and women to look after them!) will have made two or more of its seven-day cruises to Scottish beauty spots. On its journey north from London, the "Northern Belle" may desert the L.N.E.R. line, cut across the Pennines, and enter



The "Northern Belle" leaving Penrith behind loco "Royal Scot"

Scotland via Penrith and Carlisle on the L.M.S.R. On one occasion when this happened, the L.M.S. engine put on at Penrith chanced to be no other than No. 6100 "Royal Scot"! With the famous American presentation bell over the buffers, the red engine made a rare picture setting out with the string of fourteen teak-liveried, white-roofed L.N.E.R. cars.

The Way to Make Tidy Ballast

PURSUING a hobby where patience is by tradition the rule rather than the exception, some model railwayists appear to be dissatisfied until they have accomplished the prodigious task of ballasting the whole of their track with glued chips, sticking thousands of the outer chips into position separately! How much easier merely to stir your ballast in a weak solution (in an old basin or bucket) of warm glue! After that, you merely have to drain the ballast off on a sieve or piece of coarse-meshed cloth, and place it on the track to arrange into position. When set, about twenty-four hours after, you will be unable to tell without feeling that it is fixed down. Mind you keep that glue solution weak, though, or it will show up when dry!

High Pressure



REPLIES OF INTEREST



Chemical Eraser

EACH week I do crossword puzzles, and often get the wrong letter in a square. Is there any chemical or solution that will remove it, as I find it expensive buying new coupons?—(J.B.)

THERE is no satisfactory eraser of ink which would not receive the condemnation of adjudicators of crossword puzzles, who insist that all altered and mutilated coupons are disqualified. Two things may be suggested—if you fill in your coupons very lightly with blacklead, you can ink the words over when you are sure they interlock and are correct, rubbing out any remaining blacklead marks quite easily when the ink is thoroughly dry. The other way is to purchase for sixpence a book of blank crossword puzzles squares—W. H. Smith & Sons supply them—and make a copy of the puzzle in it. This will only take you a few minutes to do. Then work out your solution in this. When it is correct, copy it out on the coupon.

Heat Resisting Polish

WHEN I make a tray bed table, I should like to find a stain and varnish or something of that nature which will resist heat and not leave marks behind when the hot plates or cups are removed.—(R.J.L.)

THE constituents of which polish and varnish are composed, being of a gummy or resinous nature, are bound to be marked by any hot vessels. The surface of bed tables, etc. is best protected by a sheet of glass laid down on the surface and kept in place by a small fillet, say of $\frac{1}{4}$ in. stripwood screwed round. The glass should be $\frac{1}{16}$ in. less all round than the tray to allow of expansion when heated.

If you do not desire glass you might rub the polished surface down with No. 1 glasspaper and apply two coats of transparent cellulose varnish. This would probably mark less. The ideal surface for a wooden tray to be used for hot tea and dinner vessels

is one of stove enamelled metal plate. Possibly a good substitute would be a japanned metal splash plate, obtainable at most hardware stores. This could be trimmed to size and screwed down. Otherwise it is better to use a metal tray for all hot vessels, and where a wooden one is essential, as for a bed table, for instance, to use protective asbestos table mats underneath.

Cleaning Chromium

CAN you tell me how to get tar off Chromium plated cycle wheel rims without damaging the chromium?—(H.R.H.)

TAR stains can be removed from chromium plated parts with naphtha or with paraffin, although the latter is more slow in action. The procedure is to apply the naphtha with a brush repeatedly until the tar softens. It can then be wiped off and a final finish imparted by polishing with "Karpol," "Lifeguard," or any other good car cleaner and polisher.

Combustive Chemicals

PLEASE tell me what chemicals are they which when mixed, burst into flame after a short interval?—(R.S.)

THERE are a number of methods of producing fire by the action of chemicals, but some of them are a little complicated. The following are quite simple: (1.) Mix together some ordinary granulated sugar and some perchlorate of potash. Touch the mixture with a rod that has been dipped in sulphuric acid, or very carefully drop one drop of the acid upon the mixture, and it will take fire at once.

(2.) On to a piece of dry, thin paper, pour about three drops of glycerine, then sprinkle on it a little potassium permanganate. In a few minutes a purple flame will shoot up.

An effective variation of No. 1 is to place some of the mixture on one side of a plate, and a little sulphuric acid on the other. A rolled-up piece of newspaper is in the middle of the plate. Tilt the

plate so the acid runs under the paper, and immediately it meets the mixture fire will be produced and the paper will be ignited. Needless to say, reasonable caution must be observed when trying the above experiments.

Making a Boomerang

I WOULD like to make a boomerang and to have hints on how to throw it so it will return to your feet.—(J.E.)

A BOOMERANG is a curved stick of hardwood, roughly 1. shaped, about $\frac{3}{16}$ in. thick, $2\frac{1}{2}$ in. wide and 2ft. long. The best way to make it is to use a piece of hickory wood, steam it to soften it, then bend it to shape. Fit it with wedges and leave it for a day or two to dry. Then make flat face rounded by chiselling and shaping with rasp and glasspaper. Round off the ends and all edges but leave the other face flat. Alternately you could saw it to shape from plywood, then shape and round one face as before, but the result will not be so strong nor so good as using solid hickory. To throw the boomerang, grasp it in one hand, have the convex edge forward and the flat side upwards. Throw the boomerang upwards with a quick flipping action, this causes it to ascend slowly to a great height—spinning rapidly the whole time. It then descends in an elliptical orbit and falls at or near the thrower's feet.

Treadle Lathe

HOW many revolutions a minute should a treadle lathe turn for woodworking and for metal turning?—(R.B.G.F.)

THE faster it turns the better it is so far as woodwork is concerned, and a definite number of revolutions is not necessary. With regard to metal turning, to give a surface speed at the point of the tool of, say, 20ft. per minute for iron and 40ft. per minute for brass. This, of course, depends not only on the revolution per minute, but also on the diameter at the point in contact with the tool.



*FRONT, TOP
OVERLAYS, CUT
TWO TOGETHER*

Pattern for the
Clock Overlays as
described on
page 186



*WOOD ORNAMENT
No. 231*

*FRONT, LOWER OVERLAYS
CUT ONE OF EACH*

*WOOD ORNAMENT
No. 231*



*SIDE OVERLAYS,
CUT ONE OF EACH*

ALL OVERLAYS TO BE 1/16 IN. THICK.

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London E.C.4. or Dereham, Norfolk.

ALL STAMP COLLECTORS should read the Coronation Number of the Stamp Collectors' Fortnightly edited by Fred. J. Melville, Price 2d. (Postage 1d). This issue contains full list of Coronation stamps as well as usual interesting and authentic articles and news.—S.C.F., 44 Bedford Row, London, W.C.1.

BOYS! There's a load of fun and instruction in every Hobbies Chemistry Set. You learn while you play. Prices from 3/-.—Hobbies Ltd., Dereham.

100 STAMPS, all different, free to approval applicants sending 2d. postage.—Errington Macquire (O), 51 Atkins Road, London, S.W.12.

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START stamp collecting now. Album 100 stamps, Hinges, Watermark detector and perforation gauge 1/- Postage 2d.—G. Thompson, 76 Belgrave Gate, Leicester.

PERSONS WANTED to make up leather goods at home in spare or full time. Experience unnecessary. Good Pay.—Write Dept. B7.—"Universal" 17 Peel Street, Luton.

BUILDING A MODEL POWER BOAT? We supply a steam engine unit, complete with propeller and shaft for only 8/6; post 6d. Suitable for boats up to 30ins. long.—Hobbies Ltd., Dereham.

BARGAIN! 100 British Colonials 1/2.—F. G. Fifoot, 68 Birchwood Avenue, Beckenham, Kent.

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The OUTFIT contains:
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HOW TO IDENTIFY STAMPS

ARE you perfectly sure that every stamp in your collection is mounted in the right place? It is really astonishing the number of times one sees stamps on the wrong page of an album. The arrangement of a collection is not under discussion here, only the actual placing of a stamp according to the country to which it belongs.

Of course, with very young collectors or those who have only been collecting for a short time mistakes are only to be expected, but unfortunately mistakes are by no means confined to young and fresh collectors.



A stamp from Finland



The British Levant surcharge

Now the possession of a catalogue is of the greatest benefit in this matter, and it should be one in which the illustrations are as clear as possible. It is not essential that it should be the current number, because although one must not expect to see all the stamps illustrated in an old catalogue, yet an old volume is almost certain to have one stamp from each country and this should be sufficient in most cases.

An old catalogue will not have the latest countries which have just issued stamps. This, however, need not matter very much, because if you have followed the pages of these notes for a little while you will have already had notice of any new issuing countries.

An old catalogue should be obtained for a fraction of the price of a new one, say one which is two or three years old should only cost about a quarter of the price of a new one.

When sorting new stamps remember that all countries do not have their names on their stamps. Great Britain does not, to mention one example, so for collectors abroad it is the portrait of the

reigning monarch which will be the deciding factor.

Quite frequently one is helped by the currency which is shown on the stamp. Take an example which should show this in the early stamps of Finland and Russia. In the issue of 1891 the stamps of Finland are issued with a currency of 100 penni to 1 mark, whilst Russian stamps have 100 kopecks to 1 rouble.

The illustration of the Finnish stamp shows the issue of 1911, and the word 'pen' is quite distinct. A Russian stamp of 1909 is of similar design, but instead of the word 'pen' there would be—using letters as near the Russian as possible 'kon' in the same place as the pen of the Finnish.

Such countries as Brazil and Belgium and so on do not cause any difficulty because the native word is so like our own that anyone can recognise them.

Overprints may make all the difference to the position of a stamp in the album. For example, in 1902 the Orange River Colony was issuing the stamps of the Cape of Good Hope, with the name of the new colony overprinted. But the colony of British Levant does not even show any change in name, using the stamps of the Mother Country surcharged with a new value.

The illustration shows the stamp issued in 1921. The new value, or rather the value to suit the currency in use in the Levant, has been surcharged on the ordinary issue of Gt. Britain. Some of the stamps used in the Levant have that overprinted, while some have the surcharge shown.

The next illustration shows another stamp from Great Britain, but this time it is a little more difficult to tell why this specimen should not be placed in the pages which are devoted to the stamps of Gt. Britain. There is neither surcharge to alter the value to show us from what country it comes, nor is there any overprint to indicate that it is not what it seems.

No! in this case it is essential that the postmark should be plain, and here you will notice that the postmark is "A 25." That

denotes that the stamp was used abroad. In this case it was Malta so that this particular specimen is not placed in the usual page for Gt. Britain, but in the place which is reserved for Malta.

There are quite a number of such cases, about eighty in fact, so unless one has a catalogue one is likely to get rid of some stamps which are interesting and also which are of more value than they would at first seem to be.

Of these eighty odd, most of them, in fact only about ten excepted have a letter as well as a number. For some time British postmarks were numbers, but these had no letter—so unless you can see a letter clearly the chances are that the stamps are British.

Now to prevent your sending every British stamp up to ask if it was 'used abroad' it may be taken that the numerals are on the early stamps. If British stamps have been used lately then there is a postmark like the next illustration which indicates very plainly from where the stamp came.

Now Great Britain is not the only country in which this sort of thing is noted. In Peru, in the period from February, 1879 to October 1883, the stamps of Chile were in use, and these will be found with such postmarks as Arica, Callao, Iquique, Lima and other towns which are in Peru, so the Chile stamp has the postmark of a Peruvian town.



The postmark shows Malta



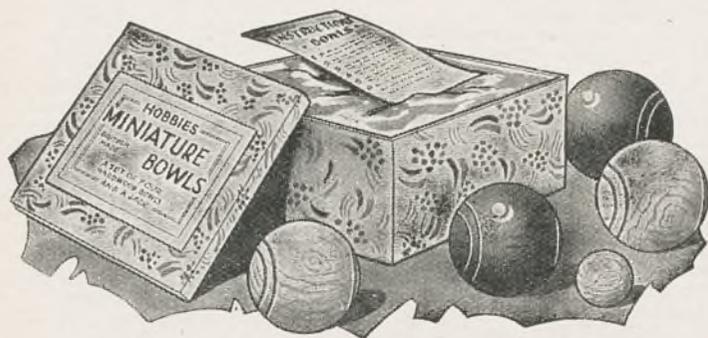
One of the "Standard types"

The decision as to where a stamp should go is not always quite simple. A German stamp is found with "Belgien 3 Centimes" on it so should this stamp go into the album under Germany or under Belgium? One prominent English firm lists these stamps under Germany, while another lists them under Belgium, and again a French Catalogue puts them under Germany.

(To be Continued)

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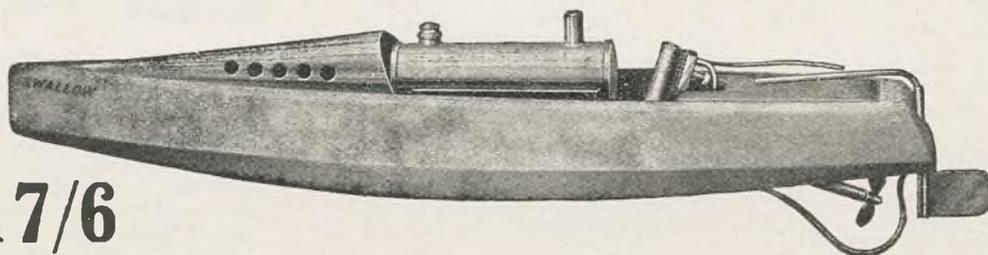
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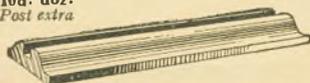
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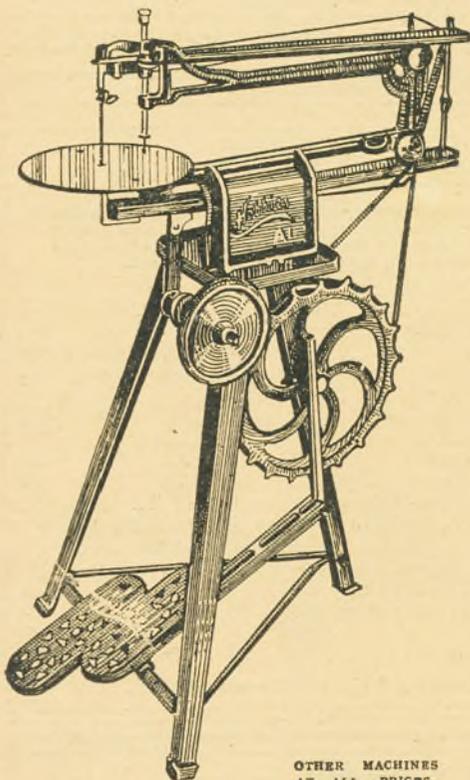
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