

Hobbies

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ANOTHER
NOVELTY
MAGNETIC
MODEL
See page 88

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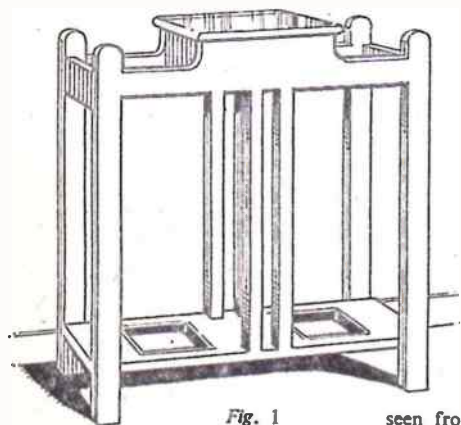


Fig. 1

ILLUSTRATED is a straightforward article of furniture which would look well—and wear well—if made up in oak. There are one or two advanced woodworking joints to overcome, but they should not be beyond the skill of the young amateur. Furthermore, these joints are really essential if a firm job is to be made.

The Legs

The legs (A), shown in the diagrams and details of the stand at Figs. 1 to 6, are 30ins. long by 1½ins. wide by ½in. thick. The top of the legs are cut to a simple curve with the fretsaw and finished smooth with glasspaper. Mortises will be cut in two faces of each leg to take the tenons of rails (B) and (C). The position of the latter rails may be

For your home — an EASILY MADE HALL STAND

Get started now and know the satisfaction of being able to say: 'I made it myself!'

seen from the side view of the stand Fig. 3, while the dotted lines in Fig. 2 show their relative position in the front legs. Note that the front and back rails (B) are identical in size, and are tenoned similarly into all four legs. For these rails we shall require two pieces of ½in. wood 21½ins. long by 4ins. wide, and the shaping will be carried out accord-

ing to the measurements in Fig. 2, the curves being set out with the compasses and cut with the fretsaw. The length of rail given allows for a ½in. wide tenon at each end, while the detail of (B) in Fig. 6 shows how it will be shouldered down to suit the mortise in the leg.

End Rails

Next cut the two end rails (C). These will be 8½ins. long by 2½ins. wide. Again the length allows for cutting the two end tenons as seen at (C) Fig. 6. When all the mortises and tenons have been cut and checked for fit, they should be glued firmly and tightened by driving in hardwood dowel pins, holes for which should be previously made. The dowels should be dipped in glue before driving in.

The bottom board (D) should be 24ins. long by 7½ins. wide and in it must be cut the two openings shown in the plan Fig. 4. These are to receive the black-japanned draining dishes, which should just fit in, the top edges of the dishes being turned over to rest on the surface of the board. Two upright rails measuring about ½in. square are stub-tenoned into the top of board (D) and

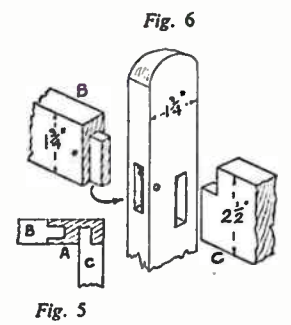
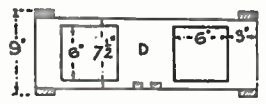
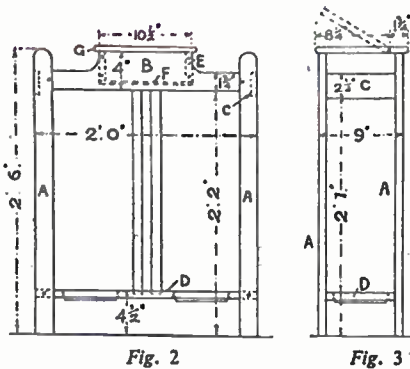
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THE MAGAZINE FOR MODELLERS,
HANDYMEN AND HOME CRAFTSMEN



into the underside of rail (B). It is optional if similar uprights are added at the back of the stand, but they certainly

add a little character, as seen in the sketch Fig. 1. However, they will not be seen much when the stand is in use. Long countersunk brass screws make an easy fixing between the bottom board and the legs, the heads of the screw holes being filled with putty or other suitable filling. The box at the top of the stand will be found useful for gloves, etc., and it is

formed of the two side rails (E) each measuring 9ins. long by 3ins. wide and 1/2in. thick, and a thin plywood bottom (F). Cut the rails with squared ends to fit exactly between the front and back rails (B). Run countersunk screws through the latter rails well into the rails (E) and fill the heads as before with putty or other filling.

The floor of the box should measure 10 1/2ins. by 7 1/2ins., but it would be advisable to check these measurements direct from the frame before cutting the wood.

The lid, with its back rail, measures 10 1/2ins. by 10ins. and on this piece run a line lengthways 1 1/2ins. from the back edge as seen in Fig. 3. After cutting along this line, hinge the two pieces together with a pair of 1 1/2in. brass hinges. Finally screw the narrow rail to the top of the back rail (B) counter-sinking the screws as before.

Lightly plane away all sharp edges and go over the whole article with fine glasspaper. The wood may be coated with light oak stain and afterwards rubbed up with a wax polish, or some workers may prefer to use varnish as a surface finishing. (S.W.C.)

FOR THE AMATEUR

Some Tips on French Polishing

WHILE we must accept it that French Polishing is a skilled operation, there is quite a lot that the unskilled can achieve with some practice. Furniture can be restored to its original brilliance, and this can be part of your spring cleaning activities. This is how you set about it.

and lustre on the surface. This operation is known as 'bodying up'.

Next Stage

The next stage is the same as the first except that you begin to rub straight and not round and round, making sure your 'rubber' or pad is not too wet. You will find that there will be a tendency for the 'rubber' to drag. This can be obviated by dabbing the face of your 'rubber' on to a piece of paper which has been moistened with a few drops of linseed oil. This allows the 'rubber' to glide freely over the surface without dragging or sticking.

Be Light-Handed

In the final stages great care is necessary. It is vital to be very light-handed, as the slightest excessive pressure will cause the surface to 'burr up' and become sticky, resulting in a patch which will be very difficult to get rid of. When you find the surface has a very smooth brilliant appearance, then you can consider the job finished. Do, however, refrain from handling for a few hours, for although French polish dries very rapidly, the surface may appear to be quite dry while the under-surface may still be a little 'tender'.

For inaccessible parts, such as reliefs or carved mouldings, it will be found

necessary to apply the polish with a soft brush (a camel hair mop being the best for this job). Several full applications should give a fine finish. Do not be too ambitious, start with small articles first and then, when you have acquired the knack, you can tackle the bigger ones. To remove any polish which may dry on your fingers whilst you are polishing, use methylated spirit. (J.T.)

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Care Necessary

French polish is a preparation which is about 1/6 per 1/2 pint. The method of applying it is quite simple but requires some care. It is applied by means of a pad which is made as follows. Obtain any old piece of white smooth texture rag and a piece of cotton wool. The cotton wool is 'teased' into a small lump into which the French polish is absorbed freely. Lay this on to the middle of a double thickness of white rag and fold over it, and across it, until you have formed a pad of a size that can easily be held within the fingers and thumb. The method of polishing is to rub in a round and round motion, gradually progressing along the surface you are polishing, slowly and quite lightly.

Allow to Harden

Having covered the whole area, allow it to harden for some minutes and then repeat until you begin to get an evenness

New Series—No. 17

Facts, Figures and Photographs—(continued)

DESIGNING AND BUILDING

MODEL RAILWAYS

By E. F. Carter

FOR the interpretation of photographs of buildings, bridges, and other structures, a remarkably accurate idea of size can often be gained by the use of certain well-known measurements which are visible in the picture; these being scaled down to the working scale of the model line.

For example, in the case of brick structures, the bricks should be counted, first horizontally, then vertically, and an allowance of 9 1/2ins. made for each in one direction and of 3 1/2ins. in the other. Thus twenty-four rows one above the other would represent 7ft. in height, and twenty-four bricks end to end a length of 19ft.—mortar included in both cases.

Angle not Important

When deriving proportions for brick-work from a picture, it is of no real importance whether the building stands squarely or obliquely in the picture in respect to the camera, so long as the bricks are depicted sufficiently clearly to be counted on the photograph.

Other useful standard measurements are the distance between the running-rails (4ft. 8 1/2ins.), the distance between the inner rails of a 'double road' (6ft.) (this is termed the 'sixfoot way') and, derived from the foregoing measurements the distance between the outside edges of the outside rails of a double

road (about 16ft. 3ins.). A word of warning here. If the pictures are of

lous by their poor positioning and proportions.

I remember there was a brick over-bridge with its parapet walls neatly brick-papered, but minus capping; this



Typical S.E. and C.R. signal box, Merstham (S.R.)

Great Western tracks, the 'sixfoot' may well be anything up to 10ft. or even 12ft. A relic of old Broad Gauge days.

The knowledge of these standard dimensions will be found of very great value for scaling up bridge photographs and pictures of station buildings, and though it may seem to the reader that undue stress has been laid on these matters of true scale in model railway buildings, it is unbelievable how carelessness in this direction can completely mar an otherwise perfect layout.

An Exhibition

Early this summer, the writer had a good look at a well-patronised exhibition layout in 'OO' scale at one of our South Coast towns. It was a miracle of operating efficiency. More than a dozen trains were continually in simultaneous motion. The signals worked automatically, and everything was extremely attractive—but . . . The scenic accessories to the railway itself were so devoid of purpose and character that they marred completely the ensemble. Simple things had either been completely omitted or rendered ridicu-

omission revealing 'walls' of a thickness which would have scaled up to about 3ins. on a real bridge!! Fancy leaning against a real bridge-wall of less than single-brick thickness! Hardly a safe thickness for a bridge parapet wall.

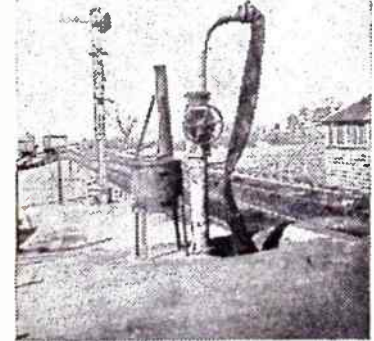
Easily Avoided

Such an obvious absurdity could have been easily avoided without extra materials or labour by either mounting a capping to the wall, or cutting the bridge side—arch and wall in one unit, from thicker material.

Similarly sudden breaks from 'city' grime to pastoral scenery give an odd 'patchwork' appearance to any model layout, and bridges which have no purpose, carrying roads devoid of objective, look extremely ludicrous—to say the least.

However, reverting to the use of pictures and photographs for modelling. Let those chosen for the purpose be used as sources of information, detail and dimension from which to draw scale diagrams. Under no circumstances should any attempt be made to actually

(Continued on page 84)



Water column and 'fire devil' at Tipton St. John's (S.R.)

Show Your Fish to Advantage

ONE of the little troubles of the beginner in keeping an aquarium is the green algae that collects on the glass front and sides of the aquarium, and spoils one's view of the fish. Don't be misled into thinking this is due to the water being in a bad condition; indeed, this algae can be allowed to grow without harming the tenants of the tank, but it is a nuisance when you want to show off your 'pets' to your friends.

It is worth remembering that too much light encourages the growth of this green deposit. Therefore, place the tank where it can get a fair amount of light but not too much direct sunshine—one hour a day of sunlight is plenty; but really it is better to have no sunlight falling directly on the aquarium. It is also advisable to keep the tank in a room with an even temperature. For non-tropical fish ordinary living-room temperatures are most suitable.

If algae has formed a screen on the glass it can be removed with a piece of wash leather tied to the end of a stick, or by an old safety-razor blade attached to a wooden handle; specially designed long-handled scrapers to hold such a blade, are available from the aquarists' supply stores. The algae sinks to the bottom of the tank as it is scraped off, and should be removed, together with any other sediment, by syphoning.

Some aquarists advise keeping a few snails such as the planorbis in the tank, claiming that such creatures help to clean off the green algae. Others affirm that snails do some damage to aquarium plants, and, therefore, their value as

'window-cleaners' is to a certain extent discarded. We may use our discretion in this matter—a few snails will not do that much harm, and some kinds, as the red ramshorn, are sure to provide an ornamental effect in a tank, adding to the interest.

All parts of the tank exposed to the water should be kept as clean as possible, if you are to derive the utmost pleasure out of your hobby. We have mentioned the razor-blade method of clearing the glass; another way is to make a small mop with a piece of sponge and rub over the interior where algae has collected. Dip the mop into boiling water at intervals whilst doing this work, to destroy any slimy substances on it.

Removing Sediment

When a lot of sediment accumulates on the bottom of your tank this will cause discolouration of the water, which becomes cloudy and spoils the effect. Much of this 'muddying' of the water is caused by the fish as they swim to and fro. The remedy is to see that all sediment and uneaten food liable to cause discoloured water is removed. An hour or two after feeding the fish all remaining food settled to the bottom of tank should be cleared by syphoning. Dealers supply instruments for this work; but it is quite simple, if you get a length of glass tubing. Place one end of the tube over the sediment or deposit, then putting a finger over the top of the tube, when the particles of food, etc., will be withdrawn into the tube.

It is a help, when first starting your

aquarium, to renew the water, or some portion of it, by syphoning, or from the tap, once daily, until a healthy balance of vegetable and animal life is established. Never run tap water directly into the aquarium.

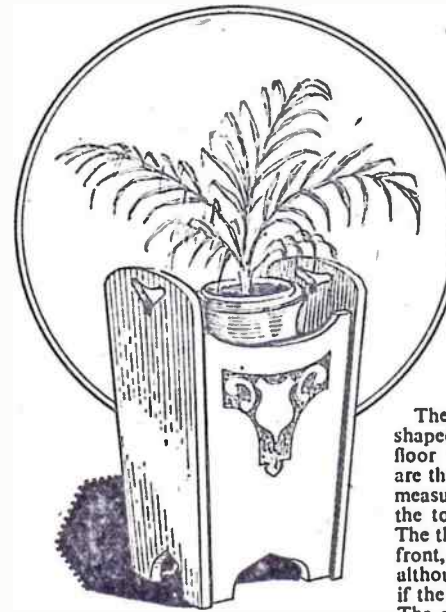
In any case, change the water whenever the fish congregate near the surface. Even if you do not renew water daily, it is as well to aerate it by ladling out a jugful and returning it from a little height. A good way when filling a tank or when renewing the water is to syphon the latter from a bucket into the tank by means of a length of thin rubber tubing.

When adding to the water or changing it, special care should be taken to see that the fresh water is of the same temperature or thereabouts as the water in the tank, and, if possible, is obtained from the same source. Quick changes in water temperature are harmful to fish.

Remember, when introducing fresh plants into the tank, be sure to wash them first in clean water, in case there are any undesirable fish foes living on them, and which may be unwittingly introduced. Predaceous water beetles, larva of certain kinds, the fish louse, and so on. All these are enemies of fish.

To these few and simple instructions on the matter of maintaining an aquarium in good order, we may add—do not overcrowd the tank with fish! And be sure you buy only good healthy fish to stock with. Plants, of course, are needed. The idea is to have your aquarium well balanced. (A.S.)

A Useful Plant Stand



outline can then be transferred to the wood by means of carbon paper and a sharply-pointed pencil.

The setting in of the carved panel should, of course, be done before the article is assembled and glued together.

Four Pieces

The box consists of four simple shaped pieces and an interior shelf or floor to hold the plant. The two sides are the largest pieces required, and each measures 21ins. long by 10½ins. wide at the top, tapering to 8¾ins. at the base. The thickness of wood suggested for the front, sides and back of the box is ¾in., although ½in. stuff would be adequate if the thicker wood cannot be obtained. The shelf may be ¾in. thick, and in two widths, perhaps, for convenience.

The work upon each of the sides consists, first of all, of shaping to outline, then cutting out the hand-hole and the shaped base line, and finally cutting the grooves or housings to receive the front and back of the box. Care must be taken in setting out the sides to get them symmetrical. The piece of wood measuring 11ins. wide

side of the centre line, and connect up the points, which should result in a perfectly shaped side.

The half of the top curve may now be drawn in, traced, and reversed over the centre line. Having completed the outline and the internal cutting to one of the sides, the outline of the second may be produced by scribing round this piece with a sharp pencil and cutting as before. The edges should be lightly glasspapered and any sharp corners and surface edges taken off.

The cutting in of the grooves to receive the front and the back of the box may now be taken in hand. Fig. 1 shows the outline of one of the ends with the position of the grooves shown dotted. These grooves are set ½in. in from the upright edges and are to be ½in. deep. They should be cut rather less than ½in. (or ¼in.) wide to allow a perfectly tight fit when all pieces are being finally glued together. The grooves should measure 18ins. long from the base upwards, and then be neatly stopped as shown in Fig. 2 and in the circled detail in Fig. 1.

(Continued on page 86)

Designing and Building Model Railways

(Continued from page 83)

build models from pictures alone. A scale drawing is also necessary—indeed, it is essential to the production of a good scale model of anything—model railway lineside buildings included.

Good work will not hide disproportion, neither will accurate proportions produce a satisfying model with poor workmanship. The two must go hand in hand.

Where to get Pictures

The writer has often been asked where suitable pictures of railway buildings can be found from which to make drawings and build models, when it is impossible to take one's own

photographs.

Any of the railway or model railway periodicals will provide material galore if each individual picture is carefully analysed with a view to finding and extracting the measurements and details of all the modelable material required. Such pictures are mines of information which only needs extraction—sometimes with the aid of a 'glass'.

The two pictures this week show the details of a typical South-Eastern and Chatham signal-box at Merstham (S.R.), and a London and South-Western water-crane and 'fire-devil' at Tipton St. John's (S.R.). In the former picture, the height of the box from ground-level

to the lower edge of the weather-boarded upper story is thirty-eight courses of brick (11ft. 9ins.) plus about 2ft. for the cement flashing at ground level; which makes a total of about 14ft. From this figure the height from ground to eaves can easily be reckoned quite accurately, as can the length of both front and end walls. Step-treads are generally about 10ins. apart on signal ladders and signal-box steps, which is another useful standard figure.

On the other picture, all measurements can be derived from the one known dimension—that of the hand-wheel, which is 1ft. 6ins. in diameter.

Now look out all your railway pictures and see what useful information you can find from carefully studying them with a magnifying glass and making your own drawings from the details you discover.

THE plant stand shown in our illustration Fig. 1 is modern in design and should make an attractive piece of furniture. The plainness of its front panel can be relieved by a shaped and sunk panel cut in low relief with simple chisels, or a wood carver's knife, and to help workers who decide to incorporate such a panel, we have included here a squared

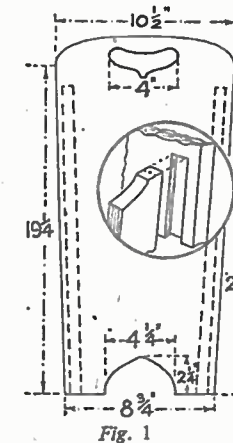


Fig. 1

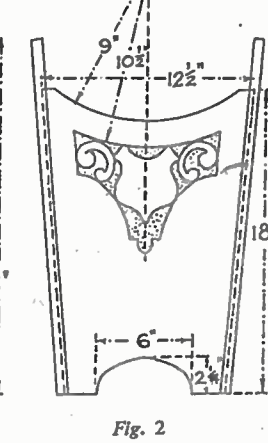


Fig. 2

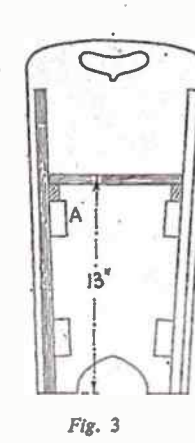


Fig. 3

diagram in half outline ready for enlargement to full size. The squares shown are 1in. see Fig. 4.

It will be necessary to reproduce only half the pattern as shown and then to trace it and reverse it on to the other side of the centre line. The whole

should have a line drawn down its centre and, at a length of 21ins., should have 4½ins. set out at each side of the centre line. Then half the shaped top should be drawn in with the width of 5½ins. on each side of the centre line. Check off the width on the opposite

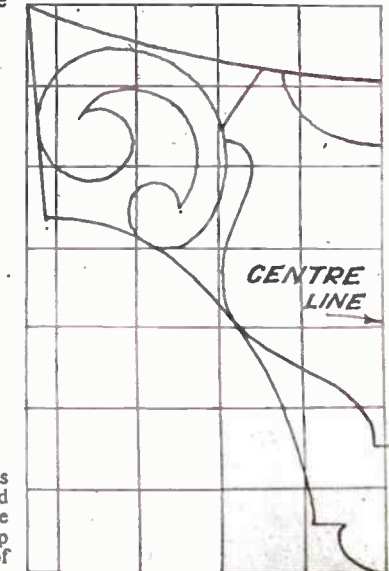


Fig. 4



REPLIES OF INTEREST

A 'War Kite'

I AM wanting to build a 'war kite' but have no idea where to start. Neither do I know the exact shape. (S.L.—Wakefield).

THE term 'war kite' is somewhat vague, but most of the kites used in warfare have been of the Hargreave or box form. This consists of four long spars of cane or light wood arranged at the four corners of a square and connected on all four sides at each end by a band of silk, paper or other suitable material. The touring or 'kite' line is made fast to a bridle attached to one of the spars. Sizes may range from about 6ft. long by 18ins. square—the bands at the ends being about 15ins. to 18ins. long. A large kite may measure 25ft. or 30ft. in length. The four spars are separated and held apart by diagonal struts of wood sufficiently firmly fixed to ensure stretching tightly the 'boxes' or bands. The bands are like boxes with two opposite sides removed. To make such a kite, prepare the four long spars, space them by fixing the diagonal struts so that all four spars are parallel. Then fix the silk bands, stretching them tightly in place.

Enlarger

I SHOULD like to make a fixed size enlarger. My negative size is 35 mm. I should like to make a fixed enlarger to print the photos 2½ins. by 3½ins. Can this be done at a reasonable cost? (A.L.S.—Twickenham).

CUT three pieces of plywood 5ins. by 4ins. for panels (A), (B) and (C). In (A) cut panel and fit in glass for film. In (B) bore a hole and fit in small lens about ½in. diameter. In (C) cut panel for

enlargement with glass and back door to hold paper against the glass. Make open-sided box and fit (A) to one end. Let (B) and (C) be loose for adjustment. Place film in position and piece of white paper in (C), then adjust the position of both (B) and (C) until the enlarged picture is of required size and sharply in focus. Cut off any surplus box, cover in the sides and fit a simple shutter over the lens, operated by a string through the side of the box. Keep the sensitised paper in (C) in place by fixing an elastic band over the end.

Painting Dart Boards

I HAVE several dart boards to renovate; most of the colouring is badly faded. I find ordinary paint chips off very quickly and shall be glad of your advice. (T.S.—Warrington).

THE trouble with the paint on the dart boards is due to the broken surface caused, of course, by pitting from the darts. Paint applied in the usual way cannot grip the surface and simply falls away. You would get better results by applying the paint with a short stiff bristle brush, like a stenciling brush, and pricking it in as it were, with downward stabs. A small sash tool such as painters use, cut short to ½in. would suit, we consider. Also we think you would get better results by using poster paints in place of the oil paint normally employed. It would at least be worth a trial.

Conversion

I WISH to convert my 4-valve all-dry battery radio to an electric set. I do not want to buy an amplifier as it is too expensive. Can you advise me how I can

make an amplifier myself? (H.F.H.—Hoddesdon).

UNFORTUNATELY your query is confusing. To operate your all-dry set from the mains, an eliminator is required—not an amplifier. Circuits for both eliminators and amplifiers have appeared in past issues. If you do, however, wish to make an amplifier, as you state, then reference to recent issues will provide you with complete details, including wiring plans, etc. As regards the possibility of making an eliminator, the best type would depend upon whether you have A.C. or D.C. mains, which you do not specify. In view of this lack of information, it is quite impossible to advise you exactly. The circuits for A.C. and D.C. mains are quite different. In addition, a different output is required for different all-dry sets, according to the H.T. voltage required, and whether a 1.5 V. filament supply is required, as when filaments are in parallel, or a 7.5 V. supply, as is required for some sets where filaments are in series, and operated from a 7.5 V. dry battery.

No Change

I HAVE a yellow cycling cape which I want to be black or some other dark colour. Is there any way of doing this? (L.G.S.—Macclesfield).

I AM afraid there is no really practical way to change the colour of a yellow cycling cape—it does not lend itself to dyeing nor does it take paint or anything of that kind.

Removing Stain

I HAVE stained doors, etc., with mid-oak Darkaline; now I would like to remove the Darkaline to grain woodwork a light shade. What is the best method to employ (I do not want to use a blowlamp)? (J.M.—Saltcoats).

DARKALINE would be most easily removed by the use of a proprietary brand of paint and varnish remover, which can be bought at most oil or hardware shops. Afterwards a good rubbing with glasspaper should provide a satisfactory surface for repainting.

be obtained by gluing blocks of wood about 1in. or so square by about 2ins. long, up the inside angles as (A) in Fig. 3.

The shield and the scroll work on the decorated panel should stand up well when the background is cut in about an ¼in. deep, flattened, and finally roughened up with a small two-point matting tool. Should the main surfaces of the box be eventually wax polished or oiled, the matted ground to the decoration should be left untouched.

Oak or mahogany are both suitable woods to use for the stand, the former for preference, perhaps. (S.W.C.)

A Useful Plant Stand

(Continued from page 85)

The full measurements of the two pieces forming the front and the back of the box are given in Fig. 2. Here again the tapering should be accurately obtained by the same method as that adopted for the sides, while the curve to the top should be struck with the compasses to the radius of 9ins. as shown, the same compass point being also used to strike the arc of the decorative panel (see the 10½ins. radius also in Fig. 2).

For the floor a plain piece of wood

11½ins. long by 7½ins. wide will be required, or, as previously suggested, two pieces 11½ins. by 3½ins. would answer just as well. For the floor support use two fillets of wood about 1in. deep by ½in. wide screwed on the inside face of the front and back of the box, as seen in the cross sectional view Fig. 3.

The height of the floor should be 13ins. as shown, and the floor may be screwed to the fillets to make all secure.

When the box has been fitted together and glued up, additional strength may



HERE is a picturesque bird house which might be made and set up in the garden or on the lawn near a window. We specify near a window because it is most interesting and amusing at times to watch the birds, and it is surprising the different kinds that come to partake of the food put out.

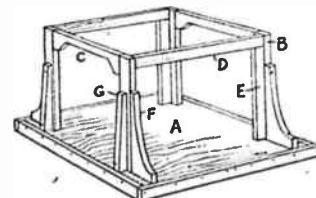


Fig. 1

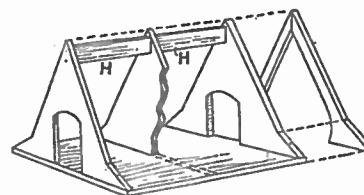


Fig. 3

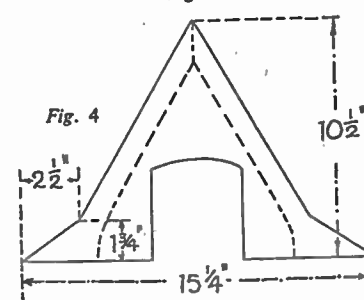


Fig. 4

FOR YOUR FEATHERED FRIENDS THIS WINTER

An Unusual Bird House

The house should be firmly fixed to a post about 2ins. square and 4ft. above ground to the top of the lower deck. Ordinary pieces of box wood of suitable thickness—about ½in. or ¾in.—would be quite suitable and easy to knock together.

Two Floors

The novelty of the house lies in its having two 'floors', the upper one being enclosed within the roof slopes, while the lower one is open, as can be seen from the sketch of the finished article.

The floor or 'lower deck' (A) is about 16½ins. long by 17ins. wide, this latter width being made up by nailing together two or even three widths of wood, with cross' battens underneath. The board is edged with narrow battens, for effect, as will be seen from Fig. 1, the fastening nails being spaced evenly and driven well in.

Upon the floor are erected the four corner pieces (B) which are about 10ins. long by 1½ins. wide. Connecting these at the front and rear are the two

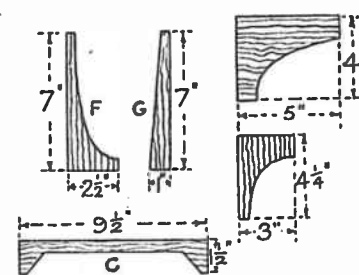


Fig. 2

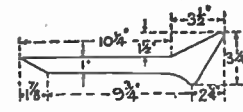


Fig. 5

rails (C) shown in detail in Fig. 2. Then at the sides the two rails (D), 1in. wide, are nailed in, all these four pieces being further strengthened when the top floor piece is laid on and fixed.

There are four upright rails (E), see Fig. 1, nailed up flush with (B) and to come up under (D).

Stiffen the Frame

To stiffen up the whole framework, the shaped brackets (G) and (F) are introduced, and these are shown in detail in Fig. 2.

The upper floor should be about

16½ins. by 15½ins., and this again may consist of two or more boards battened together. Upon this floor are erected the three shaped gable uprights seen in the detail Fig. 3, the middle one in this diagram being cut away to show the further end gable. The outline to which the gable uprights are cut is shown, with measurements added, in Fig. 4, and the dotted lines here indicate where the end shaped gable boards are to be glued on. Measurements for

(Continued on page 89)

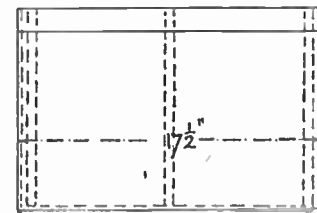


Fig. 6

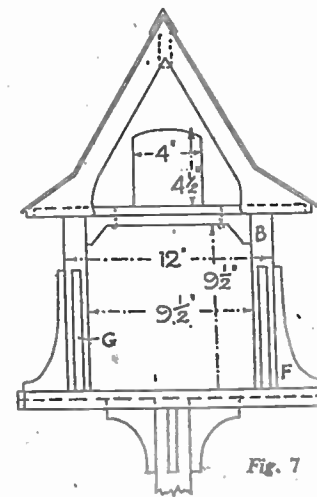


Fig. 7

How to make a Compass Ship

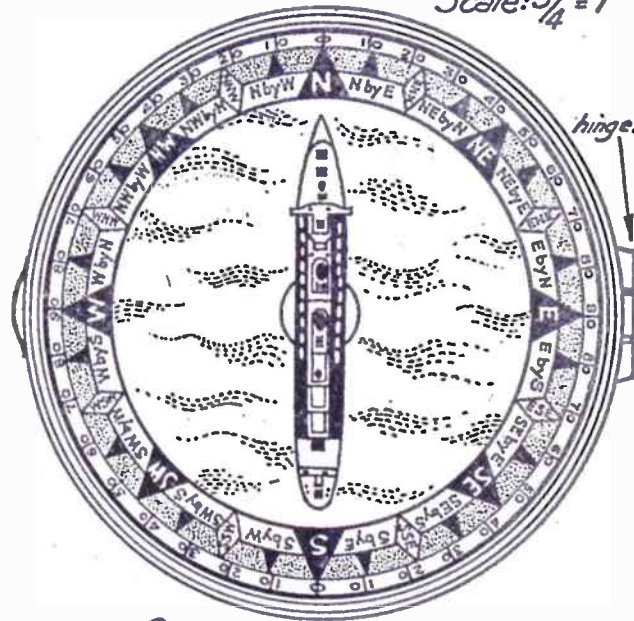
By R. C. F. Bartley

ANOTHER interesting, but more simple model is the design shown in Fig. 4, which represents the Queen Elizabeth. This miniature is 2½ ins. long and is contained in a brass case made from the front and back casing of an old clock. It is not necessary for the case to be of brass; any non-magnetic material may be used, or for those unable to construct a metallic case, one in cardboard will be found just as suitable. Of course, if cardboard is used it should be braced and stiffened with small wood blocks to assist in making the case reasonably rigid.

The model is balanced on a steel pivot, and will slightly pitch to and fro and oscillate when the case is tapped or moved, giving the effect of a liner at sea. When at rest it will point due North similar to a compass needle. Also, if used with the 'Remote Control Unit' (described later), the ship can be made to swing to any compass position, suggesting a liner being steered on a course.

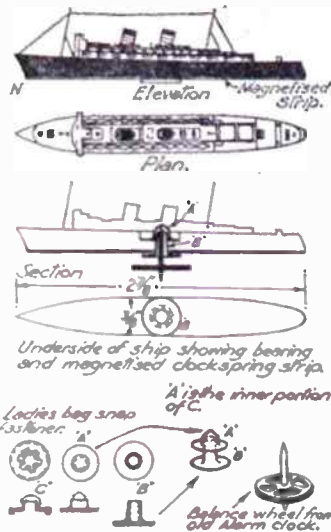
Any excitement on the part of the operator while using this unit will cause the model to get out of control and the speed with which this may be regained will depend on his manipulative skill and alertness. Much amusement can be

Fig. 4. The "Compass Ship." Plan and Section View. Scale: 3/4" = 1"



Compass case of brass.

Fig. 5. The "Compass Ship." Details.



had watching others' attempts to bring the ship into a particular compass direction in the shortest time.

Constructing the Model

To keep the model as light as possible it is made in a good quality balsa wood. The details are given in Fig. 5, and two main pieces will be used so that the cup bearer may be inserted. Obtain a small piece of clock spring and then shape it to the underside of the model. Afterwards, drill a hole in the centre sufficiently large enough to take the portion of the snap fastener marked (B) in Fig. 5. Now, with a small magnet, magnetise

the strip of clock spring so that the pointed end will be a North seeking pole. This is done by bringing the North seeking pole of the magnet in contact with the pointed end of the clock spring strip and sliding it along to the other end. Keep repeating this movement until the strip is sufficiently magnetised. Approximately ten times will generally be found ample.

Now insert the portion (B) of the snap fastener into the hole in the strip. Make a hole in the miniature ship sufficient to house this fastener, and then glue the clock spring to the underside and also press the part (B) into the hole.

Next, form a conical head to the portion of the snap fastener marked (A) in the diagram. Place the fastener upside down on a piece of soft wood, insert a nail, and with a hammer, gently bump the metal. This will create a conical shape and thus form a bearing for the spindle (see Fig. 5). A slot is now cut in the top of the hull to take the snap fastener portion (A), which will fit over the portion (B). Glue the fastener in position.

Next, a hole is hollowed out in the top portion of the model containing the funnels. Scoop out enough to allow (A) to inset and then glue the two pieces forming the ship together. From a piece of matchstick, cut two thin masts, inserting these into the deck after making a hole with the point of a pen. To form the stays, use a piece of unravelled cotton thread.

Completing the Ship

Now complete the ship, colouring it in bright water colours and lining out any small detail by using a mapping pen and indian ink. For the spindle of the compass unit, a balance wheel from an old alarm clock can be used, but if this is not available, then there are many other substitutes which can be pressed into service, provided they are well pointed and the steel is reasonably hard.

Test the model before fitting it into the case. Press the spindle into a flat piece of wood so that it is vertical and then place the model on top and check for balance. It may be down at the

stern; if so, press a few small brass pins into the bow until the ship is on an even keel and then cut the pins flush to the hull. The same applies if the model is down at the bow. Athwartships the balance will generally be correct, but if not it can be dealt with in a similar manner. The model should not need loading if the piece of clock spring has been kept well below the top of the

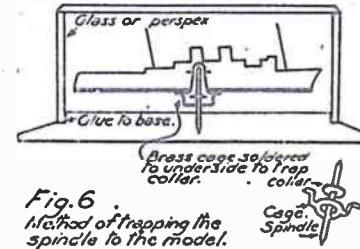


Fig. 6. Method of trapping the spindle to the model.

spindle as shown in the diagram Fig. 5.

Now, gently tap the bow of the model and allow it to revolve on the spindle. Wait for it to slow down and come to rest. If magnetically correct, the ship, after slowing down, will oscillate to the right and left, reducing the arc of swing until finally it finishes pointing due North. If this is satisfactory, the model is now ready for fitting into its case.

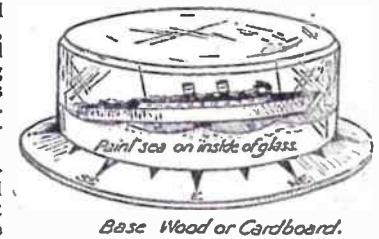
Before doing so, however, the compass ring shown in the diagram should be marked out in indian ink on a sheet of card. It is not necessary to keep to the

design shown; this is only a guide. Afterwards, cut the ring out, using a razor blade, and then glue it just underneath the level of the glass cover.

The inside of the base of the case will be painted green and flecked with white to represent the sea. When this is dry the miniature ship is placed on the spindle and it should point due North. To read the model as a compass, turn the case round until the North on the card is in line with the bow of the ship. The direction of the points of the compass card are then correct.

No arrangement has been included in this design for holding the ship to the spindle, as the writer is of opinion that the modeller may wish to make a series of these miniatures representing various liners and use the same case. Should this be required, however, the model may be clipped to the spindle by forming a small collar and trapping this in a cage attached to the underside of the clock spring, as shown in Fig. 6.

Fig. 8. Glass or Perspex Containers



for the fastening. Allow the lino to bend gently, without cracking, into the angle formed between the two slopes of each side, and also let the lino project ½ in. beyond the gable boards, see dotted lines in Fig. 5.

Cover the ridge of the roof with a strip of the lino bent at an angle to form a watertight job, tacks again being used for the fastening.

Finish

The finish to the wood may consist of creosote or paint, the former makes an excellent and cheap finish as well as being a good preservative for the wood. The roof slopes should have two coats of paint, green being most appropriate.

In erecting the supporting post of the house, let it go into the ground about 12 ins. or more according to the soil, and see also that all sides of the post are completely coated with the creosote. Nail the house centrally on the post and add the four shaped brackets as shown. The details to which these should be drawn and cut are given in Fig. 2. They should be at least ¼ in. or ½ in. in thickness. (S.W.C.)

An Unusual Bird House

(Continued from page 87)

outlining one of these are given in Fig. 5. All four pieces may be of thinner wood than the rest of the framing.

Connecting the three gable uprights are the two ridge pieces (H), as in Fig. 3, each about 7½ ins. long by 1½ ins. wide. In this diagram is also shown how the pairs of gable boards are joined at the peak, and how they will meet the uprights at the back and front of the roof.

Fig. 6 gives a side view of the bird house, showing the position of various parts and some useful measurements. The front and rear view will be identical, and the few measurements will prove adequate for setting out.

Testing

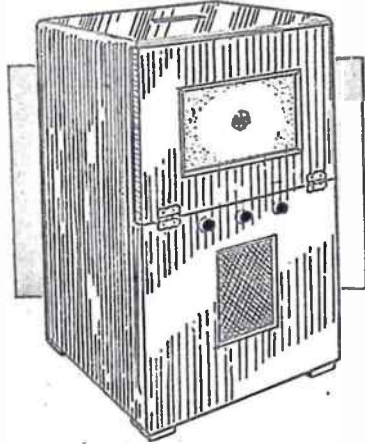
Before the roof covering is attached, the worker should test the complete framework of the house, and make sure that all parts are rigid and well secured. If any reinforcing should be found necessary, this can be done by putting screwed metal angle-plates be-

tween floor and uprights, and also at the top of the uprights and side and end horizontal rails.

Both roof slopes may now be covered with thin plywood or composition board, each side slope requiring two pieces, one piece for the upper or steep slope and one for the lower, narrower slope. Cut the pieces so they meet neatly at the vee joint and trim them square at the ridge. Use quite small wire nails for fastening the material to the edges of the roof uprights, and take care to bore the nail holes before any nails are inserted.

In cutting the boarding to size, allow in length to come flush with the sloping edges of the gable boards, that is, about 16½ ins. according to calculations in Fig. 5. The final covering of the roof may consist of Ruberoid or ordinary floor lino. The latter has been used by the writer with great success for a similar bird house. Holes should be pricked in the lino at not more than ½ in. intervals, and ordinary tin tacks used

Make a 'Radio' Savings Box



A PART from the license, there are sundry expenses in running a radio or television set, such as batteries and valves, which can be a strain on the pocket. In connection with this it is a good idea to instal a savings box, in which small sums can be deposited, say, weekly, to better ensure a working capital available when needed to meet such expenses.

The savings box, illustrated, meets these requirements, and, incidentally, provides a compartment in which the license can be safely stored, ready if required. A novel touch is added by designing the box as a model radio and television receiver.

The article is made of 1/2 in. fretwood. Fig. 1 (A) and (B) show the main portions of the box, (A) being the bottom and (B) the carcase or principal part of it. Cut the bottom first, and then the remainder, which is fitted together round it. In the centre of the bottom piece strike the 1 1/2 in. circle shown, and to this, on opposite sides of the circle, pencil in the lugs seen, 1/2 in. wide and 1/2 in. long. Saw out with a fretsaw and place this piece apart, it will be needed later on.

Cut the remainder, and fix to the bottom with glue and panel pins. The panel pins, fine headless nails, are better for this work than fretwork pins or nails, as the absence of the heads makes it easier to hide the nails by punching them down a trifle and filling up the holes level. Take care to fit the division piece across at the correct distance in from the front. Pencil lines drawn down each side will help to ensure this, and if pencil lines are also

drawn down on the outsides, just 1/4 in. from the front edges, they will prove a helpful guide to nailing. It will be wise, dealing with such fine nails as panel pins, to make preliminary holes partly through the sides with an awl first.

A cover is now to be made to fit over the hole in the bottom of the box, the hole being, of course, for extracting the contents as wanted. For this, cut a disc (C) from the wood (Fig. 2) and a second disc (D), the latter shown shaded. The disc (C) should be accurately sawn out, and then should fit the hole in the box. Glue both discs together, and in the centre drive in a thin screw, partly. On these lay the 'cut-out' piece taken from the bottom of the box, and drive the screw home to fix all three together.

Remove the top piece and push the bottom pair in the hole in the box, and test by twisting round. A little glass-papering will help if the cover tends to stick anywhere. Then, all being satisfactory, replace the 'cut-out' and rescrew all three together. About 1/4 in. from the centre screw, drive in a second screw to lock all, and prevent the top part from possibly slipping. It will be seen now that when the cover is turned

material that will simulate as much as possible the screening stuff used to cover a loud speaker opening. Then glue the whole to the inside of the lower part of the door, and nail and glue it in position. The upper half should not be glued, naturally, as it must be free to open to gain access to the compartment holding the license.

Cut a second piece of cardboard a little larger than the television opening. This should have a white surface, and be covered with clear cellophane. Fasten this behind the opening with a few fine nails, and file off any points which may protrude through the wood. Some may like to introduce a photo between the cardboard and cellophane. Cut the top of the box, which should also cover the top edge of the front as well. In the centre, saw out a slot for contribution to expenses to slip through, and nail and glue over. A small piece of thin metal is screwed to the door front, as shown at (F) in Fig. 3 to keep the door from falling down—act as a catch, in fact. This can be made up from a terminal off an exhausted dry battery, and is nailed or screwed where shown, and bent over at right angles to press

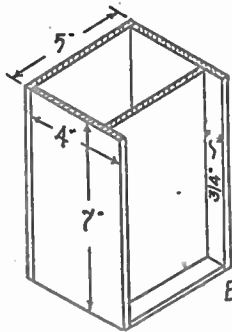


Fig. 1

for the lugs on the inner part of it to come directly over the two side notches in the opening, the lid can be withdrawn and the money in the box shaken out.

The front of the box (E) Fig. 3 is cut to the dimensions given. The two openings are sawn out, and the outer edges of the openings bevelled a little, or neatly rounded off, as preferred. Saw the front into two halves across the dotted line, and then hinge both together with a pair of those cheap fancy hinges so easily fixed to the face side.

Take the bottom half, and cut a piece of stout cardboard a little larger than the opening. To this glue a scrap of

against the top of the box.

After glass-papering over, round off the sharp edges at top. Cut your small bits of the fretwood, and glue underneath, one at each corner, to act as feet. The box would look best if stained oak or walnut colour, and clear varnished. An added touch of realism can be imparted by driving three small drawing pins in the front, just above the loud speaker and giving them a touch of black enamel, to represent the control knobs. (W.J.E.)

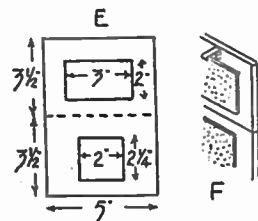


Fig. 3

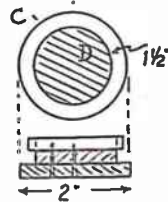


Fig. 2



THE NEW SEASON

SUMMER holidays are over and the winter evenings drawing in, so that the time has come to think of indoor pastimes to take the place of the outdoor sports. Stamp collectors will, therefore, be taking out their albums again and getting ready for the winter season. Some have probably had some stamps given to them during the summer, and these will have gone into an envelope, and should now be given a proper resting place in the album.

Since the urge for stamp collecting has come again wouldn't it be a good opportunity to have a 'Spring' clean? This is, of course, a case when the spring clean comes in the autumn, but the longer it is put off the harder it becomes to start. What are the chief tasks to do? It is not likely that each one of you will have waiting, all the tasks we are going to mention, but probably there will be one or more special jobs for every reader.

It is difficult to set out a list in the order in which the jobs should be done, because they are all important for the well being of a collection, but suppose we start off by removing from the album all those stamps which are torn. And remember that if a stamp which should be perforated on all four sides has the perforations on one of these sides cut, then it must be reckoned as torn, and, if it is a reasonably common specimen, it should be taken-out of the album. All stamps are not perforated. The earlier British stamps had to be cut apart by a pair of scissors at the post office, and that accounts for the large number of specimens that are not perfect, the clerks at the big offices just had not time to do the job carefully.

Some of the Queen Victoria Indian Official stamps are perforated at the sides only, and the catalogue must be consulted to make sure about doubtful specimens. Some of the present stamps from the United States of America are perforated on three sides only. These could go in the album, but it is much better to try to obtain specimens which have perforations on all four sides, the presence or absence of perforation on the U.S.A. stamps depends upon their position on the sheet. By the way, have you noticed that our own stamps which come out of the booklets are frequently without complete perforation?

About paper on the back. Are you able to say that there is not a single

specimen which has any paper on the back of it in your album? If you can, then you are one of the few, but still that is only as it should be. Generally, it is the result of impatience. Collectors cannot wait to get all the paper off the stamp before they put it into the album, they just tear it off from where anyone can see, but leave it on at the back where it cannot be seen. True it may not be seen, but neither can you see the watermark of the stamp, and also it makes the album so much thicker and so spoils the binding.

The ability to see the watermark is most important, and you should always

never tries to get the promised better, and the poor specimen stays for ever.

The other day the writer bought what appeared to be a very nice collection of stamps from the British West Indies. The dealers had offered a price which seemed to be far from the value, but when the writer saw the collection he saw the reason for the low offer. All the stamps had been mounted carelessly, in some cases using stamp edging. The dealer has no time to spend cleaning stamps, and consequently he cannot afford to pay a high price for that type of material.

The stamps had first to be very



A Barbados issue commemorating its first adhesive stamp

Virgin Islands stamp showing one of the islands

South African stamp commemorating the landing of Jan van Riebeeck

look for it. You should notice that the earlier colonial stamps had the watermark Crown C.A. Then later on, about 1882, the watermark was changed to Crown C.A. This was in use until 1904, then a multiple Crown C.A. came into being until 1912, and now, if you look, you will see that they have what is termed Script C.A. So you see, you can tell the age of a stamp largely from the postmark that it has, and the value of a stamp frequently depends upon the watermark.

Condition. This is a subject about which there is a lot of controversy, but there really is no excuse for the collector who is satisfied with a British stamp of the normal value which has a very bad smudge across it. Many of the stamps which come on parcels are quite spoilt by the heavy obliteration, but with care one can usually obtain a presentable specimen. It is not a good plan to place a stamp in the album and at the time recognise that it is a bad specimen, but say to oneself that it will do until one gets a better. The trouble is that one

carefully taken from the album. Then small pieces of blotting paper cut the same size as the piece of stamp edging were soaked in water and laid on the backs of the stamps. After a short time, the edging became moist and peeled off, and the minimum amount of gum only was removed from those stamps which should have been mint. The used specimens were more quickly dealt with by placing them face upwards on damp blotting paper placed at the bottom of an old photographic dish. This is an excellent receptacle for the job, as everything keeps nice and flat.

Now for those who have put their stamps away for the summer. What have you missed? The 100th anniversary of the 1st Barbados adhesive stamp. This was celebrated by four values all of the same design as that illustrated, the other values being the 4c., 12c., 24c. South Africa has had five stamps to commemorate the centenary of the

(Continued on page 92)

Boiler Test

IN one of their latest hand-outs, the Railway Executive informs us that British Railways are to experiment with a type of locomotive boiler which has been tried successfully on the Continent and is claimed by its Italian inventor to achieve considerable fuel economy.

The Franco-Crosti boiler, as it is called, is to be fitted to ten Class 9, 2-10-0 heavy freight locomotives of a new standard design, which are to be built under the 1953 locomotive building programme. The design is such that the engines can be fitted with either these or the orthodox type of locomotive boiler with only slight modification.

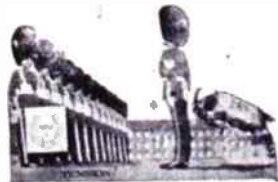
Also from British Railways comes news of an order for two of the biggest wagons ever designed for use in this country. They will carry the heavy electrical equipment needed in connection with the extension of the electrical industry.

Each wagon will have twenty-four wheels, will be 92ft. in length and capable of carrying a concentrated load of up to 135 tons. Traversing mechanism will be provided to enable such loads as electrical transformers of exceptional size and weight to be moved to either side of the wagon to pass fixed structures such as bridges, centre girders of bridges, signal posts, etc.

The wagons are being built by Messrs. Head Wrightson & Co. Ltd., of Thornaby-on-Tees, and are expected to be in service by the late autumn.

Calendar Pictures

ABOUT this time of year, I get quite a number of letters from older readers asking if *Hobbies* can still



One of the most popular of the calendar pictures



supply the amusing calendar pictures so popular before the war. The answer is that we can. Any one of *Hobbies* branches can supply quite a selection at from 2d. to 9d. each. They are not obtainable from the Dereham office.

The beauty of these pictures is, of course, that seasonable gifts can be made from them quickly and cheaply. All one has to do is paste the picture on to a piece of plywood or fretwood, cut round the outline, fix a wedge piece behind for standing, and paste an



The doll's house made by Bembridge children

ordinary small calendar pad in position. Quite a number can be made in an evening, and they have solved many a fretworker's Christmas gift problem.

Doll's House Project

THE photograph of the doll's house reproduced here must look to many readers much the same as others they have seen on earlier occasions. It is,

course, Hobbies Design No. 244 Special for an eight-roomed Georgian doll's house.

What is remarkable about the model is that it was not made by a proud father for his small daughter, nor by a fond uncle for his niece. No, it was built by children of the Bembridge C.E. School in the Isle of Wight, and their ages ranged from 10 to 13 years. Further, the complete doll's house, with all its fittings, has been handed to the infants' school for their enjoyment.

What a happy thought on the part of the master and the children concerned. The master tells us, incidentally, that the children, having completed the house, turned their attention to building the 1952 Handbook design for the galleon 'Royal Prince'.

Friendly Thought

THERE is no need to remind most of you what day this is, but I thought I would just like to say—don't do anything rash. Treat your fireworks with the respect they deserve—and have a good time.

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Cabinet. 5ins.	2/9
Screwdrivers. 6ins.	3/3

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stamp showing the general situation of the islands in the West Indies, and then others showing the detailed maps would have been better. Still, one can go to the trouble of looking on a map to find out the general whereabouts of the islands before looking at the stamps.

Lastly notice the two 6½d. stamps of Australia. They are a new green colour, due to the similarity between the old 6½d. and 3½d. See that you get them both, and also both colours of the 3d. stamp. (L.P.V.V.)



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Stamp Collector's Corner

(Continued from page 91)

landing of Jan van Riebeck. These were, of course, overprinted for South West Africa with the letters S.W.A. Belgium has produced some very fine stamps, and she has just given us a beautiful specimen to commemorate the 25th anniversary of Cardinal van Roey. The highest value, the 8fr., plus 4fr., shows a consecration scene; the premium goes towards the National Basilica.

Hungary has issued one of the most pleasing flower sets produced for some time, cornflowers, lilies of the valley, tulips, poppies and cowslips all appearing. The Virgin Islands have a set of 12 stamps, and four of them show maps of various islands. The comment on these is that few people know correctly where the Virgin Islands lie—and these stamps do not tell them. One

AMERICA'S famous hobby magazines. One year's supply Popular Mechanics, 32/-; Popular Science, 28/6; Homecrafts, 16/6; Popular Homecraft, 18/6. Free booklet listing all others sent on request.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

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TOYMAKERS' supplies. Wooden, pressed metal, plastic and metal disc wheels. Doll's house windows, doors, papers. Illustrated catalogue, 3d. (Trade supplied).—Jasons, 135 Nags Head Road, Enfield, Middlesex.

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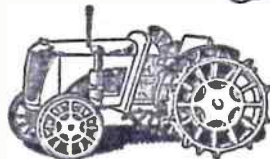
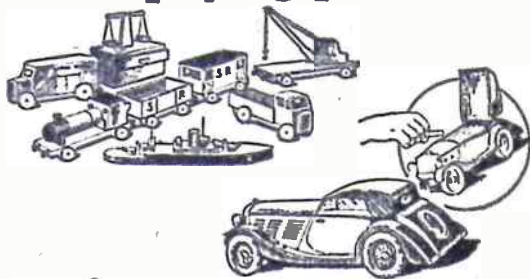
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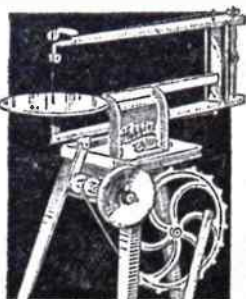
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