

# Hobbies

## WEEKLY

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## Patterns for making a realistic miniature model

# TANK ENGINE

**W**HAT about making a realistic set of miniature Goods Train models? This week, as an introduction, we give complete details for making one of the latest type of L.M.S. tank locomotives, the classification being 2-6-4 which, of course, means 2 leading wheels, 6 driving wheels and 4 trailing wheels.

The models, incidentally, are not built to any special gauge, as they are merely intended as exhibition pieces on a flat board on which the "track" is laid. A pattern page

will be provided for each model, and you will find one this week on Cover iv. Those of you who require additional rolling stock for a particular gauge of track will no doubt be able to copy the models and their construction.

### Gauge

Throughout the series, the wheel base measurement will be  $1\frac{1}{2}$  in. That, of course, is the distance *between* the rails. The side view at Fig. 1 gives some idea of the wooden track we have designed to suit the models which, when coupled together, stretch for several feet in length. Such a complete unit of models would,

we know, constitute a spectacular exhibit at any local show.

### The Body Work

The body work is tackled first. Therefore, cut out two centre pieces in  $\frac{1}{2}$  in. wood, including the boiler pieces. The other body pieces are cut from  $\frac{1}{4}$  in. and  $\frac{3}{8}$  in. wood, the double shapes being identical.

Having cut out the parts mentioned, glue the centre parts together neatly. When set, shape the boiler, first scribing its diameter (lin. across) at one end with the compasses. The circular line keeps you accurate during the paring, planning and glasspapering

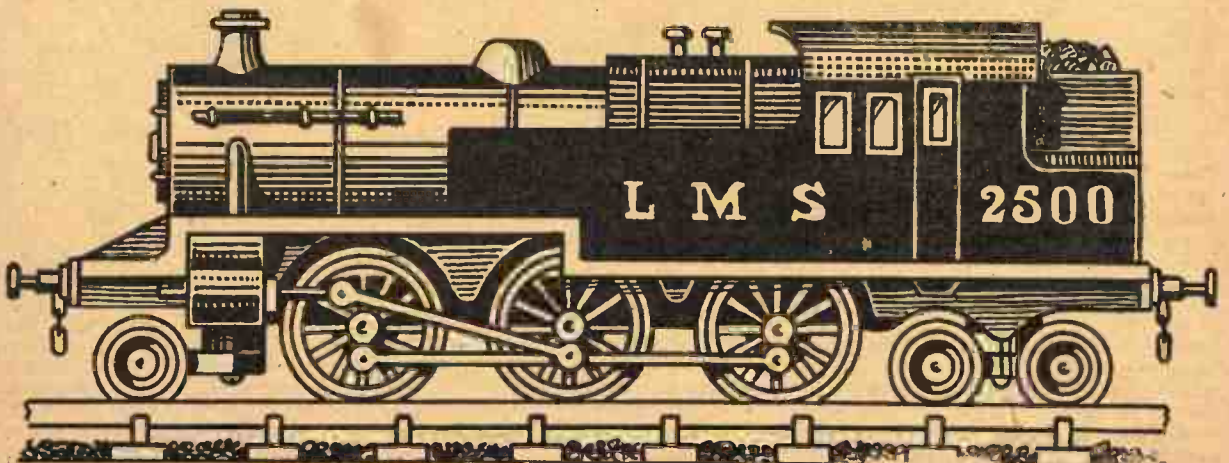


Fig. 1—A non-working exhibition model, 8ins. long, of a 2-6-4 Tank Locomotive

The body parts are levelled, if necessary, at the join. The centre cover pieces ( $\frac{1}{4}$ in. thick) are glued on at each side, this being followed by adhering the outer cover shapes ( $\frac{1}{4}$ in. thick), all of which is shown at Fig. 2.

#### Accuracy in Assembly

Try to have these layers joined together accurately at every point; test for trueness, or squareness, with a small set-square before setting the glued work aside to dry.

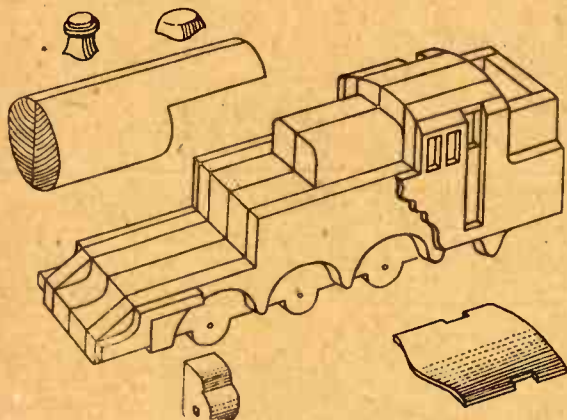


Fig. 2—General details showing construction

Great accuracy is wanted in the shaping up, which brings us to the furnace roof and cabin roof shaping, clearly shown in Fig. 2. The shaping is done roughly with a wood rasp, working it towards the centre (as in the case of the cabin roof) at each side. The furnace roof shaping is best done with a chisel, or penknife, following this up with a file (a flat one) wrapped with a piece of coarse, then fine, glasspaper.

#### Cabin Roof, Funnel, etc..

The driver's cabin, after being shaped at the top with the rasp, is filed smooth, then covered with the bendable roof piece, this being cut from 1/16in. plywood or thinner stuff, with the grain running in the direction indicated.

The funnel (7) is shaped from a piece of  $\frac{3}{8}$ in. dowel rod, and a ring of thin plywood glued over it. To make a neat fit on the boiler top, set a piece of new glasspaper over the boiler, then rub the base end of the funnel over it a few times to hollow it out.

The boiler is glued (and nailed, if necessary) to the body. The funnel, like the steam dome, is glued in place. Having trued the front and rear end of the chassis, the buffer beams (cut from 1/16in. wood) are glued and nailed in position.

The boiler door (actually a front-piece to help hide the end grain) is glued centrally at the end of the shape (see Fig. 3, front view). The whistles, fitted on top of the furnace roof are actually a couple of lin. long wire nails, with the edges filed off the heads.

The buffers (Fig. 3) are made from

$\frac{3}{8}$ in. long roofing felt tacks, a piece of dowel and a disc of thin plywood, or cardboard. The coupling hook and chains can be made from thin sheet metal and hairpin wire (or from plain pin wire) as shown on the pattern page. Alternatively, small hooks, eyes, and picture chain could be adopted.

#### Making the Wheels

The wheels are about the hardest parts of the model to make. The best and easiest way to make them in order to look real is to cut the face real is to cut the face discs (the spoked part in the case of the driving wheels) from  $\frac{1}{4}$ in. wood, then cut an inside ring from thin plywood to form the rail flange when glued behind the wheel front (see end views).

Now, here is an important point. The drive wheels cannot be thicker than  $\frac{1}{4}$ in. at the rims, for, as you will see by the elevation at Fig. 3, the tops of these wheels are enclosed between the outer cover and centre pieces. A thickness of  $\frac{1}{4}$ in. is, therefore, the maximum.

The leading and trailing wheels are made in a similar way as the driving wheels, except that the flanges are

nailed to the chassis. Attach the connection rods, fixing the piston rose (3) to the centre of the formed. Panel pins, or plain pins, cut short, are used.

The piston box (2) is cut to shape and glued to the front side end of the chassis, the other going to the opposite side. Insert the piston, then connect it to its rod. The piston should move freely in the box (cylinder).

The leading wheels are fixed to a shaped base cut to form axles. Having glued a disc on top and attached the wheels with panel pins, the base is screwed beneath the chassis. The leading wheels are attached to a double-axled base, with double discs on top, then fixed with a screw, this acting as a pivot to give "bogey" movement.

#### Painted finish

Hand-rails, made from lengths of wire and tiny screw-eyes, are affixed to the boiler. Screw in the three eyes first, at each side, then slide in the wire rails. Suitable eyes could be bent from thin wire the same thickness of that employed as hand-rails. Similar wire is used for a handle and hinges on the boiler door.

For a finish, all the body work, with exception of the funnel, dome and whistles, could be painted dark green; all the other parts are done black. Wheel rims could be done silver, including the connection rods. Windows and other details are painted on with white paint.

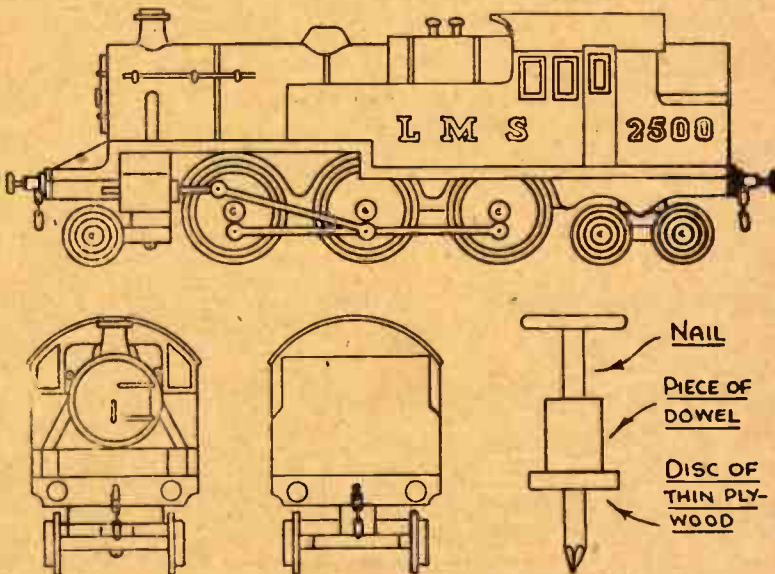


Fig. 3.—Side, front and back view, with enlarged buffer detail

plain discs, not rings of wood, with the  $\frac{1}{4}$ in. thick rims and hubs glued on them centrally.

To keep the connection rods (6) from rubbing against the wheels, the hub pieces (1) are cut from thin plywood and glued to the driving wheels which, at this point, can be

Enamel paint may be used, but readers might prefer to use poster paint colours, then varnish such a finish to preserve it. It is less messy, tacky and quicker in drying. Look out for another model soon, to add to what will undoubtedly be an interesting exhibition piece of work.



# Think of the delight for a youngster in this WHEELED HORSE

**T**HE old rocking horse, or the horse on wheels, is still a popular favourite with the children, and we are showing here how to make one. Deal is quite suitable to use in its construction, and the various parts being plain, it is quite easily put together.

The handle stands about 19ins. above the ground, and from the horse's nose to the back of the handle is about 20ins. If a larger horse is wanted it is a simple matter to increase these dimensions, keeping of course to the same proportions as given here.

At Fig. 1 is shown a side view of the horse, with all parts lettered. With this and the cutting list, it should be simple to prepare each piece.

## The Base

The base A should first be made, and the position of the mortise for the front upright marked upon it. Also draw the lines to which the back leg will be fixed. The mortise is 2½ins. long and cut centrally in the board as given in the diagram, Fig. 2.

This diagram also shows the front upright which will next be prepared and fixed. In this cut a mortise to fit the tenon of the horse's head. Cut the ends of the base and the top of the upright to a curve and thoroughly glasspaper up the edges.

Glue B into A and next mark out and cut the back leg, D. This, again, is a plain piece, but it will be seen that the top and bottom edges are to be slightly bevelled to meet the base and the seat. Nail or screw this piece to the Lines on the base

and let it rest under the seat a distance of 1in.

Next cut out the body piece E which, when nailed in, will hold all the other pieces rigidly together.

Measurements for this piece should be taken direct from the frame already made.

The handle supports (F), are next planed up and the ends cut round with the fretsaw. The handle is formed from a piece of round rod about 1in. in diameter, or a piece of odd wood can be cut and shaped up for it. The length is 4½ins. inside. It can either be nailed or screwed, or made a bit longer and let into the uprights of the handle (see Fig. 3).

## Support Fixing

In fixing the lower ends of the supports to the base, see that equal distances are measured along each side from the back of the base and use screws for the fixing. Put screws through the supports into the back legs and two more into the seat, to

make a thoroughly strong job.

The foot rest (G) is a plain piece with rounded ends, screwed to the base about 3ins. distant from the front leg. The wheel axles have squared ends and project about ½in. beyond the base or they may be flush as shown.

Three screws should be put into each cross axle, as well as glue, as a great amount of strain falls upon these parts.

For the horse's head use wood 6ins. long by 8ins. wide. One side should be divided up into 1in. squares (see Fig. 4), and cut out. Four 2½in. or 3in. diameter wheels

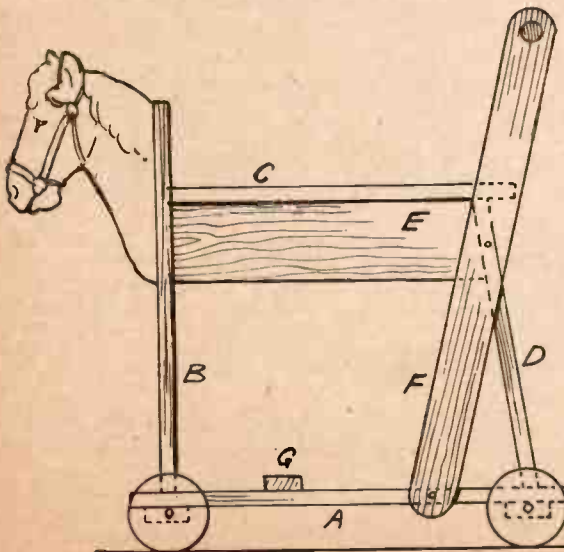
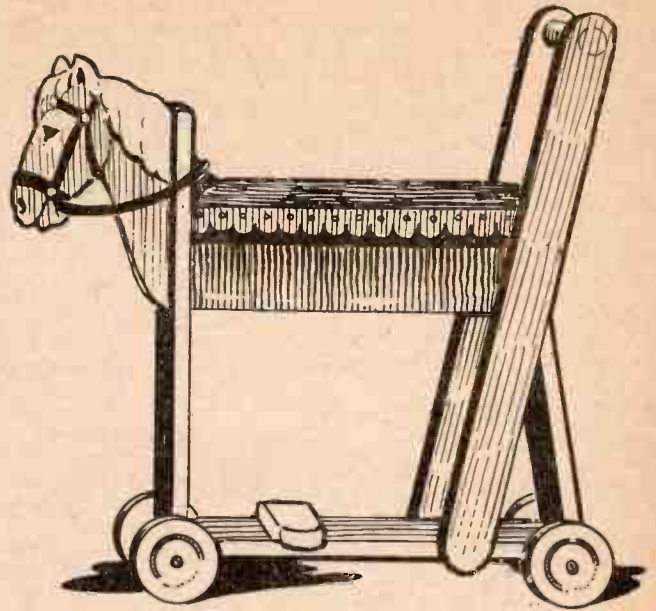
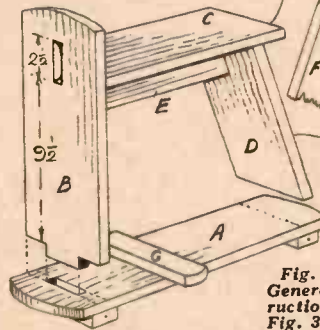


Fig. 1—Side view with letter parts required

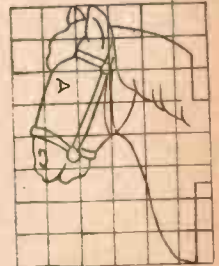


## CUTTING LIST

All ½in. wood

- A—15ins. by 4½ins.
- B—13½ins. by 4½ins.
- C—12ins. by 4½ins.
- D—10½ins. by 4½ins.
- E—11ins. by 3ins.
- F (2)—18ins. by 1½ins.
- G—8ins. by 1½ins.
- H—5½ins. by 1½ins.
- I—6ins. by 8ins.

Fig. 2 (left) General construction details  
Fig. 3 (above) Top end of handle  
Fig. 4—Outline of the horse's head



are wanted to complete the horse, and to make a really sound job, and smooth running, insert washers each side. The screws, which should be round-headed, should be run in sufficiently to give clearance for the wheels to turn freely but not loosely

# Some interesting and helpful facts about the DEATHWATCH BEETLE

THE activities of the death-watch beetle in woodwork is often worse than a bad break or fracture, particularly in a piece of furniture. One can never exactly judge the amount of damage created, for the only outward signs are tiny holes here and there in the polished surface. A thin, tapering leg could be merely a skin of wood, with the interior a lot of fine powdery, musky dust.

The beetle and its larvae are a menace. Unless checked, the pest can create much havoc in furniture—furniture, incidentally, that few people would buy if they suspect that it is infested.

## The Beetle Proper

There are a number of different varieties of death-watch beetle. The true species—whose “ticking” is mistakenly thought to prognosticate death—are classified as *Atropos divinatoria* and *Xestobium tessellatum*, these being largely responsible for the complete honeycombing of rafters and other woodwork in old buildings.

The insect which largely concerns ourselves is called *Anobium punctatum* he and his family creating the familiar “worm-holes” in furniture, nature having, it seems, designed the pest exclusively for that purpose. The off-spring, or larvae, is hard to distinguish, but in the main, after hatching, they are small, white, soft grubs, rather like a book louse or cheese maggot.

The entire eradication of the beetle is not a simple job. It requires patience and a fairly accurate knowledge of the habits of the insect and its larvae. The peculiar ticking noises, stopping and starting at 30-second intervals or thereabouts and sounding like a wrist-watch, is one sure indication of the presence of the pest, but this “clue” is more confined to panelled walls and to skirtings. The ticking, by the way, is caused by the insect striking its head against the wood.

## The Habits

It is between the months of April and July that the beetles emerge from the wood they have contaminated. After mating, the females lay their eggs in small crevices and fixtures (or slightly-opened joints) and in August of the same year, the eggs hatch out. The young larvae immediately attack the wood and remain active in it for about two years, i.e., until the next spring but one subsequent to the hatching.

It is during March, of that year,

that the larvae tunnel their way to within  $\frac{1}{4}$  in. or  $\frac{1}{2}$  in. from the surface of the wood, eating the wood, digesting it and leaving a trail of dust conveniently behind them. There they remain torpid and form chrysalises (hard-skin cases). In about fourteen days, they turn into adult beetles, which in a short time, bore out of the wood, thus producing the neat, characteristic, circular holes.

The new beetles find mates and once again eggs are laid on fresh portions of the woodwork, and so the whole work of destruction goes on, year after year, until there is a regular “army” of insects on the job! What makes matters a lot worse is that the beetles are *able to fly* so that the damage is readily spread.

## Treating Infected woodwork

The best way to treat infected furniture is to saturate the worm-holed spots with a powerful liquid insecticide, or alternatively, apply hot paraffin oil or naphtha. This preservative is applied liberally, preferably in March, doing so every fourteen days until the end of July. The paraffin or naphtha, will kill active beetles in the wood and prevent egg-laying, but most experts have a preference for using an insecticide of good quality, several brands being obtainable.

Now, in order to affect a complete cure, the same treatment is carried out at the same period during the following year. It is imperative that the preservative, such as paraffin or naphtha, is quite hot when applied, as it will more effectively penetrate the grain and pores of the wood.

Creosote should not be used, as this is mainly a preservative against damp and dry-rot, of course.

An excellent beetle-killing solution and preservative can be made by dissolving  $\frac{1}{2}$  lb. of zinc naphthenate and  $\frac{1}{2}$  lb. of orthodichlorbenzene in

a  $\frac{1}{2}$  gallon of naphtha. One might make a larger, or smaller, quantity in the same equal proportions. The solution is non-staining, which makes it ideal for furniture.

Regarding the safest method to heat paraffin or naphtha, the liquids should be put into a large, empty tin which, in turn, is set in a saucepan of water. The water is heated over a lighted gas-ring, turned low. The naked flames from a fire, are too dangerous, for the “steam” rising from paraffin or naphtha is a highly inflammable gas.

## Badly Infected Parts

When parts are so badly infected as to render the wood unstable and useless, there is no alternative but to fit fresh pieces, if possible. Burn the worm-eaten pieces (which can be legs, rails, panels, table tops, shelves, doors, turned feet, spindles, backs of plain wood, etc.) as soon as possible, for if the infected pieces are left lying about the house, they are liable to infect sound timber.

The writer has found that wood worms seldom attack plywood on account of the bonding adhesive between the plies. Also, they are

(Continued foot of opposite page)

## RECONSTRUCTION



Just as model builders have used Pyruma Putty Cement to build tactical models for war purposes, so will they and others build models for town-planning and reconstruction.

Pyruma is the home plastic which bakes stone hard, ready to be assembled, sized and painted in natural colours. Illustrated Instruction Sheet explains how to model in Pyruma, obtainable from 1/3 a tin, from your local Ironmonger, Hobbies Shops Bassett-Lowke Depot and many Art Material Dealers.

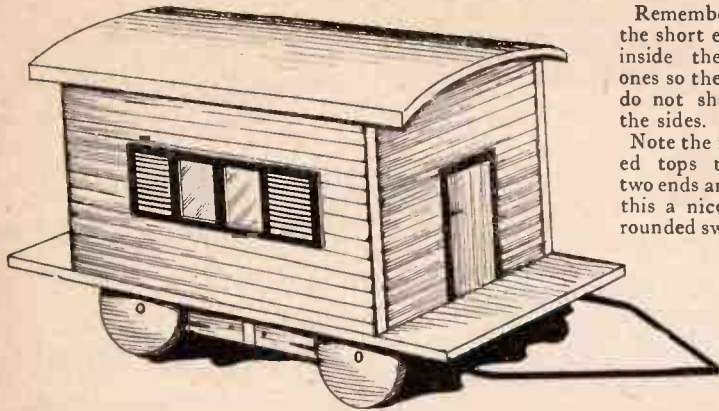
**J. H. SANKEY & SON, L<sup>TD</sup>**

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# Make and couple to our Traction Engine this MODEL ROAD VAN



1 and 2 with the measurements.

Remember that the short ends fit inside the long ones so the edges do not show on the sides.

Note the rounded tops to the two ends and give this a nice well-rounded sweep so

should be from strong cardboard and measure  $4\frac{1}{2}$  ins. long to allow for a good overlap on each end. It is  $3\frac{1}{2}$  ins. wide, of which  $\frac{1}{2}$  in. is turned down to provide an overlap on each side as shown. Bend this over and glue the sides down as seen in the model.

## The Base

The base is next made  $4\frac{1}{2}$  ins. long and  $2\frac{1}{2}$  ins. wide and should be from fairly stout wood. The position taken by the van can be clearly seen with the extension portion each end to represent the step which extends past the van itself.

You will save a lot of trouble for yourself if you make the wheel base quite separately and then attach it. Make a block to the measurements as shown in Fig. 3, and then make the axles from  $\frac{1}{4}$  in. square wood as illustrated. Cut the wheels from cotton reels of the straight type which should only measure about 1 in. across at the most.

These vans have very narrow wheel bases and actually revolve right underneath the van to enable them to be man-handled and turned in small spaces. By arranging the block as the main support base the wheels will fit underneath and pivot on the front as you will see in Fig. 3.

## Finish

The draw-bar is now added and should be long enough to give a good clearance behind the traction engine and the step on the front of the van. To cover up the block base, paint this in with cardboard panels to represent hinged tool-boxes.

Colour this van up in blue, red or brown with a fawn roof.

**I**N our previous article (in our issue dated April 26th.) readers were given the instructions on how to make a traction engine from oddments of wood and cardboard. It will be remembered that this engine was provided with a wire hook at the rear so it could be used to draw other vehicles.

Now we have the details for a very useful-looking van which is fitted with a draw-bar, and will hitch on to the engine and make a very complete unit.

Oddments of wood about  $\frac{3}{8}$  in. thick will do for the two sides and the ends. You will see these illustrated in Figs.



the cardboard roof will curve well over. You will see the realistic saw-cuts at intervals of every  $\frac{1}{8}$  in.

## Door and Windows

There is one door only as shown and the windows are in each side. Each is a 1 in. by  $\frac{3}{4}$  in. aperture cut through the wood and finished off with a cardboard shutter which surrounds the window and extends beyond the ends (see Fig. 1). Cut out the cardboard centre the same size as the window (1 in. by  $\frac{3}{4}$  in.) and replace with some mica or transparent material between it and the wood. The detail in Fig. 1 shows this clearly.

When the four sections are glued together firmly, tackle the roof. This

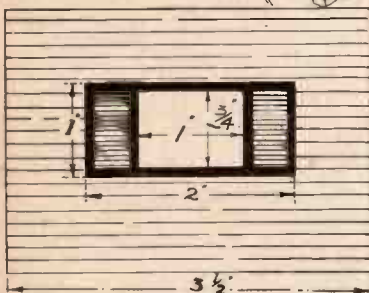


Fig. 1—Details of side and window



Fig. 2—End view with doorway

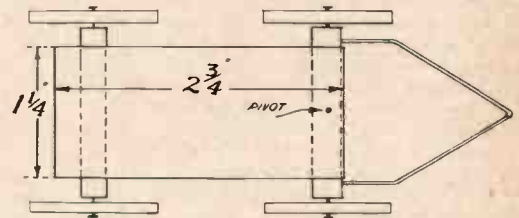


Fig. 3—Showing wheelbase and drawbar

## Deathwatch Beetle (Continued from opposite page)

more prone to attack soft woods, such as spruce or deal, American whitewood and Spanish chestnut, etc., before infringing on hardwoods. But, as mahogany, oak, birch, walnut, beech, sycamore and teak, etc., become soft and mellow with age, the worms will attack it, which doubtless explains why most antique furniture is in such a pitiful state.

It is, of course, detrimental to the value of antiques to fit new

pieces of wood. If new pieces are necessary, they should be cut from sound antique timber, i.e., cuttings, if you possess them. In certain cases, however, ordinary new timber can be used, such as the deal pull-outs (rests) in writing bureaux on which the lid is supported and so on.

It is also a good plan to "face" new timber with mellowed wood, assuming there is not enough of it to go round to finish the job.

Naturally, new wood can be toned up realistically with stains, but antique items thus repaired can never be regarded as genuine throughout.

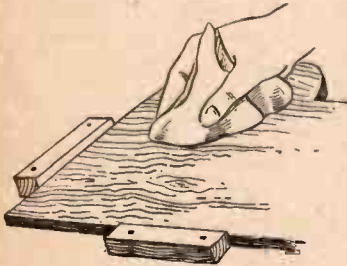
After treating infected surfaces with the solutions mentioned, parts should be rubbed over with turpentine and beeswax (mixed 50-50) and the surface polished with an old rag. The wax, of course, acts as a filling for the worm holes, for by rubbing with a rag, most of it is removed from the surface.

# The proper treatment of woodwork for STAINING AND FILLING

**T**HE question of staining and finishing plain woodwork has been dealt with before in these pages, but many new readers are apparently unaware of the process, if some of the correspondence we receive is any guide.

Unfortunately nowadays there is not the opportunity nor the wide range of materials to enable the amateur to finish his work as he would very often wish. Formerly—as the Hobbies pre-war handbook so clearly showed—there was an extraordinary range of colour in stains, there were many varieties of stains themselves, of wood-fillers, of finishes and so on.

The present-day woodworker, however, need not be afraid that he cannot finish his work satisfactorily, because although the range of materials may have considerably decreased, there are still sufficient for him to



*How to hold the wood during the work*

complete his job satisfactorily. Hobbies Ltd. are still able to supply certain stains which cover the normal requirements of the worker—such as oak, mahogany, etc.

In ordinary work most wood requires a finish of some kind to bring it up to a satisfactory result. This work of finishing should be carried out with all the care and attention which has been given to the actual cutting and construction. Because, of course, a badly finished piece of work so far as staining or polishing is concerned will ruin whatever good efforts have been put in earlier.

## Colouring Material

Normally, a stain is used to darken the actual wood in its natural state, that is, you use oak stain on oak, and mahogany on mahogany and so on.

Nowadays, however, the actual wood of these two kinds is very often unobtainable, and the stains are therefore used to produce an imitation colouring of the other material. You have to remember, however, that this stain or wood dye as it is sometimes called, will not produce the actual graining of the wood—only the colouring.

If, therefore, you have, say a

piece of beech and you stain it with an oak stain, you might get the shade you require, but the wood underneath is still obviously beech in its character.

The staining, of course, is only part of the process of finishing, and indeed, need not be undertaken at all unless you like the particular shade of it. The stain produces a dull flat surface, and usually some form of polish must be added to make the material look nicer.

## Three Processes

The three processes concerned and the proper finish therefore are staining, filling and polishing.

So far as the staining is concerned, you have first, of course, to decide what shade you want and how deep the colour is to be. Some stain is darker than others. For instance, the oak stain is obtainable in various shades from light oak to a very dark Jacobean shade.

If you are not sure what is required it is best to obtain a light colour which can be applied two or three times if it is found necessary to darken down. Try the stain first on a piece of similar waste wood, and see if that is the colour you require.

Stains are normally obtainable in two forms, the water stain and the spirit stain. The former is bought in crystal or powder form and mixed, as its name implies, with water. More crystals are added and dissolved to get a deeper shade, and the stain is used in a liquid form.

Remember if you are using this type, to have enough at one mixing to do the whole job, and then have a little left over. If you only mix a small quantity at a time you will probably find it insufficient to finish



*A comfortable shape for a rubber*

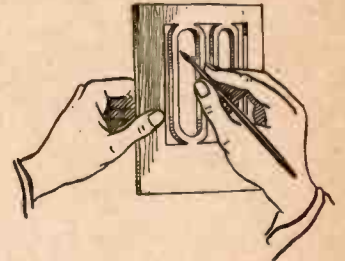
the work, then in mixing another quantity it will be most difficult to get the same shade again.

Water stain is easy to use, being applied with brush or rubber, a way which will be explained later. The disadvantage of it over the spirit stain is that it raises the grain of the wood in drying out, and in a case of thin boards, is apt to warp the wood.

To overcome this it is necessary to leave the stain until thoroughly dry, and then to go over the work

with fine glasspaper and take off any slight raised burr.

Spirit stain, on the other hand, is perfectly straight-forward to use and dries almost immediately it is put on, being mixed with a methylated spirit which, of course, evaporates quickly.



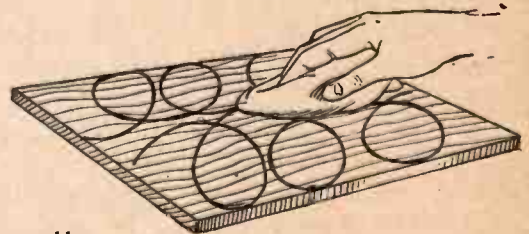
*A small brush will put stain carefully on frets and edges*

Therefore, the work must be done as quickly as possible, covering as large an area as you can with the same rubber or brush.

## Clean before Staining

Have the wood thoroughly cleaned in every case by glasspapering away all grease or finger marks, and then finally dusting away any powder which may be left. If a wide open surface is to be stained, the colour can be applied to a folded clean rag and rubbed on to the wood in circular motion, and finally up and down the grain with an even sweeping finish.

Edges to the wood, or any projections and quirks can be coloured with a small brush, taking care not to overdo the stain so that it becomes too dark. Only a little is required on the brush for it is much better



*A circular motion to cover the whole surface*

to get a lighter shade which can be darkened, rather than one too dark in the first instance.

This spirit stain will sink into the wood rapidly, thoroughly and quickly, but the whole thing should be left an hour or two before any further operation is attempted. In all instances, of course, it is better to work in a comfortably warm room rather than in a cold atmosphere.

*(Continued foot of next page)*



# Interesting jottings of general interest from THE EDITOR'S NOTEBOOK

**A**N ingenious reader, A. Lee, of Yew Tree Lane, Manchester, who was unable to get all the necessary wood for our Farmhouse Design, No. 195 Spec., decided not to be outdone, but made the model in wood, card and metal. He made a good job of it and added many details—including jointed figures of the farmer and his wife. He also added to the farmyard layout by adding gates, pigeon-cotes, a well, etc. The furniture he made from cut tins and in the room set out as a playroom, he made a model of the model—2ins. long! The whole thing, as is not surprising, won 1st prize in an Exhibition for Red Cross Funds.

**I** WONDÉR why readers write me anonymously when they have any particular criticism to make? There's no need to, because I can frequently give a very good answer to their complaint—if only I knew where to write. I am always pleased to get letters and endeavour to answer them fairly—even if they are not always complimentary! In any case please write your letters separately from your order for goods—even if you put them in the same envelope. It saves so much delay.

**A** SOUTH African reader, D. Weatherall, of Cape Town, is particularly happy at having been able to procure some Burmese Teak, over 8 years old, and tells me of plywood they are able to get which is manufactured on the West African coast. It is called Oakum, he says, and is a very red wood, costing 6½d. a square foot. Nearly all timber apparently is coming from the Congo, including a rather soft wood called Limbra. This, however,

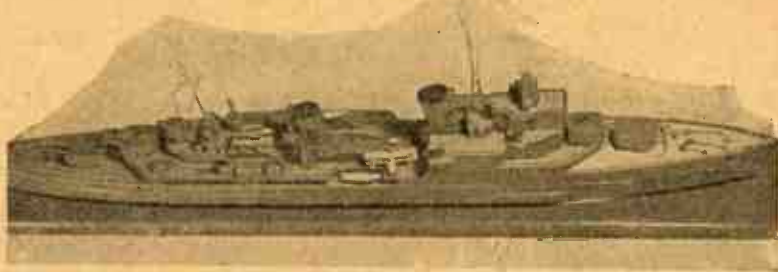
is not recommended, as it is infested with wood worm.

**T**HE same reader, by the way, has used some of our overlay patterns to decorate the panels of the doors of his home, and has been congratulated by many on the pleasing results. He chose bird designs and cut them out from white plywood. Such an idea, he suggests, may also appeal to other readers.

**I** HAVE often given particulars in these pages of people who collect matchbox labels: I see now, according to the Christian Herald, of London, that these collectors are called "Phillumenists." That is certainly a new addition to my list, for I cannot trace the word in any ordinary dictionary, nor in the specialist technical ones. Perhaps

its cost four or five times over. He was then making his fifth Elizabeth Jonas galleon, having previously completed two model Hispaniolas (Peter Pan's famous ship), a submarine, two aeroplanes, and several other models. Good work, that! But then, of course, our friend down under has a marvellous selection of home-grown wood available.

**T**HE photograph herewith is of H.M.S. Southampton built from our design No. 2490 by Jack Strachan of Cullercoats, Northumberland. The original shows up much more clearly the realistic and accurate details our reader has added and I must congratulate him on his work. Actually the model is twice the size of our original design and is thus



some kind reader can enlighten me as to the source or derivation of the word.

**T**HE delight in making model galleons is apparently as great in Australia as anywhere else. H. F. Sturley of Victoria has a Gem machine which, he says, has repaid

3ft. long. Mr. Strachan only commenced making models two years ago, but has evidently become very enthusiastic as well as very able. I am, of course, always interested to have photographs of models which our readers have made and give 2/6 for any published in these pages.

The Editor

## Staining (continued from previous page)

The filling itself is normally undertaken by using the special woodfiller preparations normally obtainable. These are in the form of paste the consistency of cream, which is rubbed well into the grain of the wood, and then cleaned down afterwards.

### A Suitable Filler

Now, however, many of these prepared fillers are unobtainable, and one has to revert to the older form of filling with whitening and linseed oil. This is mixed to a workable consistency and rubbed well into the grain before being allowed to harden. If it is too tough, it can be thinned down with turps

slightly, but must be rubbed well into the pores of the wood.

The process is, of course, a little more awkward where you have quirks and turns to undertake, as the filler is apt to drag up and be awkward to get away. A piece of wood with a point at one end and a flat chisel edge at the other is helpful in this respect to forage away any woodfiller superfluous on the surface.

The beginner must be careful not to overdo the filling and leave it rough on the surface. The usual trouble is that too much is put on. It is better to put a little on twice rather than get a thick pasty surface

on top of the wood which prevents a suitable and smooth finish.

If you wish, you can have the woodfiller coloured so it is the same shade as the finished work you require. Very small quantities of crystal chemicals are required, and you would be normally able to purchase these at a chemist's, although you may have a little difficulty now. You will find ½oz. of any of them sufficient to do quite a large quantity of colouring.

The next process is that of finishing the wood with polish or some process to bring a glossy surface. This will be dealt with in a subsequent article.



