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THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

Instructions
for
making . . .

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**MODEL ROYAL NAVY
ASSAULT SHIP**

COLLECTORS' CLUB

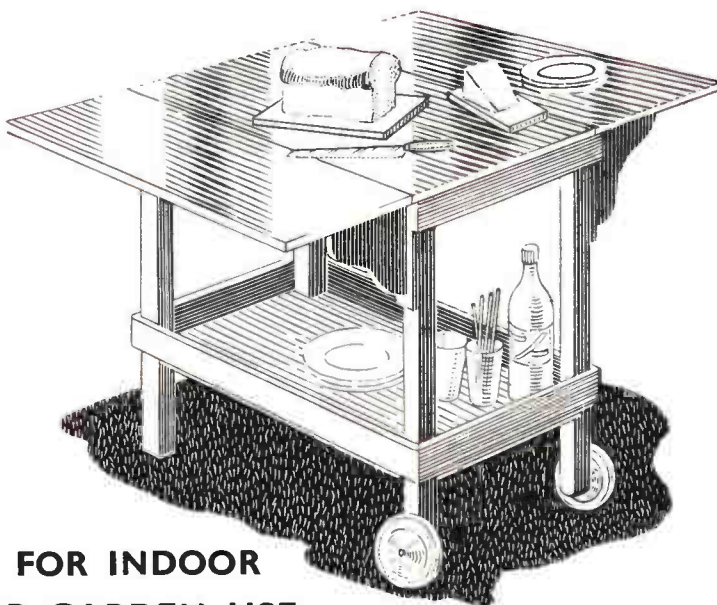
**TRAIN SPOTTERS'
PENCIL BOX**

**'WHIPSTAFF' ON
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CHILD'S GO-CART**

ETC. ETC.



**FOR INDOOR
OR GARDEN USE**

DROP-LEAF TABLE



Up-to-the-minute ideas

Practical designs

Pleasant and profitable things to make

5^p



WHAT is the universal appeal of postcard collecting that makes it one of the fastest growing of all hobbies? Why are card collectors so enthusiastic over their hobby?

ENTHUSIASTIC COLLECTORS OF CARDS

The reason is quite simple — it is because no matter what your interest in life may be — this subject has been used on postcards. Regardless of your profession, business, trade or avocation there are postcards directly or indirectly connected with it.

If your interest is religion you have a choice of cards depicting churches or

cards showing religious paintings, Biblical scenes, etc. If you are a doctor or nurse you might collect views of hospitals. If you are interested in transportation you can make a collection of cards showing trains, trolleys, ships, automobiles, airplanes, etc. An architect can collect thousands of cards showing various types of buildings. A teacher will find an endless assortment of views of schools and colleges.

If you like history there are cards of historical places, people and events. If you are interested in art you will find this subject fully covered in various art cards, beautifully prepared greetings cards, and reproductions of famous paintings from the museums of the world.

If you want something different from your own line of work there are hundreds of subjects to choose from. If you like to travel but, for one reason or another, are unable to do so, you can see — on cards — all the sights of the world, from the pyramids of ancient Egypt to the Grand Canyon of Colorado and the man-made wonders of the world. Is it any wonder that postcard collecting is attracting enthusiastic followers in ever-increasing numbers?

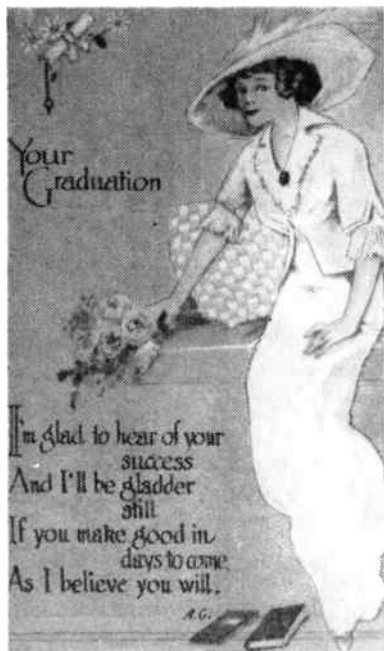
In the days of the so-called 'penny postcard' the use of Easter cards was probably more widespread than it is today, judging from the number of them to be found in the average accumulation of old cards. Some of them were quite elaborate and are very popular among today's greetings card collectors.

One of the most popular is that group with metal objects, particularly rabbits, fastened to the cards. One of my best has a gold-coloured metal bunny fastened to a heavy padded satin cushion, which covers all but a narrow margin of the card. The bunny is sitting on his haunches on the left-hand side of the card, with the words 'Easter Greetings' written in gold ink on the right-hand half, and with a pink ribbon across the centre.

Chicks, eggs, Easter lilies, and crosses were among the most widely used subjects on these cards. One very pretty upright card has a spray of lilies taking up almost the entire card with the lilies raised by heavy embossing, and the background of the card in gold.

Another shows a large white egg forming the base for a see-saw, on which a beautifully coloured hen is perched on one end, and three chicks on the other, while below the see-saw is an appliqué of blue forget-me-nots in velvet.

Most of the finest of these cards were made in Germany, and the liberal use of metallic inks, heavy embossing, appliqués of silk, satin, and velvet, and very delicate colouring by the air-brush method made them very attractive. Most of them were of the double paper variety, which left a smooth surface on the back for addressing. A great many of them had a special glassine envelope with a hole through which the stamp could be cancelled.



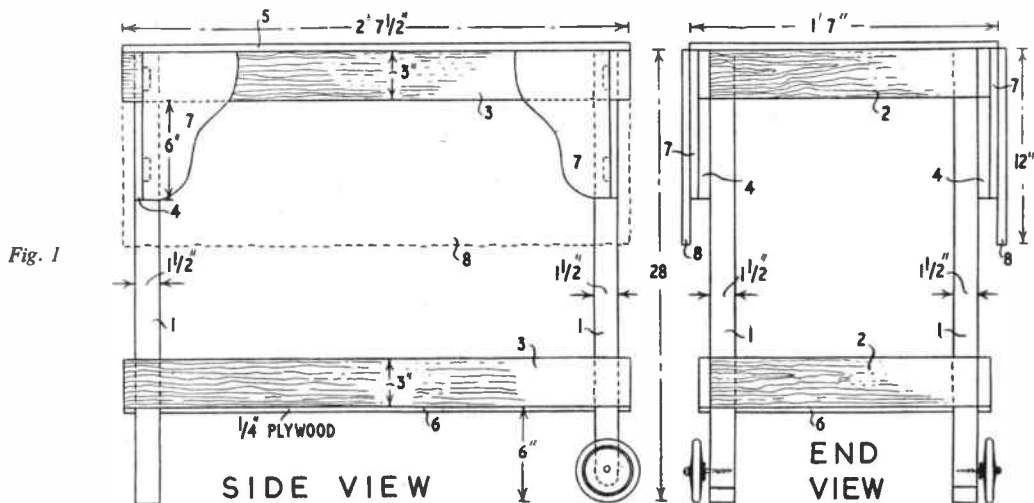
Mr C. Pressland, Secretary of a Life Boys team, writes — 'We are encouraging our lads to collect stamps and labels. Can you mention this in the magazine, and ask interested readers to write to me at 56 Halliwick Road, London, N.10. Our picture shows a party of the boys setting out on a nature walk.'

MAKE A DROP-LEAF TABLE

THIS table is ideal for occasional use indoors, or for outdoor use in sun lounge or garden. It is easy to make and can be constructed with a minimum of tools. The bottom tray

Make a start by assembling the legs and side rails as shown in Fig. 2. The rails 2 and 3 are simply nailed or screwed direct to the legs 1. There are no joints to cut, the pieces are butted together,

glue being used for additional strength. The rails 2 and 3 are cut from $\frac{3}{4}$ in. wood. The pieces 4, also $\frac{3}{4}$ in. thick, are fixed to the legs as shown. The struts which support the leaves



holds bottles, glasses, cups and plates which are prevented from falling off by the deep rail. With leaves up, the top extends to 3 ft. 7 in. by 2 ft. 7 $\frac{1}{2}$ in., large enough to seat four persons.

The side and end views show main measurements and give the general layout. Note that the 4 in. wheels are on one end only. The other end is lifted up when the table is moved.

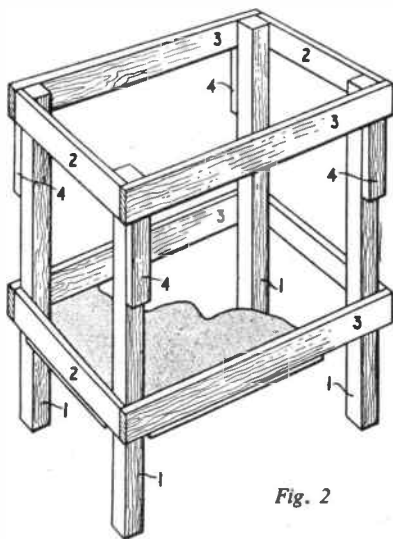


Fig. 2

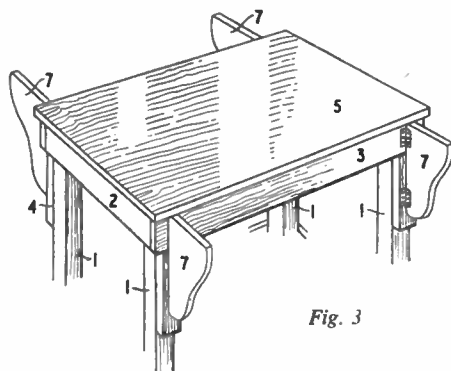


Fig. 3

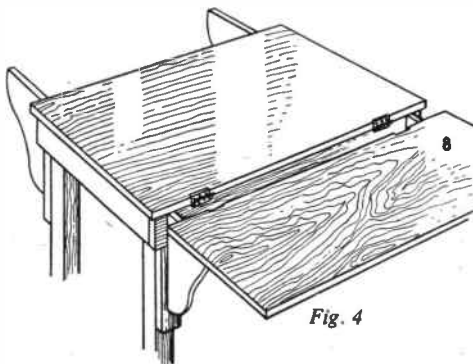


Fig. 4

The bottom tray is of $\frac{1}{4}$ in. plywood cut to shape and screwed to the underside of the lower rails 2 and 3. It may be covered with Waretite before fixing if a perfect 'wipe clean' finish is required.

The next step is to fit the struts 7 which are hinged in place as shown in Fig. 3. They should measure about 6 in. wide by 9 in. deep. There are four struts, two on each side and they are cut from $\frac{1}{2}$ in. wood. The hinges, which are in the positions shown, can be recessed to enable the struts to fold close. The top of $\frac{1}{4}$ in. plywood is now fixed and the folding leaves ($\frac{1}{2}$ in. thick) are hinged in place, the hinges being recessed as in Fig. 4. Make sure that the leaves work smoothly and easily or the hinges may be strained.

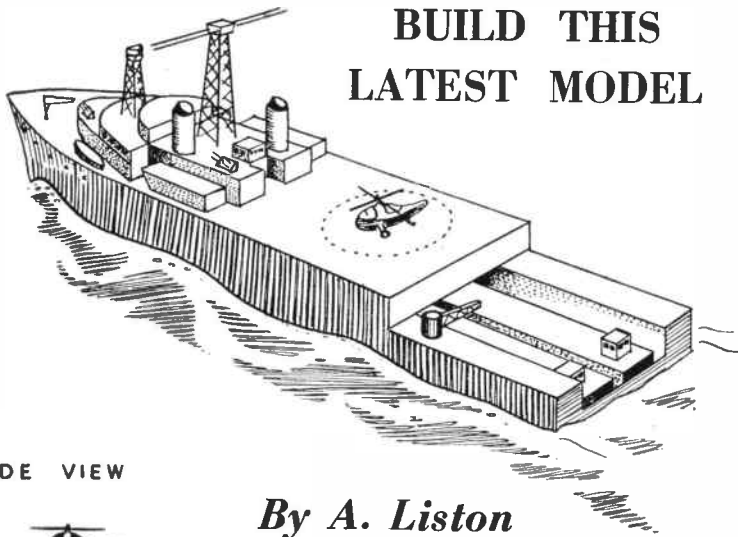
Clean up all surfaces with glass-paper and fill the grain. Rub down lightly and give one undercoat. Apply the first top coat and allow to dry. Rub down now with silicon carbide paper used wet. Wipe well to remove all trace of loose paint and apply the final finishing coat. The wheels are Hobbies rubber-tired, 4 in. diameter, costing 2/6 each, postage 1/6. They can be obtained direct from Hobbies Ltd., Dereham, Norfolk, or from any branch. (M.H.)

Royal Navy Assault Ship

THE new-type assault ship to be built for the Royal Navy carries landing craft in a compartment in the stern, which can be flooded for launching. The model shown here, based on the official artist's impression, also incorporates this novel feature.

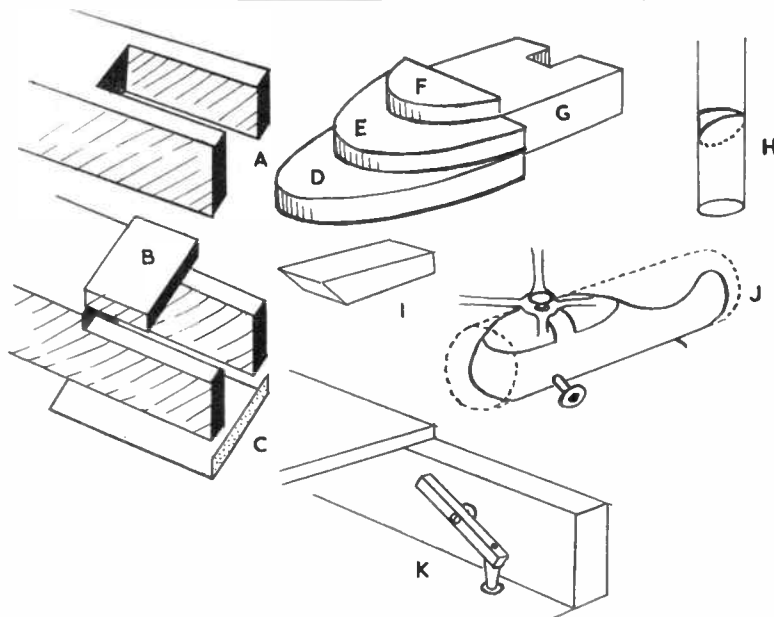
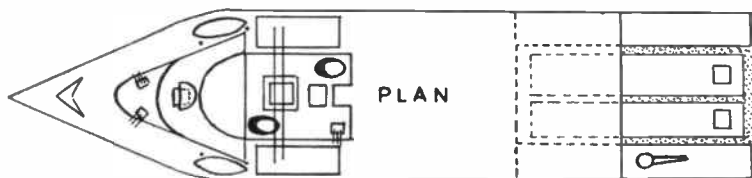
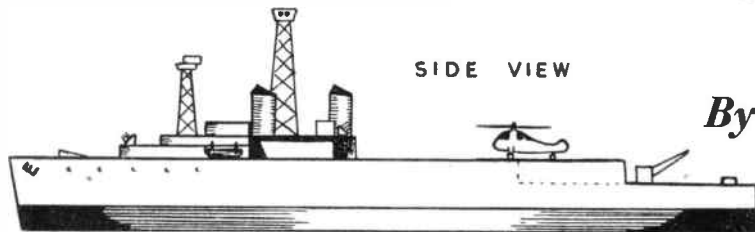
The hull is made from an 18 in. length of 4 in. by 2 in. wood. The two cuts which shape the bows extend back for 5 in., where the resulting 'shoulder'

BUILD THIS LATEST MODEL



SIDE VIEW

By A. Liston



on each side is rounded off with a file. At the stern a 6 in. long and $2\frac{1}{2}$ in. wide section is cut away A. The deck level at the stern is lowered by $\frac{1}{2}$ in. along its last 6 in., and a covering piece of $\frac{1}{2}$ in. thick wood, 3 in. from front to rear, and the same width as the hull, is screwed in place, as shown at B. The bottom of the stern compartment is covered by an 8 in. by 4 in. piece of tinfoil, with a 1 in. deep flange bent upwards at its rear edge C. This is pinned to the underside of the hull and the stern, and the joints sealed.

The forward sections of the superstructure are made of $\frac{1}{2}$ in. thick wood. The bottom section D has a 3 in. wide straight rear edge, and projects forward 3 in. in the shape shown in the plan. The next section E is also 3 in. wide, but projects only 2 in. forward. The upper section F is 2 in. wide, and projects 1 in. forward.

Section G is of 1 in. thick wood, and is 2 in. wide and 3 in. long, with a $\frac{1}{2}$ in. square cut out of its rear side. The four pieces of the superstructure are pinned and glued in place with waterproof glue, the front edge of section G being 6 in. from the bows.

The shorter radar tower is made from four 2 in. lengths of lampshade wire or similar stiff wire. The four legs are $\frac{1}{2}$ in. apart at the base, tapering to $\frac{1}{4}$ in. apart at the top ends, which are glued into a small square of cork topped by a semi-circular slice of thin dowel for the radar aerial.

The mainmast is of similar construction, using $3\frac{1}{2}$ in. legs 1 in. apart at the base and $\frac{1}{2}$ in. apart at the top. Two 3 in. lengths of thin wire pushed

through the cork topping piece form the horizontal aerials. The lattice work is on two sides only, and is made from thin wire wound round the legs, and glued in place.

The two funnels are 1 in. lengths of $\frac{3}{8}$ in. dowelling filed down to an oval section. The funnel caps are cut from a wedge of dowelling, cut as shown at H. Note from the plan the unusual funnel positions.

An L.C.I. or Infantry Landing Craft is carried on each side of the superstructure. This is 2 in. long, $\frac{3}{4}$ in. wide, and $\frac{1}{2}$ in. thick. It is shaped as shown at I. Two small boats, each 1 in. long, are carried in front of the L.C.I.s.

A $\frac{1}{2}$ in. cube behind the main radar mast forms the deckhouse, and the armament is represented by $\frac{1}{2}$ in. triangular sections of wood, with six $\frac{1}{2}$ in.

pieces of pin inserted in them. Two of these fittings are placed on section D, and two on section G.

The crane at the stern is a $\frac{1}{2}$ in. length of dowel, with two hairpin-shaped lengths of wire inserted in holes to form the jib. The breakwater at the bows is a small triangular section cut at an angle from one corner of a cube.

The helicopter J is a 2 in. length of $\frac{3}{8}$ in. dowelling, filed and shaped as shown. There are two nail-head wheels and a 2 in. diameter tinplate rotor held by a pin.

The two L.C.T.s or Tank Landing Craft are 5 in. long, 1 in. wide, and $\frac{3}{4}$ in. thick, and are shaped similarly to the smaller L.C.I.s. A $\frac{1}{2}$ in. cube at the stern of each form the wheelhouses.

A sea-cock for flooding the stern compartment K can be made by punch-

ing a hole in the tinplate bottom, and plugging it with a wooden stopper on the end of a 2 in. long wooden strip, which swivels on a screw at its middle point. A rubber grommet in the hole in the tinplate will make a tighter joint. Pressing the other end of the bar will open the sea-cock and flood the compartment until the L.C.T.s can be floated out.

The painting of the model is very simple; pale grey throughout, with the details picked out in black, gives the most authentic finish.

Since the buoyancy of the ship alters when the stern compartment is flooded, the helicopter and a deck cargo of small lorries, tanks, or even small weighted boxes can be used to trim the ship to the desired position when the landing craft are being floated off.



THEY TRAVEL
3,000 MILES
TO LIVE!
WITH US!

by Ed Capper.

LET us salute the elver. And what is an elver? It's a young eel. And why should it be so honoured? If you see it, as one of many thousands packing our streams in spring, literally turning the water into a consistency of thick cream, remember these are creatures that were not born in that stream, or even nearby, but some 3,000 miles away in the Sargasso Sea. For the past three years they have been travelling, despite all the hazards of an ocean trip, just to be in that particular stream.

And two years later, as adult eels, they commence the return journey and to die. . . .

For years the mystery of where young elvers came from baffled all naturalists. No one had ever found a female with eggs or had seen eel spawn, in any river, stream or pond. It was even considered, quite seriously, that here was the start of life; of an animal form that was born from water weed and the heat of the sun on rotting vegetation or flesh. No one ever guessed that the eels had come from the sea itself, for many colonies were to be found in inland ponds.

Then one day, a deep sea trawl net in

the Sargasso Sea brought up masses of eel spawn. And the mystery was solved.

These tiny elvers that you may find brushing against your body if you are bathing in a river around springtime are making for quiet streams or ponds, which they will reach by wriggling over grass when it becomes wet.

It is worth while studying them at this stage, especially if the river contains rocks, which in turn will form miniature chutes and waterfalls. Like their elder brethren, the elvers will jump considerable heights to continue their journey.

Once they find a suitable haven, they will live there peacefully for two years. That is, if they escape the clutches of the eel fishermen, or eel traps or the marauding heron. In ditches they are also particularly prone to the attacks of rats.

During these two years they are yellow-grey in colour and fully adapted to life in an inland pond or stream. Then, changes commence. First, they turn a silvery colour. Then their body tissues alter; they become tougher and ready to stand the greater pressure in the depth of the ocean. Lastly, their eyes alter to give them extra sight for the deep water.

And at this stage the elver, now a fully grown adult eel, commences its long return journey to the Sargasso Sea.

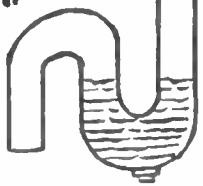



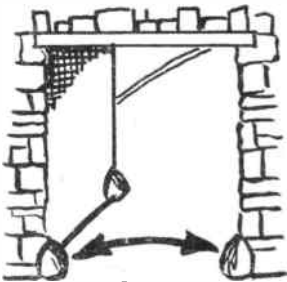
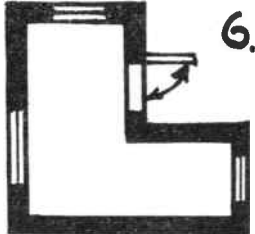
The season is autumn and they will glide from even the most isolated pond, across fields, until they find a ditch that will lead them to a river and eventually to the sea. It is no wonder they are sometimes easily mistaken for snakes.

Here, the death rate becomes greater, for fishermen know that nothing will stop the eel responding to the call to its original birthplace, and they set their traps accordingly.

Once in the sea the eels travel at an average of 16 miles a day, taking about six months to reach the Sargasso Sea. Here, at a great sea depth, they spawn and die. Slowly, the spawn floats north in the Gulf Stream. The tiny, transparent elvers gradually form, separate from the mass and begin the long journey to a freshwater stream or pond.

After three years they reach the same resting places that their parents left. And so the cycle re-commences. An adult eel has never been known to return or to mate and breed in any other place.

TWO-MINUTE QUIZ by Ed. Capper

<p>1.</p>  <p>NAME PIPE AND WATER IN IT!</p>	<p>3.</p>  <p>WHY WOULD THIS SIGN MEAN A POOR ROOF?</p>	<p>4. REMOVING SHARP CORNER ON WALLS IS CALLED - what?</p> 
<p>NAME 2. SECTION OF MOULDING</p> 	<p>WHY WOULD THESE PROTECTIVE STONES UNDER ARCH? ARE KNOWN AS _____?</p> 	<p>5. IN THIS BUILDING PLAN, WHICH IS THE SOLUM AREA?</p> 

ANSWERS ON PAGE 378

Making your own Horse Jumps

IN the 26th April issue of *Hobbies Weekly* I described how to choose a pony, and hope you have been well rewarded.

With the summer season, you may now want to do a little jumping, but only after you have mastered the technique of riding on the flat of course! However, although you may not be quite ready for your jumping début, you can always prepare a few jumps beforehand. On the other hand you may have been riding for quite a time, and would, perhaps, like to hold a miniature gymkhana at home or with your friends, and need a few ideas for home-made obstacles.

With the help of the illustrations you will be able to construct some really substantial looking jumps. These, of course, a horse needs if it is to become a good fluent jumper. Unlike athletes,

horses need good ground lines and spread jumps, not high and flimsy.

Do make your poles and walls at least 10 ft. wide, if possible, otherwise you may risk your pony running out, and the jump will look higher than it actually is.

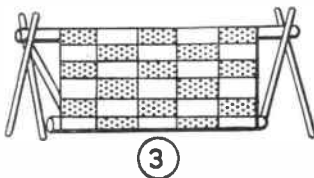
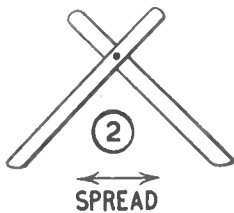
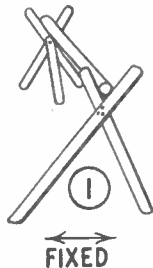
By A. Whyte

Take uprights first, for without them a course cannot possibly stand. You can makethem from any odd scraps of wood. length 1½ ft. to 3 ft. 3 in. This may not seem very high, but I can assure you if you can clear the highest of these with ease in a few months you will have made great progress.

Uprights as illustrated in Fig. 1 can be fixed at the required height with two or three nails. Fig. 2 shows the fixing with a bolt, allowing for raising or lowering the jump. Both these types need support from a piece of wood on which they lean.

Old oil drums can also be used, but unless weighted down may be blown untidily all over the place in windy weather, especially the 5 gallon ones, which you would have to use at this stage of training.

Next we come to the wall jump, of which you could make two at different heights. This type of jump can also be dual purpose if you leave one side natural, and paint the other side. The most simple wall to make is a sack one. First, obtain a piece of sacking the desired size, and two poles, one of which should be 1 ft. longer than the other. Fix the longer pole to the top of the sacking, allowing 6 in. to protrude at each end for placing on the uprights. Then fix the other pole at the bottom of the sacking, which can be rolled round this pole if the height is lessened. Paint the sacking, to suggest walling, as seen in Fig. 3. Another type of wall can be made from a wooden frame covered in plywood. Other fences can be made from poles and uprights.



'Tailored' Lampshades

By
**Anne
Bradford**



Fig. 6—This shade has a lace net covering the silk base and a bubble fringe

WHILE some smaller lampshades can be tailored in just the same way as described in the previous article on page 256, the shape sometimes makes this rather a tricky process and it is then much easier to sew on each panel separately by hand. This applies to table lamps mostly and where there is a lace overlay as shown in Fig. 6.

Before considering these methods we would mention that there are various types of adaptors available enabling us to make a table lamp from a bottle. In Fig. 7 you will see that we have used a discarded fruit juice bottle. This was first painted black on the outside. It was spotted by dabbing a match stick here and there after charging with a little paint and on drying given two coats of varnish. The shade and spots match both in design and colouring of the lampshade and you will see the type of adaptor used for converting into a table lamp.

Glass marbles or small pebbles are used for filling such bottles since they not only add weight but also hold the adaptor firmly in position.

To cover the shade a piece of selected material is placed over a wire panel which has been taped in the manner described in our previous article and firmly pinned in position. It is advisable to start at the top, using fine pins, then the bottom, proceeding to the left edge, then to the right. Endeavour to maintain an even tension all the time and remember

that the material should be on the cross. Any tendency towards dragging can be avoided by altering the pins. Allow a surplus of say $\frac{1}{2}$ in. of material on all four sides.

When a panel has been pinned you may commence stitching the material to the taped frame and while any method of tight stitching is suitable, many workers prefer the Russell-Streatly or glove

stitch. Here the thread is twice sewn horizontally followed by an oblique stitch about $\frac{1}{2}$ in. long, continuing with two horizontal stitches.

Sew along the top edge first to the tape on the frame, turning the material over on to the inside. The pins are removed as the sewing proceeds but avoid taking too many out at once or the tension will be relaxed. Next sew the left side, the bottom and up the right edge.

When the panel has been sewn to the frame a second piece is pinned into position and sewn. All the panels are so completed before trimming away the surplus down the seams. Cut away as near as possible to the frame to make neat edges. All the seams are covered with braid. Additional braid is attached around the outer and inner rims at the top and the inner rim at the bottom. The outside of the bottom is covered with a matching fringe.

As previously mentioned, a nice effect is to be achieved by covering plain silk with a lace net, for which the process is repeated. An example of such a shade is shown in Fig. 6, where for a change a 'bubble' fringe has been used.

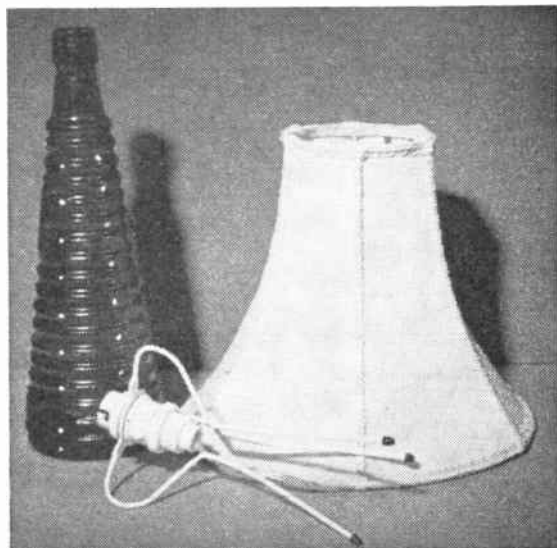
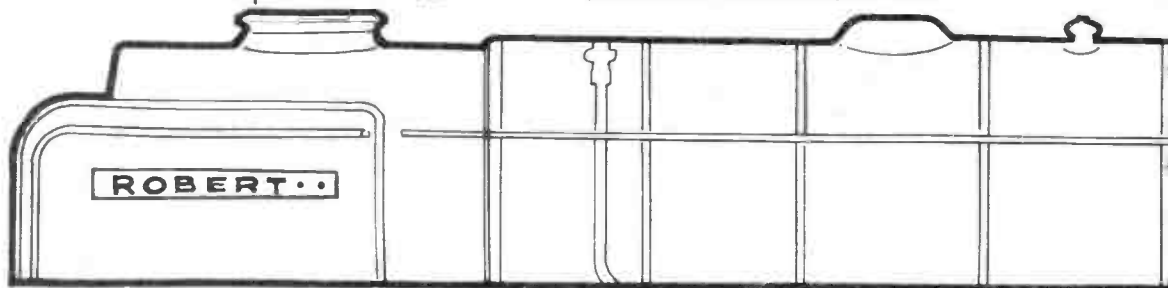
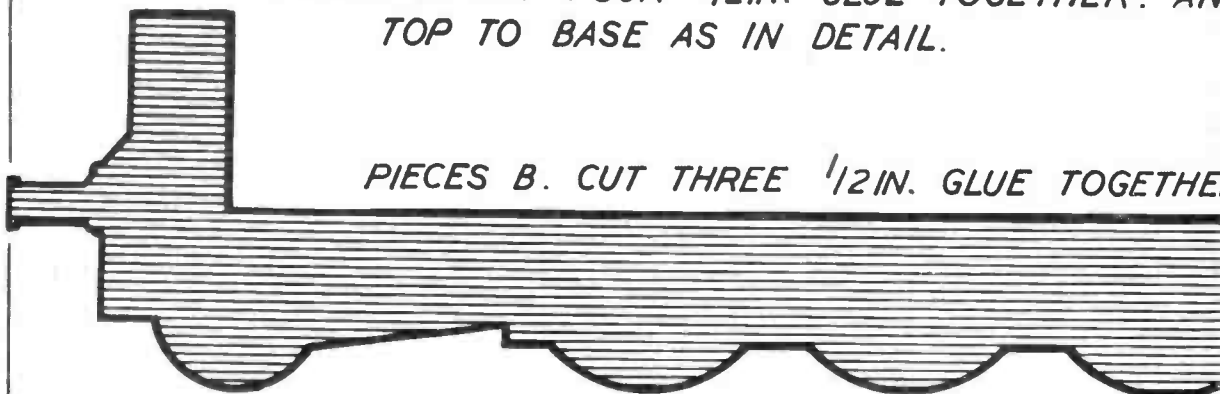


Fig. 7—A painted bottle used for a table lamp and an adaptor

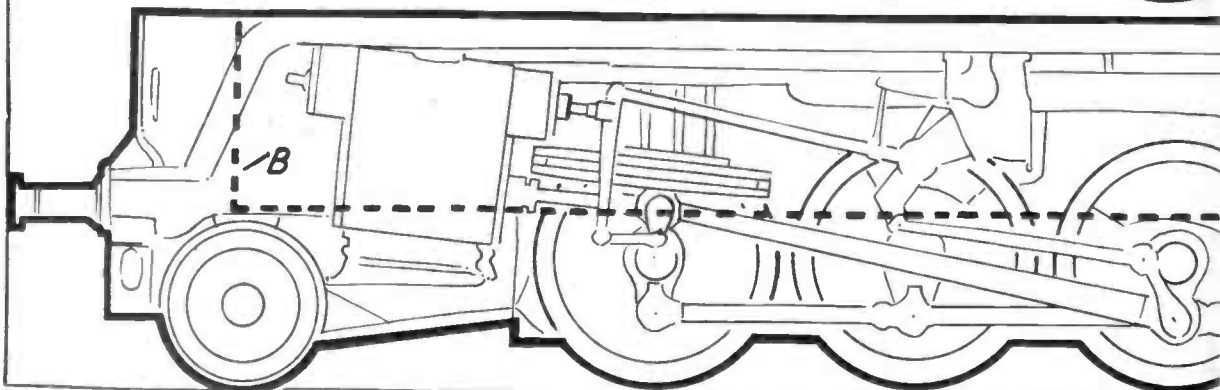
TRAIN SPOTTERS PENCIL BO FOR D



PIECES C. CUT FOUR $\frac{1}{2}$ IN. GLUE TOGETHER. AN
TOP TO BASE AS IN DETAIL.



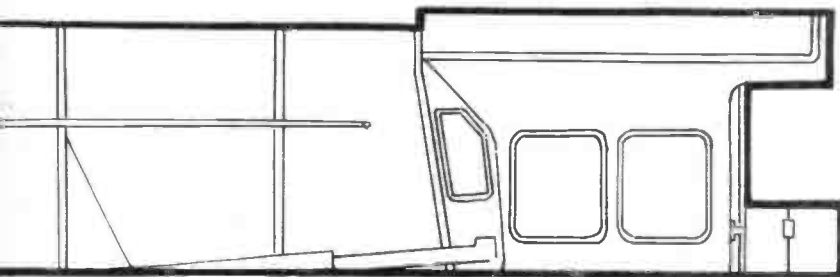
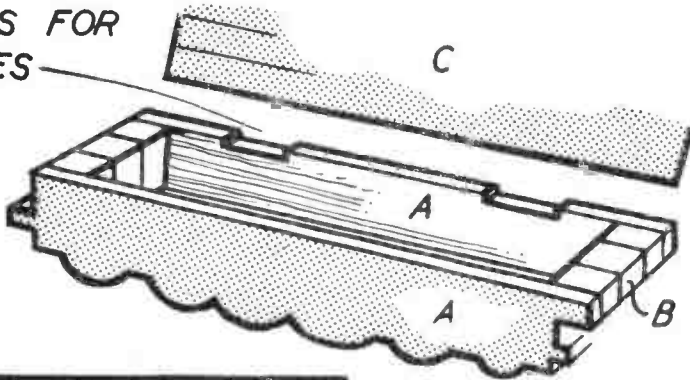
PIECES B. CUT THREE $\frac{1}{2}$ IN. GLUE TOGETHER.



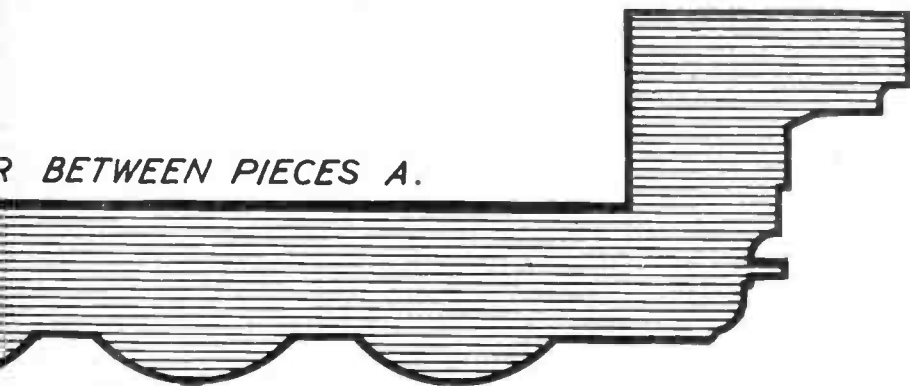
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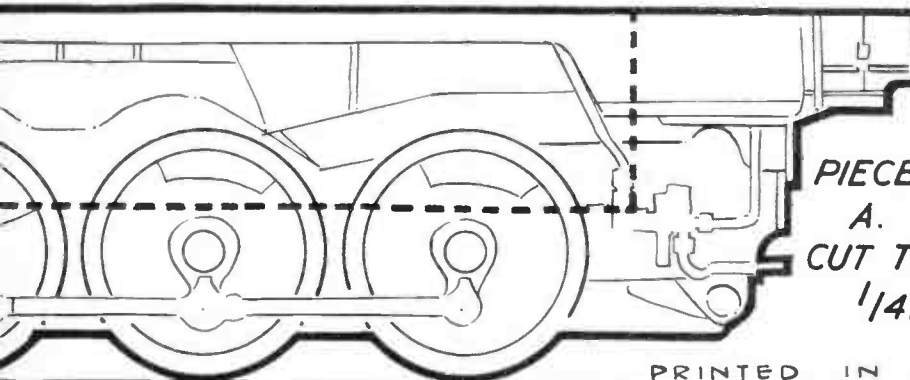
RECESS FOR
HINGES



D HINGE COMPLETE



R BETWEEN PIECES A.



PIECES
A.
CUT TWO
1/4IN.

THE DETAILS INDICATED SHOULD BE PAINTED
WITH BRIGHT ENAMELS BLUE OR GREEN.

PRINTED IN ENGLAND.

Water from nowhere!

A MYSTERIOUS TAP

MANY of you have, no doubt, seen this tap at work in an ironmonger's window or at a trade exhibition and have wondered just how it worked. A steady stream of water flows out of the spout, yet there is no apparent connection to a water supply.

To make the illusion more complete the tap is usually mounted on a glass or clear perspex panel to prove that the back of the tap is not fed from the water mains.

When you know the secret, however, you will wonder why such a simple affair should mystify so many people. An excellent model can easily be built up to amuse your friends, or a local plumber might like to buy it to attract attention to his establishment.

The drawing shows a length of glass tube running from the spout of the tap, down and through the bottom of the tank. From here it goes to the water supply, but in order to preserve the illusion it should be hidden in some way.

When the water is turned on it flows up the glass tube, and on reaching the spout of the tap it is turned back. It flows down the outside of the tube, and looks just like an ordinary stream of water flowing from an ordinary tap.

By carefully adjusting the pressure of the water from the mains the glass tube will be invisible. A perspex tube may be used instead of glass provided it is quite clear.

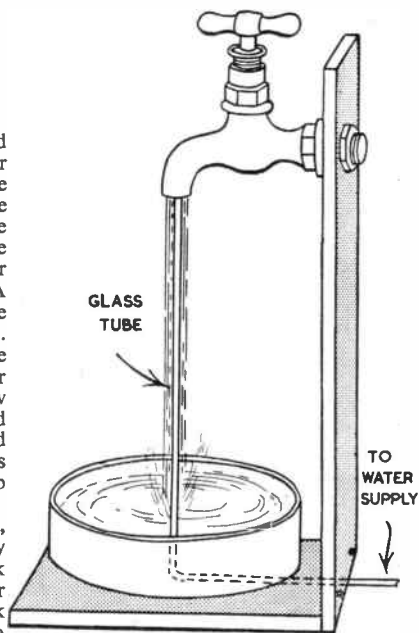
Dimensions are not important, and you can arrange these to suit your particular requirements. The distance between the water tap and the receptacle for water underneath it should not be too great, however, or you may have difficulty in controlling the flow of water in a steady stream down the tube. A distance of about 6 in. should be quite reasonable, and not present any trouble.

If you use a glass panel to mount the tap on it had better be plate glass for extra strength, but of course a narrow strip of perspex would be better and much easier to work with. You will need a hole for the tap, and with glass this may be rather difficult to make. A strip 2 in. wide will be sufficient.

Fix the tap near the top of the strip, and if it is an old tap with a faulty seating, then you must plug the back hole to make it perfectly watertight, or it will not function properly. A cork pushed in tightly and cut off flush will do the job quite well. A tap with a good washer that can be turned off will not need this treatment, and the back can be left open, making it look more realistic.

It does not matter what material the water tank is made of, so long as it is watertight, and that a hole can be made in the bottom. After the glass or plastic tube has been fixed in the tank this joint must be sealed to make it watertight, too.

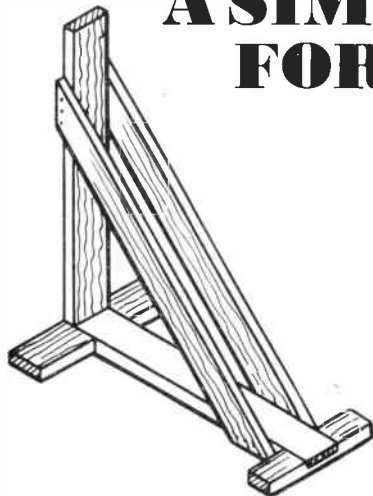
Arrangements must be made for an overflow pipe from the tank, and the



water level need not be more than 1 in. or 2 in. It is a good idea to have sand or small stones in the bottom of the tank. Built on a more ambitious scale the tank could be considerably larger and deeper with some water plants and perhaps a few small goldfish.

The connection to the water supply is made with a length of flexible rubber tube, which can easily be hidden away in a suitable manner, so as not to be obvious. (A.F.T.)

A SIMPLE STAND FOR CYCLES



IT is surprising the large number of people who spend a great deal of time cleaning and oiling their bicycles to keep them in good order and yet store them carelessly when not in use.

To the majority of cyclists the storing of their machines merely means leaning it against the wall of a shed or garage. The keeping of your bicycle under cover is not the only matter to consider. If it is leaned against a wall the chromed surface of the handlebars may get scratched and damaged. To avoid this it is best to ensure that your bicycle is propped upright away from any wall and this can be done with the aid of a cycle stand.

If a wooden stand is to be used then it need not be elaborate. The illustration shows a very simple design which can be constructed with only a few cut-offs of timber. The width of the opening between the angle braces should of course be made to suit the overall width of the front wheel. Note also, that the two horizontal members are halved into the base board to keep the stand upright. (F.K.)

ANSWERS TO QUIZ (see page 374)

1. 'S' Trap Bend, the water in it is called a 'seal'; 2. Bead; 3. Because it would have no underfelt under the tiles (or sarking); 4. Splaying; 5. Spur stones; 6. That area enclosed by the main outside walls.

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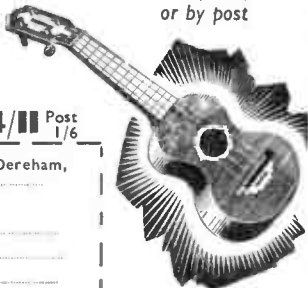
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MAINLY *for* MODELLERS

WE now come to the period of the 'wooden walls', the period of greatest development in wooden warships and one about which, fortunately, we have ample information and authentic draughts available.

It is interesting to note that at the beginning of this period the expenditure on Naval ships was very large in relation to the national finances. In fact in 1657 four-fifths of the country's income was devoted to this purpose.

In the latter half of the 17th century the main difference between the English-built vessels and those of the Continent was in the stern. English ships were always built with the round tuck introduced by Pett, whereas the Continental types were all constructed with the earlier square tuck.

The Dutch, one of the leading maritime nations, were the first to modify the earlier extreme 'tumble-home' of the upper deck. It still persisted in the English vessels, but was less pronounced in the

French and Spanish ships.

The setting up of the various Establishments laid down the standard dimensions of each class of warship and during the period from 1677 to 1745 the size of a first rate of 100 guns increased from 1,500 to some 2,000 tons burthen. As an example,

WOODEN SHIP BUILDING—15 By 'Whipstaff'

a ship of 80 guns in 1745 was as large as the previous 100-gun ship of 1677. Some of this increase was undoubtedly due to the increase in the weight of the guns, but most of it was due to the desire for greater strength and seaworthiness.

In 1747, owing to experience gained by Anson and his appointment to the

Admiralty, more alterations were made to obtain these results. It was laid down that the number of guns be reduced. Ships designed for 70 and 60 guns were to be fitted out with 64 and 58. This led some ten years later to the introduction of the large two-decker 74's, later to become the main fighting ships of the Navy. The design was copied from French ships captured as prizes and was almost exactly of the same dimensions.

About this time the channels were raised from their position level with upper gun-deck to the level of the quarter deck, the same level at which the mizzen channels had been previously.

The appearance and decoration of the ships built under the regulations of the Establishment of 1719 show a distinct break away from the Stuart types. Decoration became less elaborate and port wreaths disappeared.

The stern walks, which were introduced about 1680, did not project beyond the general line of the stern and up to the end of the 18th century they were usually double in the three-deckers and single in the two-deckers. Below 50- to 60-gun ships they were absent.

Up to the reign of William III the usual crowned lion was the figurehead, the privilege of individual figureheads being then allowed to second rates. Until this introduction the main distinction in the various ships was in the quarter galleries, which later became more standardized, the smaller vessels, like sloops, having small windows known as 'badges' only, instead of quarter galleries.

The square beakhead bulkhead was still a feature of the large ships during the 18th century, the smaller vessels finding it less practical.

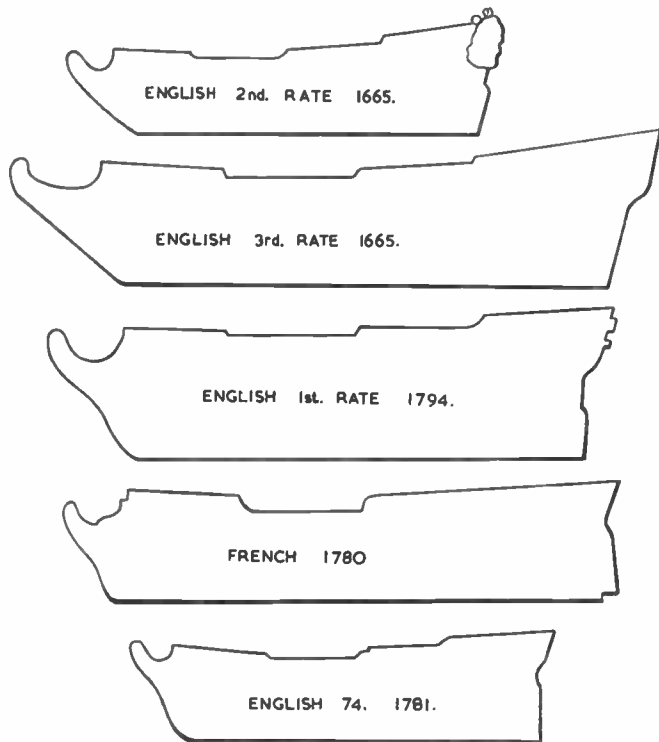
During the 17th century third-rate ships were the main ones used in line of battle, the first and second rates being used in special circumstances.

The first ship to be called a frigate was built by Pett in 1646 at Chatham. Named the 'Constant Warwick', she measured length of keel 85 ft., breadth 26 ft. 5 in., depth 13 ft. 2 in., tonnage 315 and carried 32 guns.

During the latter part of the 18th century a new class first rate was built, of 110 guns and some 2,330 tons. The usual 100 guns of the previous vessels became 98, the 74's remaining the principal class of Naval vessel.

In the sketches are shown the hull profiles of various ships during this period, from which the gradual development of the appearance of the wooden warships can be seen.

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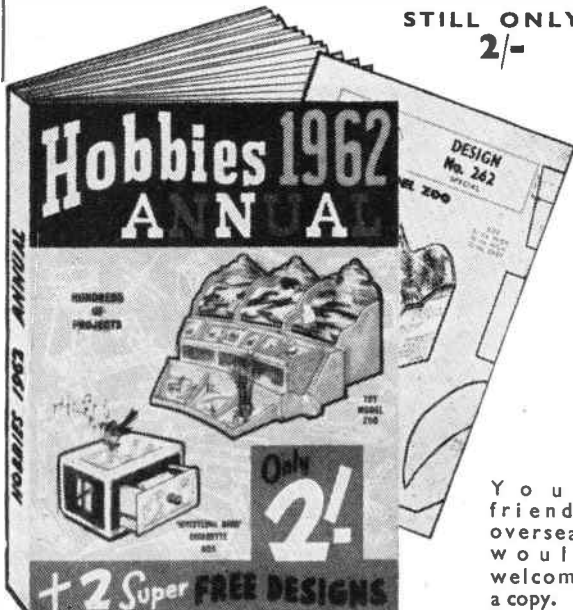
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Replies to Readers

Decreased volume

I HAVE a 10 in., 3 ohm speaker connected to a record player. The speaker used to be quite loud when the volume was on full, but now it is only just loud enough to hear. The speaker transformer in the player is perfect as other speakers are still quite loud when connected to it. I cannot find anything wrong with the 10 in. speaker, the field coil is not broken anywhere, and the speaker is not damaged. Have you any idea what could be wrong with it? (B.M. — Rochdale).

IF the loss of volume arose suddenly, and other speakers give proper volume, a high resistance or other poor joint is likely. This may be anywhere in the leads, connecting points, or speech coil. A careful examination, or meter test, will show where such a fault is. If volume had fallen slowly, over a period, and other speakers do not give as much volume as before, then a valve or other part in the player or amplifier has probably deteriorated. If no electrical or mechanical fault can be found in the speaker, and it has lost volume slowly whilst other speakers still give usual volume, then the speaker is probably de-magnetised. This is not very likely, and cannot be rectified at home.

Marquetry 'Blistering'

I COMPLETED a marquetry picture and now find that the veneers have, in two or three separate places, lifted off from the baseboard. Since these raised areas are not at the edge of the picture, I am at a loss to know what, if anything, can be done about them. Can you advise me? (D.G. — Mombasa).

IT would appear from the description that an air bubble has been allowed to form in the centre of the veneer. In the application of these, squeezing should commence from the centre in order to eliminate this possibility. To correct the fault, you should cut the 'blister' with a razor blade or sharp knife, down the grain, squeeze a little adhesive under both sides of the incision, and flatten down again under pressure. Providing a delicate cut is made, the repair should not be too apparent, particularly if care is taken with the subsequent polishing.

Record Player Conversion

I HAVE an old 78 r.p.m. record player and wish to get the speed down to 45 r.p.m. and to replace the moving iron pick-up with a crystal one. I would be grateful if you could tell me the size of the resistor to be used in the positive wire, or any other method which I can use. (N.B. — Ipswich).

NO difficulty should arise in using a 78 r.p.m. crystal pick-up instead of the present pick-up. Unfortunately reducing speed with a resistor is usually

WINGS DAY SEPT. 16th



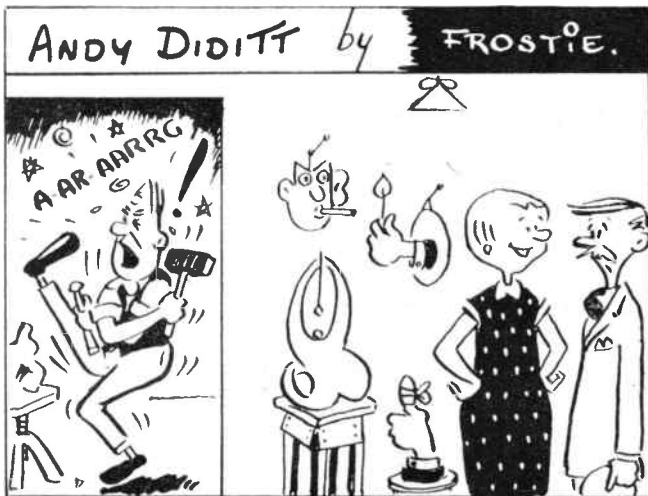
unsatisfactory. Speed then depends on friction, and may increase as the pick-up nears the centre of a record. It is usual to have extra reduction gearing, for 45 and 33 r.p.m. Friction discs, rubber belts, or rubber-rimmed wheels are often used for this. If your motor has a friction speed control in addition to the reduction

drive, and is of universal type with brushes, you might try to obtain a lower speed with a resistor, if the friction speed device can be re-set to operate at around 45 r.p.m. A simple test, with some household lamps in parallel, and inserted in one motor lead, may show if this is possible. A white mark on a record will allow speed to be counted. It is likely speed will fluctuate too much for best musical reproduction.

Record Player Motor

I AM writing to enquire if a motor — an electric one such as from a Hoover cleaner — would do for a gramophone (electric). Please state how to connect wires, and whether a battery would do to run it. (O.J. — Anglesey).

A MOTOR of the kind you mention would not be very satisfactory for a record player, because of the noise of running, and probable fluctuations in speed. Record player motors are specially made for this purpose, and run very silently. Various arrangements are also provided to make the motor run at uniform speed as any change in speed will alter the pitch of musical items. In view of this, a turntable and motor unit seems necessary. Suppliers include Radio Component Specialists, 337 Whitehorse Road, West Croydon, and Gladstone Radio, 58a High Street, Camberley, Surrey. Battery driven record players are available, but are not recommended if ordinary mains are available.



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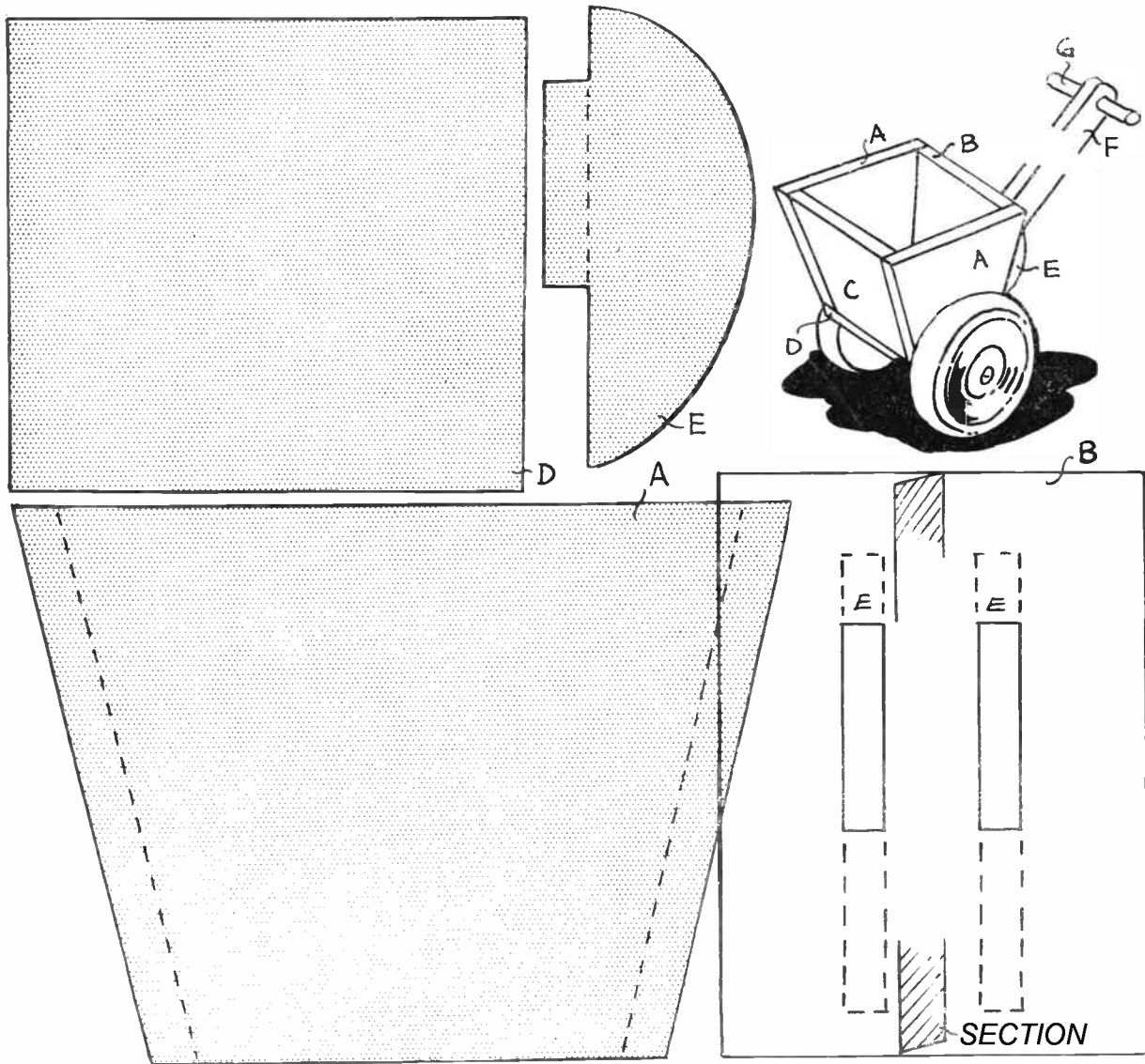
THIS little toy makes an excellent gift for any occasion, but looking forward to Christmas it would be ideal filled with toffees or sweets.

Cut two of A, one of B, one D and two of E from $\frac{1}{4}$ in. wood using a fret-saw. Piece C is also $\frac{1}{4}$ in. thick and is the

same size as B, but to outline only. Glue them together as shown in the small sketch.

The axle is $\frac{3}{8}$ in. square stripwood and the handle (F) $\frac{1}{2}$ in. by $\frac{1}{2}$ in. strip with a piece of $\frac{1}{4}$ in. round rod (G) inserted as shown. The handle can be 12 in. to 18 in.

long and is pivoted in place. Wheels are Hobbies wooden wheels, $2\frac{1}{2}$ in. diameter and can be obtained direct from Hobbies Ltd, Dereham, Norfolk, price 1s. 2d. per pair, postage 6d. (M.p.)



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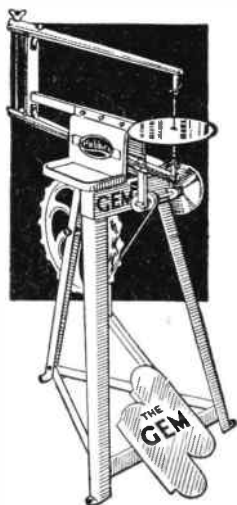
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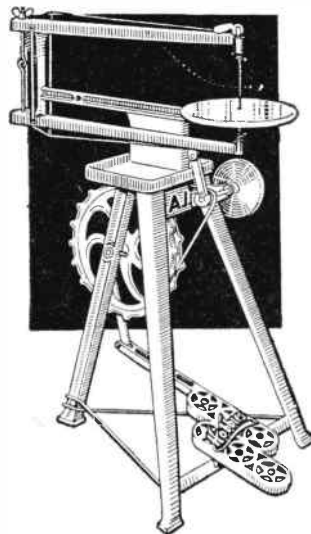
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