

A 4 mm. Scale model of a DIESEL ELECTRIC LOCOMOTIVE

This is a model that many railway fans will welcome—a 4 mm. scale job of the British Railways diesel electric locomotive No. 10,000, originally made for the L.M.S. 4 mm. scale is, of course, better known to some modellers as OO gauge, and this loco would look well on any layout. It is not, however, designed to move under its own power and most of the parts, including the wheels, arc made of wood. Ideal, in fact, for those who merely want to make a model for display.

Can be Mechanised

At the same time, those who wish to actually use the loco on a layout, can

easily fit proper metal wheels-obtainable from any model railway shop-

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Make it from THIS WEEK'S FREE DESIGN

and it would not be a difficult job to fit a motor also. There is ample clearance within the body for any average OO unit. Couplings, etc., could also be fitted and the loco would then be fit for service on the main line. In any case, even if the model is being made only for display, it is suggested that the worker purchase a pair of loco couplings (quite inexpensive), to finish the model off.

Study the patterns carefully before starting to work, and then transfer them to the necessary wood, watching that the grain is made to run in the right direction for each piece. The parts can then be cut out and cleaned up ready for assembly. All parts on the patterns are numhered and, after cutting, the wood and card parts should be lightly numbered also to avoid confusion later.

Beginning Assembly

Begin assembly by gluing the floor (2) between the two sides (1). The position of the floor is shown by dotted lines on the design sheet and in Fig. 1. The three pieces, 3, which form the interior partitions are fixed next, and then the fronts of the cabs can be built up at either end.

Each cab consists of pieces 4, 5, 6, 7 (two) and 8, shaped according to sections shown, and glued together. Piece 9 (the radiator) is let into the front. The sketch on the design sheet will make

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this assembly clear, and it will be seen that the cab fronts fit at the extreme ends of the floor. They should be made up complete, and the projections on pieces 4 and 5 rounded, before being glued into position. These projections are to receive the buffer heads later. Small fillets should be glued in the angle between the cabs and floor to give added strength.

Now add the card pieces (10) as shown in Fig. 2. This drawing omits the cab for clarity. The pieces are glued between the cabs and the sides. The bottom loop glues eventually to the top of the bogie frames.

These frames are next made up

back and glued to the underside of the card roof (21) which is then itself glued in position. For convenience, the roof has been shown as two pieces, allowing it to be cut from postcard, but those who have a larger piece of suitable card available will, doubtless, prefer to cut it in one piece.

The main assembly is now complete and it is necessary to add the details. These include the axle heads (15 and 16). cut from card, buffer heads, the guard pieces (22), the small horns on top of the roof, and the steps to the cabs.

The horn can be shaped from odd

themselves can be of card or more wire or pins if the worker is not afraid of a soldering iron.

The kit includes enough wood for a base, and stripwood from which the length of rail on which the locomotive stands is made up. Sleepers are cut from thin card and spaced at kin, intervals, and the stripwood rails glued on top of them. The sleepers themselves have, of course, been glued to the baseboard.

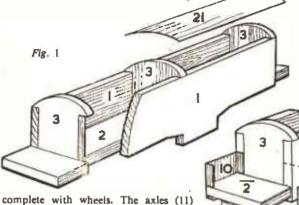
For painting the model, the colour chart on the design sheet should be followed. If you are not competent to paint the British Railways lion crests,

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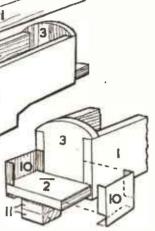
Fig. 3



are glued in pairs as shown, and then glued on the underside of the floor in the positions shown by the dotted lines on the design sheet. The wheels, complete with flanges, are now secured in position with fret pins. The bogie frames are made up as shown in Fig. 3, and glued to the underside of the main frame.

Note that this assembly is for a display model only, and that the bogies will not work. Those who wish to make a proper working model will need to alter the design sufficiently to allow for this, or purchase proper cast bogies ready made.

Pieces 12 (the cab windows) can next be added (see Fig. 3). The tabs are bent





wood and card, and the steps from thin wire. Two household pins with their heads removed would do guite well for the uprights of the steps, and the treads

KIT FOR 5/10

A kit for making this model can be obtained from any Hobbies branch or post free from Hobbles Ltd., Dereham, Norfolk, price 5/10, including tax.

these can be obtained in transfer form from model railway shops. As will be seen, the body is predominantly black.

The baseboard can be stained and polished, or alternatively finished to give the impression of a scale piece of track. To do this, give the surface, including the space between the rails and sleepers, a coat of glue, and then spread with sand and gravel chippings, allow to dry, and dust off the surplus. Paint the sides of the rails a dull brown (rust) and the tops silver.

When all is finished, you should have a model of which you can be justly proud.

Making a Serviceable **Coal Container**

(Continued from page 195)

is to push the binding thread through the eye of a stout darning needle, then to push the needle through the doubled cord, as close as possible to the handle. as shown at (B). Leave a short end, then pass the needle through the cord at two places, a little apart, as indicated by the dotted lines. Draw tight, then bind the

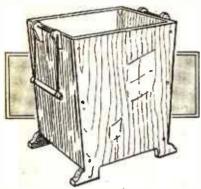
thread round and round back up to the handle, and tic off.

The length of the cords should be such as to bring the handles together when drawn up, the hand of the lifter then being able to grip both, and lift the loaded vase with greater case and comfort. (W.J.E.)

BRITISH RAILWAYS

Published recently was an interesting booklet 'New Facts and Figures about British Railways', It is the first to be issued since 1947. Readers who would like a copy should make application immediately to the Railway Executive, Public Relations Dept., 222 Marylebone Road, London, N.W.1. Supplies are limited.

Instructions for making A Serviceable Coal Container



THE coal cabinet is now more or less out of date, the cauldron or vase taking its place. With the use of tongs to pick up the coal, in place of the once popular scoop, the vase type of fuel container has become almost universal, and an easily constructed design for making is given here. As it is desirable for the wide sides to be cut from a single board, to save the job of jointing boards together, the wood suggested for the job is that known as shelving, a 11 ins. wide board of \$in. thick deal.

Hardwood Preferred

Of course, if oak or other fancy hardwood is available in suitably wide boards, it will pay to use it, but if not, then a quite attractive and well wearing article can be made from the commoner and cheaper wood suggested. It may be added that if jointing of boards together is necessary, the joint should be strengthened by the addition of dowels to the glue.

Cut the wide sides of the vase to the shape and dimensions given in Fig. 1, with the grain of the wood running vertically. There is no difficult sawing here, the side being cut with a hand saw down the straight portion, and the curved foot extensions at the bottom with a coarse bladed fretsaw. For the cut-away portion at the bottom bore a in. hole at each end and saw between the holes with a keyhole saw or coping saw, as may be most convenient.

The short sides of the vase, Fig. 2, are cut to the dimensions given, and it is important here to plane the side edges quite square with the rest if the vase is to be a true and square rectangle. Having cut and finished these parts satisfactorily the four sides can now be glued and screwed together to form the carcase. Proceed in this manner. Screw together firstly with 14 ins. round-headed screws, three or four to each joint, but don't screw together tightly. See the joints seem quite capable of closing without unsightly gaps, then unscrew, glue each joint, and then rescrew this time as tightly as possible.

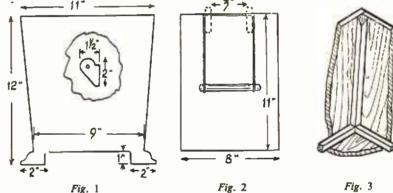
Bottom

Cut a bottom piece, a fairly close fit inside the vase, and glue and nail in place. Use 1}ins. oval nails for this, and punch down just below the surface, then stop up level. You can use fine sawdust mixed with glue for stopping, it works quite well, but if putty or plastic wood is employed it should be coloured to match the tint used in staining and polishing up afterwards. It is well to note here that plastic wood can be bought oak colour for such purposes. annoying defect of coal dust working through to the floor will be obviated.

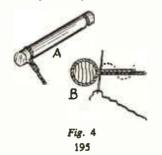
For the side handles, cut four shaped pieces shown in the inset in Fig. 1. The cord holes seen are $\frac{1}{K}$ in. diameter. These should be rendered smooth with a suitable round file or a strip of glasspaper, wrapped round a steel knitting needle. Bevel the holes on the outside with a few turns of a countersinking tool. Fit these to the narrow sides of the vase, the distance apart shown in Fig. 2, and fix very firmly with screw and glue, the tops of each appearing $\frac{1}{2}$ in, above the vase.

The Handle Grips

The handle grips are Sins. lengths of round wood rod, about $\frac{1}{2}$ in. diameter or thereabouts. At $\frac{1}{4}$ in. in from each end of the grips file out a groove all round,



Prepare a few feet of $\frac{1}{2}$ in. square wood. Glue lengths of this round the bottom, inside, and also up the inside corner angles, as in detail sketch, Fig. 3. The vertical pieces should be sharply bevelled off at their tops, as in the drawing, and it would make for a neater and more satisfactory job if the bottom pieces that join the sloping sides were slightly bevelled to butt up against them closely. If this job is well done, the



wide and deep enough to nearly sink the cords level in the wood. The extreme ends of the grips should then be neatly rounded off.

The whole job should be well glasspapered. For a finish, the wood could be stained oak colour or other colour preferred, inside and out, then given, outside only, a coat or two of clear copal varnish. The final job is fitting up the carrying arrangement.

Cord Needed

A yard or two of really strong cord will be needed, blind cord will do nicely, preferably green colour. Cut into two pieces, and pass each through the handle attachments each side of the vase. The ends are then brought round the grooves in the hand grips, as at (A) in Fig. 4, and these tightly bound with, preferably, a coloured thread. The best and easiest method, also the strongest. (Continued on page 194)

World Radio History

Make Your Own Fishing Rod

N the last article we shaped the cork handle and placed the reel fittings in position.

Before permanently fixing them make sure that the reel clip on the rear component is on the underside of the rod. When this is so, peg the rear component in position by boring a trin. hole through it at each side and driving in a brass brad. File the head off flush.

The timber at the butt end of the handle must be bored out to accommodate the threaded spigot of the rubber button when it is screwed into the tapered butt cap and this is fixed in position (Fig. 5).

Fitting the Butt Cap

Press on the butt cap to make sure of its fit. Glasspaper down the cork on the very end of the handle to take it if necessary. When the fit is assured, smear the cork to be covered with waterproof glue and fix the cap permanently by pegging with brass brads.

Slide the taper shoulder collar into place on the other end of the handle, easing the cork with glasspaper in order to make a neat-looking job. It does not require to be pegged, being held tightly in position with silk whipping. Nevertheless, when fitting, treat the cork under it to some waterproof glue.

• The rod may now be evenly stained either light or dark according to taste.

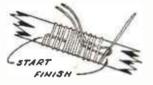
Purchase a card of wide open bridge rings as sold for trout fly rods. Correctly assemble the rod and mark in pencil along the side the position where the rings have to be whipped on. These should be placed progressively closer together as the tip is approached so that the distribution of the stress of playing a fish will be even. Note their position in Fig. 1.

The greatest stresses will fall on the butt and tip rings. These should therefore be of synthetic agate. Real agate is rather expensive nowadays. It is a hard-wearing stone, polished smooth, and much more frictionless than an ordinary wire ring. The size of the agate butt ring should be 11mm. and of the tip ring, 6mm., i.e. overall diameters.

Before whipping on the rings the splint ends on the ferrules and counters should be whipped over. Lightly file down their points so that the thickness of these does not make an ugly step in the whipping when completed. Start whipping next to the ferrule or counter in each case and continue to about $\frac{1}{2}$ in. past the filed points. All the whipping should be done with No. 40 'Sylko' of the colour you prefer. Scarlet or green are most usual when the stain is light, and brown when it is dark.

Do not hesitate to retie a whipping that is not perfect. The ring, should run in a perfectly straight line under the rod, the largest nearest the butt, the smallest nearest the tip. They must be in line with the reel clip (Fig. 5).

Trap one lcg of each ring in turn against the timber with surgical tape while whipping the other leg.



<u>FIC. 6</u>

File down the point of each leg in the same way as you did the splint end of the ferrules, and for the same reason. Start at the ring and whip outwards continuing barely kin. past the metal.

To tie the whipping, trap one end of the thread under six to eight turns (Fig. 6). Pull the trapped end tight and cut off the surplus. The thread will have taken hold, so rotate the rod section while holding the 'Sylko' reel tightly a few feet away. Guide the turns into place. Continue in this way to within five turns of the end. Lay a loop of strong white or black thread, about four inches long, along the whipping. Whip the next five turns to finish tightly over the loop. Cut the 'Sylko' a few inches along towards the reel. Thread this new end through the loop, and, holding the end tight, pull the loop out from under the whipping. It will take the loose end you are holding with it. This end will now be jammed under the last five turns

of whipping. Pull it tight. Cut off the surplus flush with the whipping. All the whipping should be done in the same way.

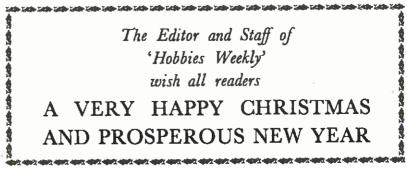
Treat the whipping with clear cellulose lacquer, applied with a watercolour brush. This will darken the thread permanently, so whip with 'Sylko' of a lighter shade than you require to allow for this. Hold a flufffree piece of cloth against the whipping while still wet from the first coat and rotate the rod section. This will lay the hairs on the 'Sylko'.

Flow on coat upon coat, letting each dry hard in a dust-free room, until the final coat is like glass. If any lacquer gets on to the timber wipe it off before it sets. Clean the brush in cellulose thinner as required.

Wipe down the timber, making sure it is free from grease. Purchase a small tin of the best copal varnish. This is to waterproof the rod. With the watercolour brush spread a little varnish thinly and evenly in inacessible places under and around the rings. Rub your index finger over the back of your neck to get some natural grease on it. Dip the tip of that finger lightly in the varnish and use it as a brush to spread the varnish over the timber. Use the varnish sparingly and cover every part of the surface, including the whippings, allowing it to get into the pores of the timber. Do not work the varnish too much or air bubbles will result. Give the rod three very thin coats, allowing each to dry really hard in a dust-free place before applying the next. This may take anything up to a week for each coat.

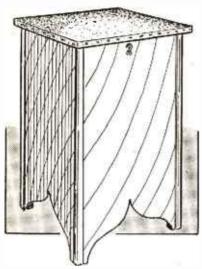
If you wish you can put your name or monogram on the rod in black waterproof ink before varnishing it. Rodmakers do this just above the handle.

Now your rod is finished, and when you come to use it next spring I wish you 'Tight lines!'. (W.G.C.M.)



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A SOILED LINEN BOX



BOX of this description is practically a necessity in every bedroom for the deposit of soiled linen until the family washing day. To enhance its usefulness it also forms a comfortable seat. Construction is quite simple, generous use of plywood or hardboard, making it easy to construct, and reasonably cheap.

Framework

The framework of the box is depicted in Fig. 1. For this, planed wood of {in. sq. section is employed; soft wood will suit here and be easier to work. The dimensions given will be suitable for a box to hold the linen of at least two persons. The box being square, dimensions of only one side are necessary, obviously. The joints of the top rails are detailed at (A). These should all be cut accurately, particular care being taken to saw the uprights, which act as legs also, truly square across the tops, as failure in this respect may result in some little difficulty in getting a symmetrical shape to the hox.

The lower cross rails are tenoned into the legs. Cut these tenons in. thick and jin. long and mitre the ends so that the tenons can meet in the mortises as shown in Detail (B). Make a good close fit here. Fitting the whole together, glue the four lower rails in first and knock up tightly together. Place two of the top rails across (opposite sides) and nail to the legs. These nails must be positioned out of centre. The remaining two rails are then laid across and a single screw driven through each joint, going through both rails and into the leg beneath. These screws are positioned centrally, and should be well countersunk. When the glue is hard, and not before, go over the outside of the framework and level off, as necessary, the rails with the legs.

The bottom of the box can be of plywood, or solid wood, as preferred. A piece of common box wood could well be used here, but if of rough surface the inner side should be glasspapered or the housewife may get some splinters in her fingers when groping inside for the linen. Cut the wood to the full outside dimensions of the box. Cut out the corners to fit over the legs and nail or screw to the undersides of the lower cross rails.

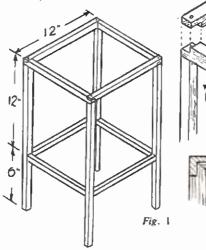
Sides

Cut from plywood or hardboard the four sides of the box to shape in Fig. 2. It should be noted here that two sides are cut to the dimensions given, and the remaining two a trifle wider, in fact, it would be safer here to measure across the box, after the first two sides are plywood sides should be planed or glasspapered quite level beforehand and the sharp corners very slightly rounded off for the moulding to fit over close, and leave no unsightly gaps anywhere.

Simple Seat

The construction of the seat lid is simplicity itself. It is merely a frame of 4in. by 2in. wood, halved at the corners, glued and nailed and covered with plywood—not too thin quality. It should measure 13 ins. square, or if the corner moulding recommended is employed, 134ins. square. This should now be hinged to the top of the box, the hinges, 1in. iron butts, being fully recessed in the edge of the box only. A little simple upholstery is to be added to the seat, but the seat is best treated to a varnish or paint finish before the upholstering is commenced.

The finish of the box is, of course, a matter of individual choice between stain and varnish or paint. It need only be mentioned here that an article of this



fitted, to get the actual measurement as the cut edges of the plywood should be covered by the last sides glued on. Glue and small nails (oval brads) will fix the sides to the framework, and when the glue is hard the nail heads should be punched slightly below the surface.

The corners of the box will be greatly improved if covered with special noulding, as in inset Fig. 2. This only needs gluing over and securing with a few fine fretwork nails or panel pins. To look its best, however, the edges of the

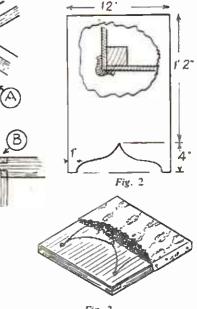


Fig. 3

description looks particularly well if treated with pastel tints of glossy paint or enamel. The lid should be temporally removed and need only have its underside and edges treated, as the rest will be covered by the uphoistery.

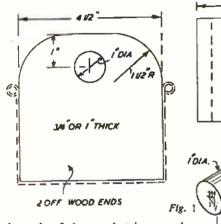
(Continued on page 198)

Cookery Holdall

F mixed metal and wood construction, this job should not take more than an hour or so to complete. Ends are cut from thick wood. hin, or lin, thick, while the tub handles are short lengths of 1in. diameter dowel or cut down broom handle driven and glued into appropriate holes bored in the ends. The body of the container is 20 S.W.G. dural or aluminium sheet, with beaded edges formed by rolling



completed a full circle of metal around the dowel. If the completed roll tends to spring apart too much, secure the metal to the dowel with further small tacks on the inside. By rolling with the metal held in tension you should be able to eliminate much of the tendency for the sheet to spring when released. When the first bead has been completed do the same for the second short edge.



the ends of the metal strip around a length of hin. diameter dowel. Aluminium metal will be found far easier to work than dural, unless experienced in the art of handling metals.

Layout dimensions for the various pieces are given in Fig. 1. Cut both ends accurately and smooth down well with glasspaper. Prepare the dowel lengths required and then cut, out the rectangular piece of sheet metal. Pierce the metal with a number of small holes spaced about an inch apart near the shorter edges.

Starting with one edge, fasten the metal to a 6in, length of 1in, diameter dowel by means of small brads or pins, themselves ‡in. long. Do this carefully so as not to split the dowel. Now, using an evenly distributed pressure, roll the edge of the sheet up around the dowel, as shown in Fig. 2, until you have

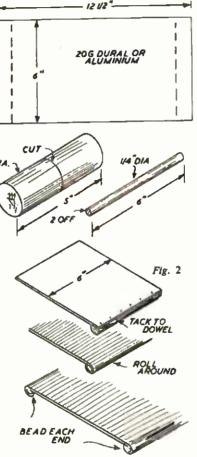
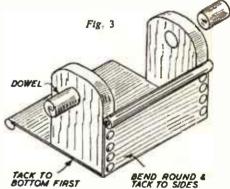


Fig. 3 then shows how the metal body is attached to the wooden end pieces. Use large-headed decorative tacks and pierce the metal at a number of equal intervals along the longer edges first. Find the exact centre of the sheet between the beaded edges and locate this under the centre point of each end. Then proceed to tack the sheet metal to the bottom of each end. Then bend carefully round one side and tack in place securely. Repeat for the second side. It is important to locate the sheet properly, otherwise the two sides will be of different heights when completed.

For most uses, you will find it best to leave the wooden parts untreated. If preferred, however, the whole can be finished in bright lacquer colours.

(R.H.W.)



A Soiled Linen Box

(Continued from page 197)

Drive a few small tacks in the top of the lid and under the heads of these pass twine, going from one tack to the next and forming a series of loops, as shown in Fig. 3. Under the loops force

the stuffing (horsehair for preference, but flock can be used). About half the stuffing should be looped, the remainder should be laid over the seat and pressed with the hands to a shapely mound, as

it were, rising to say 2ins. at the centre. For the covering material tapestry or cretonne would suit well, but as a matter of fact, almost any sufficiently strong stuff could be employed. Lay it over the stuffing and fold the edges double, then tack all round. Draw the material tight as tacking proceeds and fold the stuff neatly at the corners. Finish off the box, after refixing the seat, with a hook and eye fastener. (W.J.E.)

HAND WORKED

Carving a Spherical Bowl

THE finished spherical bowl has a most attractive appearance and, properly made, looks as if it could never have been fashioned by simple hand tools. Of course, if you have a woodworking lathe you can get the same result much quicker and easier, but hand carving alone will give a satisfactory job, undistinguishable from the turned product, if you use care.

Separate Pieces

The bowl is actually built up from a number of separate laminations or rings, glued together in order and then carved to external shape, when set. Internal shape is given by cutting out the centres of the rings before assembly. The sizes of these rings are given on the drawing, and are also listed in the table at the end of the article, for convenience. All except A, E and F are cut from lin. thick material. These three smaller rings are cut from jin. thick stock.

If desired, you can use wood of different colours for the various rings, alternating light and dark, for example. This will make carving a little more difficult as the texture of the different layers will vary, but the final effect will be quite pleasing.

Start by gluing up discs A, B and C (two off), as in the first of the assembly sketches. Make sure that these are correctly aligned and then add D and E. The cut-out portion of E, denoted E1, is used to form the plug in part for the lid, attaching to the bottom of disc F. Do not secure E_1 to F at this stage, however. Instead, omit E_1 and lightly glue disc F to the top of the assembly. Clamp the assembly whilst drying, or weigh down with a heavy object on top. Do not attempt any carving until quite sure that all the glue layers have thoroughly set.

Assembling the Rings

The assembly of rings is then carved down to a spherical outside shape, using a sharp knife and finishing with various grades of glasspaper. It will be found a great help to cut a card template of the actual shape required (6ins. diama flat base on which the finished bowl will rest. Continue carving and glasspapering until perfectly satisfied that the shape is as true and smooth as you can possibly get it. Then give the wood several coats of grain filler, glasspapering down between each.

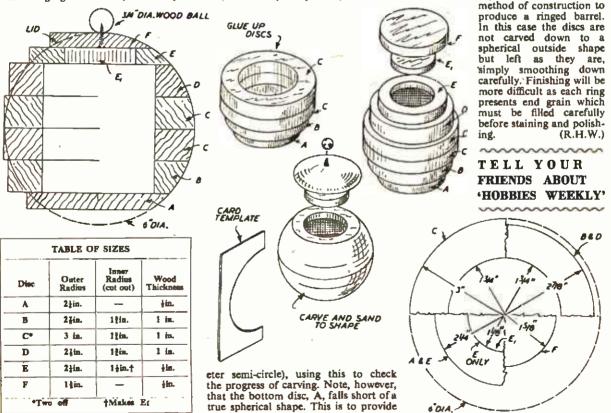
Forming the Lid

Now separate disc F from the assembly carefully. Drill a hole through the exact centre and countersink the head to take a $\frac{1}{2}$ in. long woodscrew. By means of this screw, attach a $\frac{1}{2}$ in. diameter wooden ball to the top of F. Then E₁ can be glued in place, centring carefully. Check that the lid fits the bowl accurately before letting E₁ set in place.

Finish

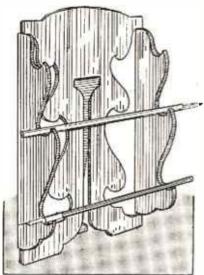
Your bowl is then virtually complete except for staining and polishing the wood, as desired. You may also decide to tack some thin metal badge or motif to the main body, or the lid, to add a further touch.

Incidentally, you can use the same



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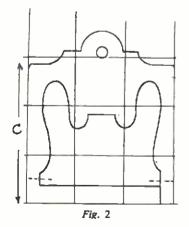
FOLDING FRETWORK NOVELTIES



When a suitably sized piece of fretwood is left over from a job it is quite a good idea to utilise it in making one of the fretwork novelties mentioned in this article. There is little or no waste involved and that is something nowadays when good wood is still in short supply and scarce. Another point in favour of these folding articles is the little packing necessary to send them by post, and their comparative immunity from damage.

Pen and Pencil Stand

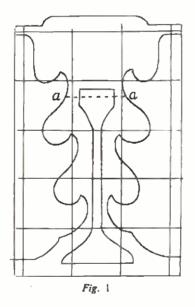
The first example, Fig. 1, is a pen and pencil stand. The pattern is drawn over tin. squares, and if the squares are copied



full size on to paper, the actual design can be easily traced over, and the whole pasted down to the fretwood like a fretwork design and sawn out. A more symmetrical result would ensue if one half only is traced on the pattern and then, with the paper doubled on the central line and carbon paper between, the design is gone over again with a hard pencil. The paper opened out flat will show hoth halves alike. The quality of carbon paper required is that which is treated on both sides, not one.

Medíum Saw

Saw out the parts with a medium blade and then separate. The strut part, at the top, should have its rear edge rounded off a little, or it, when pivoted, may stick a bit. This is shown in detail (A) in Fig. 2. Now on the part indicated



(A—A) in Fig. 1, draw a pencil line. Square this line over the edges, as a guide for inserting the pivot pins on which the strut will swing. Insert the strut in its place, and then drive in the pins both sides. Ordinary domestic pins could be used, or fine fretwork nails. Make preliminary holes partly through the wood first, to lessen the danger of splitting, and hammer the pins carefully. Snip off any surplus of the pins, and file flat.

Pivoting

The pencil rack parts are inserted in their places and similarly pivoted, as in

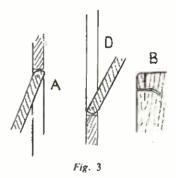
detail (B). Care must be used here as the pins have to be so near the outer edge, and any carelessness or rough handling may spoil the job. With reasonable care however, this will not happen, and the completed article can be given a coat of polish or varnish, to finish off. A small transfer, stuck near the top, would impart a pleasing finishing touch.

Plenty of Scope

There is great scope in the designing of these articles, for personal ingenuity and many readers will doubtless be able to work out patterns for themselves. A part design is given in Fig. 3 which shows a suggestion for a letter rack. It is drawn over 1in. squares, and the portion indicated by (C) can be repeated as many times as desired to complete the rack. Three or four repeats will probably be sufficient.

The frets which open out, are rounded off on their bottom edges, as in detail (D) in Fig. 2, and the work of pivoting is carried out as for the pen rack. Articles like these, apart from their suitability as home novelties, or simple gifts for friends, would make salcable articles for church bacaars or sales of work, and usefully utilise many small pieces of good fretwood which might otherwise be wasted.

It may be added that fretwood of #in. thickness will normally be stout



enough, if thicker wood, say $\frac{1}{2}$ in. has to be used, a coarse blade would be advisable to ensure the parts opening out without strain. (W.J.E.)

1	ю	not	neglec	t the	advertise-
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200

New Series—No. 19 DESIGNING AND BUILDING Incided, and here is where they are used. New Series—No. 19 Building a "Pullman" (cont.) Building a "Pullman" (cont.) Building a "Pullman" (cont.) MODEL RAILWAYS

To produce the beading round the windows, some coarse thread is dipped in Seccotine and gripped in the tweezers to stretch it into position around the celluloid insets. This is tedious work, but it well pays for the time spent when the finished result is seen under the final paint.

Important Undercoats

The actual finish obtained by painting depends entirely upon the care taken in the application of the priming and undercoating, so to commence, first of all look for any cracks or holes that require filling, and press into them firmly plastic wood. As soon as this sets hard scrape away all excess with the piece of glass and continue with the first coat of paint.

Always remember that for this coat the paint should be mixed with boiled linseed oil, and it should be allowed to dry thoroughly before starting the next coat.

The standard colours for Pullmans are cream and umber, so, for the former, a white undercoating is needed, and for the latter a lead colour. For the 'body' of the undercoat, 'Coverine' thinned down with real turpentine to the consistency of cream makes an excellent job. It should be applied to the bodywork fairly thickly and set aside to dry, when it has the same appearance of dry plaster of Paris.

It should be rubbed down with a piece of 'worn' glasspaper produced by rubbing two half-sheets together face to face before use. After this the finishing coat of the required colour is applied and the car is ready for lining.

For lining either water or oil colours can be used, but the writer personally recommends the use of water-colours as they flow more evenly and get the job done more quickly.

To mix water-colour paint first warm the water and add it to the pigment and stir well. Then to this mixture add a few drops of vinegar which helps to fix the paint and also livens the dead tone that water-colours possess.

Now to prepare the body for lining. Sharpen a piece of hard India rubber to a blunt point, and dip it into a little French chalk (such as used in puncture repair outfits), or in talcum powder; and with the aid of a ruler roughly mark out with the rubber the course which the lining will take.

By E. F. Carter

Next, with the aid of a small brush, take up a little of the mixed colour and fill up a ruling pen or bow-pen, and carefully rule in the lining as required; touching in the rounded corners with the aid of a mapping pen. Do not bear so heavily upon the bow-pen that the surface of the paint on the body is 'cut up'.

When the lining is finished and dry, remove the marks of the India rubber with a dry silk handkerchief. If the car is going to have a glossy finish, then a final coat of varnish will completely fix the lining into place, but if a matt finish is required, then each line of the lining must be carefully fixed by going over it with a very soft camel-hair brush dipped in French polish; using only just enough to cover the line.

So many models have been spoiled by badly-spaced and mis-shapen lettering, that beginners are advised to purchase transfers and use them for all lettering. Incidentally the standard lettering 'PULLMAN' in very flat expanded letters is purchasable for both 'O' and 'OO' gauge models.

As to the underframes, fortunately these are not actually necessary on the Pullman, for the bogie-frames can be screwed directly to the underside of the floor, as can all the other running-gear details. If desired a bogie stretcher piece of \$\frac{1}{2}\$ in. wide by \$\frac{1}{2}\$ in. thick brass may be screwed to the floor at each end of the car, and the bogie-frame attached to it by means of a metal-threaded screw. Care should be taken not to mount the bogies too near the ends of the body, for if this is done the whole appearance of the Pullman will be spoilt.

Buffers and draw-gear—ordinary or automatic type—are fixed to the bufferbeams before the beams are glued into place, and the holes in the beams should have first been made of a suitable size to receive the draw-bars before being fixed to the body. Buffer-beams are not readily drilled for buffers after they have been fitted in place. Breakages will be almost bound to occur if they are not so assembled.

Commode (side of door) handles may be made quite easily from the tinned iron staples found at the back of any small periodical—such as *Hobbies Weekly*, or alternatively, a shilling box of No. 1 'Vanguard' staples will provide commode handles for hundreds of coaches.

Brake and gas cylinders can be cut from birch dowel rod, an ordinary pin being driven through it as a ready means of fixture to the floor of the car: and glass may be 'frosted' by sticking a piece of grease-proof paper on the inside of the windows concerned, using gum arabic to which half as much again of a 10 per cent solution of alum has been added. This adhesive will not allow the paper to peel away from the glass or celluloid.

Connections

The vestibule connections may be produced by cutting the door shapes from $\frac{1}{2}$ in. thick 'sorbo' rubber sheet, sticking this on to the car ends and finally fixing cut-out card ends to represent the dust-covers. This method gives quite a satisfactory representation of the connections, with the added advantage that odd uncoupled coaches always appear to have their dust-covers correctly in place—as they should be.

Dummy lamps for use on the dining tables of the car—if interiorly fitted are easily made by passing 'Lilliken' pins through either white, pink, or transparent beads about 3mms. in diameter, securing the latter in place with a spot of adhesive. The whole assembly is pressed into the table-top.

Glass-headed toilet pins with coloured heads, or map indicating pins may be used in lieu of the previous idea. On the Southern region Pullman cars, red is the right colour for the lamps in the first class vehicles, and amber for those in the second class ones. These same pins make excellent roof ventilators of no particular type if passed through the $\frac{1}{2}$ in, diameter card circles produced by a filing punch. Pin and disc are stuck together and the pin pressed through the coach roof. Excess of pin can be cut off when the adhesive is hard set.

There are, of course, many fittings which perforce have to be purchased ready-made, and though these items could be produced by the reader, it may be generally said that, in the long run, no great gain will result therefrom. Buffers and draw-gear are in this category, and the quantities of these used in only a few vehicles, together with the standard of precision required does not warrant their amateur production.

Angling in the Christmas Holidays

THE Christmas holidays afford the enthusiastic young angler—and the veteran—with a welcome opportunity to get in a spot of fishing. Therefore, it is pleasing to note that certain species of fish sought by the 'rank and file' of the great angling army at this period are now in their very finest condition. When one's float dips at Yuletide in river or lake there is frequently something worth putting in the creel or keep-net, after one has enjoyed the thrills of landing a good fish.

Mixed Catch

It is possible, on a Christmastide outing, if one is fishing a water stocked with, general fish, or 'coarse' fish as these numerous species are commonly called, to make a mixed catch of roach, perch, chub, and dace. Occasionally the winter angler connects up with a bream or a tench to his surprise, but these are just unexpected captures in cold weather, and the four species mentioned above are the kinds which count.

On coldish days the wise angler roves from swim to swim, trying out the holes and corners and 'bush-pockets' for chub and perch, or in spinning for pike. On mild days he may seek a nice deep roach eddy, and pursue sport amid wintry scenes, with the brown rushes at the edge of the water rustling their withered pennants in the breezescenes far different from those of summer time, but, nevertheless, full of charm and interest to the ardent angler. And if he is lucky enough to collect a good show of fish, then no one is happier at the festive seagon than he is.

Roach

Taking the fish in the order given, the roach is a beautiful fish at all times, but never so highly coloured and plump as in mid-winter, with gleaming flanks of silver-green and carmine fins all rich and pleasing to the eye. At Christmas this fish is well fed and game, fighting hard when hooked. Search out the deeper holes, the well-sheltered runs of quiet water, and the gentle eddics.

If the river is heavy in flood, roach will be quite close in to the banks, especially in spots where a projecting bit of bank sticks out into the stream to form a quiet lay-by or eddy.

Baits at this season include worms, paste, cubes of breadcrust, maggots.

In a heavy water the tail-end of a lobworm, threaded on a No. 9 or 10 crystal hook on float tackle or ledger, is excellent. In a clearing water try a bunch of maggots. When the water has cleared, try a knob of paste or a cube of breadcrust. The latter are also useful while the water is slightly coloured and still running fairly strong.

Ground-bait with a few balls of bread and bran, kneaded up fairly stiff. A good tip is to pinch a bit of groundbait on to the split-shot nearest the hook; this 'shales' off in tiny fragments after reaching the bottom, and may be renewed from time to time.

Perch

Perch are grand winter fish, and at times greedily take a bait. These fish collect in holes and bends during winter. When the weather is very cold, with severe frost, perch do not take very well. But if the weather is mild, with some sunshine to warm things up a bit, then sport is likely to be satisfactory. After a flood, perch are apt to be hungry, and have a tendency to pack together in holes and slacks. With plenty of toughened red worms to bait a No. 8 hook, one may-if lucky enough to drop across a spot where the darkstriped are congregated-do quite well. You must search for such a spot; try all likely places by dropping in a bait. If perch are in a hole or lay-by they'll soon give signs of their presence.

At Christmas time a favourite spot for perch is a 'bush-swim'-i.e., a place between two bushes. The water, when it has 'fined down' somewhat after a flood, steadies hereabouts, one bush acting as a barrier to the swirling river, and between it and the lower bush, the water loses much of its force, and is often loitering in a slow eddy. Fish with a paternoster tackle, baiting with minnow or small gudgeon if you can get hold of them, or worm.

Chub

Here, again, is a fine winter fish, one to afford sport when we go to the river on a typical Christmas morning—with a little frost, a slight haze, and a yellow globe of a sun. The well-wrapped-up angler will esteem such a morning, and, as the day warms up a bit, will enjoy his outing, the young and hardy ones particularly revelling in the exhilarating air.

Chub, at this time, may be found at all depths, but, perhaps, the deeper spots will afford the best chances of sport. Roving along the bank trying this eddy and that, or a run beneath the overhanging boughs of a tree, or settling down for a short time at a nice deep slack, is good fun, especially if the water is 'just right'. Bait your No. 6 or No. 8 crystal or Carlisle hook with either a small piece of cheese paste, a big bunch of maggots, a red worm or tail-end of lob. A minnow is also a good bait for chub. Let your tackle be strong, as winter chub of any size---3lbs. to 5lbs.--will test both your rod and tackle and your angling skill.

Dace

And what of the dace? Well, here is a smaller fish than any of the foregoing, but game as game can be. A lovely fish, beautiful and hard-fighting in winter. If your Christmas holiday coincides with a day when the river is fairly well coloured, then you may get a good catch of these lively and active fish.

There are three excellent baits for winter fish—red worms, maggots, cubes of breadcrust. In coloured water worm is best. Dace are often found in roach swims, and in deeper water during winter than summer. Tackle should be fine, the hook No. 12 or 14. Groundbait with a bread-and-bran concoction this, incidentally, is suitable for all kinds of winter float-fishing for 'coarse' fish.

'Swimming the stream' when the water is at normal winter level is a pleasant method for mild winter days when dacing.

Commonsense Necessary

Fishing can be very pleasant and profitable during the Yuletide holiday, but much, of course, depends upon the state of the weather and water. The angler must use his commonsense. In any case, let him look to his body comfort and go well clothed in his warmest things, and have a flask of something hot—tea, cocoa, or Bovril with him to keep his stomach warm. Remember, too, that foot comfort is a blessing when riverside ways are damp and chill—so see to your footwear.

(A.S.)

ORDER FOR GERMANY

British Railways have ordered from Germany Re-ralling equipment of a novel kind. The equipment is based broadly on the principle of the hydraulic motor car jack. Glant hydraulic jacks raise derailed locomotives. carriages or wagons to rail level, a crank and giant apparatus is used to haul the vehicle sideways into position, and the jacks are then released so that the vehicle sinks back on to the rails. The largest of the jacks is capable of lifting a weight of 150 tons.

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#### **Brightening Old Paths**

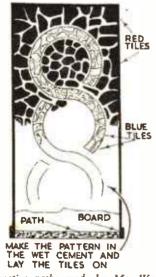
MR. T. A. WOOD of likeston, Derbyshire sends us a method of not only laying new paths, but of brightening up old paths, concrete or tarmac, at very little cost.

The materials used are sand and cement and a quantity of broken roof tiles of which a variety are available red, brown, blue, etc. Such broken tiles can mostly be obtained from buildiers' merchants, builders, and building sites.

The first step is to fix two shuttering boards on each side of the path so as to leave line. showing above. Spread the cement mixture about lin. over the existing path and level with a length of board on which the thickness of the tiles has already been cut. When you



PLAIN PATTERN



Attractive paths made by Mr. Wood's methods



have a level surface, lay the pieces of tile on top and arrange them so that they are roughly  $\frac{1}{2}$  in. apart. This may seem difficult at first, but you will find it quite simple after the first yard or so. Firm the tiles by pressing them into the cement with a piece of wood; 3ins, by 2ins, by 12ins, would do nicely. Then fill in the joints with cement mixture two to one.

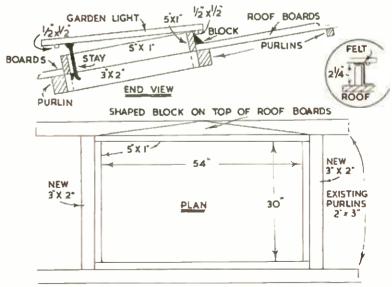
Readers will see that Mr. Wood gives examples of two kinds of pattern, but he advises the plain pattern for a start. As the worker gains confidence, he can then try some of the fancy stuff.

#### Idea for a Roof Light

A HANDYMAN worthy of the name bis our reader W. A. Brown, of Bedford, who some time ago sent us details of a roof light he made for a portable shed, using a 5ft. by 3ft. garden light from a cold frame which he obtained cheaply at a local sale-yard auction. The roof of the shed was of the usual board and felt construction. He cut out the boards of this below the lower purlin and the ends, which gave 2ft. 8ins., leaving the purlins flush with the hole. The distance the other way was 4ft. 8ins., equal from each end of the shed. Between the purlins Mr. Brown placed two pieces of 3ins. by 2ins. wood also flush with the hole. He then lined the opening with 5ins. by 1in. boards which gave a  $2\frac{1}{2}$ ins. projection above the roofing boards. Incidentally, he took a sight both ways to check that the top edges were in line.

The light proper was hinged to the back with three heavy butts and a  $\frac{1}{2}$  in. square strip was fitted closely to the sides and bottom and fixed to the light. The top strip was fixed when the light was at the high position on the stay, to allow for opening.

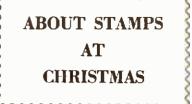
A block to divert the rain water was shaped from a piece of 2ins, by 1in, wood 4ft. 8ins, long, tapering to nothing at the ends. Two casement stays were fitted to save any tendency to sag. A really waterproof finish was provided with 6ins, wide strips of roofing felt (see sketch) secured with Bostik sealing compound and large-head tacks.



Details of Mr. W. A. Brown's roof light



HRISTMAS always seems to be a good time to take up stamp collecting. There are still the long evenings to be experienced when one requires something to pass the time. Reading is quite suitable, but one cannot be reading forever. For one thing there would be difficulty in finding enough books—which are very expensive—and a change is desirable, and a quiet hobby will often save you from are an absolute necessity. Don't on any account try to economise by using the stamp edging which is found around the edge of a sheet of stamps or you will spoil the stamps and also the page of the book in which you are putting them. The gum is too strong and sticks too strongly. On the other hand, the gum on hinges is especially made so that it will peel off easily WHEN DRY, and it will not spoil the colour of the stamp. Note



Possibly for Christmas you may be fortunate enough to have a new album given to you, or, perhaps, it may be a packet of stamps. That may well be the spark that will set alight the desire to collect stamps. If so, so much the better. A new album is a first class incentive to take up the hobby or to overhaul the collection and to weed out all the undesirable specimens which should not, but, unfortunately do,



Duy of issue envelope showing New Zealand's latest charity stamps

the taunt: 'Can't you find something to do?'

Stamp collecting has the great merit that it can be carried on with an absolute minimum of expense, and that is contrary to what most people think. One might almost say that only two things are necessary—a book into which to mount the stamps and a packet of stamp hinges with which to mount them. So far as stamps are concerned you can always get someone to give you a few with which to start. Most old collectors are only too willing to give a beginner some stamps so that he can take up the hobby; but stamp hinges the words when dry. Should you mount a stamp in the wrong place, then leave it until it is dry before you attempt to



A Swiss charity stamp of 1923 you attempt to change it over. You will have to use a fresh hinge, but if the stamp is removed before it has time to dry, it will probably tear either the stamp itself or else the page of the album, and, perhaps, both. get into the album. An old collector who receives an album knows quite well how to get on, but even so it might be as well to remind him to make haste slowly, so far as remounting is concerned.

For example, in the case of Great Britain, remember that we have the stamps of no less than five reigns now, Queen Victoria, King Edward VII, King George V, King Edward VIII, and King George VI. They reigned in that order so put the stamps bearing

(Continued on page 206)



West'. Mystery of Flying Saucers. Lash La Rue in 'Outlaw Country' Adventures of Charlie Chaplin. Hopslong Cassidy in 'Sunset Trail'. Animal Antice. Cinderella.

276 P. & P. 1.6

John Wayne in 'New Frontiar'. The Royal Tour of Canada. Rex Allen 'Arizona Cowboy'.

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#### More Windings

I HAVE decided to construct the 'Odd Parts' portable featured in one of your issues, but would like to make it to different dimensions from those given. I want to make the set in a cabinet approximately 14ins. long by 7ins. deep by 8ins. high. Could you please advise me on the alterations, if any, in the number of turns in the aerial windings? (D.J.—Huddersfield).

SOMEWHAT more turns will be required upon the sections of the frame aerial, since each turn will be of smaller diameter. You should not reduce dimensions of the windings unnecessarily, since the larger the size of the frame, the greater will the signal pick-up be. Measure or calculate the circumference of the frame which will be used. Divide the resultant figure, in feet, into 65; this will give the number of turns for the M.W. tuned section. In actual winding take to the nearest turn. For L.W. divide the perimeter into 180. In each case use roughly 4 the number of turns for reaction. If reaction is too fierce, a few turns may be removed from the reaction section.

#### Damp Furniture

Is there anything I can apply to my furniture to withstand dampness as we live in a hut which is very damp in winter? (J.M.—Lincoln).

What can be applied to furniture as protection against damp. The only thing is to lessen the dampness in the hut. The hut should stand upon bearers, resting on a concrete foundation. The interior and exterior walls dressed with a damp-proof paint, with adequate ventilation, and heating stove in wet and cold weather. A paint for the purpose is Kuro, obtainable from the Concrete Paint Co., Barnstaple, Devon.

#### Paste Board

PLEASE give me the measurements of a paste board. (R.W.—Bedminster). THE usual dimension of a paperhanger's pasteboard is 5ft. long and 1ft. 10ins. wide, minimum width. It is battened beneath at both ends, and made up of boards  $\frac{1}{2}$  in. thick, jointed together. It is usual to provide a pair of light trestles on which to support it, a convenient height being 2ft. 8ins. from the floor. If required for transport, a better idea is to make the whole as one unit, with folding legs and central braces like the well-known trestle tables now to be bought.

#### HAVE YOU A PROBLEM?

If so, we shall be only too pleased to help you to the best of our ability. But please give your name and address so that we can reply personally to you. Otherwise you may have to walt weeks for an answer!

## About Stamps at Christmas

#### (Continued from page 204)

their portrait in that order, too. If possible leave just a little space between the stamps of each reign, so that as fresh specimens come along, they can be put in without having to upset other stamps.

The same caution applies to the stamps of the Colonies. Those which have a portrait are quite easy to mount, but those which have views are not so easy, so that a catalogue becomes almost a necessity, but an old copy can do service if cost has to be considered. Most of the stamps that you have will be shown, and those that are not shown you will infer are of later date than the others and will be placed accordingly.

Condition counts very much when you want to sell a collection. A clean lightly postmarked specimen is a much more pleasing sight than a heavily cancelled one, so that when changing to a new album you should see that the specimen to be mounted is the best that you have. Your British stamps should . be almost perfect, particularly the current issue, as it is only a matter of looking carefully at any parcel that comes into the house, and if it bears a better specimen than the one in your album, then that one comes off the parcel and takes the place of the one which up to now has been on view.

One used to be able to say that it was quite easy to obtain a good magnifying glass for practically nothing, but that is not the case now. In fact, a good glass is an expensive item, but not an expensive luxury by any means. The collector who thinks he can do without a good glass, either has the most remarkable eyesight, or else is going to miss the most interesting side of his hobby.

Lastly, as far as equipment is concerned, a pair of stamp tweezers. Quite a large number of beginners find that these tweezers are difficult to use, and to save time they put them down and use their fingers. That is a sad mistake for two reasons, First, the less you use them the less you want to start, but when once the art of manipulating stamps with tweezers has been mastered, then it is found to be much quicker. The second reason is because stamps should not be touched with the fingers; there is a certain amount of natural grease on the skin and this will be transferred to the stamps and so spoil them, so that a stamp in time, would lose value.

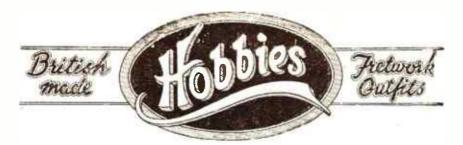
Christmas is almost on us and so we can think for a few moments about the stamps that are so often issued about this time of the year. Certain countries, the best known of which are Switzerland and New Zealand, have become quite well known for the stamps that they have issued during this season.

New Zealand's first Christmas Charity issue was an anti-tuberculosis stamp, a nurse with a tablet inscribed 'Help stamp out tuberculosis'. This was in 1929. The most famous of the Health Stamps is that issued in 1931, known as the Smiling Boy. There were two values, both of the same design, the ld. red and the 2d. blue, each bearing a premium of 1d. for the health camp funds. Since then stamps have been issued each year and we are again indebted to Mr. Donaldson, of Wellington, for sending along a day of issue envelope showing the two stamps that have been issued this Christmas. The portrait of Prince Charles is in brown and that of Princess Anne in red.

Switzerland started her charity stamps in 1913. That year she issued one stamp, but since then she has increased the number and now we generally have four. None of these is very rare, but many are of considerable interest. For example, the one illustrated, issued in 1923, shows the arms of the Canton of Neuchatel. The background of these arms is made up of watches—the chief export of this region. For the last few years we have been given some very beautiful pictures of flowers and insects.

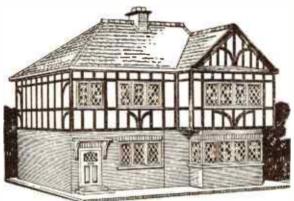
LET US WISH ALL READERS GOOD COLLECTING. (L.P.V.V.)





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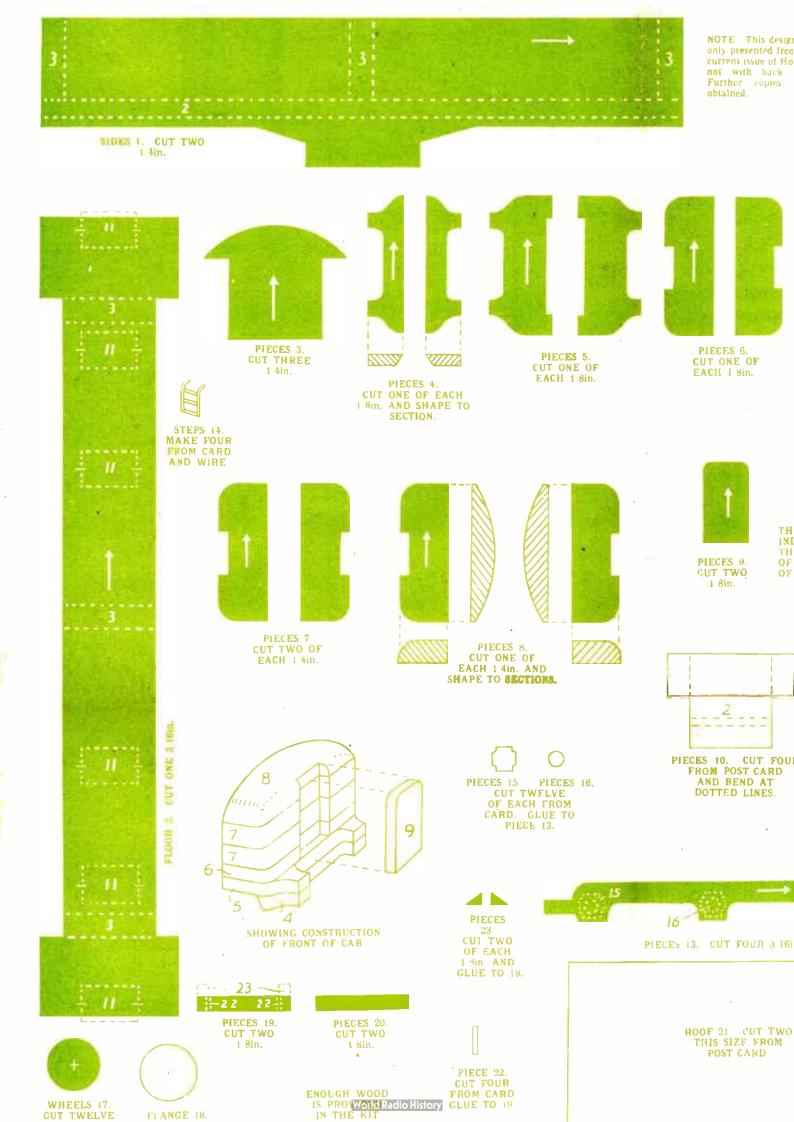
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NOTE This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further courses may be obtained

PIECES 6.

CUT ONE OF

EACH | Sin.

PIECES 9.

CUT 1WO

1 8in.

THE ARROWS

INDICATE THE DIRECTION

OF GRAIN

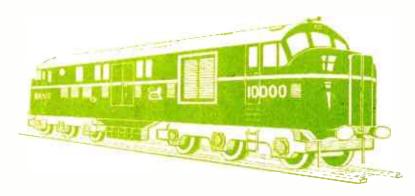
OF WOOD.



SUPPLEMENT TO HOBBIES No. 2982.

# MODEL DIESEL ELECTRIC LOCOMOTIVE

SCALE: 4mm. -1ft. SIZE: 9, ins. LONG.



PANELS OF WOOD REQUIRED FOR THIS DESIGN

One H4 One G3 One G2

Materials for making this design are supplied by HOBBIES

Price on application.

STEPS 14.



DUT TWO



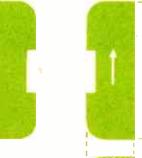
PIECES 3.

CUT THREE

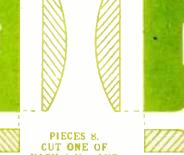
1 4m.

PIECES 7. CUT TWO OF EACH 1 4in.

8



PIECES 4. CUT ONE OF EACH 1 8th AND SHAPE TO SECTION



PIECES 15 PIECES 16.

CUT TWELVE

PIECES 5.

CUT ONE OF

EACH t Sin.

CUT ONE OF EACH 1 4in. AND SHAPE TO SECTIONS.



PIECES 10. CUT FOUR FROM POST CARD Wordshibtigen D AT BOTTED LINES



LIMITED, Dereham, Norfolk,



T ONE 3 16in.

