

HOBBIES WEEKLY

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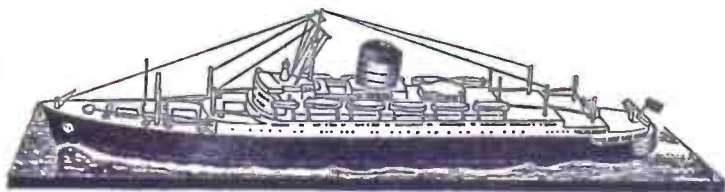
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*FREE Design
Inside for
Waterline*

MODEL CUNARD LINER *The Saxonía*

THE liner Saxonía was the first of the new 22,000-ton Cunarders built for the Atlantic run from England to Canada. It was specially designed for service up the St. Lawrence River to Quebec and Montreal. This pleasing waterline model is to the scale of $\frac{1}{4}$ in. to 1ft., and as much detail as possible has been faithfully represented. Some of the fittings are, of course, too small to get down to scale.

All parts except No. 1 are shown full size on the design sheet and it will be noticed that part 1 must be extended to 16½ ins. All parts should be traced as shown on the design sheet and cut out with a fretsaw.

To start the assembly take piece 2 and glue it to piece 1 as shown on the design sheet; this lengthens the hull (piece 1) by a further 2½ ins. and forms a step which will later be filled by pieces 7 and 15 as shown in Fig. 1.

Now shape piece 3 to section and glue it on top of piece 1. Piece 4 can now be glued in position, butting it up to

COMPLETE KIT FOR 14/9

For making this model of the Saxonía you can obtain Kit No. 3126 containing all wood and materials from any Hobbies branch or post free from Hobbies Ltd, Dereham, Norfolk, price 14/9

MANŒUVRING



All correspondence should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk

*For Modellers, Fretworkers
and Home Craftsmen*

4^D

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HEADING FOR THE OPEN SEA—

dotted lines and numbers. This step is clearly indicated in Fig. 4. The make-up of the various decks at the stern of the ship is clearly shown in Fig. 1. The exact positions of the pieces are indicated by the dotted lines on each deck (see design sheet).

Note that when adding piece 48 the ends must be bent as shown in Fig. 5. Davits are cut from $\frac{1}{8}$ in. wood and glued into

piece 3. On top of piece 4 glue piece 5 and on top of piece 5 add piece 6. For these steps see Figs. 1 and 2.

The pieces 7 are next glued together and then glued into position on piece 2,

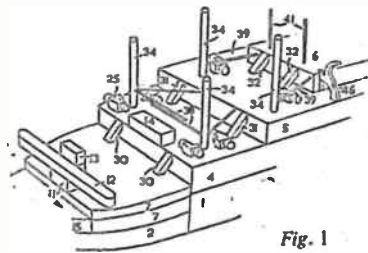


Fig. 1

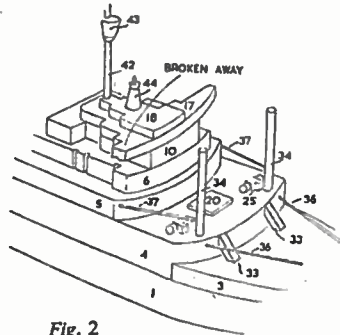


Fig. 2

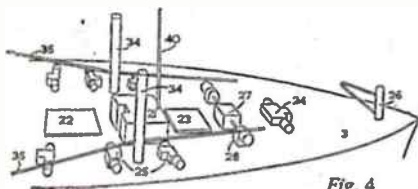


Fig. 4

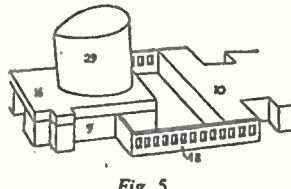


Fig. 5

of lifeboats a light brown or buff colour. The funnel is bright red with black at the top and two thin bands of black, as shown on the photographs. The hull is painted black up to a point indicated in the illustrations. The Plimsoll Line is a thin white band with red below.

Portholes and windows, etc., can be painted on the superstructure in black. Their positions can be seen on the photographs. The anchors can be painted on the black hull in grey. Fig. 7 shows the approximate shape of these.

Some workers will prefer to make an imitation sea to set off their model boat. To do this first paint the top of the wood base blue, allow to dry and then coat with glue. Lay on this a covering of thin Cellophane. Before the glue sets the Cellophane can be pushed and manipulated to form wrinkles which make realistic scale-size ripples. Paint the top of these ripples white round the ship and in her wake. The imitation sea can also be made with plastic wood, glue and sawdust, or Plasticine suitably painted. There should, of course, be a slight bow wave and a stern wash.

Very little rigging is required, but this can be done at the discretion of the modeller by consulting the photographs and finished drawing.

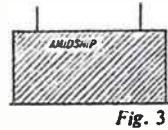


Fig. 3



Fig. 6



Fig. 7

piece 15 then being added at the stern. Dotted lines on the design sheet indicate the positioning of these pieces in all cases.

The next step is to shape the hull so far completed so as to give a rounded effect at the stern and a flare at the bows (Fig. 3.) Carry on by gluing the pieces to form the superstructure. Pieces 8, 9 and 10 are glued to piece 6 and then pieces 17, 18 and 44 are glued on top of piece 10. Next cut piece 19 from thin card and glue on top of piece 18. Piece 16 is glued to piece 9 and the funnel shaped and glued on top of this (Fig. 5).

On the forward deck (piece 3) the pieces are glued as indicated by the

the slots in piece 6. The lifeboats are then shaped and glued on to the davits (Fig. 6). The mast is made from $\frac{1}{16}$ in. round rod, tapered and glued into position as shown in Fig. 2.

Cut the base from $\frac{1}{16}$ in. wood to the measurements shown on the design sheet and glue the model to this, inserting countersunk screws from underneath if thought desirable.

Now the model can be painted. First of all give the whole assembly two coats of white paint. Leave the superstructure white and paint the decks, derricks, mast and tops



—AND ON COURSE FOR CANADA

HOME CHEMISTRY

Some Useful Toilet Preparations

BECAUSE of the interest readers have shown in recent articles on home cosmetic making, a further series of formulas is given. These are of male appeal, and so should be especially useful. In conformity with former policy quantities are given in ounces wherever practicable, so as to place the formulas within range of those who have no means of metric weighing and measuring.

When buying the ingredients always specify 'B.P.' or 'B.P.C.' quality, for this ensures your using pure medicinal grades. Where B.P. or B.P.C. types are not available, buy 'pure laboratory grade'.

Hair Oil

Hair oil, or liquid brillantine, is easiest itself to make. Simply buy some light liquid paraffin (not ordinary liquid paraffin) from your pharmacist. Dissolve in it, by shaking, oil of lavender a few drops at a time until you reach the intensity of perfume you desire. This brillantine is water white.

Though no useful purpose is served by colouring it—beyond its appearance in the bottle—it may be tinted a pleasing green by dissolving in it a little oil-soluble chlorophyll. Naturally, if you intend to sell this brillantine, colour will make it more attractive, and you may like to have a range of colours from which to choose your 'distinctive 'house tint'. There are available Oil-soluble Blue, Brown, Orange, Red, Violet and Yellow. They are 'B.D.H.' brand and may be ordered through your pharmacist or from a laboratory furnisher. Warming the paraffin helps solution.

Shaving Cream

Brushless shaving cream is increasingly popular. Recipes are many. The best the author has made and used is prepared by melting together in a water-bath 16 grams stearic acid, 3 grams anhydrous lanoline and 9 grams medicinal liquid paraffin.

When this mixture has reached around 75 degrees Centigrade (roughly 170 degrees Fahrenheit), dissolve in 64 c.c. of boiling water, 5 grams glycerine, 1.8 grams triethanolamine and 1.8 grams borax. Add this solution slowly with rapid and continuous stirring to the mixture in the water-bath.

As soon as a white emulsion forms, remove the vessel from the water-bath and carry on stirring more slowly, but still continuously, until the cream thickens and is lukewarm. A few drops

of oil of lavender may be added if you want a perfumed cream.

Lather shaving creams can be made at home, but, as saponification with caustic alkalis is involved, stringent analytical control is needed to ensure a non-irritant product. This type is, therefore, omitted.

After-shave lotions contain alcohol. The use of dutiable alcohol makes their cost prohibitive and the industrial alcohol used in the bought lotions can only be obtained under licence.

Styptic Pencils

Styptic pencils are another matter. These are cheaply and easily made. Simple moulds for these can be constructed from clean aluminium tubing of about $\frac{1}{16}$ in. internal diameter. Cut off two 2 in. lengths and then saw each in

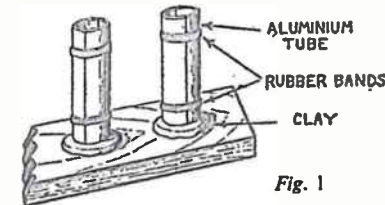


Fig. 1

half lengthwise. Smooth off saw burr, smear the inner surfaces lightly with petroleum jelly and clamp the halves together with rubber bands. Stick shilling-sized discs of modelling clay on to a board, the discs being about $\frac{1}{16}$ in. thick. Smear petroleum jelly on each disc. The moulds are then pressed upright into these as shown in Fig. 1.

The basis of styptic pencils is alum, and they may be produced clear or white. For the clear type melt 50 grams of alum by heating slowly. This is best done by having an asbestos mat between flame and vessel. For the vessel, a well-cleaned tin with a lip bent on it will do quite well. Do not allow the melted alum to boil. When all is melted add a mixture of 2.5 grams glycerine and 2.5 c.c. water. Pour into the moulds and leave until quite cold.

Pull away the moulds, open them, and with a dry cloth wipe off any petroleum jelly. Then take a wet cloth and rub the sticks to polish them. To make them look attractive they can be half-wrapped in silver paper and given an outer wrapping of coloured Cellophane.

White styptic pencils are made in the same way, but instead of adding the glycerine water mixture, there is added a

mixture of 2.5 grams french chalk and 2.5 grams glycerine.

You may be wondering if these pencils are sterile enough to use on a shaving cut. The answer is that no styptic pencils are sterile, for the simple reason that they are left around in shaving cupboards and on bathroom shelves picking up any stray germs that may be passing by. Any pencil—bought or home made—should be dabbed first with the household antiseptic before applying it to a cut, and the blood rinsed off the pencil after use.

Shampoos

A soapless shampoo can be produced from 30 grams sulphonated castor oil, 30 grams medicinal liquid paraffin, 30 grams oleic acid and 6 grams isopropyl alcohol. First mix the sulphonated castor oil with the liquid paraffin, then work in the oleic acid and lastly the isopropyl alcohol. If perfume is desired, stir this into the isopropyl alcohol before mixing the latter with the main liquid.

An excellent shampoo powder is made by grinding together to an even mixture 6 grams sodium carbonate monohydrate, 4 grams Castile soap powder and 2.67 grams borax. These amounts total the average weight of a bought shampoo powder, yet for an average head of hair will serve for two washes. Sodium carbonate monohydrate can be made by allowing sodium carbonate crystals to fall to powder by exposing them to the air for a week or so.

Hair Tonic

When hair is thinning prompt action with a hair tonic can save it if the thinning is due to neglect. With a family tendency to baldness tonics fight an uphill battle and usually lose in the end. For a first-class tonic for neglected thinned hair measure out 284 c.c. of surgical spirit. Weigh out on watch glasses 1.1 grams castor oil and 0.54 grams wood tar and dissolve these in the spirit. Add 5.9 c.c. tincture of benzoin and 1.5 c.c. chloroform and the tonic is complete. Wash the hair once a week and massage in some of the tonic each night. It imparts a slight but not unpleasant odour of wood tar to the hair. This can be masked somewhat if desired by a small addition of perfume to the tonic.

Hand Cleanser

Oil-grimed hands can be cleaned up with your own mechanics' hand soap

● Continued on page 407

For the toy maker

A RACING GAME

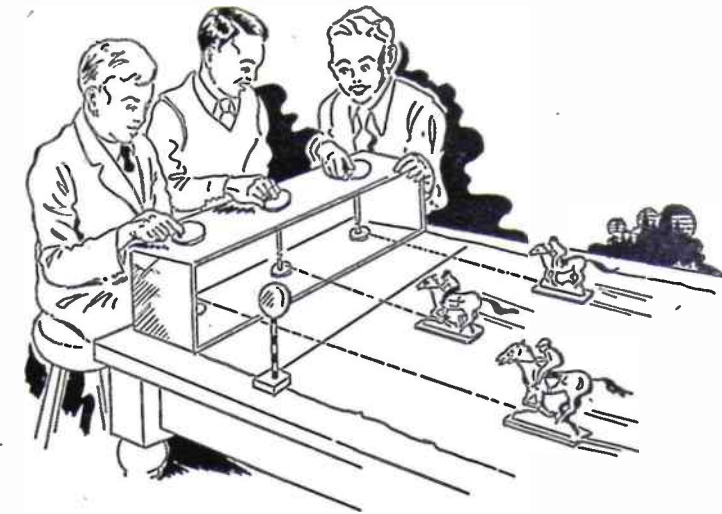
By T. S. Richmond, Jr.

HERE is a game which captures all the fun of the races, providing plenty of entertainment for all ages.

The control box, made as shown in Fig. 1, is sturdy enough to stand up to the efforts of the most energetic operators who, turning a control wheel, try their skill at bringing in their racehorse for a 'win'.

The control wheels (A) are glued on to dowel rods, and a similar disc (B) is glued to the bottom end of the dowel (C), with just enough length over for it to turn easily in the hole drilled in the bottom of the box. This hole should be only $\frac{1}{16}$ in. deep.

The diagram of the box and its revolving parts will help in the construction, and the dimensions could be adjusted to suit the materials available and the size required. However, sufficient space must be allowed for the players to turn the wheels, and for the strings to take up on to the rollers as they are wound in. Cotton reels can be used instead of disc (B) if you have three empty ones handy. A small fretpin is tapped through each dowel just under the top of the box to prevent the wheels from lifting out of position.



The wheels should not scrape when turned and some adjustment may be necessary here. Also the handles should be free to turn on their screws. The box should be glasspapered smooth, and painted a bright colour. A name for each horse can be lettered in black on a strip of card, and this glued along the top front edge of the box.

The three horses and jockeys are easy to cut out with your fretsaw to the pattern given, a little plywood base support being glued under each and painted green. Paint the horses and the jockeys in bright enamels, adding details with a small brush.

A winning post is made from plywood and painted white with black stripes around the post. The 'course' can be the table top, or the floor could be used. The game may also be played outdoors on a smooth surface.

A finishing line in the form of a short length of string or just a chalk line may be arranged, together with the winning post a little way in front of the control box. So that the strings wind without slipping on the rollers, small nails are tapped in and the ends tied to these. The other end of the strings are, of course, tied to the horses, either around the front legs, or to a small staple driven in the base.

There is no reason why the toy maker should not include a race track cut from a length of oilcloth or other suitable material, this being rolled up when out of use, and put away inside the box, together with the horses and other accessories that go to make up the complete game.

● Full-size patterns on page 412

ATTACHÉ-CASE PORTABLE

In next week's issue F. G. Rayer will describe how to make an attaché-case portable 3-valve radio. Tell your friends!

Hobbies will be 'on the air' for four Saturday programmes from Radio Luxemburg (208 metres) starting October 8th. Tune in from 6.30-6.45 p.m.

E. G. Gaze writes about

Preserving Your Negatives

PROBABLY the finest attribute the camera possesses is its ability to record one fleeting moment of time—recording it by a chemical and mechanical process in a tangible form (the film negative) with a certainty that fallible memory cannot do. And memory has an unfortunate habit of becoming fickle as we grow older.

One click of your shutter and that holiday moment, that sunlit scene that made you pause to 'snap' it—all these fleeting or passing scenes can be retained despite time himself and a fickle memory.

But, if you can defeat time by clicking your shutter, time can defeat you unless you take proper care to preserve the record you have taken. Taking first things first, let's look at permanence of the negative image, the 'mould', as it were, which, if safely preserved, can be used to 'cast' as many prints as you wish, and as often as you wish, however old the negative.

A Fresh Fixing Bath

The developed negative has, as you know, to be 'fixed' in a hypo bath. A film not properly fixed cannot stand the test of time without fading, and, if it fades, the image is lost for ever. The rule is, then, a fresh fixing bath of the proper strength as directed by the particular brand you're using for every film. In the early stages of fixation the negative emulsion takes on a creamy, milky-white appearance—if doubtful of the strength or freshness of the bath it's a safe rule to leave it in the fixer for twice as long as it takes traces of this milkiness to disappear.

After fixing comes the washing. This removes traces of the soluble salts and hypo from the emulsion. This should be done in running water if possible. If you cannot do this, then a large bucket with a change of water every five minutes, repeated six times, will ensure adequate washing. Often the developing tank is placed under a running tap and left for thirty minutes with water gushing from the overflow vent. This is fine if the fresh water is displacing the overflow from the bottom of the tank. In some cases, however, the water has a habit of displacing from the top, so that the hypo-laden solution near the tank bottom is only gradually forced out by dilution from above. If this should happen, your washing is not so thorough as it appears. The remedy is to insert a suitable length of rubber tube from the tap into the tank, stopping just short of the bottom—the overflow is then all hypo-laden water, and fresh water definitely passes

upwards over the film in the vertical tank.

The negative is now as permanent as proper fixing and washing can make it, but its permanence depends also on the way you dry, and then store, it.

Use a Viscose Sponge

Whilst wet the emulsion is soft. If you wish to accelerate drying, or to prevent uneven drying leaving patches of uneven density, then wipe down the film, using only a perfectly clean sponge of the viscose type sold for this purpose, and use it gently. Dust in the drying room must be watched: if allowed to settle on the soft gelatine it will fix in when gelatine hardens on drying. If you use a drying cabinet, or warm current of air to speed up drying, then it must not be hot, or the emulsion will soften, and, maybe, wrinkle through the reticulation caused by too great a difference in the temperature of developer and washing water or fixing bath.

And now for storing negatives. To keep them haphazardly, or to keep them in the original roll length, is to invite scratches every time they are moved or used. Further prints made at a later date will show these scratches enlarged manifold. Even if negatives have been hardened in a hardening fixer, or even coated with some anti-scratch solution, it is wise to keep them in special files or envelopes. There are many types of negative storage systems on the market, from completely indexed files to albums of transparent paper envelopes or loose transparent envelopes; all of these manufactured for storing negatives are made of hypo-free material. And this last point is important: ordinary paper envelopes often contain hypo as an ingredient in the paper itself, and you have been doing your best to get rid of hypo traces in your negatives. Do not court trouble by 'making-do' with material that may well undo your own efforts. Use a system that makes use of photographically pure materials. There is a wide choice of types and methods in any photographic catalogue.

Now for the print. With a safely permanent negative you can remake prints whenever you wish, but, naturally, you will want those made to be lasting and free from fading or stain with the passage of time.

As with the negative, the rule is proper fixation and thorough washing, and whether in running water, or by buckets of fresh uncontaminated water, it is essential that each print receives its full dose of clean washing water. Do not let prints cling together in a mass; if

using a sink or bath, then arrange the hypo-laden water, which sinks to the bottom, to be drained off from the bottom. Thirty minutes of thorough washing is good, but double-weight papers retain more hypo in their extra thickness—washing up to an hour in all cases is not unusual for those desiring extra safety.

There are chemical methods of eliminating hypo from prints and negatives, but they tend to introduce other worries in that they may leave behind substances as hard to remove as the original hypo—and which also may produce stains in time.

As with negatives, the storing of prints also calls for care. As stated before, hypo is often an ingredient in ordinary paper or card: there may be hypo in the leaves of your album. The obvious thing is some method of attaching the prints to the album-leaves, so that the back of the print is isolated from direct contact with any insidious long-term chemical reaction due to this or any other impurities in the album leaves.

Avoid Coloured Pastes

There are many photographic pastes on the market which will firmly attach your print, and to a great extent insulate it from these effects, but beware of using a non-photographic paste which will probably react strongly and cause severe staining of the print. 'Safe' pastes, too, can be found in most photographic text-books, for home making. Rubber solution is a popular method, but again, avoid coloured types not intended for this use, as they will stain in time.

The best insulating material is dry-mounting-tissue impregnated with shellac. It is placed between the print and mount, heat is applied with even pressure, the tissue melts and cools on removal of the heat to form a perfect attachment with a skin of shellac protecting the back of the print from the mount itself.

Any method using the photographically pure pastes or dry-mounting tissue is safe and satisfactory. Choose your own method according to the size of your prints and convenience.

On the whole, pastes and rubber solution are more messy in use than dry-mounting, and more liable to give a cockled finish instead of the evenly smooth uncrinkled mounting so easily obtained with tissue. But it is a question of personal practice, convenience and preference. Just follow the particular directions for use. With paste and

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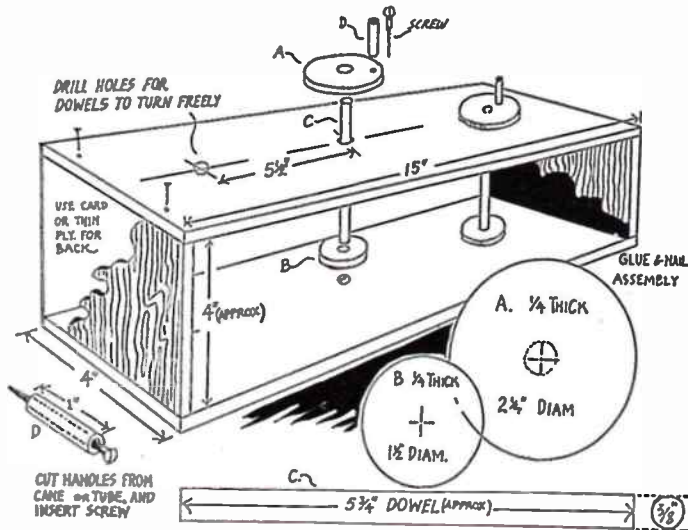
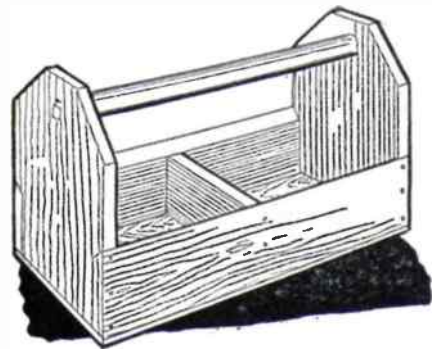


Fig. 1



EASY TO MAKE

A Useful Polish Box

By W. J. Ellson

THIS handy box designed to hold furniture and metal polishing requisites is equally useful as a household tool box. Though no rival to the complete housemaid's box, it is invaluable when a less commodious container is required. Deal, $\frac{1}{2}$ in. thick, is recommended for making it with $\frac{1}{4}$ in. plywood for the bottom.

A front view of the box is shown in Fig. 1, and an end view in Fig. 2, with the suggested dimensions. These can be amended easily to suit individual requirements. Cut the sides and bevel the top edges 45 degrees inwards. Cut the ends, lay the sides on them, and pencil round to mark out the recess to be cut away for the sides. About 1 in. from the top of each side chisel out in the centre a $\frac{1}{2}$ in. by $\frac{1}{2}$ in. mortise slot for the handle.

The handle is a length of $\frac{3}{4}$ in. by 1 in. stripwood, 13 ins. long. At each end cut a $\frac{1}{2}$ in. deep tenon $\frac{1}{2}$ in. by $\frac{1}{2}$ in. to fit the mortises as at (A); then round off the

edges to a comfortable grip for the hand. To fit the whole together, glue the handle in to the ends and glue and screw for the strongest joints.

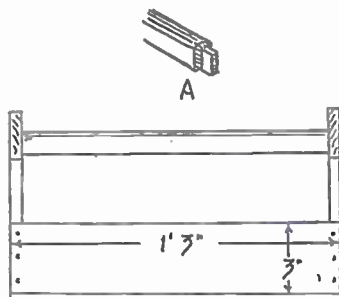


Fig. 1—Front view

Finish the bottom edges of both sides and ends as necessary, then screw on the bottom of the box. A central division

as shown in the general view of the completed article is useful and can conveniently be nailed across. With this addition, articles can be kept separate. As a tool box, the division may not be necessary. Another useful addition is a metal strip, bent round in a quarter circle, and screwed to a corner of the box. This will hold a tin of metal polish vertically and prevent it toppling over.

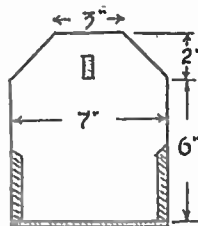


Fig. 2—End view

If intended for home use, the box could be left plain or varnished. As a gift it would look more attractive if enamelled in a bright colour.

Continued from page 405

Preserving Negatives

rubber solution this is straightforward, but some hints for dry-mounting may be useful.

Firstly, make sure both print and mount, or album leaves, are perfectly dry, passing a hot iron over them will ensure this. Now place the print face downwards and lay a piece of tissue of the same size on its back, a slightly smaller size of tissue will make absolutely sure that there will be no overhang beyond the print edges on completion. With a hot spoon touch the centre portion of the tissue. It will adhere firmly to the back of the print at that point. Turn the print and attach tissue over and place in position in the album or on the mount. Again with a hot spoon, lift print corners and touch-down tissue corners to the album. Now

cover print with clean smooth sheet of normal thickness paper to protect it from heat damage and with a hot iron press firmly and evenly outwards from the centre to the edges, and then across whole of print face from top to bottom, maintaining even pressure. On removing the iron, the print will be firmly and safely attached to the album with no wrinkling, and no waiting for paste to dry.

Snags to watch:

- (1) Print and mount must be perfectly dry.
- (2) The iron at the particular temperature required by the brand of tissue you are using, usually between 150-180° F. This household iron method is quite simple and easy with prints up to whole-plate size.

- (3) If the tissue adheres to the album leaf but not to the print, then the iron is too hot. If tissue adheres to the print back but not to the album leaf, then iron is not hot enough.

Attention to proper fixing and washing and storing of both negatives and prints will repay you by ensuring a permanent record of that fleeting moment for all time.

£200 COMPETITION

Did you miss the Sept. 14th issue of 'Hobbies Weekly' containing details of our grand free competition with prizes valued at over £200? If so write to the Editor, Dereham, Norfolk, for a copy, price 5d. post free.

Neat layout for a

Modern Cutlery Tray

By W. J. Ellson

THIS up-to-date cutlery tray is a welcome improvement on the common pattern, as by dividing the various articles in recesses, it permits the desired ones to be taken out without disturbing the remainder. It is kind to the plating, and also saves time. There should be no difficulty in its construction, and the outlay is small.

The general view of the tray shows the disposition of the cutlery articles, and will be helpful in the construction. The bottom of the tray is shown in Fig. 1. This should be cut from $\frac{1}{4}$ in. fretwood, but $\frac{1}{2}$ in. deal or cheap hardwood would also serve quite well. As the drawing shows, it is a plain rectangle, with two tenons at each end for insertion into the tray ends. These should, of course, be cut a suitable length, to suit the thickness of the wood used for the ends. These ends are drawn in Fig. 2.

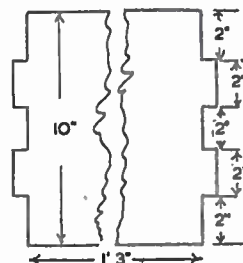


Fig. 1

The mortises will be cut to fit the tenons on the tray bottom, and a good fit is essential here. Deal, or any wood $\frac{1}{2}$ in. thick can be used for making, or $\frac{1}{4}$ in. fretwood if preferred. The hole for the handle should be between 3 ins. and 4 ins. long, and 1 in. wide. The edges of this part should be filed, and then glasspapered to a smooth surface, to make a comfortable grip. Glasspaper both ends and then glue to the bottom of the tray.

While the glue is setting, the two cutlery blocks, between which are the knives and forks, etc., can be constructed.

The blocks are clearly shown in Fig. 3, and after being cut out for the cutlery, screwed to the bottom of the tray. Cut them from wood 1 in. thick to shape and dimensions given in the diagram. The inside edges of both blocks are alike; they differ only in width. To make the job of shaping up easy, draw the pattern on the wood and remove with the unwanted wood in steps. As the inner angles of these steps are slightly

rounded off, the saw cuts should not quite meet; then a coping saw or fretsaw can be used to finish the cuts which are slightly curved, preventing any sharp corners.

In the narrow parts of block (A) (the end portions) make three cuts with a tenon saw in each for the blades of the knives. One cut in the middle of each section and one $\frac{1}{2}$ in. on either side will be about right. Now screw both blocks to the bottom of the tray, their outer edges coming level with the edges of the bottom. Don't screw down tightly, as the blocks will have to be removed to cut the various slots. Lay the knives on, with the blades in their saw cuts and handles resting on block (B). Now pencil round the handles. This will give the shape and length of the slots for them on (B).

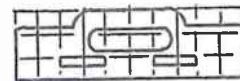


Fig. 2

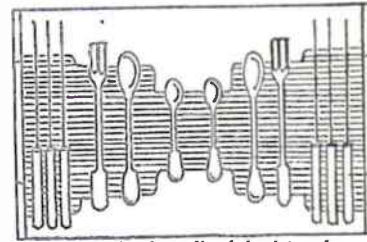
The forks, dessert and tea spoons are then laid across, spacing them equidistant from each other, and the shape of bowls, and handles also pencilled on the blocks in a similar manner to the knives. Remove the blocks, and cut out the slots. Refix the blocks, and test the fit. All articles should slip in place quite easily. When a satisfactory fit is obtained, glasspaper the slots with medium and then fine glasspaper. At this point the tray should be given the desired finish. A light stain, followed by two coats of clear varnish, would suit well, or a stain to match existing furniture if preferred. Let the first coat of varnish dry well, then rub it lightly over with a piece of worn glasspaper before applying the second and finishing coat.

Continued from page 403

Home Chemistry Recipes

paste. For this you will need $7\frac{1}{2}$ fluid ounces water, 2½ ounces soap shavings, $\frac{1}{2}$ fluid ounce glycerine, $\frac{1}{2}$ ounce borax, $\frac{1}{2}$ ounce anhydrous sodium carbonate and 3½ ounces pumice powder.

Heat about 5 fluid ounces of the water and dissolve the soap in it. The glycerine, borax and sodium carbonate are dissolved in the rest of the water by



The reader is well advised to place a layer of baize under the blocks, to protect the cutlery. If this is done there will be no need to varnish the bottom of the tray.

The baize should be cut to fit the length of the tray, and wide enough to leave sufficient each side to turn over under the tray. Do not glue the baize, lay it in position with the blocks over it,

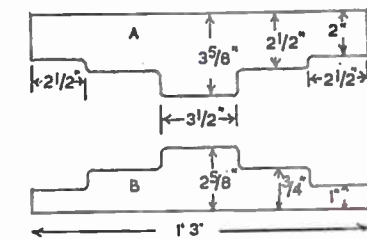


Fig. 3

and screw down the latter firmly. Two screws, driven through each end of the tray into the ends of the blocks, will finish the job. The surplus baize should be folded underneath and tacked, or secured with drawing pins. Removal of the baize, when a fresh piece is necessary, is then an easy matter.

Aquarium and Pond Handbook

THE hobby of keeping and breeding fish has become widespread during the past year or so and fanciers will welcome this book on the subject. A feature is a plan for the making of a garden pond, and the type of plants with which to furnish it.

Published by Spratt's Patent Ltd., 41-47 Bow Road, London, E.3—Price 1/6.

warming, and this solution stirred into the soap solution. Continue stirring until it begins to thicken, add the pumice powder gradually, and carry on stirring until the mass stiffens. If a scented product is desired, stir in enough saffrole to give the desired intensity immediately after the addition of the pumice. (L.A.F.)

Making Ship's Gratings

ON all sailing ships we find gratings—those to cover hatchways, and others around the wheel to give the helmsman firm and dry footing. The position of the gratings on your model will be shown on your plan or blueprint and are not the concern of this article, which deals solely with the various methods of making them, apart from the simple grating merely painted on a block of wood.

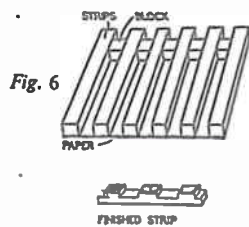
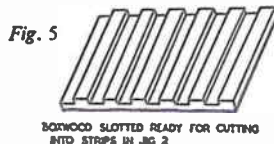
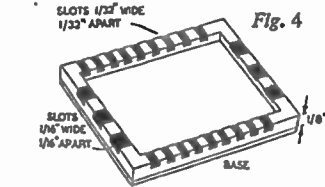
All methods described, whether my own or those passed on by other model makers who are experts in this field, have been tried, tested and used, and all are within the powers of the average model maker to copy. The particular

square. However, for our series of models I suggest you use two sizes; for the smaller models, the 'Elizabeth Jonas', 'Golden Hind', etc., $\frac{1}{4}$ in. square, and for the larger models 'Ark Royal' and 'Royal Prince', etc., $\frac{1}{2}$ in. square. These will avoid overscale

As can be seen in Fig. 4, they consist of a base with four sides $\frac{1}{4}$ in. high above the base. Two opposite sides are slotted $\frac{1}{2}$ in. apart, and the other two $\frac{1}{8}$ in. apart, to half the depth of the sides on one jig, and down to the base on the other jig. This allows gratings of both sizes to be made.

To make the grating a piece of boxwood is cut to the size of the base and placed in the first jig, and, with a suitable saw or file, the slots are cut in as in Fig. 5. The piece is then placed in the second jig to be cut into long strips. These strips are assembled staggered like a chessboard, the thick squares being glued level with the thin squares. The assembled grating is placed flat on a piece of fine glasspaper and smoothed both sides to the required thickness, usually about $\frac{3}{32}$ in. A frame of walnut, mitred at the corners, is glued around the grating after it has been cut to size, and the whole is finished with shellac. This gives a grating finished in an authentic and professional manner.

Another method of obtaining the same effect is by assembling the grating on a piece of paper (Fig. 6), using $\frac{1}{2}$ in. or $\frac{1}{4}$ in. stripwood according to the size of grating required. Proceed by gluing longitudinal strips down on the paper, using one strip as a spacer. Then, by means of a small jig, cut off squares from another piece of stripwood and glue into position between the long strips. A pair of tweezers is useful here. Glue a frame around the grating and, placing on a piece of fine glasspaper, gently take off the paper backing. Complete with a finish of shellac.

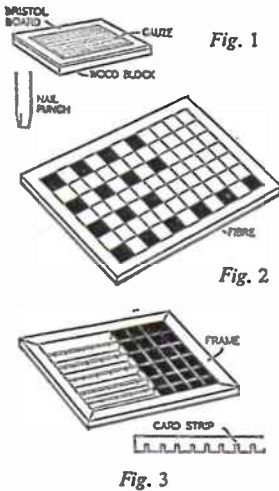


gratings and are practical for the average modeller.

A method suitable for the smaller models is to make gratings from fibre in the following manner. Choose a nail of suitable size and file the end to a square point, thus making a punch. Place the piece of fibre over the open jaws of your vice after drawing the lines across to outline the squares, and then punch the alternate holes in the fibre as in Fig. 2.

For the larger models the gratings can be made in the same manner as an egg box (Fig. 3). Make a frame from wood; walnut is an excellent choice for this purpose. Cut and slot the cross-pieces from thin wood or Bristol board and assemble within the frame. The finished assembly is given a coat of shellac which provides an excellent effect.

The most satisfactory method, however, for this size of model is to assemble gratings as in actual practice. Two jigs for slotting the strips are the first requirement. These can be made of wood or plastic, but metal is the best.



method used for any model will depend on the scale of the model being built and the skill of the model maker in small work.

For very small models an excellent grating can be made in the following manner. Cut a piece of thin wood to the size of the grating shown on your plan, glue to the upper surface a piece of surgical gauze cut to size, stretching it tight, and add a frame of Bristol board as in Fig. 1. Paint the edges and frame brown, allow to dry, and then give the whole assembly a coat of shellac; this will colour the gauze and give the whole the right effect.

For larger models the first step is to work out the size of the openings, if these are not given on your plan. In full scale the holes are usually about 2ins. square, so that in a scale of $\frac{1}{4}$ in. to 1ft., the holes would be actually $\frac{1}{2}$ in.

Repairing Garden Fences

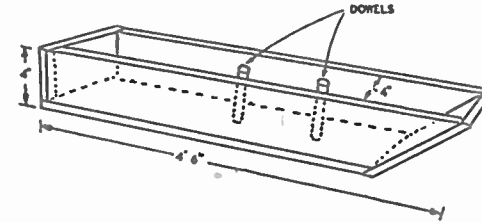
By E. S. Brown

CONSIDERABLE damage is often sustained to garden and boundary fences by the winter's gales, and often results in the breaking of the posts where they are concreted into the earth. Due to the dampness of the surrounding area, the bottom end of the post is usually attacked by damp-rot which gradually weakens the post at this point until it can no longer support the fence and a breakage occurs.

This saturation of the post can be considerably minimised by keeping that part where it enters the concrete

The latter can be improvised by suspending a weight or heavy piece of metal on a string and hanging same on a fairly large nail from the top of the post. When the string is viewed from both the front and the side of the post it should be perfectly parallel in both planes.

If one does not desire to intrude upon a neighbour's property to fix the securing bolts, gins, screw-bolts can be used. No hole should be drilled in the

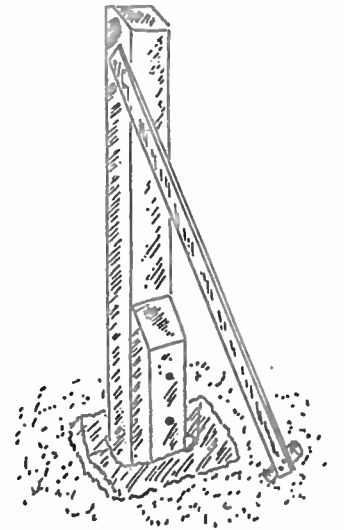


Casting mould for concrete spur

base clear of any earth, and by giving same an annual application of creosote, but sooner or later the effect of damp-rot will assert itself. In those instances where the post is of oak or elm and the end has been soaked in creosote before installing, its useful life may extend to 15 to 20 years or so, but where for economy reasons a soft-wood post is used, such as pine or spruce, its period of usefulness may not extend longer than 5 years or even less.

Where the bottom end of the post has rotted away but the remainder is sound, probably the best means of repair is by means of a concrete spur. The earth immediately below the broken post is dug away, and the concrete base broken up by means of heavy hammer and cold chisel and removed. The broken pieces of concrete should be kept to mix as an aggregate with the new concrete.

Having cleared a hole approximately 2ft. in depth, the spur is placed temporarily in position and the two holes in same marked out on the wood post. These are then drilled out with a suitably sized drill, the spur having been removed for this purpose. Having drilled the holes, the spur is replaced, bolts passed through both the post and spur and tightened up, having previously placed a washer beneath each nut. The assembly is then brought up straight both vertically and horizontally. This can be easily checked with a builder's spirit level, or failing this, a plumb-bob,



Method of securing post with stay

post, but the bolt screwed in direct from the spur end. If difficulty is experienced in starting the bolt, a few taps from a hammer will facilitate matters.

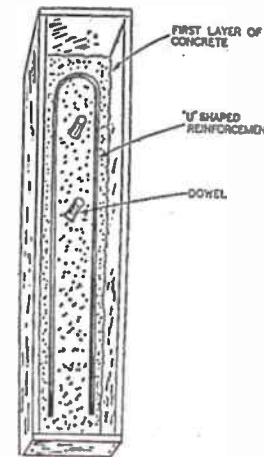
Having correctly located the post, it should be secured into position with a stay, one end of which is nailed to the upper end of the post and the other to a

stake in the ground, and the hole surrounding the spur is then filled with concrete. The correct proportions to use are 1 part of cement to 5 parts of clean sandy ballast, adding the broken pieces of concrete as previously mentioned. Turn the mixture well over, and only add sufficient water to ensure that it is damp all through. The concrete mixture is well rammed down and left for two to three days before removing the stay.

In this question of repairing fences, it is as well to know your legal obligation as regards ownership. Generally speaking, where the posts are on your side of the fence, this usually indicates that the ownership is yours.

Where only one or two spurs are required, it is not worth while to make your own, but where a number is necessary, it is quite an economical proposition and is not at all difficult to accomplish.

A mould, the internal dimensions of which are 4ft. 6ins. in length by 4ins. square, is made up as shown in the sketch. The timber should be fairly stout, say, about $\frac{3}{4}$ in. in thickness, to prevent any warping occurring under the weight of the concrete mixture, and the joints must be well screwed, preferably with brass screws. The dowels, whose purpose is to make the bolt holes, are fitted into two holes made in the bottom board, and are positioned approximately 12ins. apart.



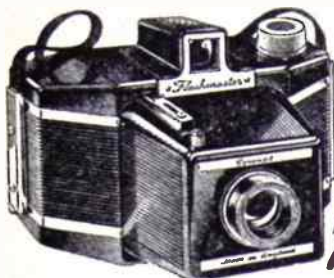
Showing position of the reinforcement within the mould

A HOBBIES PIONEER

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Continued from page 409

Repairing Garden Fences

The concrete mix is composed of 1 part of cement to 2 parts of clean washed sharp sand, is well turned over and mixed with sufficient water to make a fairly stiff mass.

Grease Mould

Before adding the concrete, all the interior of the mould is well greased and also the two dowels, and the concrete is poured in until it covers the bottom to about 1 in. A piece of 1/2 in. iron or mild steel rod, bent into a 'U' shape and a little smaller than the interior measurements of the mould, is then laid upon the concrete, and further concrete added until within 1 in. of the top edge of the side boards. The concrete should be continually tamped down during this process to ensure a uniform mass. A further 'U'-shaped reinforcement piece is then inserted and the mould filled up with the concrete mixture to the top level of the side boards. It is afterwards floated off smooth.

The mould is then left undisturbed for approximately 7 days, and if the weather is very hot, it must be left in a shady position and covered with a damp sack. The casting is then removed by

carefully turning the mould over and lifting, when the casting should easily come away. The spur is then left in a shady position, covered with a damp sack for as long as possible to mature and harden. This period varies with different cements, but the spur should be left for at least 14 days.

Where the post is so damaged that it cannot be repaired as previously explained, a replacement should be obtained. It should be of the same dimensions as the original and an allowance of approximately 2 in. given for bedding into the concrete. Taking the original post as a copy, the mortises are made on each side to take the arris rails, and the top of the post cut away to provide an inclined surface to drain away the rain. The post is then given a liberal application of creosote or other wood preservative, and the base-end soaked in a tin or bucket filled with creosote for 12 hours or so. Do not fill the bucket more than half-full, otherwise it will overflow when the post is steeped in same.

Installing the Post

When installing the post it should be

held slightly forward of its original position, when the arris rails can be inserted in the mortises. The post is then set-up, checked for accuracy, stayed and concreted in as described for the spur.

Where the arris rails have warped and split, renewals will, of course, be necessary. In these circumstances the palings or boards will have to be removed, and in the case of feather-edge boarding, great care must be exercised to avoid splitting and breaking the wood. When replacing the palings or boarding, galvanised nails should be preferably used, and if the timber is of oak, the arris rails should be dowelled into the posts and the boarding secured with copper nails.

Gravel Board

The gravel board is usually fitted between the feather-edge boarding and earth on close-boarded fences, to prevent the ends of the fence boards becoming attacked with wet-rot. Usually, it is pegged in the middle for additional support. If either the gravel board or peg is showing signs of deterioration, it is a wise precaution to renew same at the earliest opportunity.

A preservative such as creosote, if applied annually, will do much to extend the useful life of the fence as a whole. If it is applied with a brush, a fairly large one should be used.



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Cheap Floor Stains

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THE cheapest stain is permanganate of potash in water. This darkens the wood, but needs several applications. The next best is dark oak powder stain, soluble in water. A packet of this costs but a few pence, and is enough for a quart of water. Apply it hot and make sure you have enough to treat each floor at one application, as it may prove difficult to mix a second lot to exactly the same tint.

Blue Mark on Ply

HOW can I remove a deep blue mark from a sheet of oak-faced ply, as I need the ply for polished work? (D.N.G.—Dunedin.)

SPONGE the stain with warm water to which is added a few drops of ammonia. This will probably remove most of the stain. Then, if necessary, wash over with diluted oxalic acid, 1 oz. to 1 pt. water, until the stain disappears. After the acid treatment, wipe the wood

well with common household vinegar to kill the bleach. If this treatment raises the plywood, let dry, cut the veneer crosswise and work some thin hot glue underneath it. Press down and weight until the glue sets hard.

Twin Cycle Lamps

I AM thinking of fitting two headlamps to my bicycle instead of one, both being run from the same dynamo. I have tried numerous circuits, but cannot discover the correct one to obtain full brilliance in all lamps. The dynamo is a normal six-volt type, Miller. (P.S.C.—Dover.)

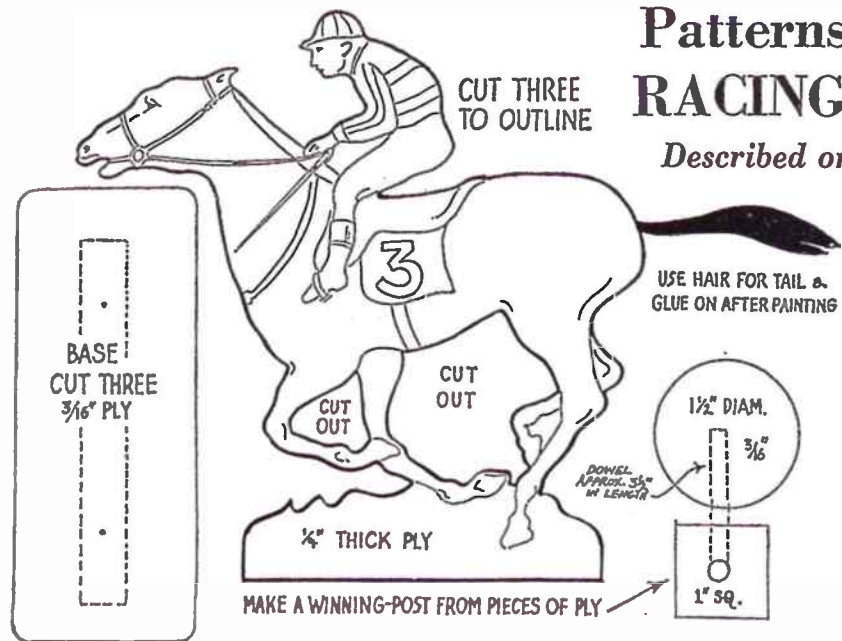
YOU would be able to use two front lamps, but you will not be able to get both to light at the same brilliance as would a single front lamp. Such dynamos produce about 6 volts at 1/2 amp. bulb. If you use two front lamps, neither will receive sufficient current, and will not light brightly. This could be overcome by using two 3V. 1/2 amp. bulbs wired in series, or two 6V. 1/2 amp. bulbs in parallel. Both bulbs would then light properly, but the total light would not exceed that of a

☆☆☆☆ WORTH NOTING ☆☆☆☆

Hinged-Leaf Table

IT is quite easy to transform a table with pull-out leaves to the hinged leaf type. Lift out the leaves and remove the slides from them and saw off the dowels on the inner edges which guide the leaves to joining up with the central top of the table. Lift out central top, lay all three upside down on a bench and hinge the leaves with 1 1/2 ins. backflap hinges. Reverse table frame and lay on top, then glue blocks of wood in the inside angles between frame and main top. Hinge a pair of wood brackets to each end of the table to support the leaves, and if necessary cut out a shallow recess in the top edges of the brackets to allow them to pass over the knuckles of the hinges fitted to the leaves.

single 6V. 1/2 amp. bulb. If you want a stronger light you will require to use a dynamo giving a greater output, or have a battery or accumulator. A single front lamp of the type usually fitted consumes all the current available. Ensure that you are using the correct bulbs, and that your tail bulb is of the low-consumption type, so that it is not drawing current which should go to the front lamp.



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Described on page 404

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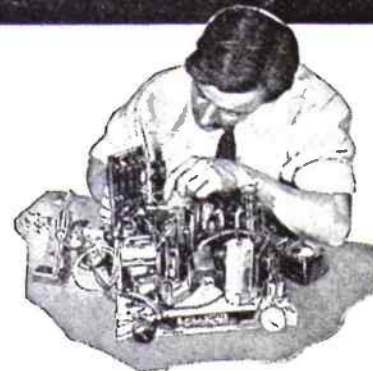
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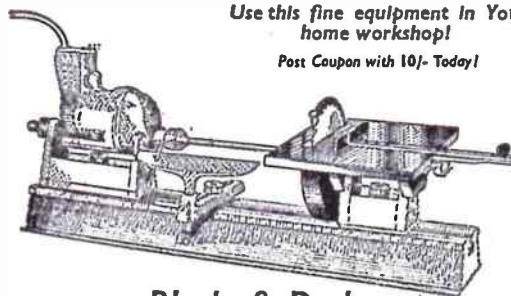
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Amusing and useful

CUT-OUTS IN WOOD



Fig. 1—An order for the milkman

THE three designs shown here are bound to appeal both for their gift value and their obvious usefulness. They are all cut from plywood with a fretsaw, and painted according to taste.

You need not be an artist to draw out the shapes. Connect up the dashes at the sides and base of the drawings to form squares and then draw out similar squares on a large piece of paper. The size of the squares will, of course, depend upon the size you require the drawing. The square method is quite easy, all you have to do is copy one square at a time and gradually the whole shape builds itself up.

In Fig. 1 we have a small blackboard which can be left for the milkman. After cutting and cleaning up, the shape should be given one flat undercoat, and then coloured. The bottle is white and the cat grey. The blackboard is coated with Hobbies special blackboard black which gives a perfect surface for chalk.

The second design, shown in Fig. 2, is intended for small shops, etc. The wording can, of course, be altered to suit any requirement. The policeman should be about 2ft. high and cut from 1/2 in. plywood. It can be stiffened with battens at the back. The ideal fixing position would be to nail it to a post.

These cut-outs would, no doubt, have a ready sale if you could make them up and show them to prospective customers. Make sure that your painting is good and that the finish really is attractive. The word 'stop' is cut as a separate piece and pinned in position. The third design, Fig. 3, is useful for the home, shop or office. The memo pad can be glued to the backboard in the same way as a calendar pad. A useful addition would be a pencil hung on a piece of string at the side.

All the designs will need well painting, especially those that are to be used outside. Plywood will not stand the weather unless it is well protected by several coats of paint.

Various methods of fixing may be adopted, but the most convenient is to provide a wooden strut at the back. In the case of the note pad it could be hung by means of bracket eyes, or simply left lying on a desk. (M.h.)



Fig. 3—Make a note

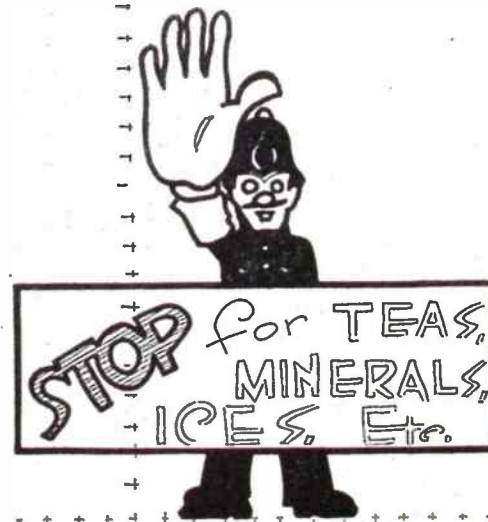


Fig. 2—A notice board for the shopkeeper



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*says W. P. Matthew,
the T/V handyman*

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