

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 Fig. 1.

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

## Malke your youngster this

 TOY DOCKSIDE
## CRANE

## 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 crace arm attached,
tin. thick, while $?_{6}$ in. and $\frac{1}{6}$ 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 uscful during construction. All the pieces can be cut out with the fretsaw, after setting them out on the necessary wood.

路
swivels round a central post which stands above the top (B) of the lower body. A disc of $\dot{d i n}$. 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 tin. rod. The drum carries on one side a crank and handle $(\mathrm{M})$ 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 3 in. in from the pointed corners and $\frac{1}{4} \mathrm{in}$. 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 2 tins. 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 $\frac{1}{1} \mathrm{in}$. 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 spindie is 3 ins. long.

## The Cabin

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

All correspondence should be addressed to The Edilor, Hobble: Weekly, Dereham Norfolk.


Fig. 3

| smaller diagram in Fig 2 shows the position of all the parts, exceept piece (I), which is the roof. This is simply glued and pinned to the sides $(\mathrm{E})$ and to the front (G). Care should be taken to get the tin. hole in piece ( $H$ ) exactly central, with the hole below in the floor piece. The hole in (H) must be a full round the top of the spindle. <br> A Good Pian <br> 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 picee (H), and then to set it over the spindle, aferwards inserting it over the spindle, aferwards inserting piece $(H)$ and noting the exact fixing position on the sides (E). <br> Full'measurements for drawing out pieces ( E ) and ( G ) are givon 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 fin. 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 ( 0 ), which runs over the pulley at the jib, to follow through and be tied to the spindlo inside the cabin. <br> Outlines of the parts (K), (L) and (M) are given in Fig. 3 with all necessary measurements. A short piece of tin. suitable handle, and a short piece of rod can also be glued to the pawl so that it can be readily lined during winding operations. |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



Fig. 4
In Fig. 4 the various parts are shown as they will be when in the cabin. (N) and two pieces ( 0 ). The latte pieces must be cut with good square edges so that they, glue securely to the
inside surfaces of the pieces $(N)$. There inside surfaces of the pieces ( $N$ ). There
will be a slight taper in the crane arms (N) from tin. wide at the lower end to咼in. 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,


A Good Pian
Toles accurately one above the other, to finish. the cabin enfirely, with the it over the spindle, aflerwards inserting piece ( H ) and noung the exact fixing Full measurements for
pieces $(\mathrm{E})$ and $(\mathrm{G})$ are givon in Fig. 3.
Note that the lower end of the crand arm penetrates the lower front of the Fig. 2, side view. The fin. square aperture shown in the outline detail of crane arm, and the oblong opening
over this will allow the cord ( Q ), which runs over the pulley at the jib, to Oulines of cabin. (C). (L) and (M) are given in Fig. 3 with all necessary od glued into the crank will orake rod can also be glued to the pawil so that operations.

Fig. 2

## THE ART OF STENCILLING

(Continued from page 131)
cratched in with the stencil knifo aner the colouring
Animal Seriea
At this point attention might be drawn oo the series of animal designs brought
out by Hobbies some time ago in wallet form. A whole 'alphabet' of animals is
given, and could be adapted for stencil cutting.ing. 5, the fbex is shown just as taken from one of the wallet shects, and in Figs 6 the mame animal is shown carried out as a stencill. Here agnin the curved lines with the beavier parts
amost copied from the original by broad black patches of cut-out areas Delightful Toys
Delightrul toys could be made from o the wood in appropriate shade cutifing them round with the fretsaw, an dicilly bases so that they stand realis Cuttin
atwo be adaptod. various magarines can

T
He chair illustrated in Fig. 1 will be found equally suituble for
either garden or beach. The idea is based upon the well-known folding camp stool, the addition of a pivoted back rakias a useful chair within straightorward. The construction is Briefly, the construction consists of
making up three frames. Those shown 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 and the inset detail in frame (B) shows

outside rails to the seat rails. These joints can be cut first, and the procedure 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
to follow the grain, splitting is liksely to occur.
When the joints have been made and the glue has thoroughly hardened (if possible, use waterproor 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 Fig. 2. Copper rivets tin. in diameter should be used for pivoting them together. The heads of these should bee
burred over washers inserted previously Do not forget to place 2 washer in the tin. clearance space allowed between the frames each spide.

The frame (C) shown complete in Fig. 3 is simple to make. It consists of
two uprights, each 21 ins. long contwo uprights, each 2 lins. long, con-
nected 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 be screwed with countersunk brass
screws. In addition to this top rail the frame may be stiffened by gluing a sin. 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 The method of pivoting this frame is
exactly the same as with the seat frames,


Instead of using rivets for hinging the wo main frames together, a cross ro 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 eat rails and nailed closely with large meaded tacks as shown in Fig. 4. (408)



T $7_{\text {E give our readers and workers }}^{\mathrm{E}}$ Whis week another novelty to cigarette box and a modern type postcard frame, all on one base, making a combined and attractive table. the parts, except, perhaps, the box which can be of $\ddagger$ in. stuff, but there is no reason why $\ddagger$ in. wood should not be umber of pieces by him which requir using up. A little adjustment will, of course, have to be made with the upon. The illustration, Fig. I, shows the lass and photograph or picture to bo lid down between the two uprigh upports. In the scheme shown here, one glass only has been provided for now combining two glasses to be placed logether with the picture between added strength. The finish of the article will depenc largely on the kind of wood used.
rubbed oil finish would look well for most hard woods while a good fuid well for mahogany and similar woods. If a sof wood is used; then ordinary oil
paint in well-ciosen art shades is mos
ppropriate.
The base will be the first piece to cut, for draughting out on to the wood, are given in Fis. 2 . Set squares should be perfect. Set out the two mortises care fully, these will measure $\frac{3}{3}$ in. long by a width equal to the thickness of the wood used for the uprights.


How to make a combination CIGARETTE BOX AND PHOTO FRAME

At the front projection of the base,
at $(B)$ in $F i g .2, ~ w i l l$ be seen a chamfered surface lyins. 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 monogram.
The Uprights
Each upright consists of the three pieces (C), (D) and (E) in Fig. 4. Piece 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 hree sections will ultimately be glue logether, the slot for the glass and picture being formed by the gap etween pieces (D) and ( $E$ ). If there are of pe two glasses, the straight front edge to in. or so to make the groove wider. Clean up the straight edges of the and round off the glue has harcened mortises and tenons for fit, filing away the wood where necessary, and make a ood strong joint.
When gluing the uprights into the mortises, be sure to get them absolute with a set square or a metal try-squar Also see that the uprights are the same
(Continuied on page 134)


## Instructions for making an ELECTRIC LAMP WALL BRACKET

E
LECTRIC light wall brackets can do much to enhance the appearance the necessary provided the worker thand or is capable of fixing points near might well tike 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 Comme
Commence work by tracing the
patterns on to the required wood in the usual way. Then cut out the back plat and front overiay, and glue them to gether as indicated by the dotted lines on mortise in the front overlay too large. Now cut the main bracket, paying particular attention to the cutting of the the front overiay. The tenon (B) should be a firm fit in its mortise on the overlay. Next deal with the lower capping pioce, again making sure not to cut the 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 The pioces (D) are to the bracket in the positions indicated, before procecding with the decorativo pioce made up of the parts (A), (B), and section shown, and then glued in position at the bottom front of the
The pieces forming the fixing for the

## CIGARETTE BOX \& PHOTO FRAME

## (Continued from page 133)

distance apart all the way up, so that
the gines or glases will side in evenly and gmoothy.

## The Box

While the glue of thess uprights is can be started. The box itself will consist of a holiow frame of two sides imply elued to of tin. thick wood, base immediately alongsside the upright of the picture frame. The dotted lines in Fit. 2 show the position of the box on
the base. The sides of the box measure the base. The sides of the box measure
3 ins. lon by fin. wide, and the cods iins. by fin. Glue the four parts to-

This brocket is mado from Design No. 2952, IVen free in this issue. Moterial for moking the from Hobbles branches, or direct from Hobbles Lid, Deraham, Norfolk, price $6 / 1 /$ Including
and post free.
lamp socket aro made next. They comprise pieces (E) and ( $F$ ) on the
design sheet, and should be cut and haped up as shown before being glued upper capping piece.

## Holder and Mux

This completes the woodwork of the bracket, and it remains to fit a lamp holders complete with threaded base can be purchased at any electrical tores, together with the required length o reach from the bracket to sumicien electrical point. The fex is brought through the back
of the bracket where shown, and runs
gether, making sure that they ano Place the frame in its proper place on the base anter coating its lower edges with glue. When the glue has set, run one or two screws up throuigh the
into the frame for added strength
Making the Lid
Now make the lid of the box. This outline of marked out to the exact front, where an tion. projection is allowed to facilitate the lifting of the lid (seo Fig. 3). A puir of tin brass hinges aro lower faps of the hinges being scrowed

along the top of the capping to the hole aloar the base of the capping to the hole holder. It is then taken down through the slot and up again through the housing. Here the ends are bared and in the usual way.
This done, the holder can be screwed into the housing, and any excess of flex is then fixed out of the slot. The bracket and a suitable shade fitted Those who wish to make the bracket but feel uncertain about wiring it to the the help of a qualified electrician to ask the bracket is made he woun. once quickiy and easily for a shilling or two.
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 Shiold
The shield to adorn the front of the the measurements tin. or thin. wood to detail in Fig. 3. Cut it round with tircted grade saw and clean up the edges neatly before fixing. A small triangle of inserted cut carefully to shape and and the back of the shient of the box secure fixing if just a touch of glue is placed behind the point of the shield to the front of the base.

## FOR AMATEUR PHOTOGRAPHERS <br> SUCCESSFUL PICTURE MAKING

I
HAVE purposely included the words mateur photographers' in the title ceause it is intended to interest every whet of he is just a beginner who only presses the trigger and never docs any of his own processing, or whether he is really qualified to consider himself an dvanced worker and, therefore, a rea
first Action
Beginner or advanced, we have stil to recognise that the first action in the pressing the trigger. It; therefore, follows hat, 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 hings before touching the trigger. My many ycars' experience of amateur photography have taught me that it is my hobby worth while and resulted in a great deal of pleasure and enjoyment. This article is not going to be anothe talk about exposure times, and the speed to use, but is intended to give a ew hints on that much more importan and deeper subject-composition. exhibition of photographs sent in for competition, the principal condition being that they should, as far as possible have a holiday atmosphere. All sorts of pictorial subjects-and these latter wer the ones which attracted the attention of the visitors rather than the common lace happy snaps.
Overhearing a remark made by
member of a small group of aduls, calling attention to what she termed was a "beautiful picture", I, naturally, made
my way to the print, and I had to agree ny way to the print, and I had to agrea be a perfect specimen of good compo sition. Yet it was an everyday scene of trees, a cottage, a lane and some clouds; our main details and all in harmony picture and found pleasure in looking a t. There scemed, no doubt, that the author of that entry must have given few moments thought before makin 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. during a long period of their training achievo success is evident if we pay a
visit to any picture gallery or display of paintings.
It is an old saying that if you can live with a picture for a month withou
finding any fault with it, then it is 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

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




The intruduction of a figure into this landscupe scene sends to direct the eje imo the whule of the picture: first to this tree, then round to the
cottages, bark again to the gate, and finally to the tills and clouds If cottages, bark again 10 the gate, and finally to the hills and clouds. If
the picture is examined a second fime there appears to be a complete harmony of detail
that our ant galleries are visited over and over again by students and the public.
Instea
Instead of trying to describe this
difficult subject of composition great number of words, 1 want to before you a simple experiment which everyone can try. It does not require any parycular aptude for sketching, and senting the particular detail required will serve the purpose
Take a piece of paper about 8 ins.
across by 6 ins. decp, and rule a line across by bins. deep, and rule a line
from leß to right about $1+$ ins. from the bottom edge. Divide this line into four
ottom corner of (D), proceeding acros促 past the gate leading into the church ontinuing from the bottom R-corne of ( E
You now have three of the importan ems of your landscape, and if yo varying sizes, and place the large oncs in squares (A) or (C) and medium size in or near the top line of the foreground spaces, you will build up the middle 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 cavy clouds are wanted in ( $\mathrm{J} / \mathrm{K}$ ) L/M) to give balance to the ensemble. When you have compleled this roug pecimen examine it at arms length and your efforts at drawing but try magine that the result is a photograp put into position by yourself. What do you think of it? Does any one detail o object dominate the whole and detrac 0 wander from one detail to another, o is your vision held by the whole, and does the pathway lead you into the icture?

Helpful
If you will be quite fair in your answers to these queries you should
find this experiment very helpful, indeed. f one detail is rather overpowering, try o the left or right. Move each object in urm until you get an assembly that really seems to tighten up and link all 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 seascapes, and even woodland sceneswhich would, of course, consist only of rees, paths and bushes. It is a fact that
almost every landscape includes at least 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 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 or London he would, in spare moments, greatly interest his colleagues by making a few dashes with a chalk on a shect or brown paper and then, with a 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 London, and produce exquisite pictures of reeds and streams.
When making the test with a ground When making the test with a ground
plan and rough sketches, I purposely 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 assembly, or, in other words, belter 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 you were first impressed by the view.
There are two styles of composition which beginners especially should recog nise and strive to introduce into their
work. They are commonly known as whe 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 and how they link the various
Assuming that you have a reproduction in front of you, take a pencil
and make a triangle of the outine of
ch item-for instance, the tree whic omes almost to a point but is quit
ide at the base; the church and steeple he cottage with a pointed roof; even a ive barred gate will sometimes have a iagonal crossbar which presents With another specimen, trace the outlines and you will probably find that hese seem to form a series of circles; no
lways regular, but su gesting a round always regular, but suggesting a round
ness of design which keeps the eye entred on the whole group rather than on one object.
Value of Simpllity
Do not get the impression that a good picture must include several items. Simplicity is a valuable theme to work
on, cspecially when starting. But re nember these points. When a iane pat or stream occurs in the view, see tha you are standing in such a position that it will be shown running out of the picture at the bottom corner. It mus parts. By having it at a cormer it seives o 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 whic 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 more room, thus reducing the amount of
ky , 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 moro suitable occasion.
In conclusion, and this piece of advice a reiteration of what has already bee mentioned, make a point of viewing about composition from their pictures as you possibly can. For without som nowledge of composition, you cannot the judges when entering a competitio or exhibition. Neither will you be able
o live with them as pictures on tho to live with them as pictures on the
walls at home.

## A BEDROOM VALET

(Conuinued from page 135)
ightish fit is an advantage here. Bo post should, for neatness, be rounded ofl careful to bore preliminary holes a littie. Now well glasspaper the whole through the post for the nail, or you
may split the wood. However, if you do may split the wood. However, if you do happen to split it, a screw driven
through the post, above the nail, will cemedy the matter.
Now fix the post to its stand with
glue and screws, and glue and screws, and make a strong
joint of it. Tho upper corners of tho
article; and punch any nails down and fill the holes with stopping. Apply a
coat of oak or walnut stain, then a coat coat of oak or wainut 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
necessary, and the first coat should lasspaper beforehand.

## Next Week

Full details for making
a Portable Garden
Table and many other
how-to-make articles

## FOR MODEL AIRCRAFT FANS

## Building a Duration Model for

## a 'Jetex' 100

SPECIAL features of this model include a polyhedral wing for
maximum stability a
'ceodetic maximum stability, a gcodetic resistant, and simplified sheet-crutch construction for the fuselage. It should e capabte of long nights when properly uitable dethermaliser be attached to prevent the model being lost out of ight.

Common Failing
A common failing of many 'Jetex' models is that they tend to becom nstable towards the end of the powe nigh. This is because the effect or tho model speeds up and any inheren instability quickly shows up. The use of generous dihedral angle and wel proportioned
The ruselago is built directly on top of sheet crutch cut from trin. thick balsa. The plan is reproduced one-third full


| Sols bon oht iotal |
| :---: |

sheet and cut out. Then cut all the main formers from $\phi_{i n}$ 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 stage quite clearly.
The rin. sheet wing mount and nose sheecting can now be added, al this sleeting being sing. thick. Choos accurately. The sheeting extends backward's from former 1 to former 3 . The wing mount, which is cut in two pieces

These drawings will help in construction
from in shect, cements on top of the backbone and is 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" fusclage forebody. Hard 1 in . shecting completes th The Jetex clip is screst
The Jetex clip is screwed to a small rectangle of $\frac{1}{6}$ in. plywood which, in furn, is cemented to the bottom of the fusclage crutch immediately bchind heat insulation can be mounted be tween the metal clip and the ply, if desired. The whole fusclage can then bc cleaned up prior to covering. Note the small cross picce of tin. by din. 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 fuselage should bo tissue covered of the 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 internal members of finin. square. A small fillet cut from trin. square. A small fillet cut from 1 inin. sheet fairs the Take care that the fin is erected trul vertical with the fuselage and in line fore and af.
Wing construction should present no special difficulties if you have buil model aeroplanes before. Leading and spar are simply pinned and tho mainplan, the tips added down flat on the plan, the tips added and then the
individual ribs cemented in place. Makp
ply template of the rib shape and use this as a guide to cut all the ribs re-
quired. For cutting the ribs for the tapered outcr pancls, mark the length of ib required on sheet and then use the emplate to give the upper curvature, as
shown in the constructional sketcles. This method is quick and quite accurate. When the wing assembly lias set, notch the spars at the dihedral points and then set the whole wing up to the polyhedral dimensions given on the plan. Re-
inforce all the dihedral joints with small pieces of celluloid cemented behind the spars. Celluloid only $\frac{3}{2}$ in. thick has amazing strength and is ideal for this abo Small gussets of scrap wood 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
yery thin coats, will be sufficient. Coloured dopes will be too heavy.
Tallplane
The tailplane looks a little more complicated, but is actually quite casy hen cement in all outline spars and lengths of tin. square. The remaining fin. square members are then simply
cut to length and cemented in one by
onc. When set, this structure should be quite rigid. Cover on one side only with lightweight tissuc, drawing as ight as possible. The covering may be watersprayine binning the tai ghtly 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
balance point may vary from model to model and the best plan is to trim out

cosccess


by glide tests rather than adding weight to achicve a particular centre of gravity position.
our model with and hand launch hether the glide is over-- or underelevated. If the model is tending to dive. pack down the leading edge of the ailplane. If the model stalls, pack own the glide is fair, but fast and on the In the glide is far, but fast and on the
steep side, pack up the leading edge o

## Sbodmen

muactics

he wing in preference to tailplan djustment. Further adjustments should not be necessary, except to, pack the Jete give the best possible climb. Slewing tho Jetex to one side or the other will have little effect on turn. The in is a very murning, but avoid excessive turn under power. The safest, and usually the astest, climb is generally obtaine with a straight flight, followed by wide circle on the gride.
Drag' Parachute
A simple drag parachute de hermalised can be used, the parachut iself being a square of tissue (ated to the side of the fuselage when folded an recased by a fuse buming through rubber band. Alternatively, a tippin tail can be used, releasing the leadimg
edge of the tailplane and arranging the retaining bands so that the tailplan tilts downwards at about 45 degree The trailing edge of the tailplane, ther words, pivots about the lin. by
sade fin. saddle strip and a retaining tailplane prevents the tail from flying
right off.

Full -alce plan for any of thase modis
 Norfoll Back


## A Beautiful Model Wins a


$T_{\text {Ark }}^{\text {His photograph of a model of the }}$ Northern Models Exhiblition, held ot Manchester ot the end of March. We should have lliked to have reproduced th
many times larger, so that the reader many etmes larger, so that the reader
could see for himself what a really excellent lob it is, but space, unforrcunately, is $1 / 1 / i m i t e d$. However, it is sufficient evidence of the excellence of the model that it won
first place in the section for ofdetime first place in the section for oidetime modeller, Mr. J. V. Allen, of Manchester, is now the proud holder of the a replica as a souventr of hls suc cess.


Electric Shaver Query I Shave becn repairing my electict which $I$ wound myself. $I$ did not count the turrs, I made the former the same size os the one sthat was th the shaver and
filled it wtith No. 40 gauge wire. When swirched on, the shaver becomes very hot. The only thing I can think of is that
I have put too many turns on the coll. I have put too many turns on the coll.
$(L . D .-B l+t h)$. O Could aise from of the shaver Ocould arise from shorted turaver in the winding (most likely if enamelled d
wire was used), the use of wire of too wire was used), the use of wire of too
stout gauge, or the use of insufficient 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 uras is not known, fill the spact exaclly as originally with wire of the riginal gauge.

Painting Candles
I HAVE tried io paint fiovers and wap candles out but withourfers success ordinary you tell me how $I$ cant reat candles to do his? (G.H. - Glasouv)
Prould be a satisfactory result colourd be obtained by using mixed winaterial, such as aniline dye itharge and a proportion of a race a melted under gentle heat and applied
while sufficiently warm to flow under a

140
larger kits, the fintshed model measurcourse, the flagship of the Engllsh Fleet, which destroyed the Sponish Armada in july, 1588.

## In the larger picture, Mr. Allen is Brabazon, who attended to present the The 'Ark Royal' is one of Hobbles

## Hobbies Trophy


brush and locally melt the candle and cause permanent adhesion.

## Repairing Ornament

KINDLY rell me the best way 10 Krepair ornaments which I believe are madlington). of sun-metal. (C.F.R.-
When $T^{T}$ is possible that Rawlplug heatless 1 solder may make a fairly good repair; it would at least be worth a trial. 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 does not prove satisfactory, we suggest
the following brazing operation. Prepare $a_{\text {a }}$ flux of $40 z 5$. boracic acid, chlorate of potash loz., carbonate of
iron loz, or slighty less. Mix iron loz, or slightly less. Mix together 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 a coat of bronze paint all over.

## A MAP DISTANCE MEASURER


make wheel can be made to make one revolution to have to be rather but it would is much better to makea a larger whece for will cover, say, five
To find the diameter of whect having ameter of ference of sins. you must divide it by 3.14 , which gives Cut a disc of hardwood disc of tin. thick

This measure may be used on the tin. to the mile scale, and also on the 2 ins. doubling the reading. If you are using a tin. scale map, tin. on the measure ain. scale map, tin. on the measur.
will represent one mile instead of lin. and the reverse will be the case when working on the larger scale. cale measure you can easily work ou formula quoted above-divide the circumference by 3.14 to find the diameter

111 Capping and Roof Tilling ...
112 Concreta Rooning
112 Concrete Rooing ... ...
114 Bas of Brickplayer Cement ...

81072 Bay Windows with 31 Splay Bricks 3/9

 Hyour dealer cannot supply, write for addruas d
nerinest tockit to: J. W. SPEAR 2 SONS LTD (DOpt. H) ENFELD MIDDLESEX
 BUILDING KIT

It anables you to bulld Houses, Inns, Rallwey
Stuctons, Stznal boxes, or from your own lmy
 Buildings one be permenent or dizmantlod by
maraly soxking in water and the bricka uzad agin mid $\quad$ zuin.
BRICRPLAYER KTIS AT ${ }^{28 / 6}$ AND $52 / 5$ ARE
AVALAELEFROM GOOD TOYSHOPS, HOBBY AVALAAKE FROM GOOD TOYSHDOS, HOABB
SHOPS, AND DEPARTMENTAL STORES. accessory packs

are mado in are usual scales that maps the lin. to the mile, and we will assume that it is the latter one which you have.
of $1 \cdot 6 \mathrm{in}$. 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. first measure out the sins. on a strip of

 traiges on a map when the roads are aver the place, it is much more micul, and you may easily make a calculations.
With the aid of the little gadget can be easily read off with a very fair mount of accuracy. It is simple to make apparatus to have by you when studying your maps.

## rerent Scales

If you have several maps in different ccales you will need a measure for each wice the ave to double the readings on the easurer, or they may be in other mul ivision will give the answer.
The gadget consists of a small wooden having the distances marked round th dge or on the side. To use it you placo efigure 0 on the wheel over the spo the map where you wish to star distance covered can be easily read

## FIG 2

 wanted to be more accurate the cighths also. Then lay it round the whect, prick through with a pin, and these points with a knife or small three-comer fule. 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 4; the balf, quarter and eighth of a mile lines will be shorter in proportion and Fitting a HandleThe wheel now needs putting in a handle so that it may be rolled along 5ins. long will do very well. Cut a slot just wide enough for the wheel in one fretsaw.
Drill a small hole for the pivot which can be a panel pin, making, it a tight fit Round off both ends of the handle and finish smooth with glasspaper.

TOOLS FOR THE HANDYMAN




BENCH STOP STEEL CUTTING TABLE



SINGLE HANDED
SCREWDRIVER SCREWD Sons. Iteal for sman work.

eact Obuinabo from Hobbies
Branches in Londono
ind







| J. WOTTON (Dept. H.) if0 hollings road, bradpord, yorks. ALLTYPES OF MOULDS <br> 3/- each TOYS, ornanents, PLAqUES, ETG. <br> Now 1952 Illustrated Catalogue, Send 6d, otampe, refunded on firat ordor over 10/- |
| :---: |


|  | MANCHESTER 10 Plecediliy (Phone CENtral ${ }^{1781}$ BIRMINGHAM 14 Bull Ring St. Paul's Parade (Phone 26071) LEEDS <br> 10 Queen Victorim Street (Phone 28639) HELLL <br> 10 Paragon Square ${ }_{25}$ SOUTHAMPTON BRISTOL $\qquad$ (Phone 21744) |
| :---: | :---: |
| Head Ofice Factories-HOBBIES LTD., DEREHAM, NORFOLX |  |

BROOFERAPHON FRACTIONAL H.P. ELECTRIC MOTORS


Asmalce ciltion of tho famous Brook motor .ins

## BROOK MOTORS LIMITED HUDDERSFIELDOENGLAND

## YOU CAN BECOME A HANDICRAFIS INSTRUCTOR

 EXPERIENCE NOT ESSENTIAL

 If you would grike to knoe s' NO PASS-NO FEE
 BRITISH INSTITUTE OF NGINEERING TECHNOLOGY 595 Shakespecaro Houso
Stratiord Place. London. W.

## Is This Saw in Your Kit?

You can eut ylmost anything
in wood with this Coping Saw. The blad is 6 ylins. long and can be turned to cut at
nny angle. No tool-kit is ny angle. No tool-kit is
omplete wishour one. Gat yours Now.
Buy from any Hobbies Branch or poost frea from



A Treadle Fretmachine provides a factory in the home. The treadle movement is easy, the machines running smoothly and fast. it is astounding the amount of work they will do in wood up to in. thick. Both hands are free to handle the work which can be manipulated up to 1ft. 7in. . behind the sawblade. Machines are comfortably operated from a chair, rigid and easy running. The A1. has cast legs with wooden arms and special tension arrangement. Spare sawblades, a design and Instruction Manual supplied with each. $\begin{aligned} & \text { Price ready } \\ & \text { to use }\end{aligned} \in 7=19=6$

> Carriage paid U.K.

Full range of Machinee can be zeen of any Hobbles Branch. Or ash particulars from large stores or tronmonzers. Illustrafed leaflets free on request to Hobbles Lid. Dstehum, Dept. 25, Norfolk.



## A new hook

 ... just for the amatemur?
## Home

## Woodwork

This is a book written for the amateur, and the author has taken great care to avoid the confușion which arises from the use of technical language. It falls naturally Into two sections. The first discusses tools, materials, and woodwork joints, whilst the second part gives practical suggestlons for the use of these in the construction of a number of useful fixtures and furnishings for the home. The beginner will have no difficulty in following the clear instructions. The book is well Illustrated.

## At all booksellers 716 net.

## A PITMAN BOOK

PARKER STREET . KINGSWAY . LONDON, W.C. 2

