

TIM YEAR OF

IN THIS ISSUE

	Page
Toy Dockside Crane	129
The Art of Stencilling	131
A Useful Folding Chair	132
Cigarette Box and Photo Frame -	133
Electric Lamp Wall Bracket	134
A Bedroom Valet	135
Successful Picture Making	136
Building a Duration Model for a	
'Jetex' 100	138
A Beautiful Model Wins a Hobbies	
Trephy	140
Replies of Interest	140
A Map Distance Measurer	141
Patterns for a 'Jotex' 100	143

NUMBER 2952

It runs along; it swlvels—and it really lifts things! Hours of fun for the children. natura de la companio

Fig. 1

THERE are few working toys that give more fun and interest than a crane which will really lift things, swivel round to any position, and travel along. Such a toy is described here, and shown in our illustration

Any close-grain wood can be used in its construction, the main parts being How to Begin

Commence work by making the lower part of the crane. This has the wheels attached for moving about. Study Fig. 2 carefully, noting the various parts and the manner of jointing them together. It will be seen that the cabin, with crane arm attached,

Make your youngster this

DOCKSIDE CRANE

in. thick, while in. and in. stuff is used for the smaller and less important parts, and where strength is not so much needed. Included in this article is a cutting list, and it will be a simple job for the worker to follow the letters in the diagrams and those in the list to get the appropriate thickness as well as actual sizes.

The side view of the crane, Fig. 2, will be useful during construction. All the pieces can be cut out with the fretsaw, after setting them out on the necessary wood.

swivels round a central post which stands above the top (B) of the lower body. A disc of hin. wood (D) is inserted between the top (B) and the floor of the cabin (F) to ensure the smooth working of the cabin.

In the cabin itself is a winding drum formed from \$\frac{1}{2}\text{in. rod. The drum carries on one side a crank and handle (M) for winding, and on the other, a ratchet wheel (K) into the cogs of which fit a pawl (L). The function of the latter, of course, is to hold the drum stationary at any desired position during the winding up of a load.

Continuing the construction of the lower part of the crane, make two sides (A) to the outline given in Fig. 3. Drill holes for the wheels 2in. in from the pointed corners and ain. up from the lower edges. The top (B) is cut square and glued on, a few fret pins being driven in to strengthen the joint.

At a distance of 21ins. up inside, glue and pin piece (C), shown by the dotted lines in Figs. 2 and 3. In the centre of piece (C) cut a ‡in. hole to take the lower end of the spindle (T), which must be glued firmly. A similar hole must be made in the centre of the top piece (B). The spindle is 3ins. long.

The Cabin

The cabin is made of the pieces (E), (F), (G), (H) and (I), and the detached

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THE MAGAZINE FOR MODELLERS HANDYMEN AND HOME RAFTSMEN

PAGE 139



smaller diagram in Fig. 2 shows the position of all the parts, except piece (I), which is the roof. This is simply glued and pinned to the sides (E) and to the front (G). Care should be taken to get the 1in. hole in piece (H) exactly central, with the hole below in the floor piece. The hole in (H) must be a full Lin. diameter so as to work loosely round the top of the spindle.

A Good Plan

It would be a good plan to get the two holes accurately one above the other, to finish the cabin entirely, with the exception of piece (H), and then to set it over the spindle, afterwards inserting piece (H) and noting the exact fixing position on the sides (E).

Full/measurements for drawing out pieces (E) and (G) are given in Fig. 3. Note that the lower end of the crane arm penetrates the lower front of the cabin as seen by the dotted lines in Fig. 2, side view. The Jin. square aperture shown in the outline detail of the front will receive the end of the crane arm, and the oblong opening over this will allow the cord (Q), which runs over the pulley at the jib, to follow through and be tied to the spindle inside the cabin.

Outlines of the parts (K), (L) and (M) are given in Fig. 3 with all necessary measurements. A short piece of lin. rod glued into the crank will make a suitable handle, and a short piece of rod can also be glued to the pawl so that it can be readily lifted during winding operations.



In Fig. 4 the various parts are shown as they will be when in the cabin.

The crane arm consists of two pieces (N) and two pieces (O). The latter pieces must be cut with good square edges so that they glue securely to the inside surfaces of the pieces (N). There will be a slight taper in the crane arms (N) from in, wide at the lower end to Tin. at the jib or pulley end. Holes are drilled at both ends of the arm-at the foot to take a length of wire which runs through to the sides of the cabin.



and at the jib end to take a short piece of wire to hold the pulley.

Fig. 2

This pulley (R) is cut in. diameter from in. wood and the groove is formed either with a rat-tail file or a triangular file run deeply into the wood so that a sound grip of the cord is obtained. The crane arm is supported at the jib by two wires about 41ins. long looped at the ends for round-head SCIEWS.

Suitable Hook

A suitable hook for lifting the load can be filed out of stout brass and drilled to take the end of the cord.

The toy should be painted up in bright colours after the woodwork has been thoroughly rubbed up with glasspaper.

The four lin. diameter wheels are cut from 1 in. wood and put on with in. round-head screws.

THE ART OF STENCILLING

(Continued from page 131)

scratched in with the stencil knife after given, and could be adapted for stencil the colouring.

Animal Series

At this point attention might be drawn to the series of animal designs brought out by Hobbies some time ago in wallet - form. A whole 'alphabet' of animals is

In Fig. 5, the ibex is shown just as taken from one of the wallet sheets, and in Fig. 6 the same animal is shown carried out as a stencil, Here again the main outline is carried out in a series of curved lines with the heavier parts

almost copied from the original by broad black patches of cut-out areas.

Delightful Toys

Delightful toys could be made from these animals by just stencilling them on to the wood in appropriate shades. cutting them round with the fretsaw, and adding bases so that they stand realis-

Cuttings from various magazines can also be adapted.

Part 3

unattractive.

E ART OF STENCILLING

N this, our third talk on stencilling, we are enlarging on the last article, when a two-colour stencil was mentioned, and touching on threecolour stencils.

Our example, Fig. 1, shows a repeat design for three colours. Unfortunately, the blending of the colours can only be explained by the direction of the hatching between the lines and the solid black mass. Such a design as this could well be used as a frieze or dado for a room, but it should not be made too







Fig. 1

the exact position of all the parts will be deep or it would look coarse and readily gauged by following the register of the flower and the border portion. Each unit of the design is made up by the flower, the stem and the four leaves, Intricate designs in any number of and each will, therefore, have its own colours can be done this way, the more

outlined panels on the left of the finished

design.

The whole design having been drawn in, an outline tracing of each distinct part is first made on tracing paper and then transferred to the oil paper forming the stencil plate. The first plate will,

particular stencil plate, as seen by the

lower straight line border. For the second plate, that containing the leaves, trace in these leaves but add also, in outline (not to be cut, of course), the tip of the flower and the middle portion only of the border as shown. Likewise, for the third plate, trace the stem, and again the tip of the flower, etc.

Then, when each plate has been cut.

therefore, consist of the flower and the exercised in deciding and placing the register lines, etc.

We now pass on to some interesting animal stencils. In these it will be necessary for the worker to watch out for the 'ties', but once he has mastered the placing of these, all sorts of illustrations can be undertaken, and most effective stencils made.

In Fig. 2 plenty of light and shade is

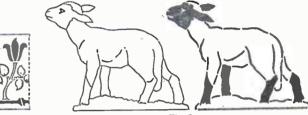


Fig. 2

obtained by emphasizing the black legs and head of the sheep. Keep the 'ties' wide enough to afford strength to hold the body portion well together, and note that the lines denoting the body, etc., all commence and end with a point.
Cutting is made easy by this method. colours used the greater the care to be

Note in the next illustration, that of the penguin in Fig. 3, how the whole is made by ten simple cuts, and that the breast of the bird can be followed, although no line is there to trace its



131

130

Useful Folding Chair

HE chair illustrated in Fig. 1 will be found equally suitable for either garden or beach. The idea is based upon the well-known folding camp stool, the addition of a pivoted back making a useful chair within portable limits. The construction is straightforward.

Briefly, the construction consists of making up three frames. Those shown as (A) and (B) are alike, except in size. Plans of each frame are given in Fig. 2, and the inset detail in frame (B) shows the joint adopted for connecting the The frame (C) shown complete in Fig. 3 is simple to make. It consists of two uprights, each 21ins. long, connected at the top by a plain cross rail recessed into the uprights, as in the enlarged detail in Fig. 4. The rail should be screwed with countersunk brass screws. In addition to this top rail the frame may be stiffened by gluing a fin. rod across the centre as seen in Fig. 3, the holes to receive the ends of the rod being carefully plotted and bored.

The method of pivoting this frame is exactly the same as with the seat frames.

132

that is, with copper The back frame should work fairly stiffly, so that it holds its position when erected. If desired, instead of the rivets mentioned in this case, a pair of short in. diameter bolts can be used with washers inserted on the insides and outsides of the rails. Then, having erected the back, the small wing nuts supplied with the bolts can be tightened to hold the back fast.

rivets and washers. FRAME "B Fig. 2

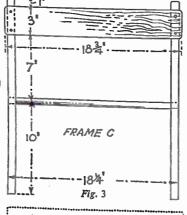
outside rails to the seat rails. These joints can be cut first, and the procedure is to prepare mortises in the seat rails and then tenons to correspond on the other rails.

Carefully make a saw cut in the ends of the tenons so that when the joints are glued up, wedges can be driven in and the wood of the tenon thus expanded so that a sound and strong joint results. Note that the wedges are placed across the grain of the seat rails. This is important, because if they are inserted to follow the grain, splitting is likely to

When the joints have been made and the glue has thoroughly hardened (if possible, use waterproof glue), use the spokeshave to round off the ends of the rails, etc., and glasspaper to make a good smooth finish. To complete the frames, screw on the pair of narrow rails to each, in the manner shown in Fig. 2. Copper rivets \$\frac{1}{2}\text{in. in diameter should be used for pivoting them together. The heads of these should be burred over washers inserted previously. Do not forget to place a washer in the in. clearance space allowed between the frames each side.

Fig. 1

Instead of using rivets for hinging the two main frames together, a cross rod may be adopted. A hard wood such as beech is desirable for the chair, and stout canvas should be chosen for the seating. This is put on over the two seat rails and nailed closely with largeheaded tacks as shown in Fig. 4. (408)



CUITING LIST OF WOOD Frame (A). 2 Rails—24ins. long by 11ins. by \$in.

1 Rail—161ins. long by 11ins. by lin. 2 Rails—14fins. long by lin. Frame (B). 2 Rails—24ins. long by 11ins. by fin. 1 Rail—19 ins. long by 1 ins. by lin.
2 Rails—16tins. long by lin. Frame (C). 2 Rails—21ins. long by 1in. by \$in.
1 Rail—18}ins. long by 3ins. Two pieces Round Rod-lin, diameter, (allowance made for cleaning off at eads)



BACK FRAME CANVAS FRAME FRAME A CROSS ROD WOULD BE SUITABLE

How to make a combination. CIGARETTE BOX AND PHOTO FRAME

E give our readers and workers

this week another novelty to make up. It is a useful size cigarette box and a modern type postcard frame, all on one base,

making a combined and attractive

article for sideboard or occasional

Wood Lin. thick is suggested for all

the parts, except, perhaps, the box,

which can be of in. stuff, but there is no

reason why in. wood should not be used throughout if the worker has a

number of pieces by him which require

using up. A little adjustment will, of

course, have to be made with the

mortises, etc., if in. wood is decided

The illustration, Fig. 1, shows the article completed and ready for the

glass and photograph or picture to be slid down between the two upright

supports. In the scheme shown here, one glass only has been provided for, but many of these 'skeleton' frames are

now combining two glasses to be placed

well for mahogany and similar woods. If a soft wood is used, then ordinary oil

paint in well-chosen art shades is most

The base will be the first piece to cut, and the outline, with full measurements

for draughting out on to the wood, are given in Fig. 2. Set squares should be used if available to get all the angles

perfect. Set out the two mortises care-

fully, these will measure 2in. long by a

width equal to the thickness of the wood

together with the

picture between

them, making for

The finish of the

article will depend

largely on the kind

of wood used. A

rubbed oil finish

would look well for

most hard woods.

while a good fluid

polish would answer

used for the uprights.

appropriate.

added strength.

table.

At the front proiection of the base. at (B) in Fig. 2, will be seen a chamfered surface 11ins. long with square 'stopped' ends. The chamfer is cut at

45 degrees, and it will take the glued point of the shield, which may bear a crest, town or city arms, or a lettered monogram.

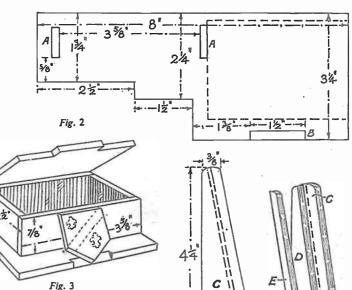
The Uprights

Each upright consists of the three pieces (C), (D) and (E) in Fig. 4. Piece (C) is the larger and should be cut first to the measurements given. This outline should be drawn on tracing paper and with the two upright dotted lines Fig. 4. This diagram shows how the three sections will ultimately be glued together, the slot for the glass and picture being formed by the gap between pieces (D) and (E). If there are to be two glasses, the straight front edge of piece (D) must be cut away about hin. or so to make the groove wider.

Clean up the straight edges of the uprights after the glue has hardened, and round off the top neatly. Test the mortises and tenons for fit, filing away the wood where necessary, and make a good strong joint.

When gluing the uprights into the mortises, be sure to get them absolutely perpendicular. This can be checked with a set square or a metal try-square. Also see that the uprights are the same

(Continued on page 134)



included, together with the outline of the tenon at the foot. When this is done, lay the tracing on the wood and draw over the lines, carbon paper having been inserted between wood and paper.

Now remove this piece of wood, and proceed to draw the outlines of pieces (D) and (E), according to the widths and shapes in the right hand diagram in

Instructions for making an ELECTRIC LAMP WALL BRACKET

LECTRIC light wall brackets can do much to enhance the appearance of a room, and provided the worker has the necessary electrical points near at hand or is capable of fixing them, he might well like to undertake making one or more of the brackets illustrated. They are expensive to buy, but can be made quite cheaply by the average home craftsman.

Commence work by tracing the patterns on to the required wood in the usual way. Then cut out the back plate and front overlay, and glue them to-gether as indicated by the dotted lines on the design sheet. Take care not to cut the mortise in the front overlay too large.

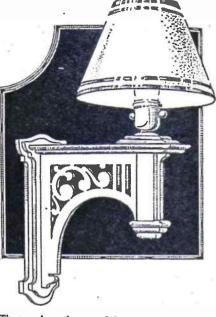
Now cut the main bracket, paying particular attention to the cutting of the fretted design, then glue and screw to the front overlay. The tenon (B) should be a firm fit in its mortise on the overlay.

Next deal with the lower capping piece, again making sure not to cut the tenon too big. Shape the front and sides to the section shown before gluing into place on top of the main bracket. Above this fits the upper capping piece, and this should be cut and shaped as before

and glued into place.

The pieces (D) are now cut and glued to the bracket in the positions indicated, before proceeding with the decorative piece made up of the parts (A), (B), and (C). These are cut and shaped to the section shown, and then glued in position at the bottom front of the

This brocket is made from Design No. 2952, given free in this issue. Material for moking the bracket can be obtained from Hobbies branches, or direct from Hobbies Ltd., Dereham, Norfolk, price 6/1, including tax and post free.



lamp socket are made next. They comprise pieces (E) and (F) on the design sheet, and should be cut and shaped up as shown before being glued to the upper capping piece.

Holder and Flux

This completes the woodwork of the bracket, and it remains to fit a lamp holder and length of flex. Suitable holders complete with threaded base can be purchased at any electrical stores, together with the required length of flex. This length should be sufficient to reach from the bracket to the nearest electrical point.

The flex is brought through the back The pieces forming the fixing for the of the bracket where shown, and runs

along the top of the capping to the hole near the base of the housing of the lamp holder. It is then taken down through the slot and up again through the housing. Here the ends are bared and fixed to the sockets of the lamp holder in the usual way.

This done, the holder can be screwed into the housing, and any excess of flex drawn back out of the slot. The bracket is then fixed to the wall where required, and a suitable shade fitted.

Those who wish to make the bracket but feel uncertain about wiring it to the house mains, would be advised to ask the help of a qualified electrician. Once the bracket is made, he would fix it quickly and easily for a shilling or two.

CIGARETTE BOX & PHOTO FRAME

(Continued from page 133)

distance apart all the way up, so that the glass or glasses will slide in evenly and smoothly.

The Box

While the glue of these uprights is hardening, work upon the cigarette box can be started. The box itself will consist of a hollow frame of two sides and two ends of lin. thick wood, simply glued together and glued to the base immediately alongside the upright of the picture frame. The dotted lines in Fig. 2 show the position of the box on the base. The sides of the box measure 34ins. long by 4in. wide, and the ends 2ins. by 4in. Glue the four parts together; making sure that they are

Place the frame in its proper place on the base after coating its lower edges with glue. When the glue has set, run one or two screws up through the base into the frame for added strength.

Making the Lid

Now make the lid of the box. This should be marked out to the exact outline of the box, except along the front, where an in. projection is allowed to facilitate the lifting of the lid (see Fig. 3). A pair of lin. brass hinges are fitted to the back edge of the lid, the lower flaps of the hinges being scrowed

direct to the back of the box. By fixing the hinges in this manner, the tedious job of recessing the flaps of the hinges is

The Shield

The shield to adorn the front of the box is made from in. or in. wood to the measurements given in the circled detail in Fig. 3. Cut it round with a fine grade saw and clean up the edges neatly before fixing. A small triangle of wood cut carefully to shape and inserted between the front of the box and the back of the shield will make a secure fixing if just a touch of glue is placed behind the point of the shield to hold it firmly to the chamfered wood at the front of the base.

Keep your clothes tidy with

BEDROOM VALET

for the trouser peg (C) to swing in.
Rail (A) is cut from a strip of the wood, 3ins. wide, and to length given, plus fin. for the tenon, the latter being lin. long to suit the mortise cut in the post for its reception. The rail is then tapered to lin. at the front, and its upper edge slightly rounded off. It is glued to the post, and to strengthen the joint a screw is driven in it, through the post, both above and below the tenon. Some little strain is exerted here, when the peg is pressed down over the trousers to hold them.

The coat hanger (B) is 3ins. wide, and cut to the length given in the drawing. Its upper edge is also neatly rounded off a little, not too much, and where it contacts the post, at 9ins. from the top,

Y the aid of this useful piece of bedroom furniture, one's clothes

time, instead of being thrown over a chair or the rail of the bedstead, as is

often the case. The attached hanger is

for holding coat and waistcoat, free

from creases, and the rail for the trousers. A handy attachment to the latter is a peg which fastens over the trouser rail, and so enables the trousers

to hang their full length, instead of half over, with the possibility of articles in

the pockets, money, keys and so on rolling out on to the floor. As it can be

in deal, and requires only a 3ft. 6in.

length of board to make, the whole

Wood Jin. thick is suggested for the job, as this is the usual thickness of

planed lin. thick wood, of the commoner

varieties, but other thicknesses, within

reason, could be substituted. A side

view is given in Fig. 1, and a front view in Fig. 2. The base portion or stand

consists of two pieces of wood 3ins.

wide, joined together, as in the inset

sketch, at right angles to each other. Note the cross piece of these two is fitted at 6ins. from the rear, not at the

centre. Saw off the upper corners, and

the board, 21ins, wide, and is slotted, as

shown, to fit over the stand where the

two parts are jointed together. At a distance down from the top of the post

of 4ins, cut out a mortise lin, long and

fin. wide, to receive the trouser rail (A)

and directly above this a slot 2ins, deep,

The upright post is cut from a strip of

article is inexpensive to construct.

Sultable Wood

glue both together.

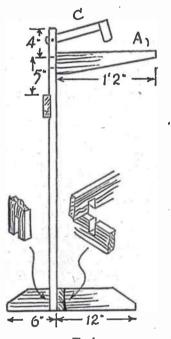
can be neatly arranged at bed-

fitted as far as the writer is aware, to the commercially made article, but as it allows the trousers to hang almost to the bottom, free from creases, it really is worth adding. It is shown separately in Fig. 3, and consists of a 1in. wide strip of the board, cut to the length given, and has its rear end rounded off and bored to suit a 21in, wire nail. To the fore end two lin. wide strips of fretwood, about in. thick, are screwed, these being tapered on their inside faces, as in detail (D) to press over the trousers on the rail, as a clothes peg does to garments hung out to dry.

Held by Nail

It fits in the slot, cut in the top of the post, and is held there with a wire nail, driven through the post edgeways. A

(Continued on page 137)



a groove 2½ ins. wide and ½ in. deep is sawn and chiselled out. It is fixed in position with glue and screws, the latter being well countersunk. The coat hanger and trouser rail should both be thoroughly giasspapered and rendered smooth all over. The retaining peg can now be made.

It may be mentioned here that the peg is entirely optional, and is not

135

SUCCESSFUL PICTURE MAKING

HAVE purposely included the words 'amateur photographers' in the title of this chapter on photography because it is intended to interest every owner of a camera, irrespective of whether he is just a beginner who only presses the trigger and never does any of his own processing, or whether he is really qualified to consider himself an advanced worker and, therefore, a real 'amateur'.

First Action

Beginner or advanced, we have still to recognise that the first action in the making of a successful picture is that of pressing the trigger. It, therefore, follows that, whether it is simply a record snapshot, or the taking of a charming view—with the idea of turning it into an exhibition picture—it is advantageous to give a few moments' thought to other things before touching the trigger. My many years' experience of amateur photography have taught me that it is this preliminary thought that has made my hobby worth while and resulted in a great deal of pleasure and enjoyment.

This article is not going to be another talk about exposure times, and the necessity for calculating what stop and speed to use, but is intended to give a few hints on that much more important and deeper subject—composition.

Some weeks ago I went to a local exhibition of photographs sent in for a competition, the principal condition being that they should, as far as possible, have a holiday atmosphere. All sorts of holiday snaps were there, but very few pictorial subjects—and these latter were the ones which attracted the attention of the visitors rather than the commonplace happy snaps.

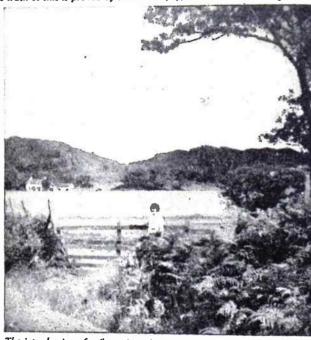
Overhearing a remark made by a member of a small group of adults, calling attention to what she termed was a 'beautiful picture', I, naturally, made my way to the print, and I had to agree on its quality, for it was as near as could be a perfect specimen of good composition. Yet it was an everyday scene of trees, a cottage, a lane and some clouds; four main details and all in harmony, so that the eye took in the whole of the picture and found pleasure in looking at it. There seemed, no doubt, that the author of that entry must have given a few moments' thought before making the exposure. He was well rewarded.

The study of composition in connection with picture making is a branch of the work that engages all artists during a long period of their training. But just how necessary it is if they are to achieve success is evident if we pay a

visit to any picture gallery or display of

It is an old saying that if you can live with a picture for a month without finding any fault with it, then it is a piece of perfect composition. On the other hand, if you find some criticism developing each time you look at it, then take it off your walls and dispose of it. The truth of this is proved by the fact

2in. spaces, and rule straight lines from these points to the top of the paper. Then divide these into three, and rule lines across to run parallel with the base line. You will then have twelve rectangular spaces in three rows of four. Mark, in the bottom corner of each, an identifying letter as follows:—Bottom row, from left to right, (A), (B), (C), (D); second row, left to right, (E) to (H);



The introduction of a figure into this landscape scene tends to direct the eye into the whole of the picture; first to the tree, then round to the cottages, back again to the gate, and finally to the hills and clouds. If the picture is examined a second time there appears to be a complete harmony of detail

that our art galleries are visited over and over again by students and the public.

Instead of trying to describe this difficult subject of composition by a great number of words, I want to put before you a simple experiment which everyone can try. It does not require any particular aptitude for sketching, and anything you can think of as representing the particular detail required will serve the purpose.

Take a piece of paper about 8ins. across by 6ins. deep, and rule a line from left to right about 1½ins. from the bottom edge. Divide this line into four

and top row (J) to (M). Now consider that this is a rough ground plan for a picture and that the first row represents the foreground; the actual second LINE the near middle distance, with the far distance or horizon near the top of the spaces of this row, leaving the spaces (J) to (M) for the clouds and sky generally.

Quite roughly make a sketch of a church in space (F), keep it on the small size, for it is to be a middle distance object. On a separate scrap of paper draw a cottage or farmhouse and place this halfway up space (D), with the roof in (H). Now a path should be drawn on the plan starting at the right hand

bottom corner of (D), proceeding across the centre of (C) to the top right hand corner of (B), and then, with a nice bend past the gate leading into the church, continuing from the bottom R-corner of (E) and out about halfway to the left of (E).

- You now have three of the important items of your landscape, and if you make some pencil sketches of trees of varying sizes, and place the large ones in squares (A) or (C) and medium size in or near the top line of the foreground spaces, you will build up the middle distances. Only the horizon and sky remain to be completed, and this can be done by pencilling in an irregular line just below the spaces (J) to (M), giving some indication of a few scattered trees; and a suggestion of clouds in the spaces above. You may feel that some heavy clouds are wanted in (J/K) or (L/M) to give balance to the ensemble.

When you have completed this rough specimen examine it at arms length and at eye level. Do not attempt to criticise your efforts at drawing, but try to imagine that the result is a photograph put into position by yourself. What do you think of it? Does any one detail or object dominate the whole and detract from other items? Does your eye tend to wander from one detail to another, or is your vision held by the whole, and does the pathway lead you into the picture?

Helpful

If you will be quite fair in your answers to these queries you should find this experiment very helpful, indeed. If one detail is rather overpowering, try putting it in another position or slightly to the left or right. Move each object in turn until you get an assembly that really seems to tighten up and link all the details into a composite whole. When this occurs, then you can be assured that the composition is as near perfect as possible.

Make another two or three tests on your ground plan, putting in other objects which come to your mind. Try seascapes, and even woodland scenes—which would, of course, consist only of trees, paths and bushes. It is a fact that

almost every landscape includes at least three of the following details:—trees, cottages or church, lane, water and clouds.

It must not, however, be thought that unless these details are present it is impossible to obtain pictures. One of our most famous makers of photographic pictures was Horsley Hinton who lived and worked in the early years of this century, and, undoubtedly, inspired thousands of camera owners to use their apparatus especially for the making of pictorial records. Hinton was a master of composition. As an office boy in a firm of wholesale stationers in the City of London he would, in spare moments, greatly interest his colleagues by making a few dashes with a chalk on a sheet of brown paper and then, with a few more applications of the chalk. produce a charming landscape effect. In later years, when he became more fully engaged in photography, he would spend some of his week-ends tramping about the marshlands to be found near London, and produce exquisite pictures of reeds and streams.

When making the test with a ground plan and rough sketches, I purposely suggested that if you were not satisfied with the arrangement of the details you should employ them in different positions until you arrived at a pleasing assembly, or, in other words, better composition. In a similar manner it is always advisable, before making an exposure, to examine the view from other angles by moving a few yards to the right or left, or by stepping back a pace or two from where you were standing when you were first impressed by the view.

There are two styles of composition which beginners especially should recognise and strive to introduce into their work. They are commonly known as the triangular and circular, and if you visit an exhibition, or will study some good reproductions of pictures, you will understand the meaning of these terms and how they link the various details to form one harmonious whole.

Assuming that you have a reproduction in front of you, take a pencil and make a triangle of the outline of

each item—for instance, the tree which comes almost to a point but is quite wide at the base; the church and steeple; the cottage with a pointed roof; even a five barred gate will sometimes have a diagonal crossbar which presents a triangle on its side.

With another specimen, trace the outlines and you will probably find that these seem to form a series of circles; not always regular, but suggesting a roundness of design which keeps the eye centred on the whole group rather than on one object.

Value of Simplicity

Do not get the impression that a good picture must include several items. Simplicity is a valuable theme to work on, especially when starting. But remember these points. When a lane, path or stream occurs in the view, see that you are standing in such a position that it will be shown running out of the picture at the bottom corner. It must not cut across and cut the picture in two parts. By having it at a corner it serves to take the eye into the remainder. Where water appears in the foreground pitch a stone into it just before exposing. The resultant ripples add a charm which is absent in still water and where there are no reflections. If the sky happens to be cloudless, try getting closer to the foreground objects so that they occupy more room, thus reducing the amount of sky, and making the 'baldhead' less pronounced. An alternative is to increase the foreground details if they are sufficiently interesting. A blank sky does not help, and sometimes it is better not to expose but to await a more suitable occasion.

In conclusion, and this piece of advice is a reiteration of what has already been mentioned, make a point of viewing other artists' work and learning as much about composition from their pictures as you possibly can. For without some knowledge of composition, you cannot hope to have your prints accepted by the judges when entering a competition or exhibition. Neither will you be able to live with them as pictures on the

walls at home.

A BEDROOM VALET

(Continued from page 135)

tightish fit is an advantage here. Be careful to bore preliminary holes through the post for the nail, or you may split the wood. However, if you do happen to split it, a screw driven through the post, above the nail, will remedy the matter.

Now fix the post to its stand with glue and screws, and make a strong joint of it. The upper corners of the post should, for neatness, be rounded off a little. Now well glasspaper the whole article; and punch any nails down and fill the holes with stopping. Apply a coat of oak or walnut stain, then a coat of size, and finish off with clear varnish, or if a less troublesome job is desired, a coat of combined stain and varnish. In the latter case, however, as the wood is absorbent, a second coat may be necessary, and the first coat should be rubbed down with a piece of worn glasspaper beforehand. (400)

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13

World Radio History

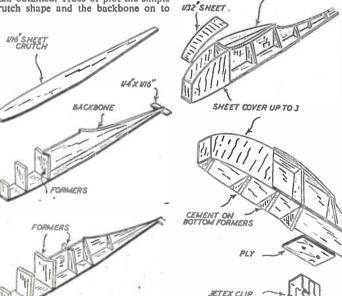
Building a Duration Model for a 'Jetex' 100

PECIAL features of this model include a polyhedral wing for maximum stability, a 'geodetic' tailplane, which is strongly warpresistant, and simplified sheet-crutch construction for the fuselage. It should be capable of long flights when properly trimmed and it is suggested that a suitable dethermaliser be attached to prevent the model being lost out of sight.

Common Failing

A common failing of many 'Jetex' models is that they tend to become unstable towards the end of the power flight. This is because the effect of the motor thrust becomes greater as the model speeds up and any inherent instability quickly shows up. The use of a generous dihedral angle and well proportioned sides area eliminates this

The fuselage is built directly on top of a sheet crutch cut from hin. thick balsa. The plan is reproduced one-third full size and the necessary components should first be scaled up, or a full size plan obtained. Trace or plot the simple crutch shape and the backbone on to



These drawings will help in construction

formers from in sheet and cement in their appropriate places, taking care that they are erected vertical and that the backbone is true and square with the crutch. The detail sketches show this stage quite clearly.

sheet and cut out. Then cut all the main

Scale plans for this model are on page 143. A full-size plan can be obtained from the Editor price 2/6 post free. See also page 139.

The kin. sheet wing mount and nose sheeting can now be added, all this sheeting being 3 in. thick. Choose stiff sheet for this job and trim to shape accurately. The sheeting extends backwards from former 1 to former 3. The wing mount, which is cut in two pieces

WING MOUNT

from kin. sheet, cements on top of the backbone and is located at the correct dihedral angle by the intervening formers.

The assembly can then be turned over and the bottom formers cemented in place. There are only four of these, forming a sort of 'pod' fuselage forebody. Hard sin. sheeting completes the basic fuselage assembly.

The Jetex clip is screwed to a small rectangle of 16 in. plywood which, in turn, is cemented to the bottom of the fuselage crutch immediately behind former 3b. A strip of asbestos paper for heat insulation can be mounted between the metal clip and the ply, if desired. The whole fuselage can then be cleaned up prior to covering. Note the small cross piece of in. by in. wood at the extreme rear which forms a saddle to hold the tailplane square. The tailplane, when in position, is simply strapped to the underside of the fuselage by a rubber band from the fixing dowel to the pin at the rear. The whole of the fuselage should be tissue covered, water sprayed and then given two or three coats of model dope.

The Fin

The fin is made as a separate unit and cemented to the fuselage before being covered and doped. One coat of dope, only, is required. The fin outline is formed from Lin. by Lin. strips with internal members of Lin. square. A small fillet cut from Lin. sheet fairs the fin into the top line of the fuselage. Take care that the fin is erected truly vertical with the fuselage and in line, fore and aft.

Wing construction should present no special difficulties if you have built model aeroplanes before. Leading and trailing edge members and the mainspar are simply pinned down flat on the plan, the tips added and then the individual ribs cemented in place. Make

a ply template of the rib shape and use this as a guide to cut all the ribs required. For cutting the ribs for the tapered outer panels, mark the length of rib required on sheet and then use the template to give the upper curvature, as shown in the constructional sketches. This method is quick and quite accurate.

When the wing assembly has set, notch the spars at the dihedral points and then set the whole wing up to the polyhedral dimensions given on the plan. Reinforce all the dihedral joints with small pieces of celluloid cemented behind the spars. Celluloid only $\frac{1}{32}$ in. thick has amazing strength and is ideal for this job. Small gussets of scrap wood can also be cemented in place, as shown.

The wing is covered on both upper and lower surfaces with lightweight model aeroplane tissue, water-sprayed and doped. One coat of dope, or two very thin coats, will be sufficient. Coloured dopes will be too heavy.

Tailplane

The tailplane looks a little more complicated, but is actually quite easy to build. Pin out the outline spars and then cement in all the full diagonal lengths of Lin. square. The remaining hin. square members are then simply cut to length and cemented in one by one. When set, this structure should be quite rigid. Cover on one side only with lightweight tissue, drawing as tight as possible. The covering may be further tautened by steaming, or lightly waterspraying, pinning the tail down flat whilst drying out again. Do not dope this component, otherwise it will warp upwards into a curve.

Very little trimming should be required to get satisfactory flights. The

CELLULOIO GUSSET אונו צאונב LEADING EDGE More helpful drawings the wing in preference to tailplane glide tests rather than adding

weight to achieve a particular centre of

gravity position. Choose a calm day and hand launch your model, with empty Jetex 100 motor inserted in the clip, and note whether the glide is over- or underelevated. If the model is tending to dive, pack down the leading edge of the tailplane. If the model stalls, pack down the trailing edge of the tailplane. balance point may vary from model to wif the glide is fair, but fast and on the model and the best plan is to trim out steep side, pack up the leading edge of

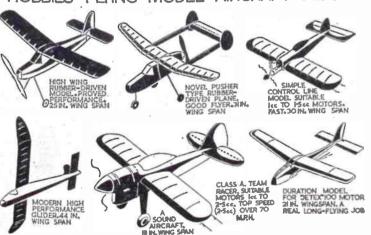
adjustment.

Further adjustments should not be necessary, except to pack the Jetex motor itself up or down, as necessary, to give the best possible climb. Slewing the Jetex to one side or the other will have little effect on turn. The fin is a very much more effective control over turning, but avoid excessive turn under power. The safest, and usually the fastest, climb is generally obtained with a straight flight, followed by a wide circle on the glide.

'Drag' Parachute A simple drag parachute dethermalised can be used, the parachute itself being a square of tissue (about 6in. sides), which is simply strapped to the side of the fuselage when folded and released by a fuse burning through a rubber band. Alternatively, a tipping tail can be used, releasing the leading edge of the tailplane and arranging the retaining bands so that the tailplane tilts downwards at about 45 degrees. The trailing edge of the tailplane, in other words, pivots about the lin. by Lin. saddle strip and a retaining thread attached to the front of the tailplane prevents the tail from flying right off.

Full-size plans for any of these models are obtainable, price 2/6 EACH from The Editor, Hobbies Weekly, Dereham, Norfolk. Back issues containing instructions, 5d. each.

HOBBIES FLYING MODEL AIRCRAFT PLANS

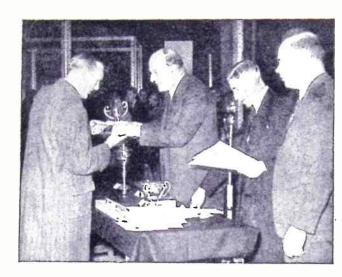


A Beautiful Model Wins a Hobbies Trophy



THIS photograph of a model of the 'Ark Royal' was taken at the Northern Models Exhibition, held at Manchester at the end of March. We should have liked to have reproduced it many times larger, so that the reader could see for himself what a really excellent job it is, but space, unfortunately, is limited.

However, it is sufficient evidence of the excellence of the model that it won first place in the section for old-time ships made from Hobbles kits, and the modeller, Mr. J. V. Allen, of Manchester, is now the proud holder of the 'Hobbles' Trophy. He will also receive a replica as a souvenir of his success.



In the larger picture, Mr. Allen is seen receiving the trophy from Lord Brabazon, who attended to present the awards.

The 'Ark Royal' is one of Hobbies

larger kits, the finished model measuring 22ins. long. The ship itself was, of course, the flagship of the English Fleet which destroyed the Spanish Armada in July, 1588.



Electric Shaver Query

I HAVE been repairing my electric shaver by putting a new coil into it which I wound myself. I did not count the turns, I made the former the same size as the one that was in the shaver and filled it with No. 40 gauge wire. When switched on, the shaver becomes very hot. The only thing I can think of is that I have put too many turns on the coil. (L.D.—Blyth).

OVERHEATING of the shaver could arise from shorted turns in the winding (most likely if enamelled wire was used), the use of wire of too stout gauge, or the use of insufficient turns. To keep size down such motors are usually made to close limits. In re-winding, you should employ the same

number of turns, using the same type of wire as originally. If the number of turns is not known, fill the space exactly as originally with wire of the original gauge.

Painting Candles .

I HAVE tried to paint flowers and apply adhesive transfers to ordinary wax candles but without success. Could you tell me how I can treat candles to do this? (G.H.—Glassow).

this? (G.H.—Glasgow).

PROBABLY a satisfactory result could be obtained by using a colouring material, such as aniline dye, mixed with linseed oil, a trace of litharge and a proportion of candle wax, melted under gentle heat and applied while sufficiently warm to flow under a

brush and locally melt the candle and cause permanent adhesion.

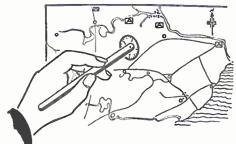
Repairing Ornaments

INDLY tell me the best way to Arepair ornaments which I believe are made of gun-metal. (C.F.R.—Wallington).

To is possible that Rawlplug heatless solder may make a fairly good repair; it would at least be worth a trial. These ornaments are usually of cast iron, bronzed, and cannot be soldered in the usual way. They could be welded or brazed but such treatment would necessitate re-bronzing. If the above does not prove satisfactory, we suggest the following brazing operation. Prepare a flux of 4ozs. boracic acid, chlorate of potash loz., carbonate of iron loz., or slightly less. Mix together and pound well. The parts to be brazed should be carefully cleaned by scraping, and heated to bright red. Then apply the flux and heat until the flux runs evenly, then allow to cool. If this destroys the bronzing you could apply a coat of bronze paint all over.

FOR THE OUTDOOR MAN

A MAP DISTANCE MEASURER



TOW is the time to be getting those maps out and planning the cycle rides or hikes in readiness for the holidays. The really keen cyclist or hiker, however, would never put them away for the winter for he does not mind a spot of rain or the cold weather.

When planning an outing it is essential to know the distance to be covered between different places on the route, so that arrangements can be made regarding meals.

It is an easy matter to measure off distances on a map when the roads are straight, but when they twist and turn all over the place, it is much more difficult, and you may easily make a mistake of several miles in your calculations.

With the aid of the little gadget described in this article, any distance can be easily read off with a very fair amount of accuracy. It is simple to make and is an extremely useful piece of apparatus to have by you when studying your maps.

Different Scales

If you have several maps in different scales you will need a measure for each scale, unless one happens to be made twice the size, in which case you just have to double the readings on the measurer, or they may be in other multiples when a simple multiplication or division will give the answer.

tiples when a simple multiplication or division will give the answer.

The gadget consists of a small wooden wheel fixed in a convenient handle, and having the distances marked round the edge or on the side. To use it you place the figure 0 on the wheel over the spot on the map where you wish to start from, and wheel it along the road when the distance covered can be easily read off.

The two most usual scales that maps are made in are the \(\frac{1}{2}\) in. to the mile and the lin. to the mile, and we will assume that it is the latter one which you have.

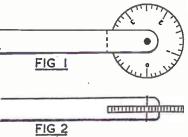
The wheel can be made to make one revolution to measure one mile, but it would have to be rather small, and it is much better to make a larger wheel that will cover, say, five miles for one complete revolution.

To find the diameter of a wheel having a circumference of Sins. you must divide it by 3-14, which gives the result of 1-6in.

Cut a disc of in. thick hardwood having a diameter of 1.6in. and with a piece of glasspaper

round off the edges as shown in Fig. 2. Drill a small hole exactly in the centre and then mark out the edge.

The easiest way of doing this is to first measure out the 5ins. on a strip of



paper, and putting in the quarters, and if wanted to be more accurate, the eighths also. Then lay it round the wheel, prick through with a pin, and afterwards a slight nick can be made at these points with a knife or small three-corner file.

If these nicks are inked or painted in they will be much easier to read, and also they may be continued over the side as shown in Fig. 1. Make the mile lines in red and number them from 0 to 4; the half, quarter and eighth of a mile lines will be shorter in proportion and may be marked in black.

Fitting a Handle

The wheel now needs putting in a handle so that it may be rolled along easily. A piece of ½in. dowel rod about 5ins. long will do very well. Cut a slot just wide enough for the wheel in one end either with a small hacksaw or a fretsaw.

Drill a small hole for the pivot which can be a panel pin, making it a tight fit in the handle but quite easy in the wheel.

Round off both ends of the handle and finish smooth with glasspaper.

This measure may be used on the ½in. to the mile scale, and also on the 2ins. to the mile scale by either halving or doubling the reading. If you are using a ½in. scale map, ½in. on the measure will represent one mile instead of 1in., and the reverse will be the case when working on the larger scale.

Should you wish to make an odd scale measure you can easily work out the size to make the wheel from the formula quoted above—divide the circumference by 3-14 to find the diameter.

(419)



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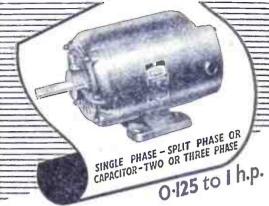
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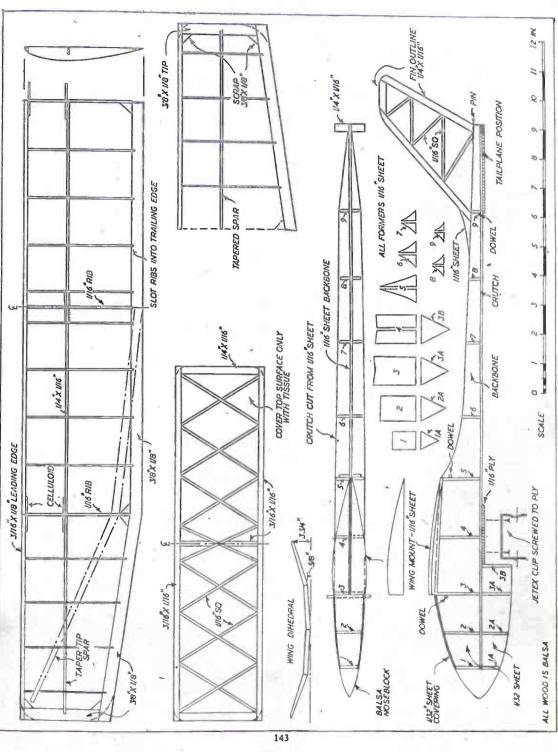
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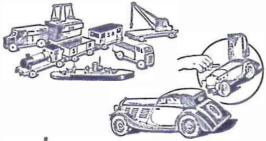
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