THE FIRST ISSUE OF A NEW VOLUME

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A novel money-box in the form of a MODEL AMBULANCE

HERE'S a novel money-box for any youngster, because it is also an excellent model, strongly made to withstand a lot of hard abuse.

To-day many children are saving up their odd coppers to buy National Savings Stamps. Others collect little sums for the Red Cross Fund or some other equally deserving cause.

So, supposing the rather appropriate Red Cross "ambulance" were made, our small, willing collectors would be highly delighted with such a novel thing, and people would more readily drop in those odd, but welcome pennies, particularly the more suspicious folk who are inclined to regard "open" collecting boxes as being somewhat tempting for the collectors .... especially strange little folk whose trustworthiness is not known.

Making the Chassis

The chassis of the model car is made first, details of which are given at Fig. 2. It is simply a plain piece of ⅜in. deal, cut to size and trimmed true with a plane. Two axle blocks 3ins. long by ½in. square are glued and nailed on the bottom side in the position shown.

The next part to make is the roof (Fig. 3), cut and shaped from ⅜in. thick wood. The penny slot should be cut in the wood first, following which the side shape (indicated by the dotted lines) is pencilled on, then the waste roughly removed with a sharp wood chisel and the shape smoothed out with a small block plane.

The waste wood is best removed by cutting across the grain. If desired, by the way, you could leave the roof shaping over until the sides have been attached, the shape of these acting as a guide.

The sides mentioned are cut to shape from pieces of deal measuring 6ins. by 3⅞ins. by ⅜in. thick. The shape is shown in the side elevation of the model at Fig. 5. The aperture for the rear wheels, you will notice, is cut to an 1⅛in. radius, the centre of the axle being the central point. When marking out the aperture with the compasses, keep the point ¼in. below the edge of the wood.

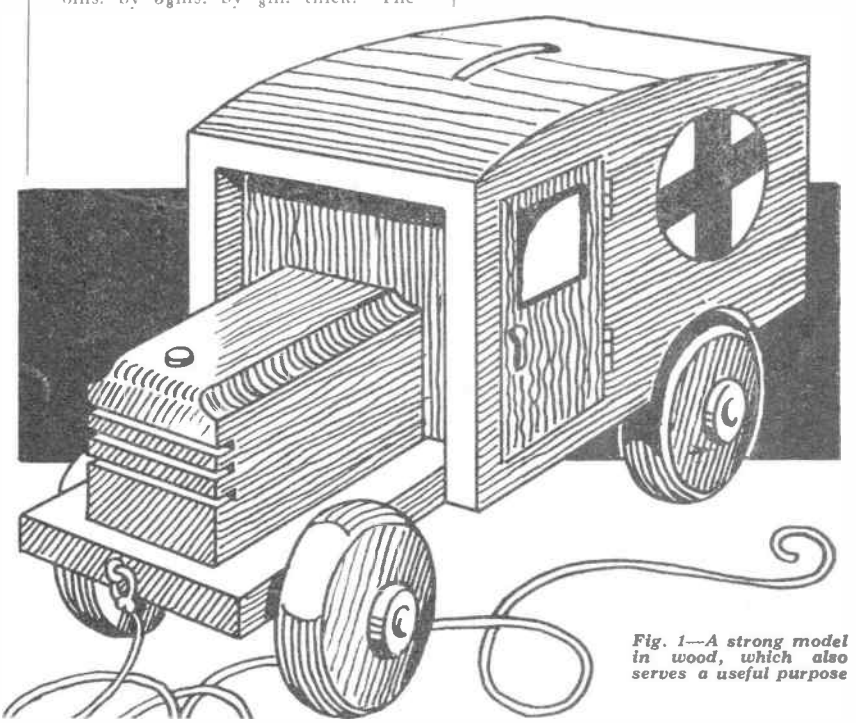


Fig. 1—A strong model in wood, which also serves a useful purpose

You need two shaped sides and two end pieces. The latter measure 2¾ins. by 2¾ins. by ⅜in. Therefore, having cut out the sides and ends, attach the sides to the chassis, keeping them flush at the back end. The back end piece is glued and nailed between the sides.

The front end piece (actually the dashboard) is fitted in position temporarily so the roof piece will be correctly supported when attaching it in between the sides with glue and nails, which can now be done. When the roof is attached, remove the dashboard piece, then proceed to cut the roof surface to shape, as previously explained.

If already shaped, make the joints even by running a block plane over the surface, then by coarse and finely glasspapering the wood. Sink all nail heads and stop the resultant holes with plastic wood or putty before glasspapering the sides and end.

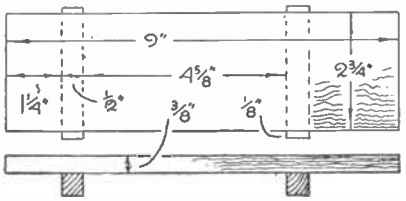


Fig. 2—Details of chassis construction

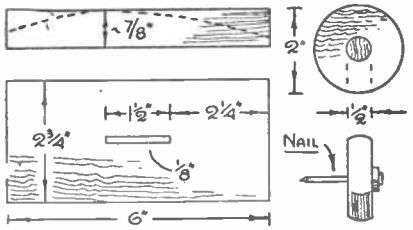


Fig. 3—Flat and side detail of roof with wheels.

Engine Cover and Dashboard

An "Engine" cover block 3ins. by 1¾in. by 1¾in. is now wanted. The top corners are fluted with a gouge (see front view, Fig. 4), then four or three saw cuts made at the front (radiator) end, as shown. You might prefer to simply plane a bevel, rather than flute, the top corners.

Glue and screw the block to the dashboard. Try to make a true, neat job, because the dashboard piece must be a neat, yet free, fit within the body of the car.

The engine block is secured to the chassis by a single flathead iron screw (see side elevation). When the finished work is full of coppers, the removal of this screw provides access to the cash. It is a simple matter to drive the screw home again.

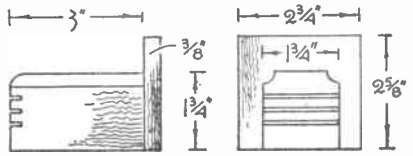


Fig. 4—Front and side view engine

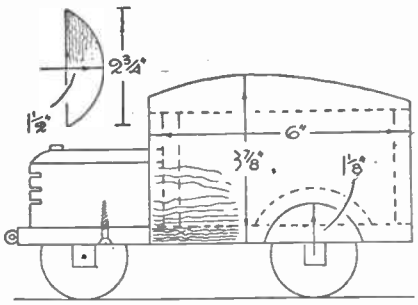


Fig. 5—Side view with dimensions

The Wheels

Before making the wheels, cut out two pieces of wood the semi-circular shape shown at Fig 4. These are the wheel cavity blocks, being glued inside the body directly in front of the wheel apertures, as shown by the dotted lines in the elevation.

The wheels are cut from ½in. thick wood. Outside hubs are cut from ⅛in. wood ½in. in diameter. Having glued the hubs on and allowed the glue to set, the edges of the discs are rounded over and finished smooth with glasspaper. Holes are drilled neatly in the centre for suitable fixing nails (see Fig. 3). It is then only a matter of making holes in the axles (with a drill or bradawl) so the nails can be more readily hammered in.

Painted Finish

The wheels, of course, must be free to revolve on the nails. To complete the model, give it a couple of coats of cream paint, then line on the door and the red cross emblem, using black and red paint. The model would also look well if painted grey. The wheels could be done black.

When dry, a roundhead screw or a brass tack tapped into the radiator serves as a filling cap. Attach a trailing cord to the work by means of a small screw-eye.

THE CRAFTSMAN IN WARTIME

HERE are two interesting pictures of how readers of Hobbies Weekly are spending their time in various places and under differing circumstances. The art of model making is being enjoyed in all the Services, and the value of the articles and designs in these pages is only to be understood by those who actually use them in these war-like circumstances. The picture on the left comes from Italy and is of a craftsman carving a R.E.M.E. shield. The only tool available out there is the penknife. We have no doubt that Craftsman C. E. Waghorn of Rayner's Lane, Harrow, will make as good a job of that as he has done of the many other pieces of work undertaken. The picture on the right shows what realism can be obtained by the appropriate use of models in proportion. Here we have a tank being attacked by the aeroplane, and a fighter defending, all from patterns produced in these pages. This actual work is undertaken by J. W. Cooke of Shepherd's Bush, who is an ardent model maker, and whose work has been previously mentioned and shown in these pages.

We are always delighted to have particulars of the work which our readers do, and photographs which are suitable for use here, and which are paid for on publication.

Odds and ends can be easily used to make this

SMALL CYCLE SHED

COULD you tell me a cheap, easy way to make a bicycle shed?" a friend asked the writer recently. "I find there is just space enough for one between our scullery wall and a wooden shed opposite." After he had made a rough draft of the layout, the writer was able to suggest the best means of building a suitable shed, using less wood and felting than that normally required.

The shed was such a success that the idea is worth passing on to others who need a shed for a bicycle. There must be sufficient space in many back yards and gardens for a suitable building. The minimum proportions work out at 6ft. in length, 5ft. in height and 2ft. in width.

Should the space between one wall and an adjacent building only permit a shed 5ft. 6ins. long, a bike can be housed in it, providing the front wheel is kept at an angle. If, on the other hand, the distance between the wall and building is more than 6ft., such as 7ft. or 8ft., there would be no sense in making a shed 6ft. long.

Marking the Wall

To make a 6ft. by 5ft. by 2ft. shed—a description of which will serve for individual requirements—as shown at Fig. 1, measure the back height and chalk it along the wall as a guide line for the rafter support (see Figs. 2 and 3). The width, which is 2ft., and front height of 4ft. is then marked at the sides, as seen in the side view.

Side rafter pieces, which measure about 26ins. long by 2ins. by $\frac{7}{8}$in., are cut at a suitable angle at the ends to slope downwards from 5ft. to 4ft. When cut to length and checked in the centre (top edge) for a central rafter piece measuring 6ft by 2ins by $\frac{7}{8}$in., they can be nailed up.

Front uprights, the same width and thickness, are fitted beneath to be flush, then nailed. The rafter support (it is 6ft. long by 4ins. wide by $\frac{7}{8}$in. thick) is then checkat both ends (see inset detail at Fig. 3), then checked in the middle for three other rafter pieces, equidistant apart, as shown in the front elevation.

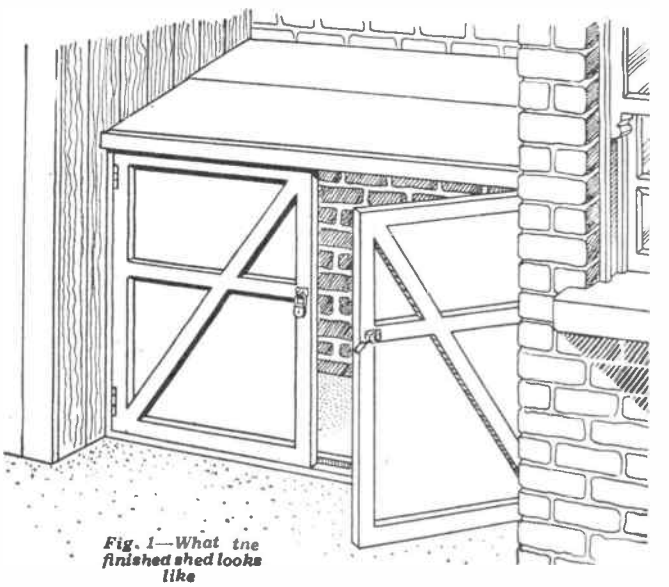


Fig. 1—What the finished shed looks like

Before nailing the rafter support against the wall, its top edge needs to be planed at a suitable angle—the angle suggested by the end rafters. When prepared and fitted, the support is attached, using iron wall holders, as shown, or ordinary 4in. long wire nails, the points of both kinds going between the bricks.

Cross Bar and Rafter Pieces

A front cross bar (6ft. by 2ins. by $\frac{7}{8}$in.) is then nailed to the front ends of the side rafter pieces, as shown by the constructional views. There is no need to bevel the top edge of the bar, by the way ; just leave the edge square.

Three rafter pieces, prepared to the exact size and shape as the side rafter pieces, are now made and attached between the back support and front cross bar. These pieces only require nailing at the front cross bar.

When attached, the flat, central rafter piece is laid in the checks and nailed, or screwed (the latter will prevent weakening the cross bar by hammering in nails). A door slip 6ft by 2ins. by $\frac{1}{2}$in. is affixed behind the cross bar with screws (see inset detail at Fig. 3) for the same reason. The slip is fixed on to project about 1in. It forms a closing rebate for the doors.

So does the door saddle, this being made by laying a 5ft. 10in. length of 2in. by $\frac{7}{8}$in. stuff along the ground, tightly between the front uprights. On top of this, flush at the interior edge, goes a length of 1in. by $\frac{7}{8}$in. wood, as sectioned at Fig. 2 and shown at Fig. 1.

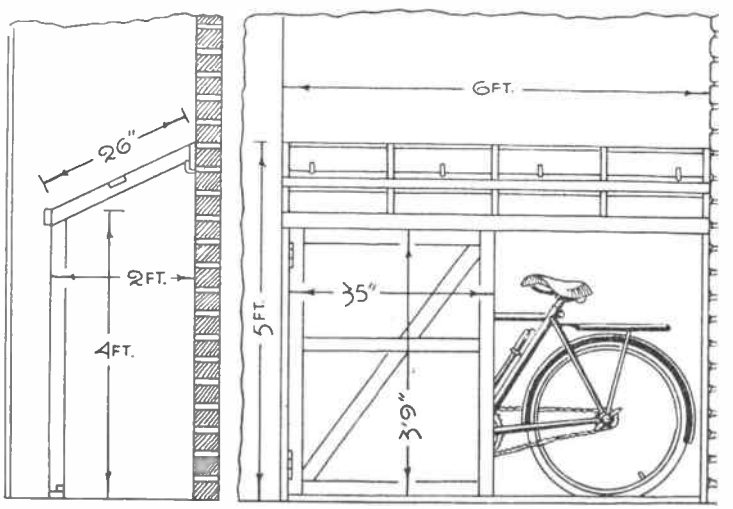


Fig. 2—Side and front view showing position of wheel

The Doors

The doors are designed to be self-supporting in view of the fact that they are merely covered with felt and not boarded. The wood used throughout is 2ins. by $\frac{7}{8}$in. and the parts can be either dowelled together or half-lapped and screwed at the interior side (see detail at Fig. 3).

Having attached the stile pieces against the top and bottom cross pieces and fixed the central horizontal-running bar in position, the diagonal-running bar is laid over the framing, stretching from corner to corner and attached temporary on the back of the work with a couple of nails. Having done that, pencil its angle over the central horizontal bar, then reverse the door on the ground and mark off

(*Continued on page 6*)

Patterns on cover IV for two types of model

MINIATURE TANKS

TWO very attractive little tank models can be made up from the patterns we give as a page design in this issue. Although we should term them "solid" models, they are, nevertheless, sufficiently detailed to look extremely effective, and endless fun could be got by having a range of these little models and manœuvring them about.

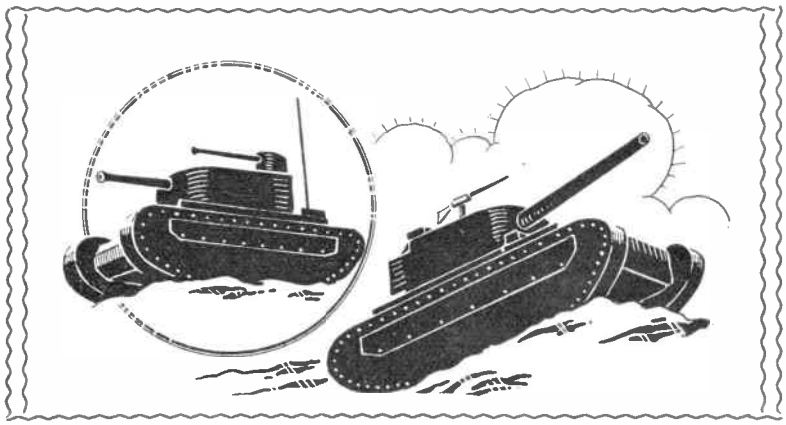
There are two types of models as may be seen from the illustration on this page. The larger of the two has a big gun with a correspondingly large turret, and a small anti-aircraft gun mounted on the latter.

The smaller model has two guns which, like its bigger brother has revolving turrets. The larger model is 5ins. long, and the other 4½ins. long. Complete patterns for all parts of both are printed on cover IV.

The question of wood for the two tanks should not present any difficulty. Any kind of wood will do as the finished models are painted simply and this, of course, covers blemishes or discolouration if old stuff is used.

As we have been able to devote a page to the details, very little need be said regarding the sizes and positions of the various parts of the models. All that is necessary really is to transfer the outlines to the wood by means of carbon paper, or of course, the patterns may be stuck down direct to the wood and sawn or cut out.

The two illustrations showing the assembly of the parts will be found most useful, when building, after the various pieces have been cut out with the fretsaw.



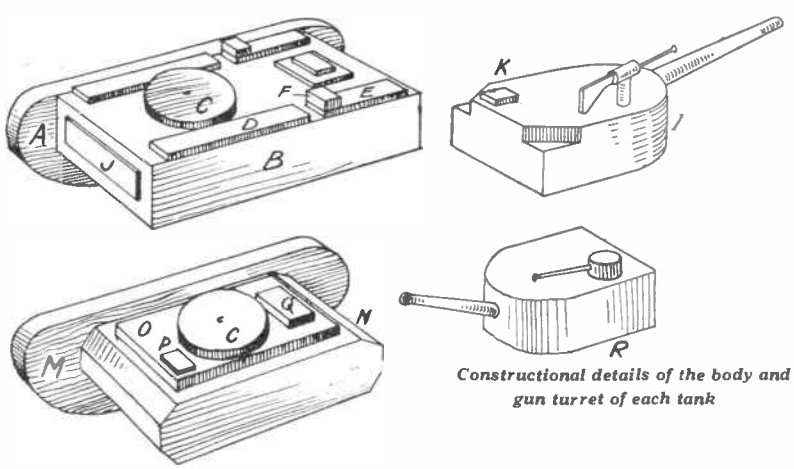
Each piece is lettered in these diagrams to conform with those shown in the pattern page. The latter too have certain dotted lines which again facilitate the positioning.

Thickness of Wood

Regarding the thicknesses of wood, a few words of guidance might be given. The tracks A and M of each tank might be ¼in. thick, or ⅜in. if this thickness is preferable. The body B of the larger tanks is of ¾in. stuff as also is piece N of the smaller model only in the latter the end edges are filed to shape as shown by the dotted lines in track part M.

The disc C on the sheet is common to both tanks, therefore two must be cut ⅛in. thick. The large gun turret I is cut from ¾in. wood, the two back corners being cut down with chisel or pocket knife as shown in the detail sketch. The smaller gun should be a little lighter and ⅝in. thick wood would be better for this.

Both turrets are pivoted by driving in a long wire nail. Piece O of the small tank is ¼in. thick, while all the smaller overlays may be cut from thin wood or even stout cardboard.



Constructional details of the body and gun turret of each tank

Overlay Side Plates

Overlays L and T on sides of the large and small tanks respectively may be of card, glued on as indicated. The anti-aircraft gun on the large tank is made up of the two pieces shown in the patterns. The shaped stock is glued into a slot made in the ⅛in. rod forming the breach a nail being put in to form the barrel. The gun is mounted on a piece of ⅛in. rod.

The small turret S is pivoted with a nail and a ¾in. wire nail forms the gun itself. The gun of the large tank is made from ¼in. rod carefully tapered down according to the pattern-sheet diagram. It is let into the gun turret and glued firmly.

Painting the Models

Before the gun turrets are nailed these and the tank bodies should be painted. A light grey oil paint with a matt finish is best, and the track sides could be made to look more effective if rivets were painted on with black paint.

Some workers may wish to mount their tanks on wheels so they run smoothly on the table-cloth or carpet. The wheels need only be quite small (say ⅜in. diameter) and put on from inside the track sides. So nailed only about ⅛in. of each wheel projects below the surface of the "track."

Index for The Volume just ended will soon be ready

Tools, materials needed and the way to undertake
WOODCARVING

MANY of our readers with a bent for woodwork, may have had a leaning towards decoration of carving. Most people have seen in some form or another, some of the beautiful carving undertaken by experts, and have admired and possibly envied their ability to do so.

The work forms a pleasing change from the ordinary carpentry and fretwork undertaken, and a few words here may be helpful in deciding if and how the worker can commence the pastime.

Models or Relief

Many of our designs, for instance, can be altered by the experienced wood-carver so that the floral work is shaped up in sharp relief instead of being fretted right through the boards. The work can be undertaken by almost anyone, although naturally it is an advantage for the worker

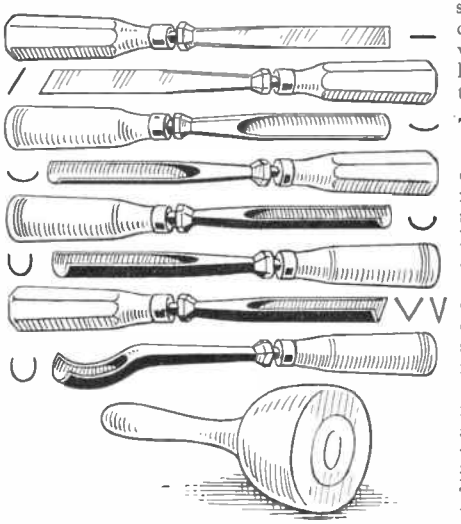


Fig. 1—Useful set of chisels, with mallet

to have had experience with the ordinary carpentry and fretwork tools.

The great art, of course, is to work the beauty of the shapes into the wood itself, and an artistic temperament and ability is a great aid in this respect. One has to have an eye for balance and curve values so that even apart from the actual drawn design, one can visualise the desired and finished effect as one goes along.

The worker need not be frightened by imagining he needs a terrific lot of new tools for the work. There are, of course, at least normally in peace time, a very wide range of cutting tools, but most of these are only required by the expert and are brought into use on very few occasions.

Moreover, these complete sets are not now obtainable so one has to make use of whatever is in hand or can be procured through one's friends or the usual ironmonger's stores.

Wood to use

So far as wood is concerned, oak is the best for general work, and most carving is undertaken, if possible, in this material. It should, of course, be firm and of good quality, free from knots and of a reasonable thickness. Possibly the next useful are Spanish chestnut and mahogany, but in the latter case remember that there are two distinct kinds, the comparatively soft texture board like Honduras mahogany, or the other harder material such as Spanish mahogany.

In addition to these, walnut, chestnut and lime are also suitable for light work. Remember, of course, that the texture of the wood will stand out strongly in the finished carving and for this reason the white woods such as sycamore, holly, etc. are too characterless to be worth using.

Tools required

So far as the tools are concerned, a great outlay is not called for, and the beginner will be wise to practice with a few and add to his range as he gains experience and ability. All the tools are sharp cutting tools with the only difference in the shape of their cutting edge. These shapes are shown at Fig. 1, and one of each is very helpful.

For the beginner we can recommend two sizes of chisel, say ½in. and ¼in., a ⅜in. gouge, a parting tool or V-tool and a fluter, which is really a gouge with tapered sides. The flat gouge, corner chisel and bent tool shown are helpful in the work, but the beginner should be able to undertake simple carving without their assistance.

In any case, those just commencing should not attempt anything elaborate but the work of a simple small design. If in doing it they are not able to get the result they imagined, they will at least have had practice and will not spoil a large piece of work in doing so. Control of the cutting tool is essential, and for this reason the octagonal handles found on some provide a firmer grip for the hand.

To get the sharp, clear incision or the clean, smooth cut, a mallet

is required. A proper carver's mallet is shown herewith, but it is not absolutely necessary. Of course, a hammer should never be used on a cutting tool but an ordinary carpentry mallet will serve the purpose. It should have a fairly heavy head.

The worker must be able to use it to control the depth of his cut so as not to drive the tool too far at any single stroke. A number of little taps are better than one heavy knock which is apt to carry the whole thing too far.

To obtain the best work, the tools must be very sharp and obviously they will soon become blunted if used on hard wood frequently. Sharpening stones are therefore necessary, and here again there are several oilstone slips normally obtainable which will bring up the edges. For gouges, the rounded stone is necessary with the edges curved to fit inside the gouge. Shapes of useful slips are shown at Fig. 5.

Sharpening

Remember that tools for carving must taper much more gradually to have a knifelike edge rather than the sharp angle of the ordinary carpentry tool. Grinding and initial sharpening, therefore, must be done correctly, but afterwards the carver can keep the tools in order himself. Tools should be sharpened on both sides.

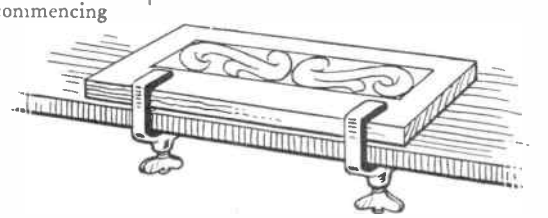


Fig. 2—Cramps holding the work to bench

For the gouges the general principle is that they should be ground on the outside and sharpened on the inside. Use the oilstone on the outside first, however, to remove the

roughness left by the grinding, and use the stone again occasionally to keep the edge satisfactory. Sharpening must be done evenly and requires a little practice to get the required keen edge.

When you have the wood ready for use, obviously it must be held quite firmly to the bench in order not to slip when the cutting tools are used upon it. The wood, therefore, should be larger than the actual carved panel, the design for which is drawn in one portion of the board required.

Suitable cramps are needed to hold the wood down, and although there are special G cramps—which, as the name implies, are shaped like that letter—the fretwork steel cramp or those similarly used in woodwork are satisfactory. Two or three cramps are useful to hold the work to the bench as shown at Fig. 2.

Fig. 4—Matting tool

Fig. 5—Sharpening slips

There is also the usual method of driving screws into the bench so their heads project just sufficiently above to hold to the edge of the board being worked upon.

Marking the Design

Before actually commencing, of course, the design must be marked on to the wood itself. Some may be able to mark out their own particular shapes or copy them from a book. The master of an art class at school will generally help or designs are also obtainable which can be pasted to the wood. Take a simple one first, mark it on to the board and then commence the carving. A finisheo simple panel is shown at Fig. 3.

This usually follows the form of a flower or leaf, and the first thing to do is to get the outline, and then gradually to work down to complete the whole of the design. The tool must be held firmly in the left hand and knocked with the required strength by the mallet.

Work Procedure

Assuming you have cut down the edge of the carved outline to get the relief, the waste wood must next be cut away with a gouge, carrying it towards the straight cut first made. A flat gouge is best for this. Care must be taken not to go too far into the design itself.

The groundwork is gradually cleaned up until the flat background is obtained and the carved work stands out in relief. The rounded effect of the design is obtained with the various tools most suitable to

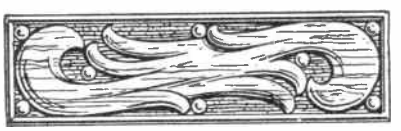


Fig. 3—Ornamental relief carving

the actual shape. Take care not to chop away too much, but gradually to work the shapes down.

The original work of marking and outlining is done, as has been mentioned, with the mallet. The shaping however, is done by using both, hands on the cutting tool. The left hand is used to guide it and to control near the cutting edge, the right hand presses forward or in the direction required, with the right amount of weight behind it.

The fingers of the left hand are controlling sufficiently, and yet allow freedom for turning. The style is shown in the drawing herewith, and after a little practice the worker should be able to execute quite clean, smooth cuts.

The groundwork around the actual carving must, of course, be flat, and the waste wood is cut away, as has been mentioned, with a flat gouge or chisel. Keep this as smooth as possible, and if you want to obtain a more distinctive surface, you can rough it up again later with a matting tool or punch.

Matting

One of these is shown at Fig. 4, and is used over the flat surface with a hammer. Its pointed end is driven into the surface of the wood, and the matting tool as a series of taps are given with the hammer itself.

Do not get a series of dots in the wood, but turn the tool between each knock, in order to get a roughened surface without any particular holes being visible.

When the beginner has completed his work he may find it rough and slightly unsightly. The way out, he thinks, is to smooth the parts down with glasspaper. This is undoubtedly a satisfactory way of doing it, but it is really frowned upon by good workers.

No Glasspaper

A carver of experience requires no glasspaper afterwards to finish off his work, and that should be the aim even of the beginner. Cut your work clean, sharp and finished, and not with the idea of getting it correct with glasspaper afterwards.

The completed carved panel can finally be cut down to its correct overall shape so that the waste wood which was used for holding it down to the bench is sawn away.

The finished carved work can, of course, be left in its natural state, or oiled to bring up the appearance of the grain stronger. If oak or similar wood is used, it will become weathered and more attractive in appearance in course of time.

Cycle Shed (*Continued from page 3*)

the corner angles at the top, centre and bottom.

Take the support away and cut and check it according to the markings. If using ⅞in. thick wood, the checking is done half the thickness, i.e., 7/16in. deep, so that when the support is screwed to the door frame it will be level with it. Glue, as well as screws, should be used.

Having built the doors, sink 2in. or 3in. long hinges in the right-hand and left-hand stiles, as you can observe, then screw up in position and make any alterations (by planning) that may be necessary. When fitted satisfactorily, take the doors down and place them flat on the ground, the interior side uppermost.

Felting the Work

Tarred roofing felt is obtainable 3ft. wide. Therefore, two pieces 4ft. will cover the doors. Another piece 6ft. long will cover the roof. If you

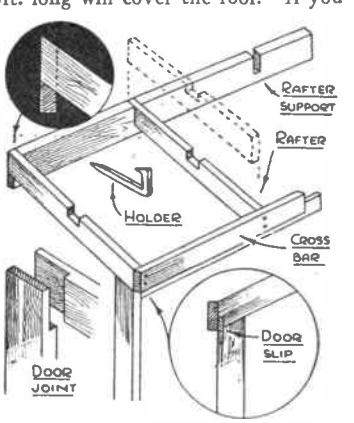


Fig. 3—Various constructional details

can manage to tack pieces of stiff cardboard, or thin wood, over the rafters, do so, before covering with the felt. Alternatively, a double sheet of felt could be attached.

Roofing felt tacks about ⅜in. long should be used. The nails are driven into the woodwork only, of course, One may use ordinary blue-black upholstering tacks, but the heads of these must not be too small.

Having felted the work, the roof corners can be "flashed" with cement, or one could use slips of wood ⅜in. square. To complete the work, give the roof a coat of tar paint. The doors (and face of the felting) could be painted with brown oil paint.

If you have plenty of old paint available, use it on the roof instead of tar stuff. Fit a padlock on the doors and, if desired, fit a platform (a wooden one) in the shed for the bike to stand upon.

Instructions for the pleasing hobby of CLAY MODELLING

CLAY modelling is still one of the hobbies which the enthusiast can enjoy, because supplies are obtainable periodically and many localities are able to produce their own in sufficient quantities to provide a reasonable amount of work. There must also be a large amount of material still in use by the previous workers.

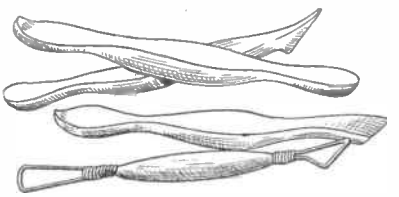
It is one of the advantages of this material that it does not get used up to any great extent, but lasts for many years. If it does get hard, it can usually be broken up, pounded and rolled into powder, and then made pliable with water.

Consistency

The correct consistency is for it to leave the hands without sticking and yet showing an impression. Once in this condition it is best kept in a box and covered with damp cloths. The best way to keep is in small balls about 3ins. in diameter.

For those who have not previously undertaken the work a fascinating variety of models and results can be obtained. A few shaped sticks such as shown in Fig. 1 are really all that is necessary in shaping of the clay, although, of course, the expert requires a much wider range.

Apart from these a sponge is useful to keep both the clay and fingers damp during the work, and a fairly large board, say, 16ins. by 10ins., to form a table upon which to work.



The Shaping Tools to use

If the clay is soft you can easily grind up some more and work into it. Knead it thoroughly to get the whole thing the same consistency.

All sorts of everyday articles can be practised by the beginner. A slab of clay about the amount required is put on to the dampened modelling board and then the work of shaping can be commenced. The fingers and thumb are largely used to mould the shapes and parts, but lines, curves and certain parts will need the use of the tools shown.

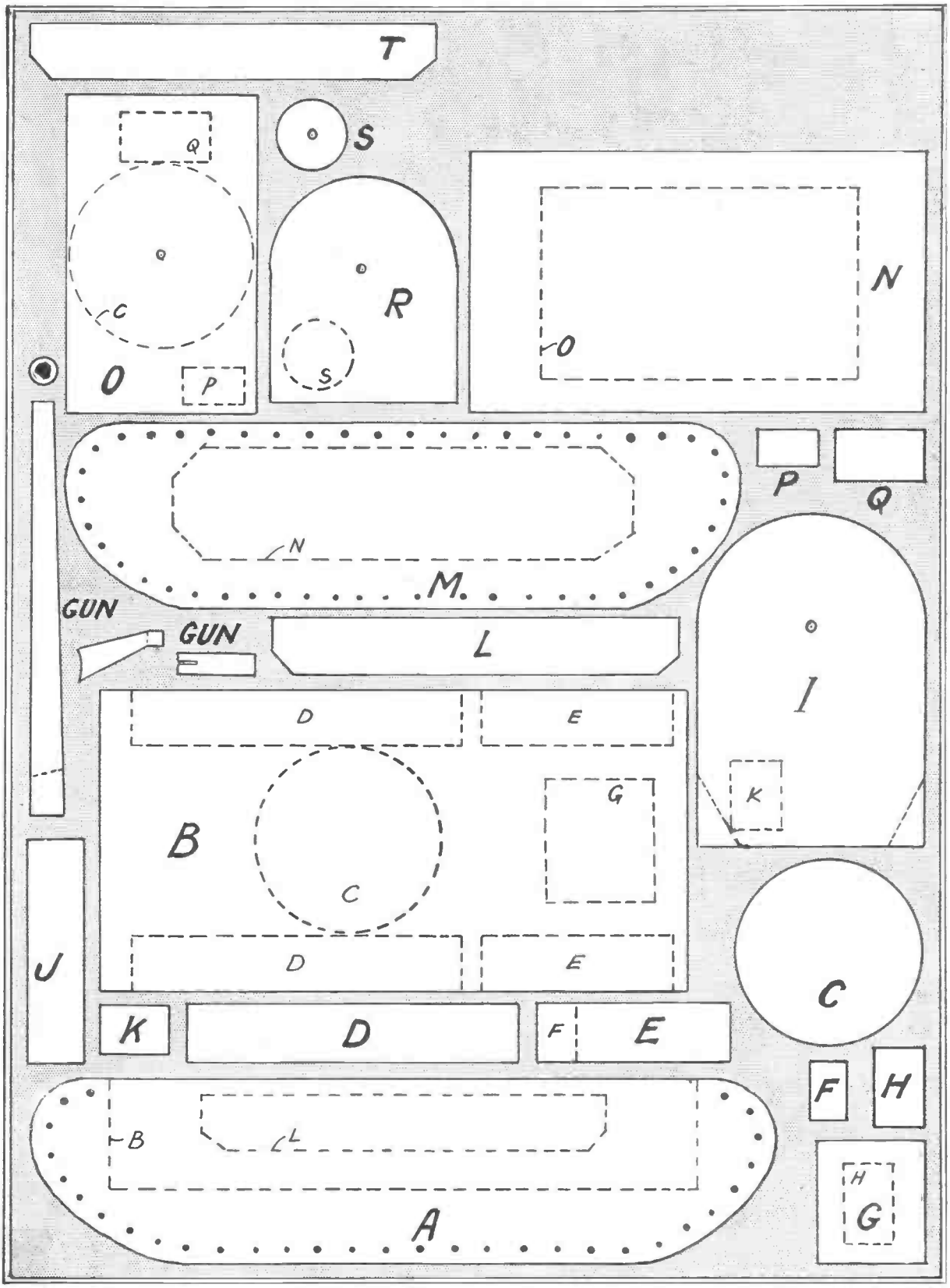
It is best first, to try some model replica such as an apple or a miniature of a pepper pot. Make them, of course, large enough to handle fairly easily and endeavour to keep the correct balance of shape by viewing from all sides.

Slab Work

If you want balanced panel such as a copy of a piece of carving work, this, of course, is done on a slab. On the other hand, if you are building something taller, such as a figure or an animal, then the centre of the clay should be reinforced by a fairly strong piece of wire. This is twisted openly and clay worked upon it gradually to the part or the shape required.

Remember that you will not be able to get a very striking piece of work on the first occasion, but the shaping and moulding is a fascinating pastime, and the creation of better and better results is assured by your keenness as well as your ability.

See Page 4



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