

Hobbies

WEEKLY

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THE type of canoe we have in mind is illustrated at Fig. 1. It is made up from thin laths of scrap wood, including parts of boxes, in the form of a skeleton framework which can be covered over with roofing felt or linoleum. This, correctly done and finished, results in a light, sturdy, sea-worthy craft.

Useful Size

The canoe, designed chiefly for use on inland water-ways, lakes, rivers, etc., has a length slightly over 8ft., with a beam (width) of 2ft. 2ins. and a hull (depth) of 1ft. 2ins. It will thus safely carry most lads (of average size and weight) aged from between 10 to 16 years old or so.

Owing to the comparatively large beam, by the way, there is very little chance of the craft capsizing under normal use and treatment, but in any case, there is a watertight compartment fore and aft to prevent the canoe from sinking should an un-expected accident happen.

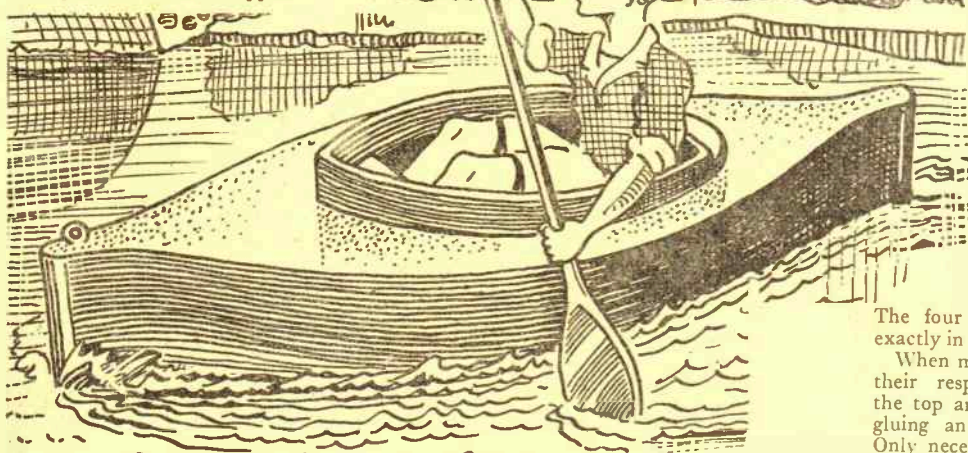


Fig. 1—How to make this fine single-seater canoe from little material

MAKING A WAR-TIME CANOE

To begin work, make the keel frame, the shape and size of which is detailed at Fig. 2. It is doweled (or half-lapped) together from $\frac{1}{2}$ in. deal, the notches seen on the edges of the top and bottom rails being cut 1in. deep

by $\frac{1}{2}$ in. wide. The two additional notches on the top rail are 3ins. and 2ins. wide by $\frac{1}{2}$ in. deep, respectively. Cut them in the approximate position shown. The top rail should not, incidentally, be glued to the end pieces just at that moment.

You have, at this stage, to make the body former frames which fit into the notches at A, B, C and D. The size and shape of the four formers is provided at Fig. 5. Make a repeat of former A.

These formers, like former C, must be cut from solid $\frac{1}{2}$ in. wood. The width can be made up from 7in. wide pieces, rubbing them together. Former B must be made as an "open" frame, using 2in. and 3in. wide laths of $\frac{1}{2}$ in. stuff; dowel or half-lap the ends together.

The four formers must be notched exactly in the manner shown.

When made to pattern, fit them in their respective positions between the top and bottom keel frame rails gluing and nailing firmly together. Only necessary to drive a single $1\frac{1}{2}$ in. oval nail into each half-checked joint.

Now for the hull laths. You need six pieces of $\frac{1}{2}$ in. wood about 9ft. long by 2ins. wide. If you have $\frac{3}{4}$ in. thick stuff, so much the better, for the bending will be easier.

However, to attach the laths, first nail them to the top and bottom ends of formers A and D. Use fairly long wire nails or else flathead brass screws, for this is sure to be a big strain on them.

Have the laths attached to the fore and aft former pieces centrally, i.e., so they project evenly at each end. By means of a sash cramp, or a metal

and nailed in position. You will understand these instructions by looking at the underside view of the canoe bottom at Fig. 2.

The other view is an interior one, showing the seat boards. Two boards 6ins. wide, are laid across the keel lath and the hull laths, close against the seat back (former C), so have them longer than the beam width so the projecting ends can be cut flush with the hull shape at the outside. One could, if more convenient, use three boards 28ins. by 4ins. by $\frac{1}{2}$ in.

We show, at Fig. 3, the deck parts.

material, the wood should be given a single coat of creosote to preserve it.

When dry, obtain the roofing felt, this being sold by the foot in 1 yard widths. Before using it, the bottom of the work, at the outside, should be covered with an old piece of linoleum. The best way to attach it is to paint the bottom with tar paint (old, mixed oil paint could be used), then set the linoleum over it, trim it roughly to shape and then drive in roofing felt tacks (or ordinary blue-black tacks) along the hull edges and the bottom plate.

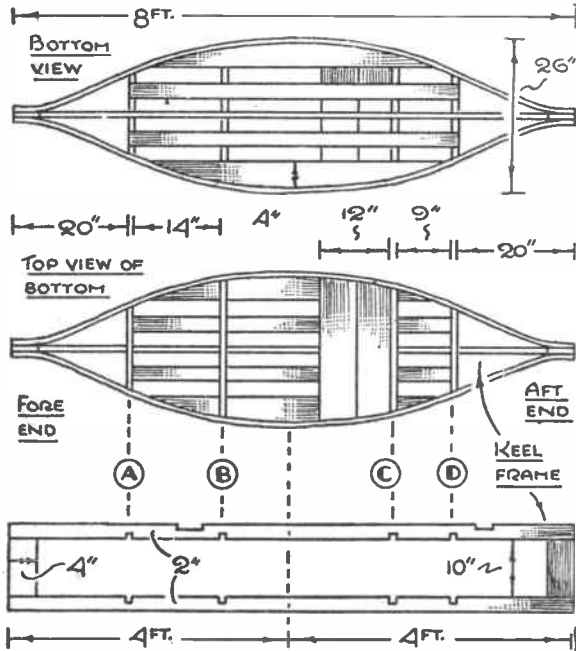


Fig. 2—Inside and outside of bottom with keel frame

clamp, force the laths against the keel ends and drive in screws about $1\frac{1}{2}$ ins. long. Be sure, of course, to have the joining parts glued beforehand.

When one end is completely joined, proceed with the other (opposite) end. Turn the work upside down and repeat the process. The waste material is then sawn off flush with the nose ends of the work, following which the central laths are attached.

Try to fix the hull laths so the formers are not twisted in their position. It will not matter much if they should be slightly twisted. Be sure to add nails where the laths cross the formers B and F.

Fitting the Bottom

To save wood, the bottom of the craft consists of laths of wood. You require two laths roughly 5ft. long by 2ins. wide by $\frac{1}{2}$ in. thick, with two side laths about 4ft. long by 4ins. wide by $\frac{1}{2}$ in. thick. Glue and nail the 2in. laths to the central notched in the formers.

The side laths need to be set in position and the necessary curvature of the hull shape pencilled on them, following which they are cut and spokeshaved to shape, then glued

All you have to do is to cut out and fit the cock-pit side pieces, using two pieces of $\frac{1}{2}$ in. stuff about 2ft. 6ins. long by 6ins. wide. The right length can be found by measuring the overall distance of the formers B and C.

The shapes fit on top of them. Glue and nail the shapes in place, then add a 4in. wide and 2in. wide cross-rail over the top keel rail. The ends of these cross-rails are cut to fit between the top hull laths where they are nailed.

At this juncture make the coaming strips detailed at Fig. 6. The length stated is approximate and may have to be curtailed a little. The strips should be cut from $\frac{3}{4}$ in. thick wood which is easily bendable, such as light oak or ash, but deal could be made to serve equally well. The strips are best glued and screwed in place.

The work so far as the frame of the canoe is concerned, is completed. Prior to attaching the covering

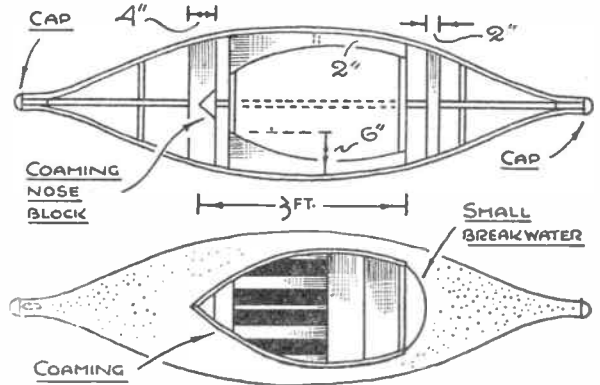


Fig. 3—Deck framework and covered top

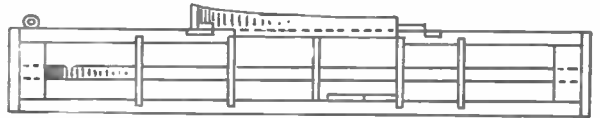


Fig. 4—Central section of framework

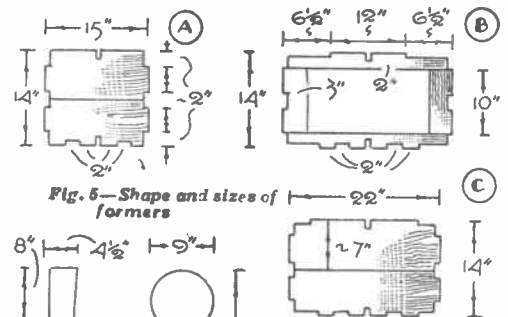


Fig. 5—Shape and sizes of formers

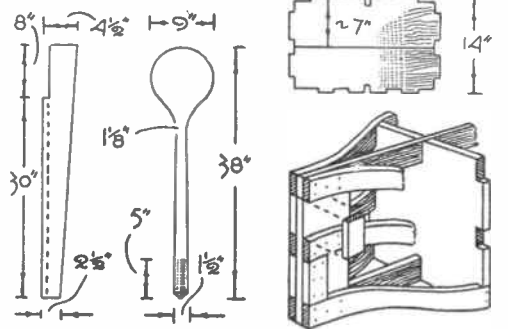


Fig. 6—Coaming strip and paddle details

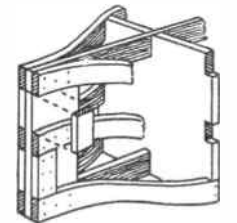


Fig. 7—Construction of the nose

The lino is then covered with the roofing felt, this being trimmed and nailed down neatly. The hulls are covered with a 14in. wide strip, first painting the woodwork as explained to make it stick. The hulls strips should be 2ins. longer

(Continued on page 7)

An expert on the subject tells you how to make A BOW AND ARROWS

HERE is a weapon that costs only a few shillings to make and has a range of anything up to 600 yards. Many of our readers will be delighted to make a long-bow for use in the summer.

First, buy a bowstave about 6ft. 6ins. by 1½ins. by 1½ins., with a straight grain and as free from knots and blemishes as possible. The finest material is degame, or lemonwood, which comes from Cuba, but hickory, osage, orange, snakewood or yew will serve almost as well. Hickory is a durable wood and very easy to work. Be sure the stave is seasoned.

Tools and Materials

For your tools, you will require a small plane, spokeshave, rat-tail file, pair of calipers, waterproof glue, french polish or shellac, half-a-dozen sheets of emery paper, and six yards of fishing line with a breaking-strain of 100lbs., well waxed. If you have a spring balance to weigh 50lbs., so much the better.

Much depends on your eye in making, as well as in shooting, a long-bow, so always cut lightly when

in Fig. 1, packing the jaws of the vice with softer wood to avoid marking the stave. The belly and sides of the bow now taper towards the ends.

Using strips of emery, assisted by light strokes of the spokeshave, you now round off the belly. Use a template of wood or cardboard to avoid discrepancies in the shaping of the arms. Fig. 1 gives you the shape of the various cross-sections.

Take your rat-tail file and construct the nicks, or grooves for the bow-string, as in Fig. 2. String the bow, so the distance between the belly and the string, in the middle, is between 6½ins. and 7½ins. Now take the spring balance, and get someone to place the bow back downwards on the floor, holding it there with one foot on the middle of the belly.

Then with the hook of the balance round the centre of the string, get him to pull upwards until the balance shows between 35 and 45lbs. The string should now be 26ins. from the belly, where it would be if you were firing a 28in. arrow.

Aim to get the curvature of the bow as near as possible to that in Fig. 3, and when you are quite satisfied with

Take some turkey-wing feathers, and pull the larger vane away from the stem (Fig. 4) so you have something like a long dart flight. Cut this into 2in. lengths, and glue them to the arrow, so they come to within 1in. of the top.

Fixing the Feathers

On the edge of the flight you will find a thin strip of quill which glues to the shaft very firmly. Fix them as in Fig. 4, with two feathers on one side of the arrow and one (called the 'cock' feather) on the other. Take care that all three flights are from the same wing of the bird. A .303 bullet, with the lead removed makes an excellent and very lethal pile, or arrow-head.

Varnish the shaft, and trim the flights. For your left arm you will want a leather or rexine wrist guard about 6ins. long, and an old glove for your right hand. Your equipment is complete.

Now a word about shooting. Do not hold the string between finger and thumb, but by the first three fingers of the right hand. The arrow is between the first and second fingers, between the top joints.

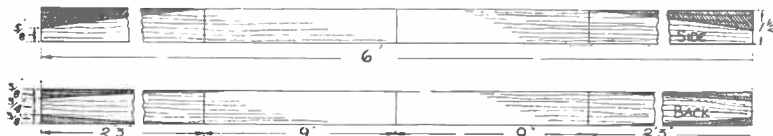


Fig. 1—Side and back marked for shaping

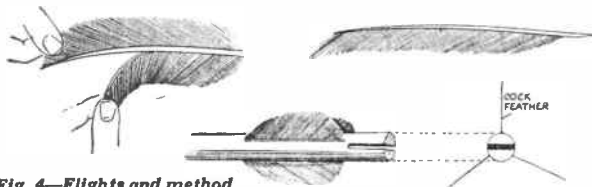


Fig. 4—Flights and method of spacing

removing wood with the spokeshave. It is most annoying to find several days' work wasted because you have made a too-deep cut with a tool.

Take the stave, and choose the side with the best grain; this is to be the 'back,' or flat part of the bow. Plane it smooth, and start to fashion the stave. The rounded inside of the bow, called the 'belly' is the tricky part of the work. Mark off the ends of the bow, 'A,' then the centre, 'B,' and the positions 'C,' each 9ins. from 'B' (Fig. 1). To avoid errors later on, make distinctive marks on the back, belly and each side. Once you have planed the back, you have finished work on it, except for rubbing it with emery paper.

Now plane away the shaded areas

the stave, rub it clean and apply the shellac. Make a bow-string of the fishing-line, and serve the middle, for about 6ins. with silk thread.

The handle of the bow should have a 10in grip of soft leather, glued over a whipping of light twine, as for the handle of a cricket-bat. Your bow being complete, you want arrows.

Find some dowels of pine or deal, with a diameter of roughly ¾in. If they have a slight bend, steam them straight before working on them and cutting them into lengths of 28ins. taper one end to receive the arrow-head, and in the other cut a groove ¾in. deep. It should be just wide enough to take the bow-string without binding.

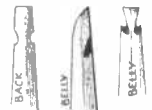


Fig. 2—Nocks

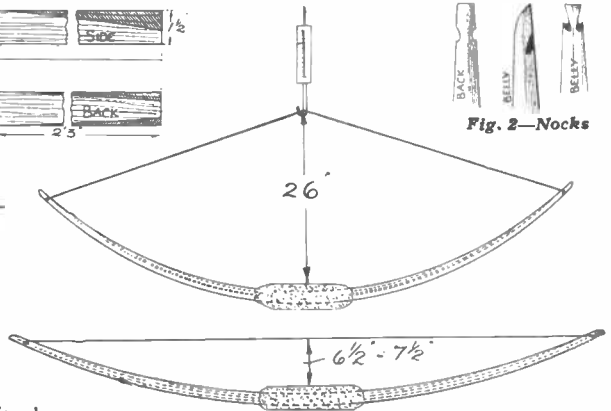


Fig. 3—Curvatures of drawn and strung bow

Hold the bow in the left hand, with the arrow on the left side of the bow. Draw the arrow so that the feathers touch the right cheek, and the shaft is almost parallel to the rigid and straight left arm, which is held in line with the shoulders.

After a few minutes you will find you are automatically using the correct elevation for your shooting. Look at the target, not at the arrow head. Give the arrow credit for a long flight, and shoot at something large and soft, such as a haystack. Properly handled, the bow will kill a stag at 100 yds. or more, so be careful!

A simple and realistic set to make in wood is this MODEL TUG & BARGES

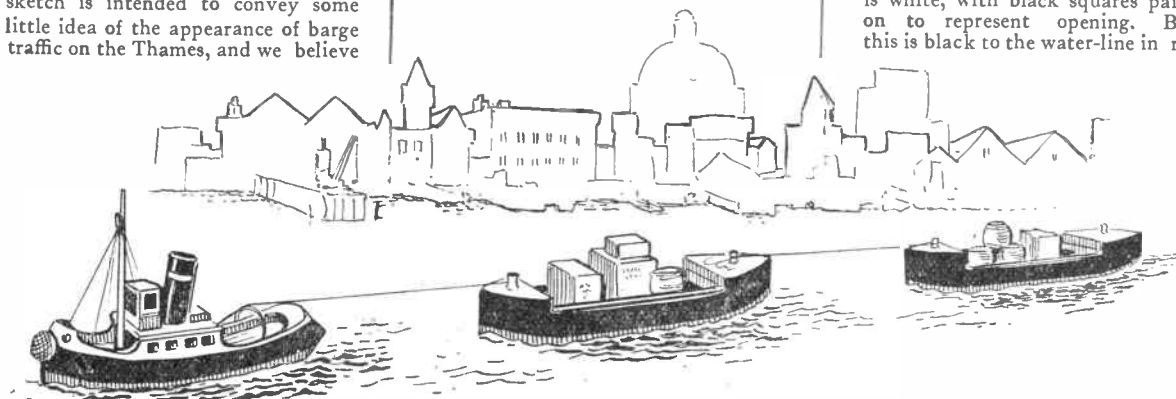
A FAMILIAR sight in London which may be seen from either Embankment of the Thames, is the sturdy little steam tug trailing behind a number of cumbersome looking lighters or barges. Our sketch is intended to convey some little idea of the appearance of barge traffic on the Thames, and we believe

cut out of it so the upper surface of the piece below may form the deck of the tug. The shaping also of piece C is shown in Fig. 2 and again in Fig. 1.

This work can be carried out easily with an ordinary well-sharpened

“sprung” between the two sides of piece C.

All the parts should receive a final glasspapering before the painting is done. A clue as to the colouring may be gained from the sketch of the tug and barges. The top of the sides is white, with black squares painted on to represent opening. Below this is black to the water-line in red.



many of our woodworkers would like to make up “dry-land” models of these little crafts. These will amuse the kiddies on the table, for loading and unloading and for “towing” to the jetties or landing stages.

We will deal with the tug first, and in Fig. 1 is shown a plan and a side view with a scale from which parts may be scaled off. The tug, and barges too, it must be pointed out are flat-bottomed, but if desired could be fitted with tiny wheels.

At Fig. 2 we see the four main parts which go to make the tug. Piece A is cut from a G $\frac{1}{4}$ panel to the measurements given, the bow end of the piece being brought to a point while the stern is cut to a semi-circle, all with the fretsaw. On top of this piece is a thicker layer B, cut from an MD8 panel, the piece C above this being also cut from this same panel.

Both B and C are 8ins. long and 2 $\frac{1}{2}$ ins. wide. Piece C has the middle

pocket knife and finished with glasspaper. Piece E which fits down on to the two raised sides of piece C and is glued to the block D. measures 2 $\frac{1}{2}$ ins. long and 2 $\frac{1}{2}$ ins. wide and is of either $\frac{1}{4}$ in. or 3/16in. wood.

The small upper piece at the bow is glued on to C and afterwards shaped up. The wheel-house in front of the funnel and the piece F behind this are cut from waste wood as blocks and glued on,

The funnel is about $\frac{3}{4}$ in. in diameter and is 2ins. long; if a piece of round rod can be got for it, the bottom surface must be bevelled off so the funnel stands at the slight angle shown.

The guide for the towing rope is formed from a piece of wire and shaped up as at G in Fig. 2. It is flattened at both ends and drilled for two little fret pins driven in to hold it in place after it has been

The funnel may be either black or red with a white band, and the wheel-house should be white with windows painted on. The deck should be buff and lines drawn on to represent the battening. A mast should be added, and one or two “ropes” for the rigging

The mast-head light might be shaped from a little block of wood and painted red, the waste wood being cut up to form the bow and stern blocks C.

The barge parts (Fig. 3) are cut with the fretsaw and glued together similarly to the tug. Pieces A and B are of the same size exactly, A being cut from a piece of $\frac{1}{4}$ in. fretwood while B is shaped from $\frac{1}{2}$ in. wood. The centre panel is cut out from piece B to the sizes shown, the waste wood being cut up to form the bow and stern blocks C.

(Continued on Cover IV)

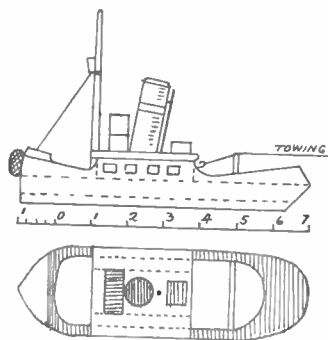


Fig. 1—Tug side view and plan

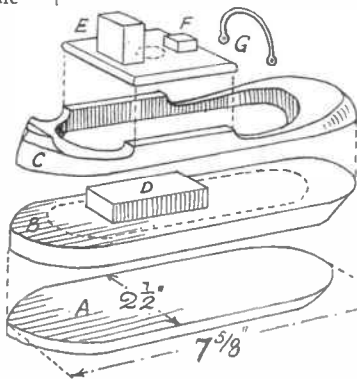


Fig. 2—The parts of the tug separate

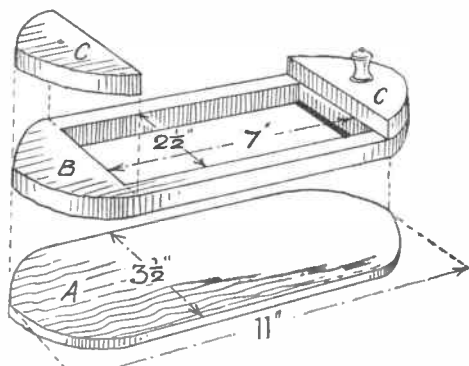


Fig. 3—Parts and dimensions for the lighters

The handyman can help the great campaign with these "SALUTE" WEEKS IDEAS

IN almost every district in the country between now and July there will be "Salute the Soldier" weeks in connection with the great National Savings campaign being run to raise money for the Government.

Again the reader of these pages and the user of the fretsaw can utilise his knowledge and ability in performing a useful piece of work in connection therewith, in providing models, displays, cut-outs, etc., just



A Striking Cut-out Figure with back view showing support

as many have done in previous years for the earlier campaigns in connection with Wings for Victory and War Weapons Weeks.

A good plan first of all is to get in touch with the Publicity Officer of the local Savings Committee in order to see the various posters and specimens which may lend themselves to a particular layout. He, or the Secretary, or probably both, will be pleased to help you in arranging to incorporate some of the figures in a suitable display at selling centres or in shop windows.

The Main Figure

You will, of course, first have to know when the actual Week is coming along, and get in hand at once with the work of cutting out the parts for the display. Fortunately many of the posters incorporate

figures which are particularly suitable for cut-out purposes. No doubt you could find odd pieces of wood from which they could be completed.

The principal figure running through the campaign is that of the soldier holding a rifle at the "charge" position, stepping forward on ground bearing the word "The Liberator."

Suitable Cut-out Figure

This figure—we shall publish one in Hobbies Weekly later—forms an excellent statuette cut-out, and if you can arrange to have a number of them, they can be used for display at Centres or Groups either in conjunction with other posters or cut-outs, or even by themselves.

The figure is not very large and the paper is first pasted down to 3/16in. or 1/4in. wood. Then it is cut out, carefully with the fretsaw and the edges afterwards painted jet black if the figure itself is printed black.

If the printing is in another colour, then, of course, the edge of the wood will be treated in a similar shade to carry the thickness round. The bottom edge is cut straight, and the background round the feet rounded off. Behind, to form a base, a little block strip of wood is glued in line with the bottom edge.

This provides the weight and the area on which the whole thing stands.

A small illustration of the sort of thing required is given herewith.

Hobbies Models

In other posters, too, are figures which can be similarly treated, and many of the parts will look much better cut out in wood. Then again, of course, many of the models which you will probably have already made from Hobbies Designs, will come in useful, particularly if any Group in your district has a Target for this particular model.

For instance, some Group may be preparing to raise the money for a tank, and in that case the Design we published some time ago would be quite suitable. Or there is the anti-aircraft gun, the army lorry, or any of the others which will make an effective display.

If you are a member of a Fretwork Club then you can even get together to make these models immediately, in order to have a composite display

in a local window of your own town or district. You could undoubtedly find a friend or a shopkeeper who would be prepared to loan at least part of his window for the purpose, and with this in mind you would know exactly how to go ahead for layout.

Here again, contact with the Publicity Officer would be helpful because he could probably put you in touch with somebody who has already made such an offer. The window display should be nicely done, and not overcrowded.

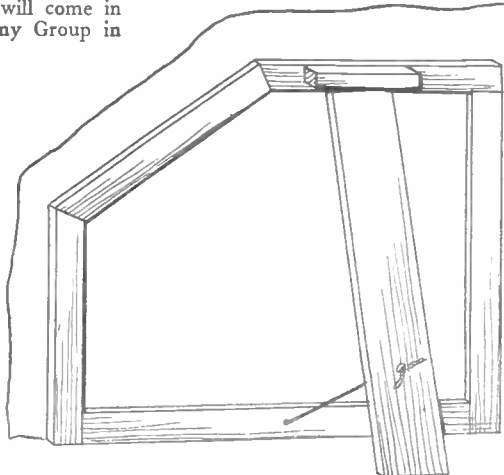
The posters provided as part of the publicity campaign can be utilised as a background with your models and the cut-out figures either arranged along the floor, or upon a suitable cloth representing normal country.

Back Cloth Work

If you know a fellow who is at all an artist, then he could paint a special back cloth to hang behind and make the whole thing more realistic. Some helpful suggestions for a layout of a ground matter can be seen in the "Salute the Soldier" book provided for the Secretaries of the Committee. You will see along the bottom of the pages of this, various suggestions of men in action which could reasonably easily be incorporated into the display.

Then again, some of the posters contain brilliant illustrations of guns in action, and of the various parts forming the equipment of the soldier. All these can be made more realistic if cut out in wood and stood about as a composite picture for a little independent display on its own.

If you want side scenes, they can be arranged on canvas wings much as the ordinary wings are in a theatre. These are built up on canvas supported by cross pieces of wood strips. Solid



Back view of a side scene showing support

wood is not required, but the canvas is stretched tight across the framework.

If they are fairly large, then in addition to the outline framework of strips, cross pieces should be added for strength. The whole is supported and fixed upright by a leaning strut either as a metal rod, or another strip of wood or dowelling. If there is no room for these you can probably get an upright drainpipe or some similar heavy article, tall enough to hold the framework upright and heavy enough to prevent it falling over. A back view of one of these strut screens is given herewith.

Painted scene

The front is covered by canvas. It is stretched tightly across and then the required scene is painted on. If you have ever seen the back cloth of a theatre stage, you will realise it is not necessary to get an absolutely artistic picture. These cloths, when close up, look nothing but a series of untidy dabs of colour. At a distance, however, and under the bright lights, they form themselves into a proper pattern of the picture required.

This can be the case in your own scenic effect, much of which will largely depend on the subject. If you are incorporating a shelled or bombed building, then obviously rough work will be near enough. A mountain side or sloping ground can be equally easily painted on. This is much better, and certainly more straightforward than endeavouring to get details of people or buildings or articles.

Before commencing a window display, you should measure up the size available, both in the floor area and the upright sides, then you can work out on paper how best to incorporate the various models you have, or the posters you propose to use.

An Indicator

By the way, among the publicity matter produced is an excellent small indicator poster in which the arm of the soldier is movable to point to the figures of the Savings obtained during the week.

This can very well form a prominent position and the movable arm and hand can be cut out in thin wood and screwed to the shoulder of the figure to make it more rigid and workable. The poster itself can be pasted to any board to provide substance for the screw to pass into.

This particular poster is issued for Savings Groups, and the name of the Group can be added in the top left-hand corner in the space available. If it is not shown in connection with any particular Group, then the panel can be covered with white paper, and the wording "Our Target is....." printed on it.

Interesting Items from the EDITOR'S NOTEBOOK

ALL those who have the opportunity should go along to the National Sea Scouts Exhibition which opens in London on Monday next, April 10th. There will be much to interest everyone, including some of the finest displays of model ships ever assembled—ranging from magnificent ones loaned by the Admiralty, to those entered by Scouts in a nationwide competition. In addition there will be exhibits of almost everything nautical as well as a ship's galley (with refreshments obtainable), a cinema, and a fully equipped radio cabin.

IN these days of swift change and progress many things are apt to disappear before we realise they have gone. In the course of a comparatively few years we shall have forgotten almost what they look like. Do you see where the clever craftsmen can come in on this. The horsedrawn vehicle had a wide range which is now seen no more; the types of craft on the rivers and beaches and in the harbours round our coast have changed completely. Why not make a series of small models of them to illustrate and perpetuate the modes of travel in the past? The work would involve an interesting amount of research in your local archives and among people of your district. You could obtain, through the municipal library, and from private sources pictures and particulars which would be helpful. You could contact a draughtsman or art master who would produce more or less scale drawings from which to prepare the parts.

SO in time you would collect an unusual range of models of great local interest and you would soon be finding friends ready to help—particularly if you could get a word about it in the local paper. Most districts had carts, or ships, or barges peculiar to that part, and these form a particularly interesting piece of work. The idea should provide the nucleus for something different in the way of a specialized hobby.

I HAVE often mentioned the real joy a few fretwork tools can be to our lads in the Prisoner of War Camps and proof has come from several of those who were repatriated some time ago. For instance, here is what H. Hiscocks, now of Bircotes, near Doncaster, says:—"I wish to thank you for many an hour's pleasure you have given me and a good few more of the boys in Stalag VIII B, Germany, by sending your fretwork

sets out there. It was one of my hobbies ever since I was a youngster: We had quite a show of fretwork and models last July in the arts and crafts display." That is one of the many ways in which the Red Cross Society have helped, because, of course, it is only by them that such goods can be sent. Remember that, please, when you get slightly annoyed because you cannot get all the fretsaw blades you would like.

HERE'S a very interesting letter from a follower of our pages for over 35 years. It comes from Fred Smith, of Old Cartergate, Grimsby.

"I have been interested" he says, "in your adverts. suggesting that old fretwork sets should be dug out and given to boys as presents. This is quite a good idea, and personally I have looked out several items. I am an old Hobbies enthusiast, starting over 35 years ago as a boy, making up different things for pastime and sometimes for profit. One of them was the Columbus Clock Stand and I believe I made so many of these, that I could almost cut out without the pattern. However, the 1914-18 war stopped things, for at 16 I joined the Navy, but I soon sent home for my fretwork kit. I passed many more enjoyable hours making different patterns up and soon had several more chaps buying kits and making things to send home. When I started business I made a point of selling things that interested the youthful element. You can be sure fretwork was something I could talk about with confidence. The boys who came to me for these tools are now men and come to me now for tradesmen's tools. From a social point of view my experience shows that young boys who take up Hobbies are generally steady lads and keep out of trouble and keep away from bad companions.

THE manager of the Dept. Mail Order appeals to readers to have patience in the matter and their orders will receive attention. All matters are taken in rotation, and when yours is handled it will help so much if you have named a substitute should what you want be out of stock. For instance, if you want to make a model of a cruiser, say you would like a destroyer if the other design sheet is out of stock. At least you will then get something instead of having to write again when you are told the first thing you want is out of stock.

The Editor

Prevent rust and ruin on your cycle by having EBONISED HANDLE BARS

AS most cyclists know, new handle-bars, chromium-plated or nickel-plated or black-enamelled, are scarce and rather expensive. If there is need for new handle-bars because the old ones are rusted badly, most of you will undoubtedly welcome a finish that, for a bright, new, clean appearance, is hard to beat.

Now, the new finish about to be described in full detail, is not altogether brand new, because it is merely a french polish. Instead of the usual procedure of applying it to wood surfaces and stone surfaces (in the case of kitchenette fire-places), it can just be as effectively applied to metal, such as that afforded by bicycle handle-bars.

Making a Good Job of it

But, one must be thorough in going about it. To start work, the brakes and so forth are removed from the bars and then the bars from the bike, including the stem piece, assuming it is not a fixed type. Both stem and bars are scraped free of enamel paint as much as possible, using the edges of an old table knife or a wood chisel.

When scraped, the minute traces of enamel, plus rust, is removed by wiping and rubbing with a rag saturated slightly with paraffin oil. All traces of the oil must be removed by washing the exposed metal with hot soapy water containing a lump of washing soda.

Scrubbing and rubbing will effectively remove all traces of oil and rust. Dry the metal parts with a clean cloth. The interior of the handle-bar tubing is best dried by keeping the bars near a fire for an hour or so.

When dry, the parts should be scoured with a piece of used emery cloth. This will help to smooth out the rusty rough spots. The residue of red dust is then rubbed off with a soft duster. If dealing exclusively with bars, pieces of wood should be stuck into the handle ends to project sufficiently as grips for the hands when the ebonizing polish is being applied.

Canoe (continued from page 2)

than necessary at each end so the extra 2ins. can be turned over against the nose fronts, one overlap going on top of the other, following which the nose pieces (pieces of wood 14ins. long by 1½ins. wide by 1in. thick) are nailed on.

However, before you can cover the hulls, it will be necessary to fit small blocks of ½in. (or ¾in.) wood between the hull laths at the nose end sides as shown by the constructional detail at Fig. 7. These blocks keep the

If the stem is a permanent fixture on the bars, a piece of cord could be tied around the base end of the stem shrank.

Obtain at this juncture a small bottle of ebony (jet black) polish and, having shaken it, pour a small quantity into a clean saucer.

An ordinary soft-haired paint brush is now wanted, one about 1in. wide. Holding the handle-bars by the stem (or wooden grips) as shown, dip the brush into the polish and apply a single coat all over. Work in a warm room and try to apply the polish quickly. Allow the application to dry thoroughly, an hour usually sufficing, then apply a second coat.

When this has dried, the polished surface can be lightly rubbed with a No. 0 (or flour) grade of glasspaper. This tones down the gloss and shows up any dented pitted spots in the metal.

These spots need to be thickly coated with polish until the whole surface is smooth. When indentations are filled in to satisfaction, give the bars a final brushing of polish—a thin application this time. When dry, make a pad (rubber) from a wad of cotton wool and a small square of soft thin linen.

Rubbing Off

To use a french polishing term, the handle-bars are now 'rubbed off.' Simply dip the pad in the polish and allow it to soak into the cotton wool (the latter, of course, is wrapped up in the piece of linen, the loose ends being twisted together to form a grip for the fingers) and apply the final coat. This is done in long light sweeps that follow the contour of the handle-bars.

Unlike ordinary home-enamelled handle-bars, the polished finish will never become sticky. Paraffin oil will have no effect on it. The old handle-bars will gleam like new and remain bright and glossy for a long time,

material nice and even at the ends, as you will understand.

The deck is the next thing to be covered with the felting and it is quite possible to "make up" the deck covering from scraps of the felt.

When fully covered, the central part of the top of the keel frame must be cut away to the inside dimensions of the cock-pit, whereupon the felt is given a coat of tar paint or oil paint. This should be done after you have cut out the semi-circular breakwater



requiring only an occasional polishing with a soft clean duster.

Incidentally, the writer considered it advisable to apply a foundation coat of stove enamel, the french polish going on top of this when dry, but such a 'priming' coat resulted in a curious phenomenon taking place within a week. The neat smooth glossy surface took on a "grained" effect, reminiscent of the whorls and discs in certain kinds of morocco leather—the polished surface, in other words, cracked up into a delightful self-designed pattern.

Ebonized Wheel Rims

If one can ebonize handle-bars, one can also ebonize the rims of bicycle wheels if rusty. The treatment is much the same, only a bit more awkward. One could merely apply the coatings of polish with the brush alone. The work around the rims will entail careful manipulation between spokes. Do this first before the brush is used to sweep carefully along the rims.

from ¾in. wood and fixed it on the deck at the seat back. The paint helps to "seal" all joints and also prevents the nail heads from rusting.

In respect to the paddle, it is cut to shape from ¾in. wood. The handle is rounded an oval shape. The blade is planed and spokeshaved to have sharply-rounded edge all round. Coat the paddle with enamel paint. The handle could be wrapped with strong black thread to set it off properly.

How to make a cheap board with cut or moulded DRAUGHTS and CHESS MEN

DRAUGHTS (or checkers) is a game frequently indulged in by many, young and old alike. In these days of shortages, therefore, when we have to make our own stuff or go without, an excellent tip in regard to the making of chess boards is to make use of black-and-white checked bathroom oilcloth.

This oilcloth is thinner than the ordinary variety of oilcloth for floors. The squares are sometimes 2ins., 1½ins., or 1¼ins. and may be black-and-white, blue-and-white, etc.

If, however, you have only a piece of 2in. squared stuff, perhaps 18ins. wide, it cannot be used for a checker board top. A piece of 1½in. squared

An alternative way to make chess boards is to rule out the squares on a piece of wood, then groove each line with a veining tool. The squares are then easily painted on in contrasting colours, using poster paint or enamel. Owing to the groove-cuts in the wood surface, the colouring is not likely to run through the grain, especially if a water colour paint is used.

Failing the use of a veining tool, one could go over each line with a tenon saw, cutting kerfs to a depth of ¼in. or so. A strip of wood, held near the lines, acts as a fence and guide for the tenon saw.

Novel Draughtsmen

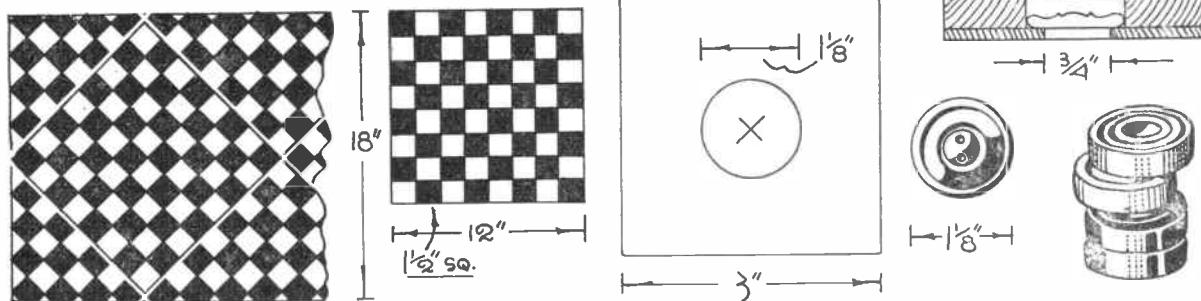
For making the actual draughtsmen the best plan is to have a plastic and

and gradually fit in the button.

The mould is covered on the underside with a 3in. square of ¼in. wood having a ¾in. diam. hole in the centre, as you see by the section. The thread holes in the button must be filled up with wax and the face rubbed with a thin smearing of vaseline, including the "walls" of the button aperture.

The hard pieces of plastic such as Pyruma, or plastic wood are softened to form a pliable mass. Instead of using plain water, the water could be dyed (in one case) with black ink or poster colour, with yellow ink or poster colour in the second case, if so desired.

To make the men, place the button in the mould, face side upwards, then



A piece of lino to cut square

Marking the board

The mould cover with (top right) section of mould

The checker shapes

stuff, on the other hand, will provide a complete board surface, as we show in the diagrams.

Whatever kind of material you have in your possession or will obtain, remember that there must always be four black squares and four white squares, eight in all, along one side and end. It is easy to visualize the actual board top in a remnant of the oilcloth before you cut it out, as suggested by the left-hand diagram.

Backing Material

The square is cut out carefully and glued to a piece of suitable wood, or thick cardboard. It is impossible to have a folding (halved) board, by the way, unless the joint is well and truly hinged, like a card table, at the ends. For a 12in. board, you will need two pieces of fretwood 12ins. long by 6ins. wide by about ¼in. thick.

Model Barge (Continued from page 4)

All parts are glued firmly together and filed up true to shape and glass-papered previous to painting. Two little capstans or bollards may be shaped and pivoted as shown.

In painting the barge, black may be used for the sides, with the water-

dye it so that if chipped the colour remains the same. Before preparing the plastic material, however, a mould must be made.

Get a piece of fretwood 3ins. square by ¼in. thick. You then need a large overcoat button about 1½ins. diam. The face of the button should be decorative, as shown. The buttons on women's coats are more decorative than those on men's coats. You will be sure to find a "fancy" one somewhere in the house. The sewing machine drawer is a good place to look—all kinds of buttons are usually dropped into it.

Having obtained the button, cut a neat hole for it in the centre of the square of fretwood, as shown. A neat, smooth, circular aperture is wanted, so cut the hole a trifle on the small side, then glasspaper the edges

with a table knife, press some of the plastic material into the mould, squeezing it tightly down. Level off the top by drawing the knife, in a sawing, slanting manner, flatly over the top of the hole.

Extracting the Mould

The "man" is ejected carefully from the mould by turning the latter upside down and pressing a finger against the button via the ¼in. finger hole provided. Repeat this procedure until you have sufficient men, with several "extra" ones in hand. Place the moulded men on a flat board and put in a dry corner to become hard.

The face of the button may require cleaning and coating with vaseline each time a man is made. The drier the plastic, the less messy the work of moulding the men. The button face puts a neat, decorative face on the men, as shown.

line red. The "hold" and the decks, fore and aft, might be coloured buff. The towing "rope" may consist of fine cord, attached to the tug on a pivoted hook driven into block D and to the barge bollard or canstan.

The cargo to be carried in the barges can consist of blocks of wood of fair size painted realistically to represent crates and machinery cases, while it might be possible to shape up some pieces of round rod or blocks of wood to form barrels and oil drums.