

Hobbies

WEEKLY

FREE DESIGN
for a set
of
TOY SCALES

VOL. 114

NUMBER 2958

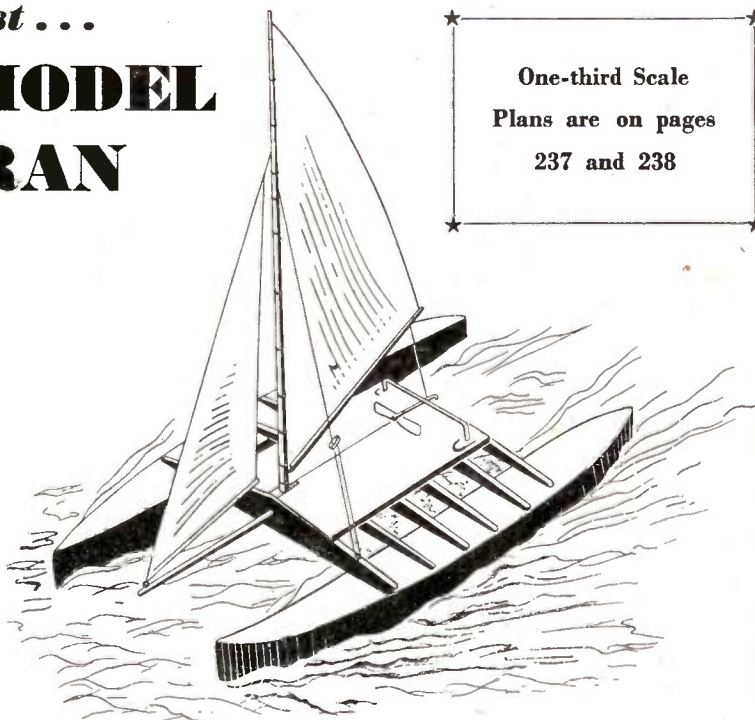
Unusual and fast ...

A RACING MODEL CATAMARAN

THE catamaran or twin-hulled yacht is, potentially, the fastest of all wind-powered craft of a similar size. The twin-hull layout is so stable that it can carry sail of an area which would normally be used only on a much larger conventional hull. The 24in. model described, for example, could carry a set of sails appropriate to a 30in. or even 36in. class orthodox yacht. The sails described on the plan are quite moderate in size, but should be suitable for a start. In the heading illustration a small suit of sails has been drawn—equivalent to a 'storm' set.

Not Difficult

The model is not too difficult to construct and, besides being an excellent sailing craft in its original form, is a worthy subject for further experiment and detail modification. For example, a single rudder has been shown for simplicity. Better control will be possible if twin rudders are used, one at the extreme rear end of each of the hulls. These could be interconnected and linked to a Braine, or even a vane-type automatic steering gear. Mast height could be increased to 48ins., and a correspondingly larger suit of sails fitted when, with some modification to the depth of the keel, this 24in. model should be capable of holding its own with a 36in. class racing yacht. Light-



One-third Scale
Plans are on pages
237 and 238

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weight construction—balsa instead of ply—could also be used to improve performance.

Study the Plans

Study the plans before commencing building. These will have to be scaled full size, or a full size plan obtained, to get the correct deck, false bottom and former outlines. The hulls, it will be noticed, are asymmetric. Hence it is

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THE MAGAZINE FOR MODELLERS,
HANDYMEN AND HOME CRAFTSMEN

4^D

necessary to build one right hand (or starboard) hull and one left hand (port) hull. Construction is the same and the shape of the various components is the same. They are simply assembled opposite way round on the vertical skin member.

Trace or re-draw the outline of the vertical skin member on to $\frac{1}{8}$ in. resin-bonded (waterproof) plywood and cut out carefully. Use this as a pattern to cut out a second ply piece for the second hull exactly the same shape. In a similar manner cut two deck and two false bottom pieces. The former is $\frac{1}{8}$ in. thick wood like pine. The false bottom is $\frac{1}{8}$ in. thick. Do not use plywood for these parts if you can avoid it, as it will make the finished hulls too heavy.

Getting the Curve

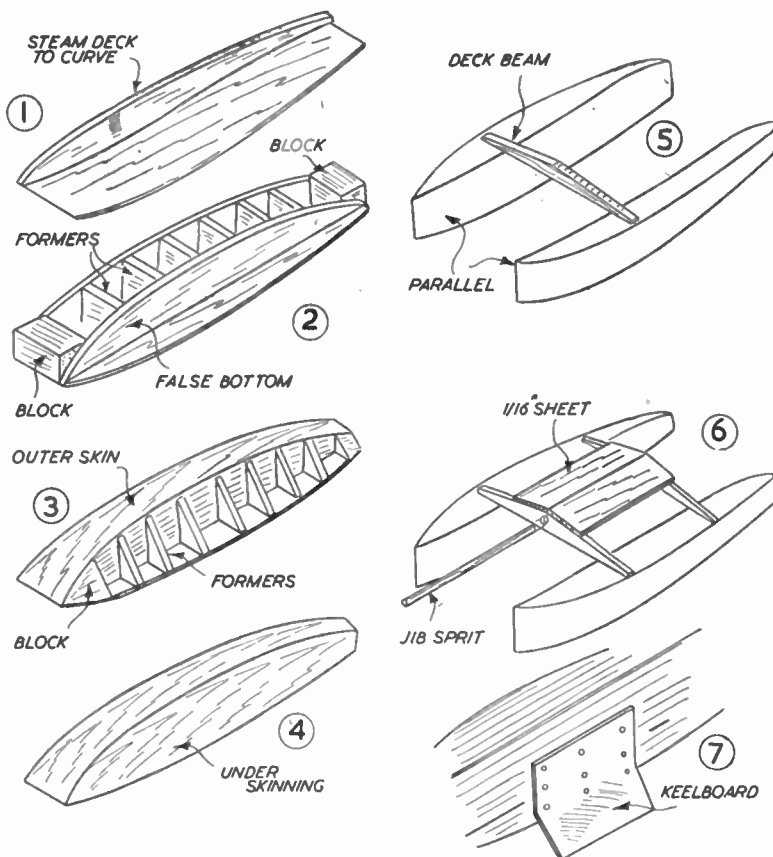
The deck piece must now be steamed to conform to the upper curve of the ply shape. When correctly bent it can be cemented and pinned in place. It is a good plan to mark all the former positions on the outside face of the ply before starting assembly. The formers can then be glued in place and pinned later, with the marked lines as guides.

Fig. 1 shows the deck assembled in place. The false bottom and formers are then added, as in Fig. 2, finishing off with solid blocks of wood at the bow and stern. When the glue has set these blocks are carved down to shape. The outer skin can then be glued and pinned in place as in Fig. 3. Pin to each former and shape carefully around the bow and stern blocks. Incidentally, note that all the formers are drilled with drain holes, which, of course, must be done before assembly. This makes it possible to swirl bilge water into the centre compartment of the finished hull, where it can be emptied through the hatch.

After the outer skin has been trimmed to shape, add the bottom formers, again with shaped blocks at bow and stern, and then the bottom skinning. Once more pin and glue this in place and trim down when set. The resulting hull must be truly watertight.

When the second, opposite hand, hull has been made in a similar fashion, the two hulls can be joined by means of the deck beams. These beams are cut from $\frac{1}{8}$ in. plywood, six in all and each exactly the same. The hulls are assembled by screwing these beams down to the deck of each hull, using long screws to penetrate into the ply formers beneath. The beams, in other words, are assembled over former positions.

It is particularly important that the two hulls are absolutely parallel when assembled, so check this carefully. Start by fitting the front beam. Then the farthest end beam, lining up the hulls. Check again when the aft beam has been secured. If the line-up is satisfactory, the other beams can be screwed in place.



Now add the centre decking, as in Fig. 6. Only two of the six ply beams are shown here for clarity, but the $\frac{1}{8}$ in. thick deck is glued and pinned down to each beam. Drill through the first two beams to take the jib sprit, which can be made from $\frac{1}{8}$ in. diameter dowel. This is simply glued in place.

Those who do not wish to scale up the plans provided in this issue, can obtain full size versions (each 24ins. by 19ins.) from the Editor, *Hobbies Weekly*, Dereham, Norfolk, for 4/- the pair.

Before adding the deck fittings, etc., cut a hatch in the top of each deck between formers (E) and (F) and make a suitable hatch cover. Drill through the false bottom immediately under the hatch position to enable the lower bilges to be drained, if necessary.

The minimum of fittings can be used, if desired. The rudder is cut from sheet brass, wrapped around a length of $\frac{1}{8}$ in. diameter brass wire and soldered. This wire passes through a short length of brass tube and is then bent over at right angles to form the tiller. The tube is

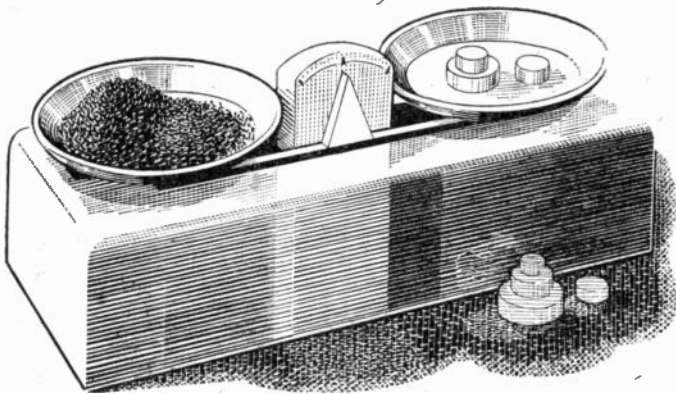
strapped to the rear face of the aft deck beam by means of a brass strip screwed in place around the tube, as shown on the plan. Check that the top of the rudder comes in line with the design water line and not above it. Otherwise most of the rudder will be out of the water when sailing and it will be ineffective. At the same time, do not mount the rudder too deep or it will be in danger of getting bent or damaged. To lock the rudder in any desired position, bend a strip of brass into an L-shape to fit over the cambered centre deck—slitting the vertical edge to make the necessary shallow V-bend. Notch the top of the rack to engage the tiller in a number of alternative positions.

Mast Fitting

The mast fitting is a length of tube— $\frac{1}{8}$ in. internal diameter if you are going to use a light $\frac{1}{8}$ in. diameter mast, or $\frac{1}{4}$ in. internal diameter if you are going to play safe and use a heavier $\frac{1}{4}$ in. diameter mast. This tube is soldered to a cambered base plate, angled to fit on the deck centre line. Fit a block of wood under the deck between the first two beams where the mast fitting is located and

(Continued on page 235)

From Design 2958— A SET OF TOY SCALES



A parcel containing all necessary wood for making these scales can be obtained from any Hobbies branch, or post free from Hobbies Ltd., Dereham, Norfolk, price 11/2, including tax.

ALL children love to play at 'shops' and they find it even more absorbing if they have a pair of scales to use. Of course, the weights in this toy are only make-believe, but if you can get hold of a set of real weights, there is no reason why the scales should not weigh fairly accurately.

Apart from dolls, and doll's houses it is not so easy to find a suitable toy for a girl, but here is a birthday or Christmas present that is sure to please. An article of this size would cost far more

pieces measuring 11 ins. by 2½ ins. Glue these together as shown in Fig. 1, but do not put the top (11) in position yet.

The Balance

The next step is to make the balancing portion. Study Fig. 2 and you will see that it comprises pieces (4), (5), (6), (7) and (8). Glue the two pieces (4) together to form one piece and then pin or screw the balancing arms in place. The pivot points are shown clearly on piece (4). Whether you use pins or screws for this purpose you must be careful to make

one on each side, and then pivoted to the ends of the arms (5) and (6) as shown in Fig. 2.

Next glue the supporting pieces (9) to pieces (7), and the pointers (10) to the arms (5). The tenons on pieces (4) are now glued into the mortise in the base (1), and when dry, the top is dropped in position and glued or screwed to the sides (2) and ends (3).

The Pans

Cut out the various circles of ½ in. and ¾ in. wood (12), (13) and (14), and glue

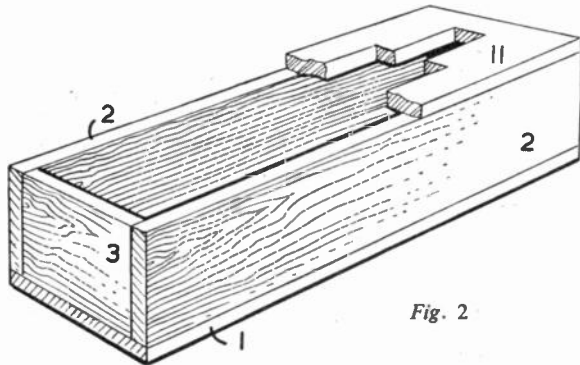


Fig. 2

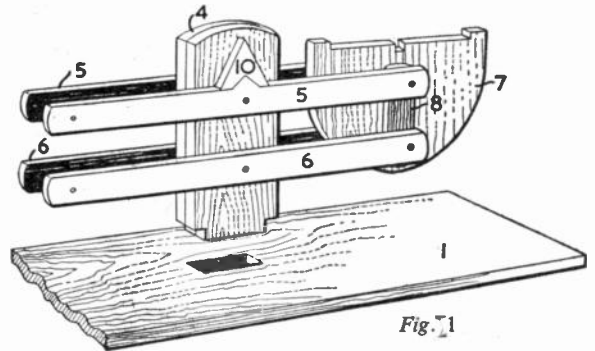


Fig. 1

ready-made than it would for our kit of materials.

Educational Value

Besides being a grand toy, it has good educational value and with a little patience the children can soon be taught the correct weights to use and the value of various commodities.

The scales are 11 ins. long and the pans are 4½ ins. diameter. The pans can be fixed or removable, and the whole thing painted with enamel to resemble metal. Weights can be represented by pieces of wood or coins.

All the parts are numbered, and you should refer to these numbers on the sheet as you read these instructions.

Commence construction by cutting out the base (1), the sides (2) and the ends (3). The sides are rectangular

the holes in the arms large enough to ensure smooth working.

Pieces (8) will be glued to pieces (7),

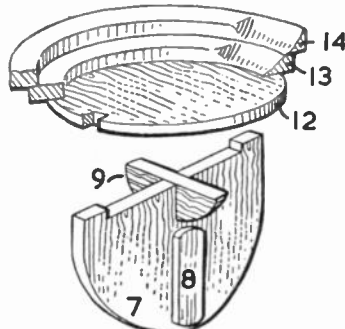


Fig. 3

(14) and (13) together. At this stage you should shape the insides of these pieces. A suggestion for this is given in Fig. 3, and gives the shape of the inside of the pan. When you have shaped them all round you can glue them to pieces (12) and then, when the glue has set, shape round the outside in a similar manner.

The pans can now be fixed to piece (7) and the supporting bracket (9), or, if you prefer it, they can be slipped into place without permanent fixing. Fig. 3 shows a cut-away view of the pan and supporting pieces.

Paint the whole thing light green or cream and indicate the markings on pieces (4) as shown in the picture of the finished thing.

(Continued on page 228)

Improving Cigarette Card Albums

LETTERPRESS on the back of cigarette cards is hidden once the cards are in albums of usual design. This is a pity, as a lot of interesting and informative detail is given in these paragraphs, without which the pictures, to the serious collector, lose much of their value.

Firms made albums for their own cards sometimes and overcame the trouble by issuing books for special sets, the wording being reprinted in a small rectangle in the album itself beside the corresponding card-position, but this

tin or zinc (zinc is better) and slip it under the first page to be treated—a sheet similar in size to a page is easily kept with the album. With this in position, lay the template over the first card-position, seeing that it lies as would a card, and with a fine pointed pencil, trace round the central rectangle, thus leaving a faintly pencilled rectangle on the page. Treat all the card positions similarly.

Now, with a metal-edged ruler (and again a sharp-pointed blade) cut

out the central rectangle, Fig. 2 (1), making the corners true and 'clean'.

If carefully done, a card now inserted in the 'position' will display its printed

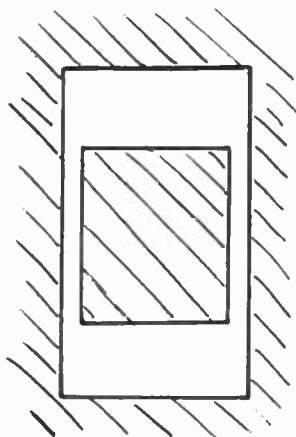


Fig. 1—The template from which to trace the openings on each page

scheme is impracticable in albums intended for the insertion of any sets.

By the following method, however, the usual type of corner slotted album can easily be prepared to show both the 'faces' and backs of the cards.

First trace an outline of a card on a piece of tissue paper; marking in the 'frame' that surrounds the letterpress.

Paste this tracing to a piece of card (a little thicker than a postcard) and with a sharp pointed blade cut round the inside rectangle, also round the outside, which will give a shape as Fig. 1. This is to act as a 'template' and for long service should be made of zinc or tin.

To prepare the pages—take a sheet of

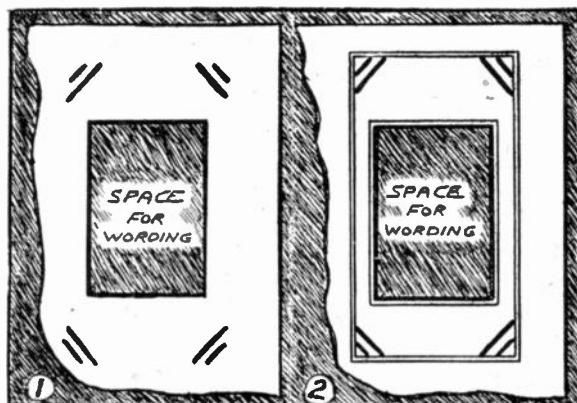


Fig. 2—The front (1) and reverse (2) of a prepared page

matter on the reverse side of the page, as per the photograph.

The back of the page, it will be found, is inclined to look untidy if left without further treatment, the strips of card showing through the slots not being very 'artistic'. This appearance can be improved, however, by putting a simple design round the card-position as in Fig. 2 (2).

The design is made with a ruler and is, therefore, not a difficult or lengthy job. Black drawing ink is suitable for grey pages but white ink should be used for darker paper.

There is no need to prepare the whole of an album at once; indeed, it is better to complete a page or so, as they are required.

Regarding laying out the book, it is better to have a full two pages showing backs and then the next two showing fronts (that is pictures), rather than to arrange backs and fronts alternately. Thus page one will show pictures, pages two and three backs, four and five pictures, and so on throughout.

(470)



Fig. 3—Back of a page before any design has been put round the corners

SET OF TOY SCALES

(Continued from page 227)

The Weights

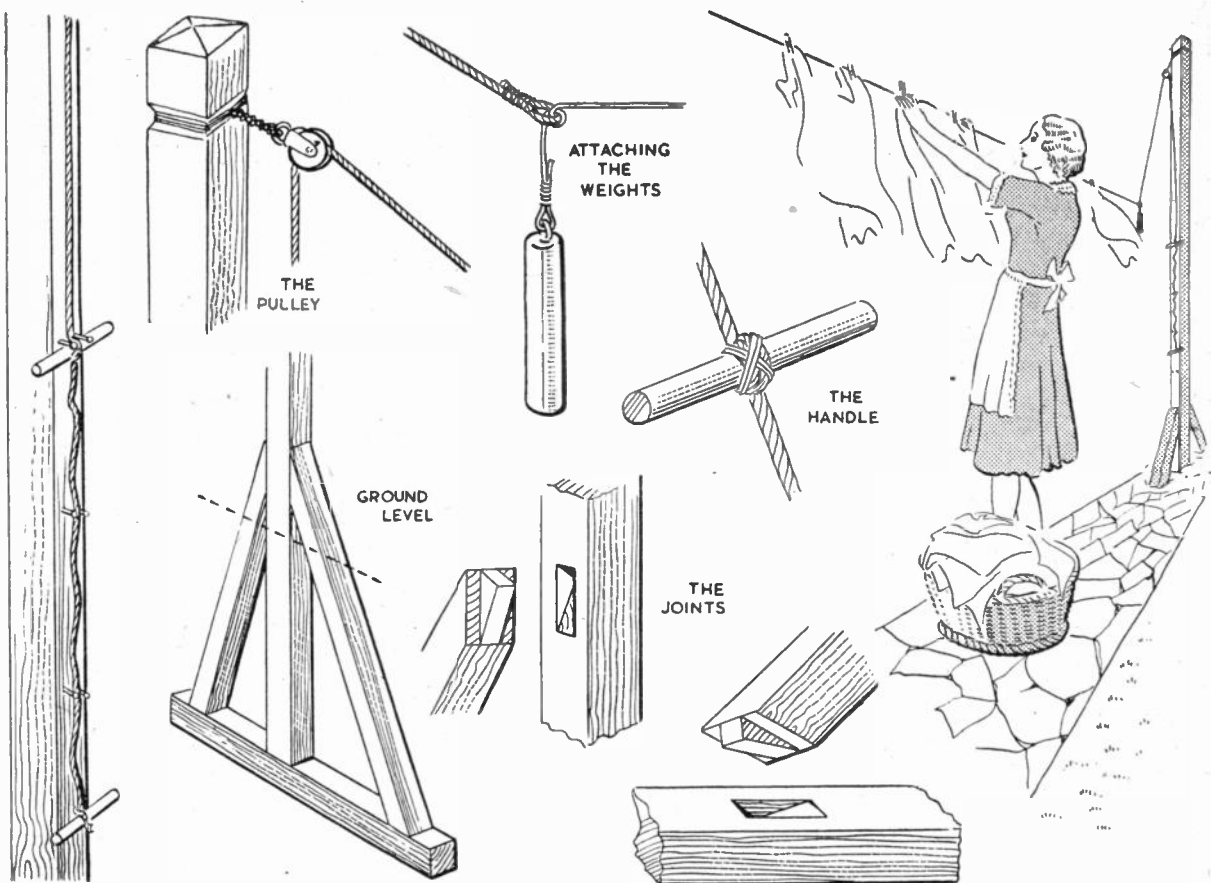
Working on the balance principle, these scales require a number of imitation weights. These could be made from odd scraps of lead if obtainable. One suggestion is a box of airgun

pellets. Cut out pieces (15) and nail them together. Melt the slugs or lead in an old tin and pour into the holes in the wooden mould. It will quickly cool and can then be filed smooth and the various weights marked on. Of course, these are

not true weights, but will serve to teach the children the relative values of each weight.

Alternatively the circles cut from the piece (15) could serve as weights. Cut an extra set from waste wood and glue them together in pairs. The pieces (15) could then be used as a receptacle for storing them.

Get the washing into the breeze with this SERVICEABLE CLOTHES LINE



WE are sure that this clothes line will appeal to the housewife. By simply pulling on the ropes at each end the line can be hoisted up until the clothes are well in the breeze. You will be amazed how quickly they will dry once they are out of the shelter of hedges and walls.

Modification Possible

In our illustration we have shown posts, but this can be modified by attaching the pulleys to the corner of the house, an outbuilding, wireless pole, or even a convenient tree.

If you are making posts you will need fairly heavy timber, about 3ins. by 3ins. or even 4ins. by 4ins., depending on the height required. The higher the pole the heavier the timber will need to be.

Each post should be reinforced at the base as shown in the diagrams. Here again the timber should be fairly heavy.

Make the joints as shown in the details and reinforce with bolts or fairly large screws.

The ends underground should be heavily creosoted or tarred and plenty of rubble rammed in before concrete is placed round at ground level. It would be a good idea to make a concrete path between the two posts as shown in our illustration. If you could represent crazy paving, so much the better.

The line that takes the linen will need to be of the wire type, the rope ones will stretch and shrink according to the weather and do not give satisfaction.

Fixing the Pulleys

You will also need two pulleys, which can be purchased locally. Fix these to the top of the posts by means of a length of strong wire. The post can be slightly recessed to prevent the wire from slipping down.

A length of rope is required for each post, and is attached to the wire line as indicated. The loop in the end of the rope is not only tied, but bound as well.

Sash Weights

To each end of the wire line attach a weight such as is used in sash windows. These weights are necessary to bring the line down low enough to hang out the clothes. The length of the wire line should be shorter than the distance between the posts, so that you can strain it tight when the clothes are in place.

The line is kept in position by means of nails driven into the posts. The handles, which are $\frac{1}{2}$ in. diameter round rod, are tied to the rope and placed underneath the nails as shown. The handles can be bound with cord to prevent them slipping.

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Scales for Home-made Radios

NEXT to the chassis, the most important factor in the 'finish' of a home-made radio is the tuning scale and assembly. Scrappiness in the design of these can cancel out excellent cabinet and chassis work.

Being a basic part of the set's design, the scale and assembly should be thought of first, not, as with many beginners, left till last. If cash is no object, best obtain at the outset a commercial assembly and matched set of coils and design your set around them. The cost of the assembly is around 25/- to 30/-.

If the set is already built, a com-

mercial scale often won't match up to the tuning or fit the chassis.

Assembly layouts for both horizontal and vertical types vary according to cabinet shape and positions of tuning spindle, condenser and scale. Typical layouts are shown here.

Cursors carrying pointers either run on metal guides or on the edge of the scale itself, or are supported simply by the drive cord. In general the less angles and pulleys the better, and large pulleys are better than small ones. The assembly must also be really rigid. All this means less wear and strain on cord, drum and spindles.

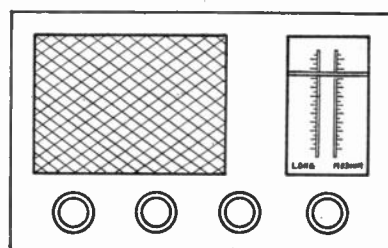
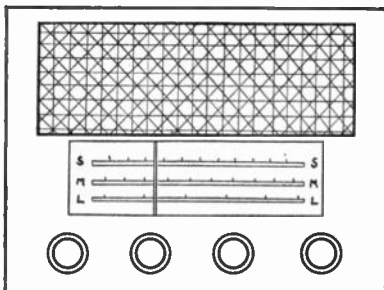
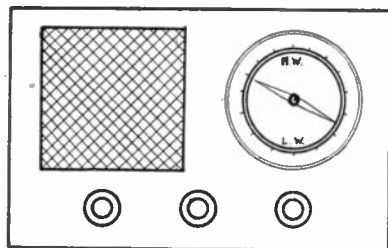
In front-lighting, the pointer moves across an opaque matt-finished scale illuminated from the front.

In both back and front lighting, a transparent window is needed in the cabinet to protect the pointer and hide the mechanism. In edge-lighting the transparent scale itself acts as a window.

The beginner is advised to stick to front or back lighting unless he feels competent to draw or engrave on transparent materials.

Designing and Making Your Own Scale

About the making of a circular assembly there isn't much difficulty,



Drawings showing the more usual types of scales—circular, horizontal and vertical

Choice of Types

Disregarding oddities, scales used in modern receivers are of three main types, all of which, it should be noted, are part of the chassis and *not* the cabinet.

Circular (or semi-circular). This has the general appearance of a clock face, is used on the cheaper sets, and is the easiest to construct, although the actual drawing of the scale is more exacting. The tuning spindle drives the variable condenser by cord and drum, and the pointer (single or double ended) is fixed directly to the condenser spindle. The assembly is usually mounted to the side of the speaker position.

Horizontal. Sometimes known as the 'slide-rule' scale, this is usually mounted directly above the control knobs centrally on the chassis; or occasionally on pillars to bring it near the top of the cabinet. Either by an extension of the condenser drive or by a separate drive, a pointer is made to move horizontally across the scale.

Vertical. Similar in general construction but slightly more difficult to build, this is the easiest to read and almost the ideal type. It is generally mounted to the side of the speaker.

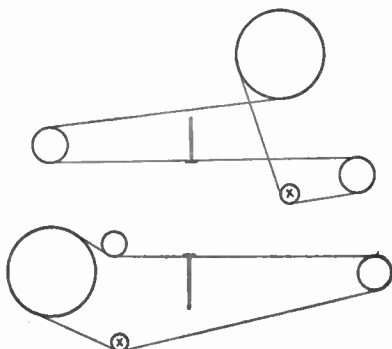
Wave-change Indicators and Scale-Lighting

Wavebands are indicated by various means, all operated by the wavechange switch, e.g., a bulb opposite the scale is switched on; a pointer is attached to the switch spindle.

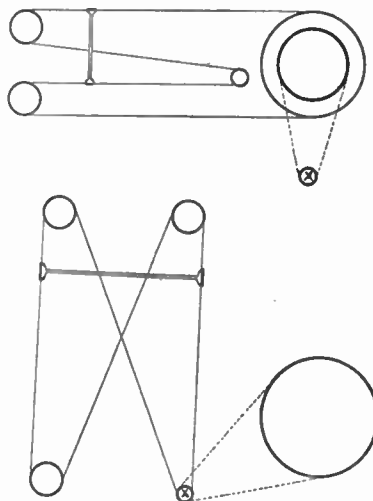
Back-lighting consists of pilot bulbs set behind a translucent scale, the pointer being black and in front of the scale. Edge-lighting—bulbs are set at the edge of the scale, which is transparent and backed by a dark plate. The pointer is white and moves behind the

except in the lettering. A frame of thin stripwood or stout aluminium should be screwed firmly to the chassis, over the front of the tuning condenser. Avoid thin metal and anything liable to vibrate, as these cause valve microphony. The scale itself can be of stout card or plastic—a cream shade is pleasant.

Space must be allowed between scale



Various methods of controlling the horizontal and vertical types



and chassis for the drum and cord, if these are fitted front of chassis. If rear drive is used the scale may be practically flush with chassis front.

The pointer, if not bought, can be of stout wire or metal strip, and should be soldered to a collar containing a grub-screw or to a $\frac{1}{4}$ in. valve top-connector which will give a press-fit. It should not be keyed direct to the spindle, as this prevents adjustments.

In designing horizontal and vertical scales, first determine their working length. This is half the circumference of the scale drive drum plus at least $\frac{1}{4}$ in. margin at each end. A rough guide is 'double the diameter'.

The drive mechanism will take at least another 1in. at each end.

Next decide, from the positions of the components, the layout of your cords and pulleys. With the tuning knob fully anti-clockwise the condenser should be fully open and the pointer at the extreme left (or top) of the scale, i.e., approximately 200 metres Medium Wave.

For a horizontal scale on a short chassis, a good plan is to mount angled strips on each front corner. These should, preferably, be braced by side strips running from rear of chassis. On a long chassis the angled strips can be mounted some distance in from the corners.

The scale holder fits across and is screwed firmly in position. It should be of rigid material, and if you decide on a translucent scale, then the scale holder must also be translucent or transparent. One-eighth 'Perspex' is suitable.

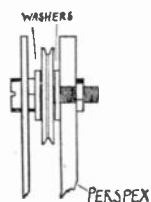
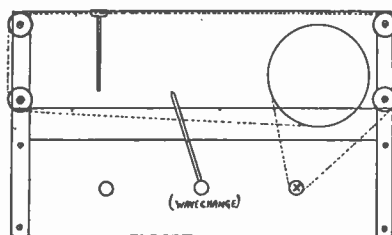
Where back-lighting is not used, stout metal strip may be used for the scale holder. Again the question of space for the drive has to be considered.

The pointer carriage slides along the top of the scale holder, and care should be taken to mount the pulleys as nearly in line with the scale holder as possible, to prevent strain or cord 'derailment'. The diagram shows a useful way of mounting the pulleys.

For a vertical scale, construct in a similar way, except that, the assembly being taller and narrower, the supports will not be mounted on the chassis corners. Side-bracing is essential. Other principles are the same, except that no pointer guide is generally needed, as there are two cords moving in the same

direction and the pointer can be clamped to these. There are single-cord systems using guides, but a guide which does not bind is not easy to design.

To fit the cord, which is of high-grade fishing line, first cut a length which is obviously more than will be wanted, and run it round the course it will take. Mark the exact length required, and



Diagrams to assist readers who are making their own scales

allow sufficient at both ends for loops, which will be secured to the tension spring in the drive drum. If the cord is a little too long, the tension spring will take in the slack. Note that the cord goes $2\frac{1}{2}$ times round the control spindle to ensure sufficient grip. Make sure that the assembly is perfectly rigid and that the pulleys are smooth in operation. Adjust the drum so that it is in its middle position of travel when the tuning condenser is also half-open. Now clamp your pointer carriage to the cord, in the centre of the scale.

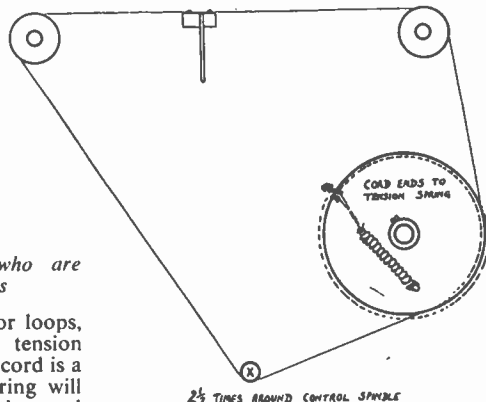
Calibrating and Drawing the Scale

Mount a piece of plain paper in the position to be occupied by the scale, having first drawn on it circular or straight scale lines. Operate the set, find the most prominent stations and plot them by thin pencil lines. Go over all wavebands while the paper is in position. Find as many stations as

possible, plotting them in conjunction with an existing receiver if one is available. Stations near the 10, 50, and 100 division marks are especially useful, as these positions are needed for accurate calibration, e.g., London Regional (Home) on 330 metres, Wales 341, Bordeaux 249.

Having established the positions of known stations, estimate and draw in the main scale divisions, e.g., at every 10 metres on Medium Wave, with specially prominent marks at the 50's and 100's. Short Waves are more difficult and for strict accuracy an oscillator or signal generator should be used.

You now have your scale pattern. Scale material may be of crinothene, acetate, parchment, 'Perspex', or card, according to lighting requirements.



Transfer your scale lines and divisions, using carbon paper and a light pressure, and finish in coloured inks. If you are good at fine lettering, you can also put in your wavelength numbers and station names. (The neatness of commercial scales is due to photographic reduction of large lettering.)

Another suggestion is to cut numbers and station names from a printed list and gum these on to the scale. This can give quite a good effect, especially if the whole scale is then varnished or lightly painted over. Experiment before going ahead with this scheme.

Finally, fix the scale to the scale holder by any suitable means such as gluing or screwing.

For a protective window you can't go wrong with 'Perspex', which, except for its soft surface, is equal to glass while being easy to work. Depending on the space available between scale and cabinet, it can be mounted flush or back from the cabinet front. If mounted flush, an escutcheon or frame is needed.

It is possible to dispense with an escutcheon when the 'Perspex' is mounted behind the cabinet front, by enamelling or staining the edges of the aperture. (435)

PRINCIPAL STATIONS ON MEDIUM AND LONG WAVES					
B.B.C. THIRD	194	STOCKHOLM	388	LAHTI	1181
B.B.C. WEST	206	HILVERSUM	402	KALUNDHOLM	1224
LUXEMBURG	208	B.B.C. NORTH	434	WARSAW	1322
B.B.C. LIGHT	247	MARSEILLES	445	OSLO	1376
B.B.C. N. IRELAND	261	B.B.C. THIRD	464	B.B.C. LIGHT	1500
B.B.C. MIDLAND	276	BRUSSELS	484	MOTALA	1571
B.B.C. WEST	285	VIENNA	514	REJKAJAVIK	1648
TOULOUSE	318	ATHLONE	530	MOSCOW	1734
B.B.C. HOME	330	BUDAPEST	557	ALLOUIS	1829
B.B.C. WALES	341	BEROMUNSTER	567	TROMSO	1935
B.B.C. SCOT.	371	CZECHOSLOVAKIA	1103		

Sea Fishing While on Holiday

THE holiday season, July, August and September, is a good time for sea fishing. During warm summer conditions many fish come close inshore, and the holiday-maker can catch them by fishing either from a pier, from a boat, or the shore where suitable.

From the Pier

Let us consider pier fishing first. One drawback to this pastime is that piers are often crowded with sun-worshippers taking their ease. Half your time is spent watching out that you do not foul the happy pleasure-seekers when casting the line, and in hoping that no one will fall over your precious can of bait. In this connection it is well to remember that early morning and sunset are likelier times for fishing with prospect of success than in the day, and the pier, generally, is less crowded at such periods—indeed, early morning on the pier is almost deserted save for fellow anglers.

Advantages of pier fishing are its inexpensiveness and comparative ease. A rough sea does not upset susceptible folk liable to sea-sickness, as it may do if fishing from a boat. Indeed, you can do a spot of fishing from a pier with comfort—if you desire; even to slumping in a deck chair with a little bell fixed to the rod to recall you to your task when a fish 'bites'. But the deck chair, the bell, and the small dabs make no sort of satisfactory pleasure, though they may be all right for lazy folk.

There is excellent pier-fishing to be enjoyed at the various resorts popular with summer holiday-makers. On the south coast at Deal and neighbouring resorts nice sport is enjoyed with codling, etc.

In really warm weather, you may find sport with such fish as bass, whiting, pout, pollack, codling, dabs, flat-fish, and others. Much, of course, depends upon the place in which you are fishing. Where there is a sandy bottom you may expect flat-fish; but for pout, rock-fish, and wrasse you need to have access to a rocky shore.

The most satisfactory method of pier fishing is with rod, line and float; or you can use paternoster tackle, consisting of a length of fine wire or strong gut or gut-substitute, with two or three hooks fastened at right angles to this trace at varying distances. You need a lead at the end, the lower hook being about 9ins. above the lead. 1ft. or so higher up is the second hook and same distance above that the third, if using three hooks. It is, however, better to

have only two hooks—the more hooks the more you are liable to foul the weeds when 'playing' a hooked fish. Paternosters can be bought all ready for use, and this saves the trouble of making your own. A tug at the rod top is the signal of a bite. Wait a second or so and then 'strike', driving the hook home.

When paternostering you should be able to cast the baited hook 20yds. to 30yds. from the pier-head. Practice is needed, but you will soon get the knack of it. One method is to draw off a length of line with your left hand, with the lead and the tackle about 10ft. from the rod-top; swing the lead out, and immediately the tackle touches the surface of the water, let out more line, so that the tackle is not dragged back and the advantage of distance lost. You'll soon get the hang of it, especially if you watch experienced anglers for a little time.

But don't expect to get the 'know-how' at your first attempt—only experience and practice will give you confidence in handling rod and line. Don't be afraid to ask for information about fishing from the pier; the kind of fish usually caught there; the right sorts of baits, the best times to fish, and so on. Fellow-anglers who know the ropes are generally helpful to young beginners if properly approached.

A sea-rod should be some 8ft. to 10ft. long; the line about 80yds. long, and the hooks rather larger than those used for fresh-water fishing. Hooks with sneek bend and long shanks are advocated, sizes No. 8 to No. 10, and for big fish, larger sizes are needed. A 5in. reel is a suitable size to carry the long line.

Baits

Baits for pier-fishing include the usual standbys—ragworms, lugworms, sand eels, mussels, shrimps, strips of fish, and soft crab for ground-feeders like flounders. If you cannot procure anything else, try lobworms from the back garden for pollack.

To keep 'lugs' and 'rags' in good condition for baiting the hook, get a piece of clean sacking and wash it well in sea water. Cut into sizes to fit the bait-can. Wring out the sacking in sea water, place a piece at the bottom of the tin with six or eight worms or so, then another strip of sacking with more worms on top until the tin is full. Keep in a cool place until required. Ragworms can be kept for a week or longer by this method, but any sickly or dead ones should be picked out periodically.

Ragworms, lugs, etc., can usually be obtained from the bait-sellers at the various resorts.

Boat and Shore

Good sport is to be enjoyed from a boat. The usual idea is to join a party and hire a boat. Hand-lines are provided by the boatmen as a rule. Remember, the hand-line should be held always in the hand and not attached to the boat seat or elsewhere. On feeling a 'bite' the hook is jerked home, and the fish hauled in, hand over hand. In this kind of fishing the visitor leaves it to the boatman to take the party to a likely spot where fish are plentiful, and you take 'pot luck' on the catch. The bait is usually provided by the boatman for a small charge.

Other forms of boat fishing are whiffing and drift-fishing with a drift line out astern, often a method adopted when fishing an estuary where a strongish tide is flowing, so that the baited hooks stream out with the current.

Ample Sport

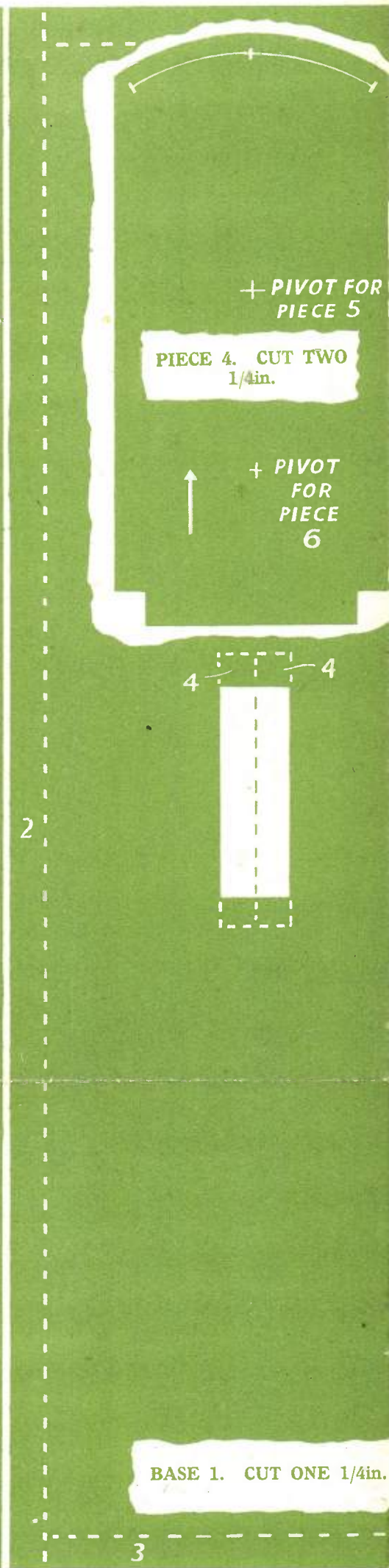
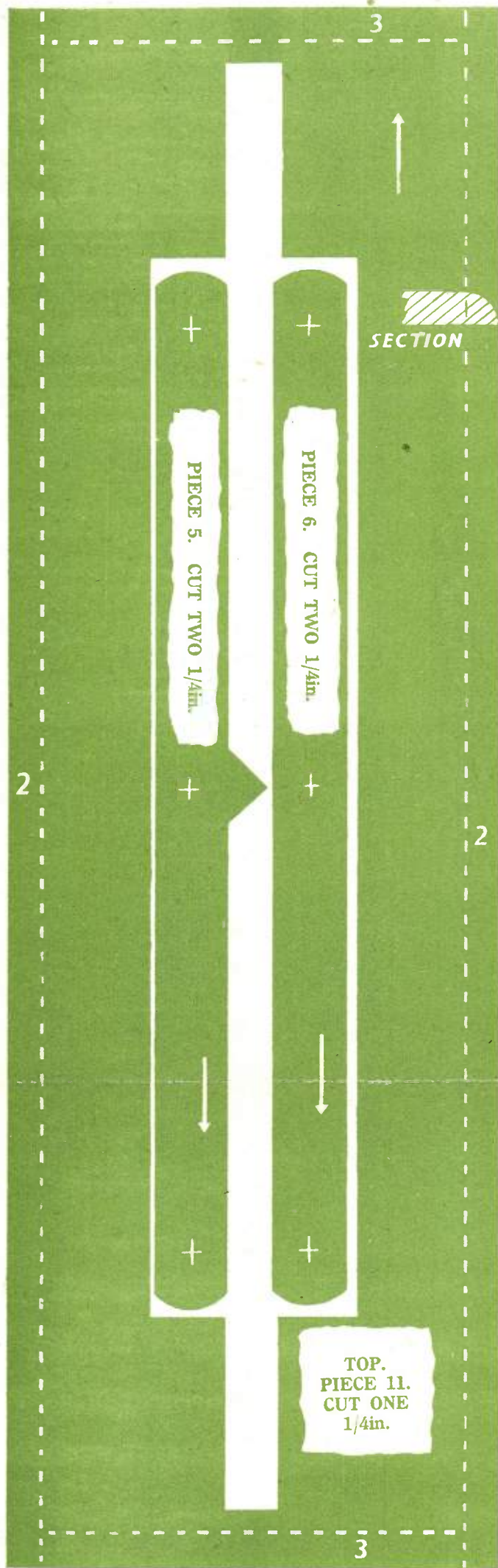
Ample sport is to be enjoyed fishing from rocks or the beach, and is not so expensive as hiring a boat. The likeliest time is when the tide is flowing, for then the fish work inshore questing for food. Fishing where there is a clean sandy bottom or shingly beach is often a good method, but it is necessary to be able to cast out a fair distance.

Rock fishing is often diverting, if you are active and prepared to do a lot of scrambling about on the rocks. Pollack, conger, codling, wrasse, and the sporting bass are frequently among the fish caught from rocky places on shore. From the famous Brigg at Filey, Yorks., billet, gurnet, mackerel, cod, and flat-fishes are caught by visitors.

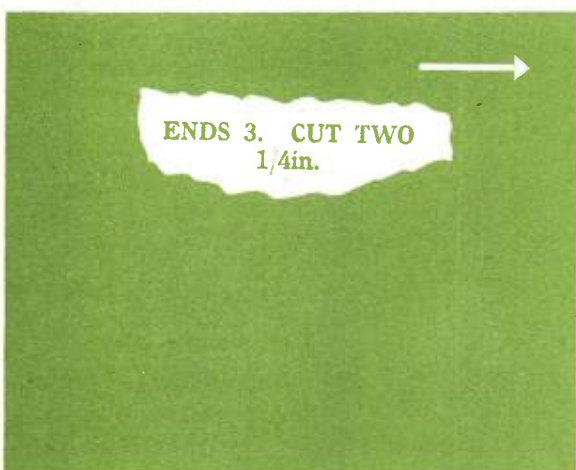
Some places on shore are always worth a trial. Remember, practical local anglers can give you the best advice on them. Generally speaking, where there is a cove, with a sweep of sand and rocky boundaries on each side, sport may be had by casting the bait as near to the rocks as one dare without risk of a hang-up. To these rocky spots come the fish, seeking edible titbits.

As conditions vary much in different localities, obtain all the information you can. At many popular resorts there are angling clubs, particulars of which may be found in local guide books.

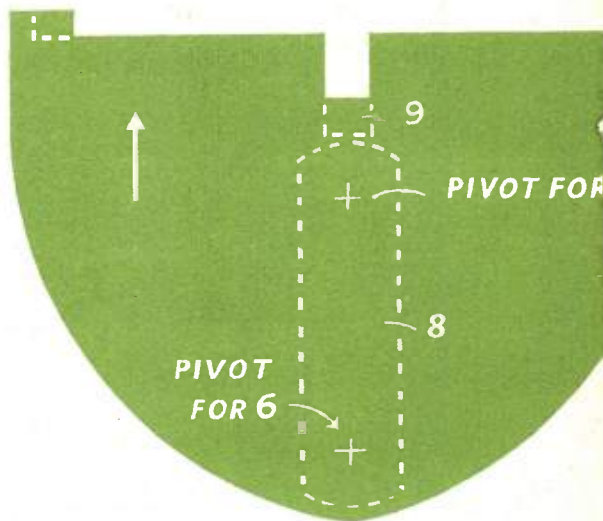
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SIDES 2. CUT TWO 1/4in.

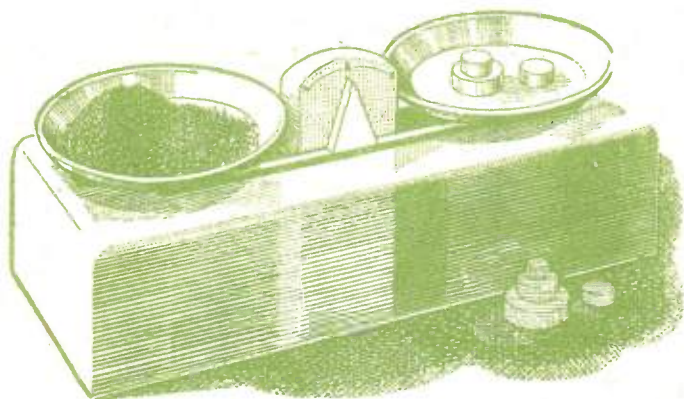


PIECE 7 (BELOW). CUT TWO 1/4in.



SUPPLEMENT TO HOBBIES No. 2958.

TOY SCALES



PANELS OF WOOD
REQUIRED FOR THIS DESIGN

FOUR Q4 ONE H4 ONE G2

Materials for making this design are supplied by
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SIZE—11ins. long.
4½ins. wide.

PIECE 15. CUT
ONE 1/4in. AND
ONE TO OUTLINE
ONLY 1/4in.



PIECE 10. CUT
TWO 1/4in. GLUE TO
PIECE 5.



PIECE 8. CUT
FOUR 1/8in.



PIECE 9. CUT TWO
1/4in.

NOTE—This design sheet
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with the current issue of
Hobbies and not with
back numbers. Further
copies may be obtained.

THE ARROWS INDICATE
DIRECTION OF GRAIN OF
WOOD.

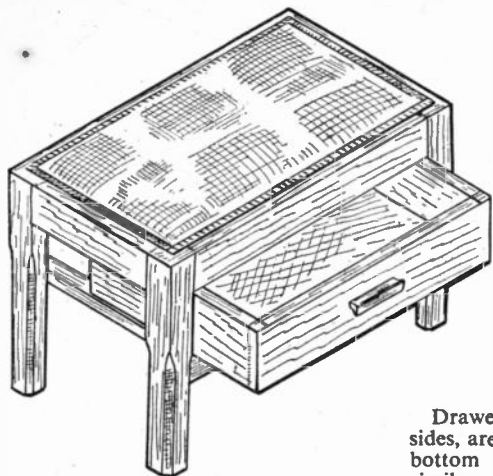
CIRCLE 13. CUT
TWO 1/4in.

CIRCLE 14. CUT
TWO 1/4in.

CIRCLE 12. CUT
TWO 1/8in.

PRINTED IN ENGLAND.

A useful article is A STOOL WITH A DRAWER



THIS simple stool, suitable for the dressing table or desk, incorporates a useful drawer for holding odds and ends. By slightly modifying the construction the drawer can be made to open the other way, i.e. sideways, so that it can be opened whilst sitting on the stool. As shown in the drawing, opening forwards, it is intended mainly for general storage space.

Basic Parts

The basic parts required are shown in Figs. 1 and 2. Each leg is 18ins. long, cut from 1½ins. square stock, with the lower portion shaped off to octagonal section, as indicated. This is best done

with a spokeshave and plane. Note that the front legs have a greater depth of square section than the rear legs. The main frame parts are from 2ins. by 1in. stock, cut off square. Two 17ins. lengths and two 11ins. lengths are required.

Drawer parts, the front, back and sides, are cut from ¾in. material and the bottom rectangle from ½in. ply, or similar. As shown in the drawing simple butt assembly is used but the joints can, of course, be elaborated, if desired.

The complete stool assembly is shown in Fig. 3. The main frame members are simply butt-jointed to the tops of the legs and the joints reinforced with corner blocks glued and nailed or screwed in place. This assembly should be done with the stool in the inverted position over a flat surface, checking that the legs are maintained in a truly vertical position. Good glue joints and accurate assembly of the corner blocks is essential if the finished frame is to be robust.

Three strips are then screwed or nailed to the legs, as shown, to support the drawer. The front strip is actually attached to the side strips at each end and a halved joint is preferable here. If a plain butt joint is used the length of the side strips can be reduced to 13½ins. instead of the 14ins. shown.

Drawer assembly is shown in Fig. 4. This is quite straightforward but the assembly should be checked at an early stage to make sure that it is a nice sliding fit in the stool assembly. A suitable drawer pull is attached to the front.

The Drawer

As Fig. 5 shows the drawer simply slides on the two side pieces on the stool assembly, relying on a close fit against the legs to prevent it slewing to one side. The assembly can be improved by filling in the sides of the stool between the drawer runners and the upper frame member. A back stop for the drawer is also required which, on the original, was accomplished by taking a ¾in. stopped rebate from the bottom

back of the drawer which engaged dowels pinned through into the rear legs immediately above the ends of the side runners. Again, of course, the back of the

(Continued on page 234)

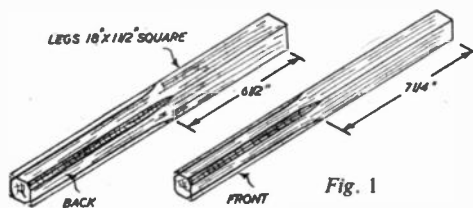


Fig. 1

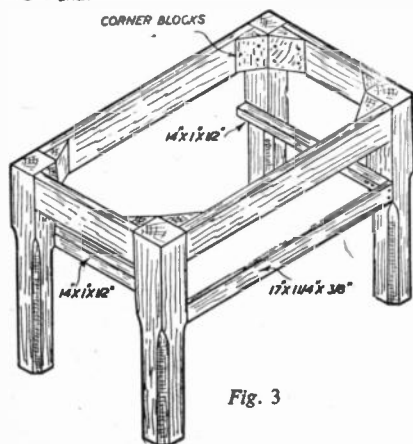


Fig. 3

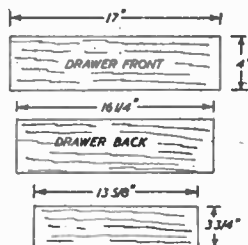


Fig. 4

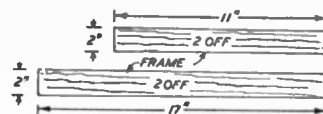
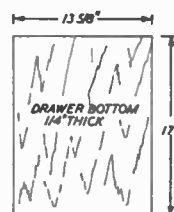
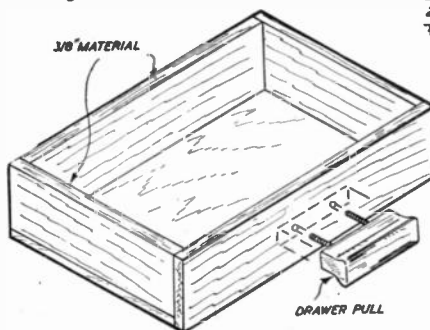


Fig. 2

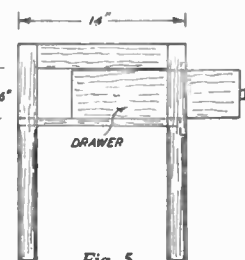


Fig. 5

A Garden Trolley for the Youngster

ILLUSTRATED is a simple little pull-along trolley which should interest most children. It can be made up entirely of $\frac{1}{2}$ in. wood, with, perhaps, $\frac{3}{4}$ in. for the wheels if they are not obtainable ready-made. A good idea of the finished article can be gained from Fig. 1, while Figs. 2 and 3 give side view and cross section respectively, showing the general construction.

The Floor

The floor (A) consists of a piece of wood measuring 18ins. by 10ins., and if a single piece this size is not obtainable

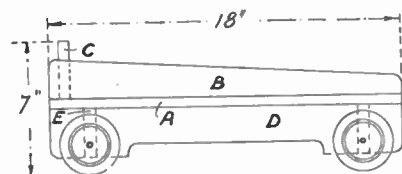


Fig. 2—A side view

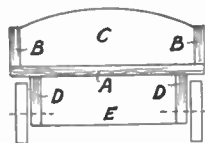


Fig. 3—End view

it can be made up of two or even three widths. In this latter case the meeting edges should be planed and glued together and later stiffened by the two cross axle pieces (E), and the back upper piece (C).

The two sides (B) should next be prepared and fixed. In the upper diagram in Fig. 4, is shown the method of cutting the two pieces from the one panel of wood measuring 18ins. by 3ins. By working like this, economy of wood is effected. The panel may be cut with

either a fretsaw or a small-tooth tenon saw. Round off the top corners of the rails after cutting, and take off all sharp edges with glasspaper. Finally glue the rails to the top edges of the floor as seen in the section (Fig. 3), and run a few countersunk screws up through the floor.

The back rail (C) is next cut, and glued and screwed to the floor. The measurements to which this rail must be cut are shown in the second diagram in Fig. 4. The curve at the top edge of the rail may be struck with a pin, or fine wire nail and string. Take the string, form a loop at one end of it and pass this over the nail which must be 10ins.

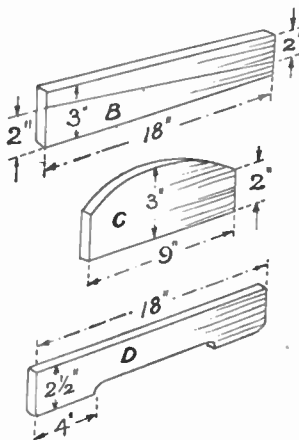


Fig. 4—Details of the main parts

from the top edge of the rail and central with the length of the rail. Note that the rail is set on the floor $\frac{1}{2}$ in. in from the rear end so that the screws get a good hold.

The two side rails (D) are next made, and glued and screwed through the floor. The measurements for these rails are given in Fig. 4. They stand in

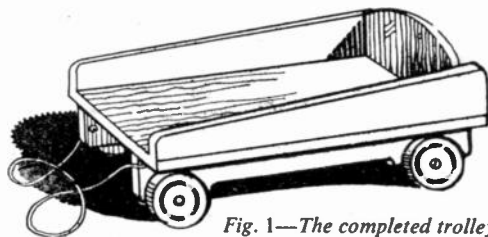


Fig. 1—The completed trolley

underneath the floor 1 in. from its outer edge, and when they are fixed, the cross rails (E) are cut and fitted, with screws run in through the floor into the top edges.

It only remains now to screw on the wheels, and screws of ample length should be obtained so as to make a good strong fixing. Metal washers should be put on one each side of each wheel.

Cleaning Up

All the woodwork should receive a thorough glasspapering before the first coat of priming paint is brushed on. If, however, old wood is being re-used for the trolley, then this priming coat will be unnecessary. Two coats of paint should make a good durable covering and make for an attractive appearance.

Wheels 3ins. in diameter are suggested for the trolley, and, if home-made, they should have their edges nicely rounded with rasp and file and be smoothed up with glasspaper. They should be painted in bright colours, together with the rest of the work. A good length of stout rope should be knotted and passed through holes bored in the ends of the underneath rails. (465)

Coming Soon

Details and plans for building a Flying Model Seaplane.

Make sure of your copy.

A STOOL WITH A DRAWER

(Continued from page 233)

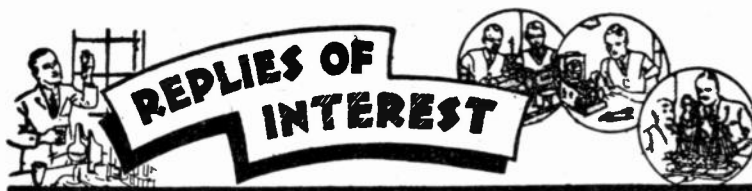
stool from the frame down to the bottom level of the drawer can be filled in.

The top of the stool is finished off by

laying on a suitable padded seat, attached directly to the frame members.

This can take the form of a canvas

stretcher and a top covering of material, sandwiching suitable padding between them. Alternatively, a detachable sprung seat, which is a press fit in the top of the frame, can be used. A simple form of 'hard' seat is merely a top of ply attached to the frame, and on which can be laid or tied a cushion. (405)



Motor Blowers

COULD you tell me if there are available any ex-government surplus motor blowers? I am converting a small organ from manual to motor driven and have tried a vacuum cleaner but found this just too small in capacity. (W.H.J.—Brislington).

EX-SERVICE blowers are available from many stores of such equipment, but these appear to be of fairly small type, intended for ventilating and cooling, and many models operated from 24 V or other low-voltage supplies. It is extremely unlikely that any of these would prove satisfactory for the purpose you have in mind. The actual volume of air required, and its pressure, would depend upon the organ, but it appears likely that you will require an air-compressor of quite large type, possibly driven by an $\frac{1}{4}$ th or $\frac{1}{2}$ h.p. motor. It is suggested you obtain a copy of 'The Exchange & Mart' and examine details of goods listed under the relative headings, as you will find motor blowers, etc. available in various sizes.

Condensation Causes Trouble

COULD you furnish me with a process of decorating scullery walls which are subject to very bad condensation? To paper these walls has proved an absolute failure; I have scraped them right down to the plaster, treated with two coats of flat undercoat and a gloss,

and now after about 12 months they are beginning to bubble. As these walls are pitted rather badly, could you give me any suggestions to treat them, other than skimming the plaster right off? (R.C.W.—Bedminster).

FOR stopping the plaster walls, use parian cement. Make up a little at a time as it soon sets, and press over the pitted surface with a trowel to fill up the holes. Level off with glasspaper when set. To neutralise the condensation complained of, employ 'Zat'. It has a highly decorative finish and is made in cream and off-white colour. It can be obtained direct from Concrete Paint Co., Maiden Street, Barnstaple.

Scratched Perspex

CAN you tell me how to get the scratches out of Perspex after sandpapering? (T.O.—Dagenham).

IT is possible to smooth Perspex edges by dipping in a solvent (such as acetone or glacial acetic acid) or in Tensol cement, but the process takes some time and the result is not always satisfactory, as the surface will not be flat and there may be fine craze lines after drying. The more usual and more satisfactory method of obtaining a polish on Perspex is to thoroughly remove file marks with medium glasspaper, then remove the medium marks with fine glasspaper. Follow this with a damp rag and pumice powder or one of the

cleaning powders, such as Vim. This should be continued until all the glass-paper marks are gone, and the surface has a satin appearance. Complete the job with a clean rag and metal polish.

Disc Recording

ISHOULD like to make a recording apparatus of some type. I have read your articles on magnetic tape recording, but it is too expensive. I was told that it is possible to make recordings using blank records by amplifying the sounds through the microphone and attaching the pick-up leads to the extension socket. My pick-up is a standard British Goldring. Could you please inform me if it is possible? (J.L.—Bradford).

RECORDING on discs in the way you describe is possible, but some difficulties arise in practice. A sapphire or other stylus is used in the pick-up to cut the groove on the blank disc, and many ordinary gramophone motors are insufficiently powerful to keep the turntable rotating so that a special motor may be needed. A screwed rod or other arrangement must be provided to draw the pick-up towards the centre, to make the grooves appear regularly side by side, while a really powerful signal is required, and some types of ordinary pick-up may be insufficiently robust. In addition, the blank discs are rather expensive, now somewhat difficult to obtain, and can only be played back a limited number of times. They cannot be subsequently used for other recordings. Because of these difficulties, disc recording presents several problems for amateur use, if reasonably satisfactory results are to be obtained. If you wish to make experiments with such apparatus, the above points should be kept in mind, or unsatisfactory results are likely.

RACING MODEL CATAMARAN

(Continued from page 226)

screw the fitting in place. Make this a temporary job at first as you may have to shift the mast backwards or forwards slightly to trim the model for ultimate performance. Screw eyes to take the mast shrouds and the sprit stay, screw eyes for the sheet lines—or a sheet horse for the mainsail, then complete the basic fittings.

The sails should be as light as possible, from lightweight model sailcloth, for preference. Stiffeners are added in the usual way and rigging is orthodox. Lash the mainsail to the mast at regular intervals and use a normal bowser arrangement for adjustment of the sheet positions. Make the attachments so that the sails can be assembled and disassembled readily for ease of transport.

Now to add the final touches to the

hull. To protect the bows, screw or pin a metal stem band in place. This can be cut from shim brass or any other suitable material which can readily be bent to shape. The keelboards are a necessary addition—not so much for stability as to prevent the model losing leeway when sailing. Most models will be improved, however, by the addition of ballast weights bolted to the bottom of each keelboard. The exact amount of ballast required is best determined by floating the completed and fully assembled model and checking the water line position. Before any such flotation tests, of course, the hulls will have been painted and finished.

The keelboards are cut from $\frac{1}{8}$ in. dural and screwed to the inside of each hull, screwing through into the ply

formers (D), (E) and (F). Once attached they should be regarded as permanent and not removed for transport. Paint in with the hull to prevent possible leakage through the screw holes.

Any trimming necessary, apart from balancing the hull level with the design water line, will have to be done by trial and error. Trim the sails as for any other yacht and watch the performance. Marked weather helm (a tendency to head into wind all the time) or lee helm (the opposite effect) can be corrected, or at least diminished, by moving the mast position forwards or backwards. But check first that it is not inadequate rudder power or faulty rudder setting which is causing the trouble. A fixed rudder position is fairly satisfactory for 'general' sailing, but for sailing specific courses, an automatic rudder device is almost essential. Your model will be worth this slight complication. (450)

Cycle-campers should read these notes on KEEPING THE CAMP TIDY

CAMPING with a bivouac tent is a delightful and somewhat adventurous form of holiday. There is a sort of independence about it. Your portable 'house'—carried on the rear carrier of your bicycle—may be taken anywhere, pitched as and when required, subject, of course, to the sites available, and there you are—your own master to do as you please, with no restrictions, or very few.

However, there are certain obligations to consider. For instance, wherever you pitch a tent, whether as a 'lone' camper, or with companions, you should make it a practice to maintain the law of tidiness on the site. Whether on private ground or in any kind of 'official' camp, you should leave the spot as clean and tidy as you found it. This applies to a 'one-night' stay as well as to longer periods on the same site. Another thing, keep the camp hygienic by ensuring that latrine arrangements are adequate, and that all refuse likely to rot and attract flies and other insects is destroyed or buried.

Don't Be a Litter Bug

Young beginners should remember not to leave any litter around. Clear it up as you make it. Perhaps it is so easily overlooked, and so simple to excuse oneself by thinking: 'I didn't put it there!' Whether you, or a pal, or some previous camper did, clear it up all the same. It's not a many minutes' job!

Most of us hate the litter bugs who defile our beauty spots as they pass by, taking no thought for those who follow. Even when taking a 'snack' *en route* be sure to collect any paper bags, wrappings, or scraps, and get rid of them in some way. Put a match to them and burn them—but be sure all embers are stamped out before leaving the spot. In short, destroy all litter in some

fashion, but, for heaven's sake don't dump it into a stream, which is *not* a dumping-place for empty sardine tins! Or for waste paper.

Keep Camp Tidy

Save stout brown-paper bags in which food has been brought, and use them as 'rubbish-bins'. The whole lot, bag and all, can then be removed and burnt or buried according to the nature of the refuse. Bury tins and similar, and burn 'soft' stuff.

Use a tin-lid as an ash tray inside the tent for your cigarette ends. Push match sticks right into the turf; this causes no inconvenience and makes the place much tidier. Don't scatter the stubs of cigarettes about; crush them into the ground with your heel. And never throw a lighted match into dry grass, heather, or any undergrowth.

Dig a pit for rubbish when staying on a site for some days—then replace the turf carefully when leaving. Litter attracts flies and wasps in warm weather, therefore make it a point to clear it up periodically during the day.

Hygiene is most important. Keep foodstuffs covered up, away from flies. These pests can be a source of trouble, and they always spring up from nowhere, it seems, in vast numbers around a camp of any kind. All pots and pans and utensils must be kept scrupulously clean. Otherwise, apart from the danger to health, food will not be so tasty. Really *hot* water should be used for all washing-up.

Milk in particular should be kept in a container with a close fitting lid, or in a well corked bottle. In hot weather, milk should be kept in the coolest spot at hand; if a spring or stream of clear water is near, the milk container can be stood in it to help keep the milk from 'turning'.

As regards sanitation, the utmost care should be taken. Where the site is used only occasionally for camping by an individual camper or a small party, the responsibility to maintain hygienic and clean conditions rests upon him or the leader of the party, as the case may be. In this respect it may be pointed out that a 'latrine' should always be used, and not any hidden spot the individual may find. Set a high standard in this matter. Sites may be fouled by thoughtlessness, mere indifference, or disregard for others' comfort. In the case of the cyclist-camper on the occasional and private camp site, the precautions need not be elaborate, provided they are sufficient and the 'latrine' placed where no inconvenience may follow to any subsequent campers.

Screen Necessary

There must be a screen of trees, bushes, or undergrowth, or a screen of suitable material, canvas or cloth. There must also be enough loose earth to cover the excreta to protect it from flies. And care must be taken that the hole you have dug is properly filled in and the turf carefully replaced when you strike camp. When campers use a fixed site for a week or over a properly screened latrine must be provided. Always use toilet paper, as other paper is untidy and unhygienic.

These sanitary matters are of greatest importance, and it is necessary that newcomers to cycle-camping—or other forms of camping—should treat them seriously, as to commit a sanitary nuisance not only damages one's self-respect, but can be an annoyance to others. Moreover, it is a duty to carry out the necessary sanitary methods if your camp is to be healthy and hygienic.

(457)



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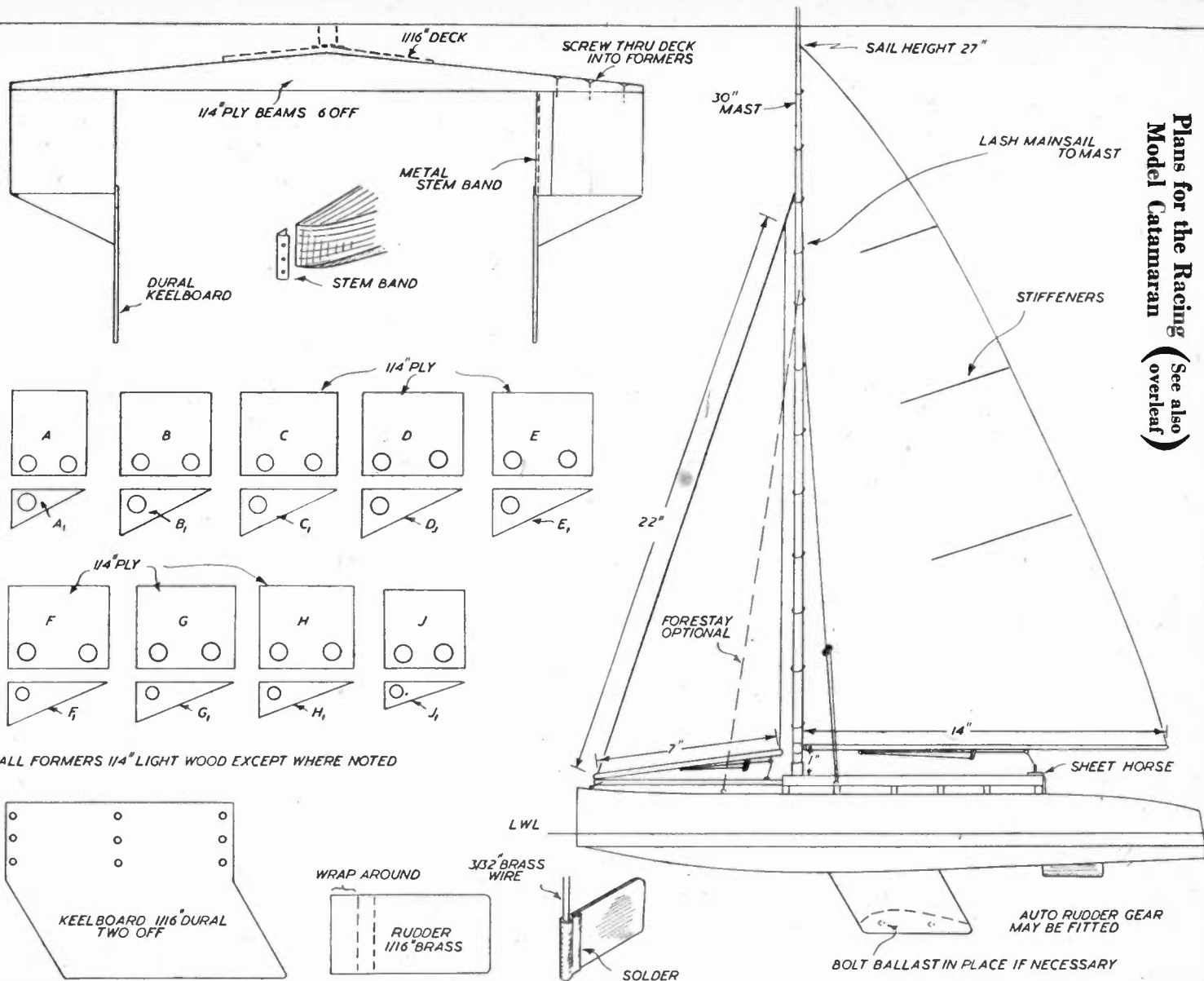
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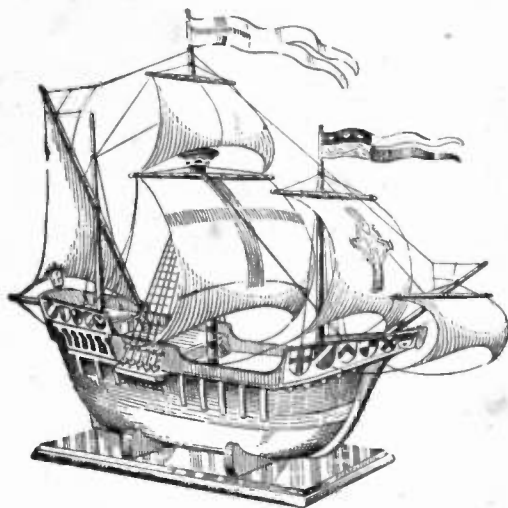
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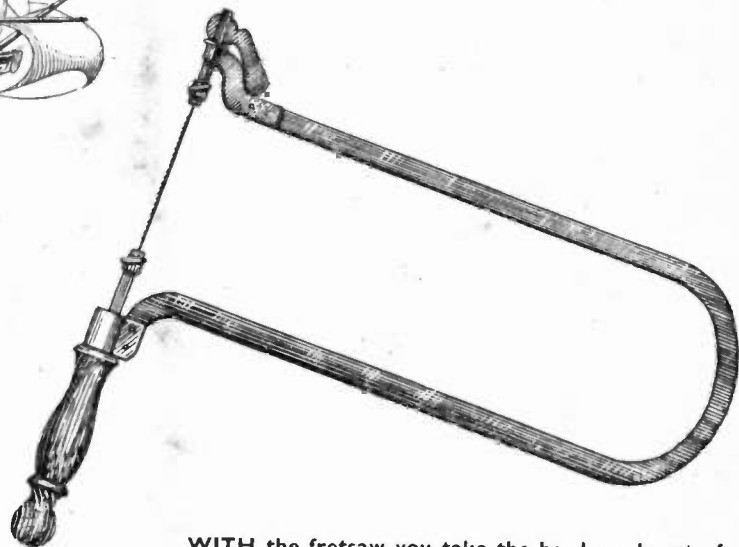
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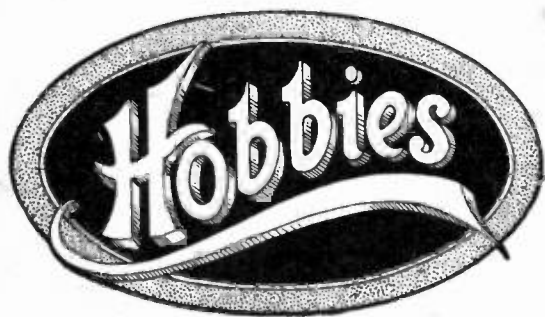
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