

Another part for our Model Aerodrome is this MINIATURE MODEL TRACTOR

HIS powerful-looking tractor makes another fine addition to your model Airport. If, however, you are not building the airport, you should enjoy making the model tractor as a simple toy for some little friend who would appreciate it. This model is very tiny and only requires a few pieces of scrap wood which you have probably saved for use in this way.

A tractor is generally employed on an aerodrome for hauling out 'planes from their hangars, bringing along supplies of bombs on mobile racks for bombers, etc.

Not all tractors look alike, so we have designed our own particular style and adopted a method of construction that is simplicity in itself.

How to Build

As usual, patterns are provided full size, and are printed on page 147 of this issue.

For space reasons, we give you a pattern of each part required, and from these you must make the number of repeats (duplicates) required. All necessary details and patterns are, however, clearly printed.

It will thus be seen that the model is built up from several shaped layers of wood which are glued together. So as to avoid confusion, you will see that all the body parts are lettered from A to G. Now, to cut out the parts, paste those shown down on the wood and cut carefully with a fine fretsaw. Having cleaned the edges nicely with fine glasspaper, use these parts as templates in marking out the repeats, then letter them the same as the templates.

The Body Work

To build up the body of the tractor, glue the two A pieces together, then the two C pieces. Glue the latter to the left side of the former. Piece B goes to the right side of the A pieces, whilst piece E goes on the outside of the C pieces.

Clean up the work evenly at this juncture, using a flat file for the driver's seat, dashboard, etc., to get everything smooth. A piece of fine glasspaper could be wrapped tightly around the file. The side pieces of the work could now be attached (D).

Mudguard Suggestions

A mudguard piece (F) is glued to each side of the work. You have



four other mudguard pieces (G), two going to the F pieces. You should glue two G pieces together first before adding them upon the F pieces.

Another-and possibly better idea is to glue the three mudguard pieces (one of F and two of G) together first, then, when cleaned evenly with glasspaper, attach them to the body sides, the top edges of which can be levelled to suit after the glue has dried. Do not worry too much about the inside of the mudguards not being very even (due to bad cutting) as it is not seen.

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Fig. 1-Side elevation (top), with cut-

away view (below)

At this point, attend to the "engine" and radiator. The petrol tank 18 situated above the covered engine and this isrounded over as shown in the finishsketch, ed using a penknife, file and glasspaper.

Having levelled the front of the engine parts,

make the radiator, this consisting of two shaped pieces of wood cut from in. and 1/16in.stuff. The thin layer goes to the front of the thicker pieces as shown (Figs. 1 and 3). Just have the radiator glued in position.

A crank, or starting handle, could be added. Simply drill a hole to take the thickness of the wire used in making the crank. This is merely bent to shape and pushed in; wire slightly less than kin. thick can be used.

Towing and Steering

A small hook-eye (opened) or a hook bent from suitable wire is attached to the back of the tractor as a hitch to which mobile parts can be coupled. The steering wheel is

attached to the dashboard with a panel pin, a small wooden washer going beneath to raise it up.

The rear wheels consists of a disc and two rim and hub pieces. Glue the rims and hubs to each side, making sure that the hub pieces are dead central and do not cause the wheel to wobble from side to side when inserted on the axle and revolved.

The Wheels

C

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The axle is a piece of kin. dowelling about 2ins. long. While it is a fixture in the wheels, it must revolve freely

A hole must now be drilled in the centre of the pins to take the shank of a roundhead brass nail.

This calls for careful drilling and we advise using a panel pin (beheaded) in the chuck of the drill. Go easy and try not to split the wood.

When you have inserted the wheels, push in the roundhead nails, these serving to keep the wheels on the axle (see enlarged detail at Fig. 4). If you have no roundhead nails, ordinary drawing pins can be adopted. Attach the axle to the front of the

model with a tiny roundhead screw. or with a panel pin. The movement from side to side is rather limited. If, therefore, you are making the model merely as a pull-along toy, the

AXLE

BRASS

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axle could be a fixture.

Painting the Model

Of course, you have to paint the model. You can-or should be able to-make an attractive finish with nothing more than ordinary household paint colours, but those of you who are building the airport will no doubt have a better range of enamel colours.

We suggest painting the body of the work green, with grey wheels and black hub plates. The radiator black hub plates. could be black, including the steering wheel, hitch and crank. Some of you might prefer to use camouflage colours of green and brown (not too dark in shade) to fit in with the rest of the camouflaged airport models.

X-WORD ANOTHER SIMPLE

CLUES ACROSS.

- Very delicate.
- S. An enemy.
- 9. A sign.

1.

- A country in Europe near Russia, protected by us. 10.
- What der glorious Adolf am i 11.
- 12. A boy's Christian name.
- A conquered world is Hitler's. 14.
- Wouldn't be England without this. 16.
- 17.
- To gain. We do this for victory. 19. 21.
- Desperate ones must be beat off. Gathered information. 23.
- A smoke one gives good protection. 25
- 28 Nothing.

CLUES DOWN.

- Weil to the front. Don't heed all you To start.
- 2 3
- young rascal.
- 5.
- A young rascat. Mr. Churchill is a grand one. Long may she reign. A few to a friend is always welcomed. 6.
- Hitler will have one if he fails.
- 13. A kind of poem. A file of soldiers.
- 15. Our record bombing raids adds to the
- 16. enemy's once.
 - Is Hitler this ? 18
 - 20.
 - Victory—our only one. Term for a sailor. "And " curtailed. 22.



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World Radio History

8 pieces wood 4ins. by 1 ins. by tin. 4 pieces ditto 6 ins. by 6 ins. by 1 in. 1 piece ditto 6 ins. by 6 ins. by 116 in. 1 piece dowelling, 2 ins. by 1 in. diam. 2 roundhead brass nails. Complete Pattern Sheet of the Tractor on Cover iii.

MATERIALS REQUIRED

and

Fig. 2-Afront view (top)

view (below)

half-sectional back

in the side holes. To give absolute freedom and prevent rubbing, an extra hub piece should be inserted on the axle to keep the wheels about hin. away from the body sides (see half sectional detail at Fig. 2).

The front wheels consist of a plain kin. disc and two side plates 1/16in. thick. When glued evenly together, fit the axle pin in the hub holes neatly, the pins being rounded.

A striking and acceptable gift are these simple FANCY SPILL HOLDERS

OXFORD?



ITH the strict economy now prevailing we find all kinds of household requisites either cut out of use altogether or much reduced in production. Now matches are one of those commodities that we all must have, but which in the past have perhaps been used all too freely and wastefully. Matches have mostly been imported into this country in the past and it is now known that we have to go slow on all imported goods.

Therefore we seek a substitute for matches, and it is evident from a glance at certain fancy shops and bazaars that the common wood spill has come into its own again and is now known and seen in almost every home.

The Spills

These tiny spills which may be bought at so much a bundle are in themselves quite a decorative feature in a room as they are coloured up gaily with various tinted stains and when placed in a box or vase present quite a good effect.

Now it is of the latter mentioned



articles of which we are going to speak, viz., box or vase in which to keep the spills always handy and ready for use.

NWATT

PARANCE.

The simplest form of holder would seem to be a tall open-ended oblong box on a base which latter should be weighted so that it stands firm upon the mantelpiece or sideboard.

Town Crests

In the illustration Fig. 1 two forms of ornamental holders are shown, and each is decorated with coloured overlav shields on which may be painted such emblems as the arms of cities or towns or those which appear on certain flags of the Empire. We have chosen, for instance, the arms of Scotland as being suitable in this case as an example, and for the city we have shown how the arms of the city of Oxford may be introduced.

It may be stated that the arms of most cities and towns can be obtained from cards which were given with packets of cigarettes, no doubt many of our readers possess one of these useful sets which include in addition to the natural and correct colours of the arms, certain information which make these cards really worth possessing.

The Holder Portion

To make the holders shown here we shall require only a few pieces of odd wood cut square and glued up and put on a suitable base. In Fig. 2 the general construction is shown, these are two simple pieces cut as at A for the front and the back, and two pieces "let in" between them for the sides.

The great thing to remember is accuracy and correctness in the setting out on the wood, the rest is done with the fretsaw and the glasspaper. When the four pieces have been cut and glued up, each face should be rubbed smooth on a sheet of glasspaper which has previously been glued or pinned to a piece of perfectly flat board. When finished like this the glued joints should be hardly noticeable. The top edges of the holder may be either left square or they may be rounded off on the glasspaper board just mentioned.

they may be rounded of: On the glasspaper board just mentioned. At C and D in Fig. 2 we suggest how the tops of the holders might be shaped if desired. The outline for these would be simple to draw out and cut, and it would add character for those who desire this added effect.

The Bases

The bases may be of one thickness of wood as shown or may be built up from two or more pieces glued together.

If the bases are to be weighted, then a square of wood should be cut from the centre of the piece, and a corresponding shape of lead let in, a further piece of thin wood being glued over to make a neat finish at the bottom.

The side uprights in the "Oxford" design give an added effect. They are simple outlined pieces measuring 3ius, by $\frac{3}{3}in$, glued on about $\frac{1}{2}in$, or so back from the front edge.



Fig. 2-Details of construction

The shields are cut from thin wood or ivorine and painted with ordinary water-colour or oil paint. The latter would be preferable as the surface can then be washed should it become dirty. The ribbons above the shields are lined up after cutting round and they can be either glued or pinned.

A Stained Finish

The finish to the wood of the holders must, of course, be applied before the shields and ribbons are put on. If the holders are of oak then the wood should be stained and rubbed up with wax. If of malogany then french polish would be the appropriate finish. A whitewood holder should be just lightly varnished.

Add a finish to your model with a base and realistic DOLL'S HOUSE RAILINGS

THAT Dolls' Houses are undoubtedly one of the most popular models which workers can make, is proved by the many made up from the various designs published in these pages from time to time. There is a wide range shown in the current Hobbies Handbook, and those who make them take much pains to finish them off in detail.

Many readers add electric light to the various rooms, as well as little electric imitation fires. Details of the kitchen and bathroom are also often added, and the completed models make excellent exhibition pieces.

Gardens and Fences

The worker should, however, consider also the exterior—not only of the house itself, but of the surrounding work. We have seen many where complete imitation gardens have been added, with a rockery of small stones, crazy paving, bird baths, etc.

The model in such a case, of course, has to have a large baseboard, and for this five ply is the best to use. It can be fixed with screws to the house itself, or can be fitted to a strip framework to allow the house to be taken out for use by the children.

Simple Forms

An essential part of the baseboard is the railing or fencing, and in this respect there are several methods and styles which can be employed.

The simplest form, of course, is to have pillars and chain as shown in Fig. 1. The post is merely a piece of $\frac{1}{2}$ in. square strip-wood, into the top of which is put a ball foot.

The actual height of the post, of course, depends on the size of the



Fig. 1—A ball-topped post with chain railing



Fig. 4-A shaped imitation brick wall

house and of the baseboard. About 3ins. to 4ins. should be sufficient and the ball knobs for the top should be in



proportion. The No. 14 ball is $\frac{1}{2}$ in. in diameter and the No. 13 $\frac{3}{2}$ in., and each has a spindle which should be glued into a hole drilled the same diameter in the top of the post. It is advisable to screw as well as glue the pillar to the base. All must of course be cut the same length before finally fixing.

A suitable brass fancy chain is obtainable from Hobbies Ltd. at 6d. per card, and it can be fixed by driving in small watch hooks as shown in the detail of Fig. 1.

Plain or Shaped Posts

Another simple form of fencing is shown at Fig. 2, where three fancy posts are illustrated. In this case, dowelling is also indicated as the horizontal rail, and this is glued into the posts near the top.

The first is a square pillar of wood on which a square slab of $\frac{1}{2}$ in. fretwood, a little larger than the post itself, is glued on. If $\frac{1}{2}$ in. material looks too heavy, thinner stuff can be used, but in any case an equal overlap and here a smaller circular capping piece is put on the top.

The third illustration is of a more fancy pillar. It is the turning No. 23, supplied by Hobbies Ltd., ready shaped. This handsome post is 3§ins. long, which is probably just the right height for most models. The number required depends on the measurement of the board to be fenced in.

Suitable Dowelling

The dowelling, of course, is only of small diameter, in or in being quite enough. It costs only 1d. for 3 ft., and the holes for it can be drilled right through the posts. By thus keeping the length as long as possible, a more rigid and complete fencing is secured.

A more striking form is seen at Fig. 3, and here shaped fretwood is fitted between the posts. The actual shape to the top of the board can be altered according to individual taste, but something simple to draw and cut is easily incorporated.



Fig. 3—A solid thin wooden fence with ornament



Fig. 5—How a wall is built with brick-paper

should be provided.

Fig. 2-Some alternative suggestions for pillars with rails

In the second case, short lengths of 2 in. or 3 in. diameter dowelling is used, the size of the baseboard. The pillars are plain stripwood posts, as before mentioned, and the wood between need not be more than 3'16in. or ‡ in. thick, and the end is cut

The lengths between the posts too depend on

with a tenon to glue into the post as (Continued on opposite page)

World Radio History

Help the great National Campaign by making local MODEL DISPLAYS FOR SAVINGS

ODELS of boats, battleships etc., are being used very extensively for publicity in connection with Warships Weeks. Unfortunately, these are not always shown to the best advantage. It is not easy suddenly to have to set up a series of models because you may have a shop window, a table, or just a bench in a not-too-convenient corner.

First of all, plan out just what boats you have at your disposal and then plot out what you intend to use in the way of "effects." This will save you quite a lot of trouble, time and disappointment.

Useful Cartons

We know that we have to save cardboard, boxes, etc., but if we do retrieve some of these from the Salvage Drive to make Savings setpieces we shall still be considered patriotic.

To provide a solid sort of background which will obviate the difficulty of your scenes falling over try and get two large cardboard cartons and make these represent a couple of docks or warehouses as shown in the sketch. Grocers, Wircless dealers and drapers are the people to have these larger cartons.

A quay or jetty suitably painted

A strip of "sea" on wood

These boxes can be used to store

the smaller sections of the model when

not in use. It is not possible to cut

out the windows and the best plan

is to design these on oddments of

cardboard, colour them up and then

to buy so you can get over this by

Covering materials are difficult

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glue in position.

breaking up some building bricks and mixing with plaster powder or cement. Put this on to the cardboard over a thin coating of glue. Mark out the spaces to be taken up by the windows and doors so that the wall covering does not get put on these spaces.

Expert Touches

Model makers will need little instruction on how to handle this sort of job, but do not make the model look like a newly-opened barracks. Do not forget the black lines round the windows and doors to give finish to the model.

You may want to make a Quay. That is quite simple and you can use three or four flat boxes stuck together for this as shown in the sketch. Add a strip of cardboard bent round at the end and provide it with small lips on criticised. Try a series of strips of "sea" and mount them on some rough pieces of square wood with a strip of cardboard to run the whole length of the show.

Cut the tops of your strips to represent waves and then with a mixture of green and blue paints put in the sea effect. If you carefully study the Warship Week posters you will get plenty of idea of how to paint a sea without striving for perfect work.

Do not, of course, get the waves out of proportion to the size of the boats in the exhibition and study the angle at which your viewers will see the model.

The gap between the two main corner scenes has now to be filled up. This can be done if you get a roll of cheap wall'or lining paper and put in some scenery effects with distemper. This covers the space quicker and the



Two large end cartons as stands with scene between



Buoys movable daily to show the totals raised

which the top section can be fitted. Cover the top of the boxes with cardboard and afterwards treat with sand on thin glue.

Some thick whitewash will be ideal to colour the quay and the outlines of the bricks should be brown or black with uprights of black to represent the baulks of timber usually seen on a quay.

Imitation Sea

Imitation sea is difficult to make and if not well done gets rather badly

Doll's House Railings—(Continued from previous page)

shown in the detail of Fig. 3. To ornament the fencing, it is a simple matter to glue on circular or square imitation carved ornaments. These add very effectively to finished fencing.

The wood of the fencing is, of course, cut with a fretsaw. It should not be the same height as the pillars, and can also be raised about <u>j</u>in. from the baseboard, if desired.

If one prefers, an imitation brick

wall can be erected by having plywood boards covered with the excellent brick paper obtainable.

A plain brick wall, however, is not often becoming, but it is an easy matter to make it more artistic by cut out shaped pieces. A simple form is shown at Fig. 4, and this can be easily cut with the fretsaw in 3/16 in. or $\frac{1}{2}$ in. wood.

The wall can be about 3ins. to 4ins. high, and the brick paper should be

scenery needn't be too detailed. Your Local Savings commit-

tee will probably be trying to reach some target and it would be of great interest if you set your show out as an indicator in this way.

Make a series of small buoys with totals on like this— $f_{20,000}$, $f_{30,000}$, $f_{40,000}$ and so on adjusting the figure to suit the size of the local effort.

You can see in the illustration how to set this idea up and the main battleship can then move along each day or as the new totals are reached. You can easily make some small figures to stand about on the quays and you will find plenty of drawings of sailors on the Warship Week bills, posters and literature.

glued or pasted on evenly both sides. Cut this to the shape allowing a little overlap to turn on to the edge of the wood.

Then cut a long strip of the paper the width of one brick and use this to cover the overlap by pasting the whole length of the edge. The detail at Fig. 5 shows a portion of the wall with the lapped paper, and then with the finished strip laid along. The cutting must be done carefully. WRITING A STORY OR WAR EXPERIENCES ? Here is an infallible Guide to the Beginner's Success **The Act of Story Writing** In Cap. '8-vo. Black Leatherette. 5th Autographed edition. (By a Famous Author). Writing the complete story. Status and chances of 'a acceptable. Also included ''The Author's superditive and chances of 'a acceptable. The outhor's Guide (1941-2)'' a complete and classified list of every Newspaper, Magazine and Periodical, its presentation, nego. Post Free Guide (1941-2)'' a complete and classified list of every Newspaper, Magazine and Periodical, the sepective minimum and maximum Length for Article, Story and Serial '' acceptable.'' The outhor's black of its kind. A veritable gold mine of essential facts that ears for you immediate profit from your writing. The previous publication had over 20,000 sold cogies and this reprint is rons LITERRARY AGENCY (Publishing Department H) Established 1928.

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BLUE

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5

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PAR SHELT-T

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