MODEL BEAUFIGHTER DESIGN FREE INSIDE

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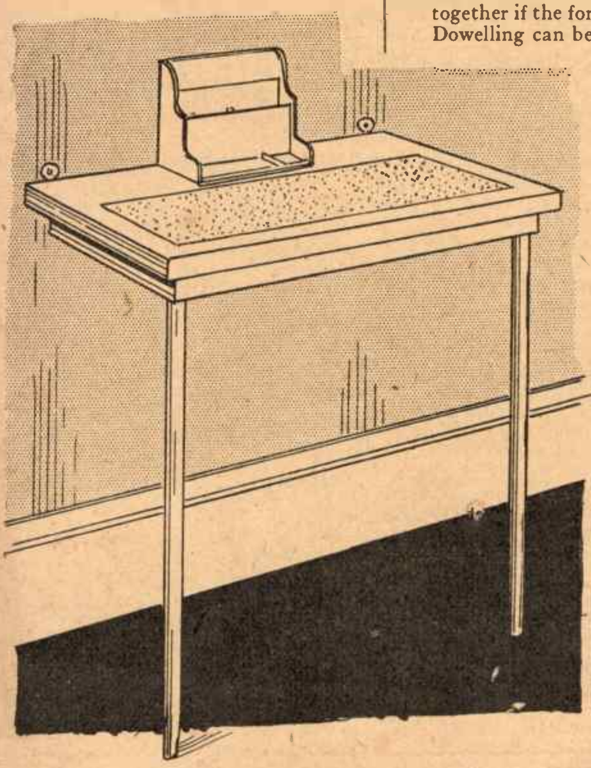
A Simple and Handy Wall WRITING TABLE

THE table illustrated will meet most requirements, and has been specially designed to meet war time scarcity of wood. A small quantity of timber indeed is required to make it, in fact, excluding the legs and stationery rack, a 1in. by 8in. board 7ft. 6ins. long will suffice for the job.

No dimensions are given in the drawings as many readers may have to make it according to the wood available, but a suggested size of top is 2ft. 6ins. long and 1ft. 6ins. wide, with a height of 2ft. 4ins. from the floor.



The boards for the top should be of T and G wood, or be dowelled together if the former is not available. Dowelling can be done with the usual wood dowels, or metal dowels can be used. These are made from wire nails and are a cheap and expeditious method quite suitable for this purpose.

Proceed in this way. First in one edge drive some 1½in. nails halfway in at distances apart of say, 6ins. File off the heads of these nails, then sharpen them to a point. Place the opposite board against it and give it a tap with a mallet so the points of the nails will enter a little way to make marks.

On these marks make holes with a bradawl. Now lay the boards close together again, either on a flat bench or, if the surface is uneven, on two pieces of board, as in Fig. 1. Glue the meeting edges of the boards, and drive them together with blows from a mallet. Leave for the glue to get hard.

The underframing can be cut from pieces of wood 2ins. to 3ins. wide. Front and end pieces only are required. They are joined together at the corners as in Fig. 2, and fixed to the table top about 1in. in from the edges.

The Two Legs

The legs should be about 2ft. 3ins. long. At Fig. 3 are shown simple types of legs and readers can choose according to taste and material available. In the sketches shown the table top is removed so the method of jointing the legs to the underframing can be clearly seen.

At A, lengths of broomstick can be used and are quite firm enough if securely fixed. Two pieces of wood are nailed in the corners of the framing to form a close fitting socket for each leg, and a nail driven through them into the legs will fix them more securely.

If the reader has a long enough length of 1½in. to 2in. sq. wood, legs of the type shown at B can be fitted. The legs are cut away at the top to 1in. sq. as shown, and fixed in place with nails or screws. A good plan, so far as appearance goes, is to taper these kind of legs a little, reducing them to 1½ins. or 1in. square at the bottom.

The type of legs shown at C is made up of two pieces of wood to each leg, nailed together at right angles to L shape and then screwed, or nailed to the under framing. Screw from the inside so as to be invisible from the outside.

Thinner wood can be used than that for the top, ½in. thick in fact, but preferably not less. As a better appearance results if the legs present an equal width to each face, cut one piece less in width than the other so that when joined together the two faces will measure alike.

A width of 2ins. to each face is enough. A slight taper from the top to the bottom will also improve matters. Only two legs are needed whatever type is chosen.

Covered Top

The table top should be partly covered with American cloth to provide a suitable writing surface. The covering should be 1½ins. from the front and side edges and come nearly up to the stationery rack at the back.

With a cutting gauge or broad chisel (a cutting gauge is best) cut a line to mark the boundary of the American cloth. Cut it about 1/16in. deep, no more. Inside this cut mark another line with a pencil, just ⅛in. away from the cut and from this line carefully pare down to the cut. A glance at Fig. 2, A, will show what is meant.

Gluing the Cloth

Now place the American cloth over, with two of its edges level with the cut. Run the back of a table knife along the cloth where it covers the opposite side cuts to crease the material. Then cut along the crease with scissors. Do this carefully and the stuff will exactly fit the space.

Apply to the wood a plentiful coating of hot thin glue, lay the American cloth over and rub well down.

As regards the stationery rack, a simple construction is shown in Fig. 4. The sides and back are cut from fretwood, or ⅜in. thick deal. No battens need be fitted as the table itself will act as one.

Cut the sides to the shape shown, and at distance given groove the sides for the division pieces. These pieces can be cut from fretwood, or more economically from stout cardboard. Mind the grooves fit the divisions closely.

The narrow central division, which divides the front compartment into two for postcards and envelopes, is also grooved in, or glued in if cardboard is used. Note that the side pieces of the rack are provided with short tenons for fixing to the table top. Glue and nail the rack together.

Fitting the Rack

On the table top chisel out suitable mortises for the tenons of the rack and glue the latter in place, level with the back edge of the table. A narrow strip of wood, say ¼in. by ½in. is glued between the sides across the front to provide a shallow tray for the pen and pencils. A space about 2ins. wide is partitioned off to hold an ink bottle.

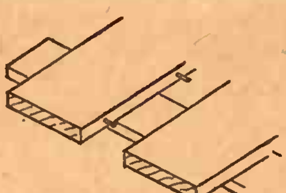


Fig. 1—Joining narrow boards

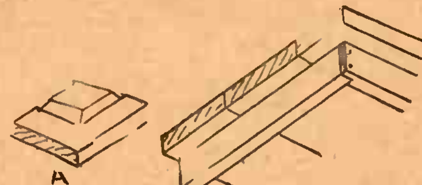


Fig. 2—Details of under framing parts

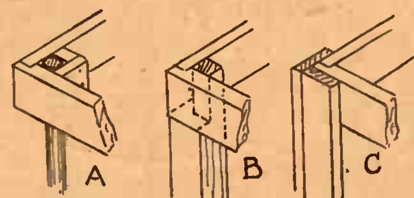


Fig. 3—Suggestions for corner leg construction

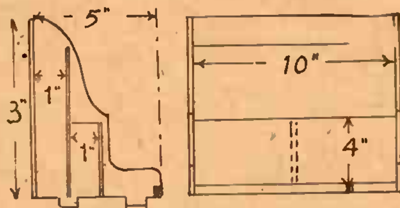


Fig. 4—Details of stationery rack parts

A SIMPLE ONE-PIECE INKSTAND

INKSTANDS are often more ornamental than useful, but it is doubtful if that can apply to the model illustrated, for it embodies a rather useful feature. The ink bottle, you will notice, is tilted acutely.

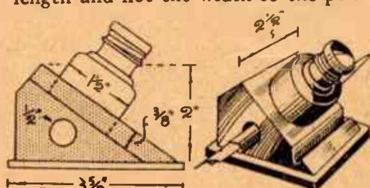
Apart from making it more convenient for one to dip the pen into the ink, the angle ensures that one can use up the last drop of ink in the bottle. Another feature is the new way the pen is held in the stand.

We have a suitable hole bored right through the stand top. Alternatively the pen can be laid in the groove made in the face side of the stand. One can do this while actually using the pen and ink; after use, however, the idea is to put the pen holder into the hole running through the side so the stand can be lifted more easily without interference.

Suitable Bottle

The ink stand is small and is made to suit a Stephen's (black drawing ink) bottle, as these have neat screw-off caps, apart from the convenience in size. But, having given you the main idea of the stand, you could make one to suit any kind of ink bottle.

If you prefer to incorporate the type mentioned, you need a piece of wood 2½ins. long by 3½ins. by ⅜in. thick. This is for the face of the stand; the grain should run with the length and not the width so the pen-



holder groove can be made more easier.

Find the exact diameter of the bottom of the bottle and scribe it centrally at the top end of the facing piece of wood, then rule guide lines for the groove. Cut out the circular aperture, then make the groove, sawing along the lines with a tenon saw to a depth of ¼in. The waste is removed with a ¼in. wood chisel.

The face piece must then be mounted on a prepared block. To make the block you need a piece of wood measuring 2½ins. long by 3ins. wide by 1¾ins. thick. One can make up the thickness by gluing two ⅞in. thick pieces together.

The Pen Hole

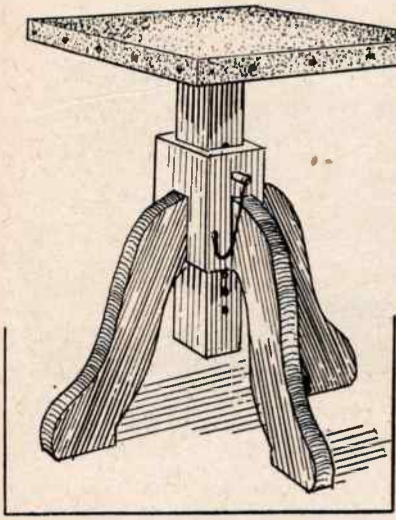
One side of the block is cut to a bevel, then trimmed with a block plane. One end of the face piece is bevelled away to suit the angle of the block, as shown by the side view.

Now drill the ⅜in. or ½in. hole through the block, working from both ends. Glue the face piece on the block, and when dry, trim up the work as shown.

A base plate 3⅝ins. long by 2¾ins. wide by ⅛in. thick is cut out, planed neatly, then glued to the underside of the block to show an equal margin all round. The work is best polished, either mahogany or ebony. A piece of baize glued to the underside completes the stand. The ink bottle, of course, must be a neat, tight fit in its aperture.

A convenient seat for home or workshop is this

ADJUSTABLE STOOL



READERS will find this stool most convenient, either in the home or workshop. It can be adjusted to different heights, making it suitable for any bench or table, used for handicrafts or writing purposes.

Not much wood is required for the stool, and what is needed can be just common deal. The legs, Fig. 1, should be marked and cut out from 1in. by 3in. deal board, making a template first as it makes the copying easier and ensures all the legs being alike.

On a piece of thin cardboard or stout paper, draw a rectangle 3ins. wide and 12ins. long. Divide this into 1in. squares and copy the shape shown as accurately as possible. The end lines, A, B, if extended should form a rightangle (90 degrees). Get this correct so that the legs will bed properly on the floor. Now cut the shape out.

Leg Sizes

Prepare the four pieces of wood for the legs to size, lay the template on them in turn and mark round it with a pencil, a soft one for preference, as it makes a blacker line. Saw the shape out, using a tenon saw on lines A and B, and a bow saw for the curves.

If a bow saw is not at hand, then a keyhole or copying saw could be used, finishing off the curves with spokeshave and rasp. Get these four legs all alike and finish them to smoothness with glasspaper.

An improved appearance results if the outer edges of the curves are slightly rounded off. These legs are now to be firmly fixed to a sleeve, in which the stem of the seat can slide up or down.

The sleeve, shown in Fig. 2, can be made from ½in. thick wood, with an interior size to admit the stem. This is suggested to be 2ins. square, but a little difference as regards this size will not matter if the sleeve is made to suit. Partly nail or screw it together first, to test its fit over the stem.

Then, if satisfactory, take apart and number the sides to ensure getting them back again in their correct order. On each side chisel out a groove, ½in. deep, in which the top ends of the legs (line A) can fit in, and on one side only, approximately where shown, bore a ½in. dia. hole for the stop pin, C, to enter. Bore this hole exactly on a centre line.

The legs should now be fixed in their respective grooves with glue and two screws to each. Countersink the screw heads slightly below the surface so that there is no fear of them scratching the stem of the stool. Then, with gue and nails, refix the sides of the sleeve together and leave for awhile for the glue to set hard.

The Centre Column

The stem is shown in Fig. 3. As previously mentioned, this should be planed to 2ins. square, or the nearest size to that. It is essential to plane it true to size all along its length so that it can slide in the sleeve from top to bottom with a smooth, easy motion and not stick anywhere. Avoid any looseness.

Run a gauge line down the centre, and at the distances shown, square lines across. These will mark the centres for a row of ½in. holes to take the pin. An important point here is that these holes must coincide with the pin hole in the sleeve.

The holes can be bored about 1½ins. deep, keeping the bit at rightangles to the face side of the stem. The pin, C, is either a short bit of ½in. dowel rod, or a piece of suitably sized wood planed and filed round to fit the hole.

In one end drive in a screweye and attach a short piece of cord. The other end of the cord is tied to a second screweye driven in the sleeve conveniently near by, to prevent the pin getting mislaid. Allow enough cord to enable the pin to be drawn out easily enough.

In the top of the stem a crossbar, D, is to be fixed. Cut this from 1in. thick wood, and level off the ends as shown. Fix the crossbar to the top of the stem with a pair of 2½in. screws.

Drive these screws home tightly as the crossbar must be firm as it supports the seat. A pair of 4in. steel furniture brackets underneath would also help.

The Seat

The seat, Fig. 4, is a piece of 1in. deal board, cut to the dimensions given. Lay it upside down on the floor, upend the stem and then screw the crossbar to the seat. Be generous with the screws as a firm fitting is desirable.

If a plain wood seat only is desired, the corners and sharp edges should be rounded off to smoothness, and the surface well glasspapered. But, as a wood seat is not particularly comfortable to sit on for any length of time, a little padding is recommended.

The best stuff to pad the seat with is horse hair, as it is naturally springy and so retains its shape. Failing this a few handsful of flock could be substituted. Flock, however, flattens itself into lumps after a time, and is all the better therefore for a layer or two of wadding over it.

Quite a good material for a simple padding is several thicknesses of old blanket. No shapely seat is possible with this, but for a workshop stool this is not so important.

Whatever is used, lay it evenly over the seat and cover with a piece of American cloth, or Rexine.

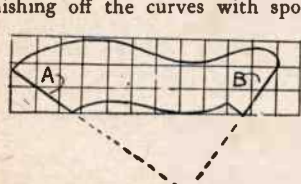


Fig. 1—Shape and size of legs

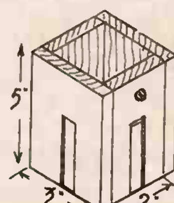


Fig. 2—The pillar sleeve

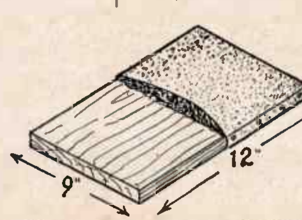


Fig. 4—Seat board and covering

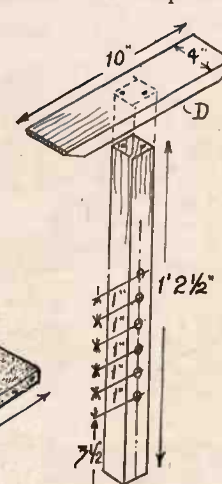


Fig. 3—Central pillar

A splendid gift to make for a lady is this

NOVELTY WORKBOX

THE novelty work case shown in our illustration on this page is just the thing for the lady who does light fancy work. It is made in two sections hinged together and opening out as shown. The advantage claimed for this type of box is that the contents are easily accessible, and when closed, by the very fact of it standing upright as it were, it takes up very little space.

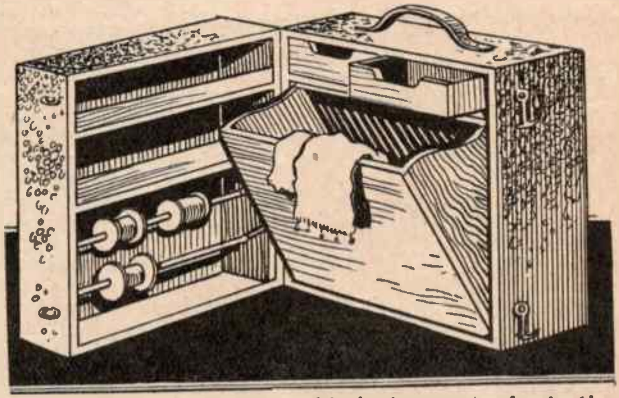
Looking at the picture of the completed case, we see the two compartments and what they are intended to contain. The two compartments close together and are held by two hooks and eyes, and a suitable handle on the top makes for easy transport from one place to another.

Box Form

The case is made in box form, the four pieces of $\frac{3}{8}$in. thick wood forming the sides, top and bottom being jointed strongly (Fig. 1). The reason for arranging the jointing in the fashion shown is on account of the sawing through of the box which will be done later to form the two compartments.

Draw out the pin tenons and their corresponding open mortises, therefore, and cut them down with a fine-tooth tenon saw or fretsaw. When glued, test the angles for squareness.

The back and front of the case is of thinner wood, say, 3/16in. or $\frac{1}{4}$in Lay the on the 3/16in. made-up frame stuff and draw round in pencil to get an accurate outline for cutting. Glue and pin the two pieces on the frame, and allow all to dry thoroughly before cutting down to make the two compartments of the case.



The measurements for the division are shown in Fig. 1. In Fig. 2 the arrangement of the shelving, etc., is shown, while from Fig. 3 the widths and thicknesses may be judged. The shelf beneath the two drawers should be $\frac{3}{8}$in. thick as the two shelves opposite, while the upright edging to the latter might be $\frac{1}{4}$in.

The construction of the drawers is clearly shown in Fig. 4. The hand-hole in the front section is cut out with the fretsaw and the edges made smooth with coarse and fine glass-paper.

In this diagram, too, is shown how the racks are made for the reels of cotton, etc. The "lining" pieces may be 3/16in. thick and the sloping slots cut with the fretsaw to take the $\frac{1}{4}$in. round rods which latter are, of course, made removable for the threading on of the reels. The linings may be either glued or screwed into place on the ends of the case.

Before commencing work on the movable compartment mentioned, glance at the sectional diagram on the right in Fig. 3. Here it will be seen how the container is constructed and how it is pivoted at the front corner to fall forward giving full access to the interior.

The front of the container should be $\frac{1}{2}$in. less in width than the opening in the case, to allow free movement when pivoted. Note, too, that the back is 1in. less in height, so when thrown forward it lodges against a triangular fillet which has been fixed to the underside of the shelf above.

The depth (that is, from back to front) of the container should be about $4\frac{1}{2}$ins. and the shaping to the tops of the sides may be carried out with the fretsaw. The lower front and back edges should be rounded off as shown.

The compartment should be tested for fit and movement before the pivoting screws are run in.

The top edge of the front is rounded off and made smooth as the hand-hole cut centrally in the front. Two stout round-headed screws should be used as pivots, and they should pass freely through the full thickness of the sides of the case and be screwed into the inner compartment.

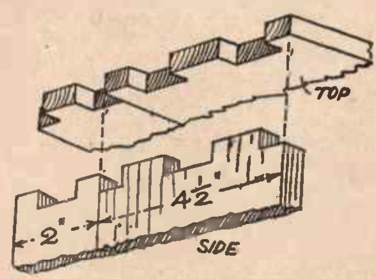


Fig. 1—Details of ends and Joints

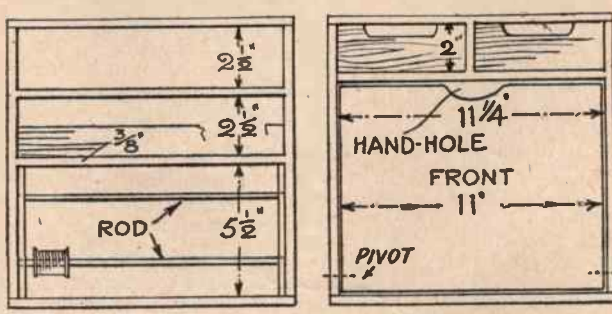


Fig. 2—Front view of two main compartments with helpful dimensions

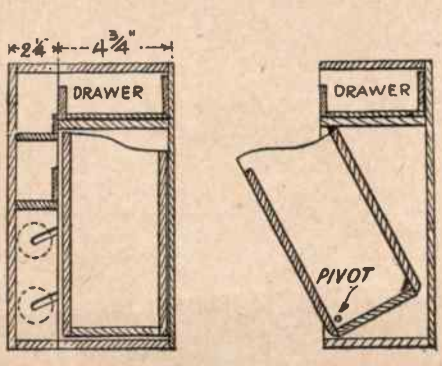


Fig. 3—Section of compartments closed and open

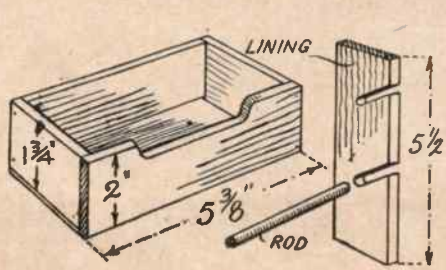


Fig. 4—Drawer and reel spindle slot

Drum Making

I WOULD be much obliged if yon could give me some insight as to the making of drums. (V.O'B.—Waterford)

MOST drums are covered with vellum or parchment; it would not be practicable for you to make skins from natural goatskin. The vellum is attached to a metal hoop or ring, it is applied when well soaked in water, the vellum is usually held in place by the pressure between the smaller inner hoop, and a larger outer hoop, the latter being tensioned by the leather braces and endless cord connecting the hoops at each end of the drum. So far as we know there are no books on the construction of drums.

Binding "Hobbies"

I AM anxious to bind some back numbers of "Hobbies" Weekly. This necessitates trimming and numbering the volume. Could you tell me if this can be done at home without any expensive apparatus? (P.W—Bath).

FOR gold lettering and numbering on book bindings, apply the gold paint (or gold size if leaf gold is used) with a fine sable hair brush. Alternatively you can use stencils if they are finely cut. The difficulty of making a book-binder's plough depends upon your own ability and resources; possibly you could adapt a carpenter's smoothing plane for the purpose.

Tent Camouflage

WHAT paints or materials can I use to camouflage a white tent which when erected is rather conspicuous at present? (P.J.—Wembley).

SPECIALLY prepared camouflage paints are on the market but probably are in short supply. You will presumably only be using the tent for a few weeks and in that event any good makes of "oil bound" or "washable" distemper will answer very well. To apply it, erect the tent, mark out with chalk the outlines of your camouflage patterns, and then fill them in with the distemper. A brush about 2½ to 3ins. will probably suit you best. For a more permanent job, use any good make of "outdoor" grade paint. It will take a day or two to dry, and it is helpful to thin out the paint with a small quantity of linseed oil. Do not use an excess of turps or dryers to hasten the drying. If you do, the paint will probably crack and flake off. Apply distemper or paint only when the tent is really dry.

Poker Work

I HAVE a wish to take up a hobby which I believe is known as poker work, for writing mottoes on odd bits of wood. (J.P.—Fort William.)

POKER work is carried out by a hot, blunted iron, worked on to a fairly soft board, but unfortunately most of the necessary materials for this hobby are now unobtainable. In any case, they would be awfully expensive. As you suggest, it was originally an automatically heated piece of metal used in the form of a pencil, and which, by its special tip, retained its heat a considerable time. The same work, can, of course, be carried out with a normally heated iron, but naturally you would require two or three to be able to be using one whilst the other is reheating in the small flame.

Chalk Model Repairs

COULD you tell me if it is possible to repair chalk models, and how? (E.H.N.—Northampton).

CHALK models if fractured can be repaired by sticking them together again with any good adhesive such as Seccotine or Durofix. If any parts are missing, the gaps can be filled in with plaster of paris mixed with water containing a glue binder—that is, a small amount of Seccotine or Scotch glue dissolved in the water. The surface can be modelled with a sharp penknife and coloured with poster colours or other colouring such as cellulose finish.

HOME-MADE CYCLE TREADS

TREADS for bicycle pedals are now being manufactured from a hardwood and stained black to look like black rubber. At first glance, these treads look like the real thing, but, of course, while not being so, they are a good substitute and must have got many cyclists out of a difficulty.

If, as a handyman, you prefer to make your own treads from wood, a simple design is shown You need a 20in. length of 1in. square wood, preferably a piece of oak or birch. As you are more likely to have ⅞in. thick stuff, this can be used.

Now, to make the treads, obtain a 3in. by 2in. by ⅞in. block of wood and drive a 1in. long by 8 flathead iron screw into the centre of it. The screw head must be left projecting about ¼in.

The screwdriver nick is slightly widened at the ends by rubbing with a three-cornered file. This widens the nick and helps to sharpen the screw head which, as you have rightly guessed, becomes a bead cutter.

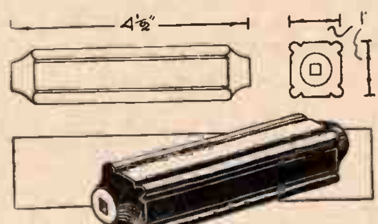
Corner Beads

To form the beads along the length of the corners of the length of wood, just run the screw head along one edge, rubbing it into the wood so the filed nick cuts a groove to a suitable depth. Having done one side, do the other side in the same way. All four corners are treated thus, following which the sharp corners left are planed away, rounding them over with a smoothing plane.

Glasspaper the beads carefully, then cut the treads to the length required. The largest length is 4½ins. long, as shown, but some treads are smaller. Keep yourself on the right side by measuring the old treads and cutting the new ones the same.

When cut to length, it is necessary to bore a spindle hole right through the centre of the treads. This is best done (truly) by drilling at both ends until the holes correspond in the centre or thereabouts.

Having pared the tread ends, as shown, they are stained black, using a naphtha stain. This stain acts as a preservative and seeps deeply into the wood. But, a good black (ebony) spirit stain could be applied, then the treads given a coat of black paint, or brushed with boot polish.



If you cannot bore the spindle holes properly, remember that it is possible to build the treads up from thin wood. The centre piece would be about 3/16in. thick, the covering pieces being ⅜in. thick by ⅞in. wide. The centre piece is glued on either cover piece, having split it and planed the edges so a 3/16in. channel runs the length of the tread.

The other covering piece is laid on top, then the lot bound with cord until the glue dries. When squared up and trimmed, by planing, the beads are cut as explained.

The craftsman needs and should make this handy SMALL GRINDSTONE

A GRINDSTONE, no matter how small, is always a useful thing to have in the home. The model illustrated at Fig. 1 can be easily made, using wood throughout, and even the emery wheel can be made, there being two methods.

One way is to cut it from wood, give it weight with several lead discs let into the sides, then cover the circumference edge with a strip of emery cloth. The other way is to cast the wheel in a mould, a special mixture of emery powder and other ingredients being used.

The model, of course, is a geared type. For preference, the gear wheels should be cut from 3/16in birch plywood, but a tough fretwood, such as beech or teak, could be employed. Naturally, such a model is not intended for heavy grinding jobs. It will prove ideal for sharpening drills and grinding the bevels on small chisels, toning up screwdriver tips and so forth, i.e., assuming the real emery wheel is made and fitted.

The other type of wheel mentioned is a type meant exclusively for *cleaning* metal parts rather than grinding them. One can, however sharpen penknife blades, table knife blades. etc., on such a wheel, but the method is crude. The same type of wheel is also ideal for glasspapering jobs. Dowel ends often need rounding or pointing. Emery cloth is more durable than glasspaper which, nevertheless, can be used.

Page of Patterns

To help our younger readers make a success of the model grindstone, a pattern page is provided on Cover iv. Parts can be traced out with a sharp pencil and carbon paper. The gear wheels, if desired, could be cut out from the pattern page and pasted to 3/16in. plywood.

The framing around the large gear wheel is cut from ½in. wood, such as deal. A front and back shape is cut to the outline of the framing piece from ⅛in. wood. The tenon is omitted in both these shapes, but the spindle holes must be included.

The various washers are cut from ⅛in. wood. The arm of the handle is cut from ⅛in. wood, preferably plywood, as is the back strip piece. The handle spindle and emery wheel spindle are made from pieces of ⅜in. dowelling, ¼in. square shanks being shouldered on them as shown by the full-size drawing on the pattern page.

Attaching the Gear Wheels

Having cut out all the parts, the gear wheels are fixed to their relative spindles, with washers at each side, as can be ascertained by the sectional end view at Fig. 2. Working from the plain ends of the spindles, glue on the gear wheels ⅛in. in from the end, then glue on a suitable washer at each side.

The gear wheels should be a neat, tight fit on the spindles and accurate, without any tendency to wobble from side to side. It is advisable to heat the wood slightly so the glue (which has to withstand a great amount of strain) will get a more effective grip.

At this point, the back shape could be attached to the centre framing. Push the shouldered end of the emery wheel spindle through its hole, via the inside, the plain end of the handle spindle being inserted into the other hole.

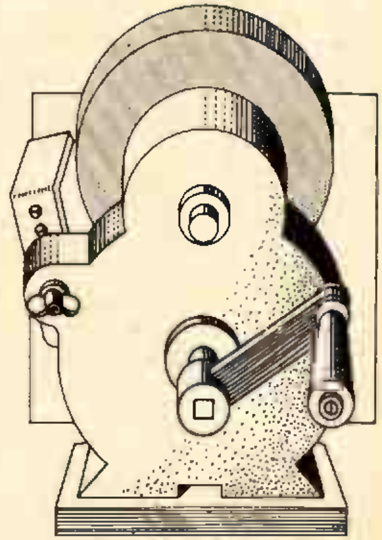


Fig. 1—A simple piece of work, useful for sharpening small tools

The front shape is then set over the projecting ends of the spindles and glued to the centre framing. Prior to doing so, however, the "teeth" of the gear should be tested by turning the spindle of the large gear wheel round slowly. Each tooth should engage easily. It may be essential to rub between each pair of teeth with a piece of folded glasspaper to reduce them slightly and make them even. A rat-tail file will be found useful.

When working satisfactory, the teeth should be lubricated with candle grease or graphite. Having attached the front cover shape, the edging of all three shapes are trimmed and levelled by filing and glasspapering. Glue the base to the tenon of the casework.

The Handle

Attach the outside washers over the spindles, one of these being in strip form. It goes to the back of the work, in line with the fretwork cramp slot at the bottom. These washers are, by the way, glued to the casework and *not* to the spindle; the washers are included to act as an extra "bearing" to the spindles.

Select the handle arm. The handle for this is shaped from a 1¼in. piece of ⅜in. dowel rod. You need a spindle bolt 2ins. long. Drill a hole right through the handle for this so the handle will turn freely. The dowel is then tapered as shown.

Slip a small brass washer over the bolt, the latter being inserted through the handle, then a nut screwed on and a washer inserted. Push the

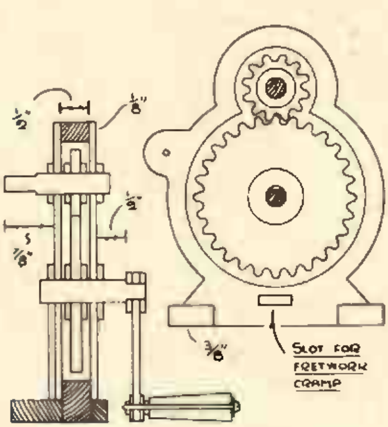


Fig. 2—Side sectional and end view

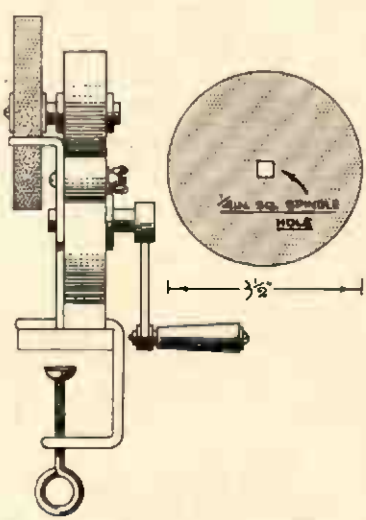


Fig. 3—End elevation of completed work with detail of abrasive wheel

bolt end through the handle end of the arm, slip on a washer, then a nut. The nut at the handle is tightened against the arm so both nuts "lock" the arm to the bolt.

To attach the arm to the spindle, first glue on a suitable wooden washer (these have square holes), then the arm and a further washer (see sectional view). By turning the handle, the emery wheel spindle should revolve quickly, with a rattling sound. This noise is natural owing to the newness of the gears and the fact that the emery wheel itself acts as a flywheel; when this is added and the model used for a number of times, the gear will work more smoothly.

The tool rest is cut, drilled and bent from a piece of iron or mild steel bar. As it is difficult to make an elongated slot in the metal, a series of adjustable holes can be drilled, as shown. The rest is bolted to the lug provided on the casework.

The Emery Wheel

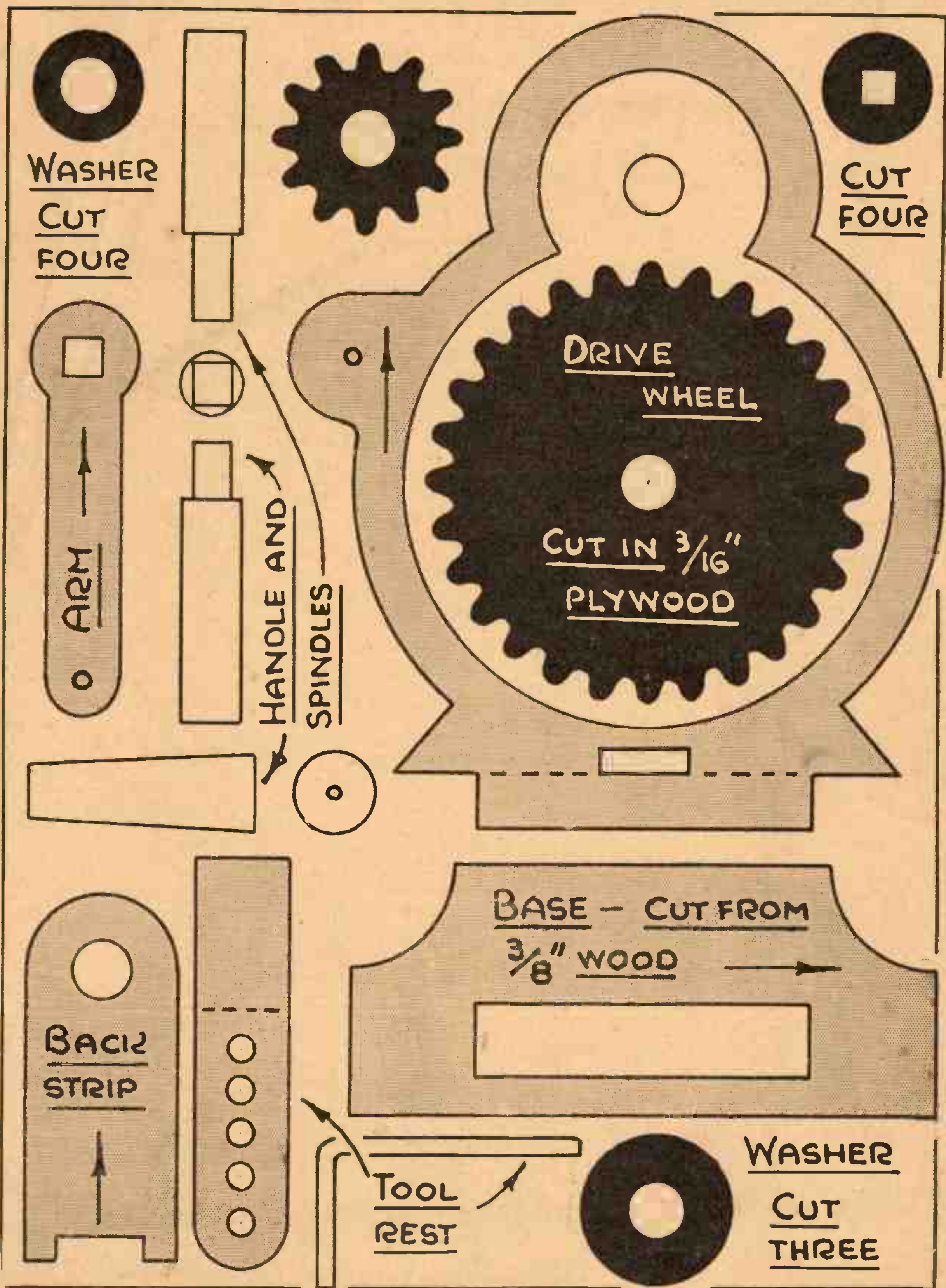
Regarding the emery wheel, this, as previously stated, can be a disc of wood ½in. thick, cut as shown at Fig. 3. A series of ⅜in. diam. holes could be bored around the centre, about ½in. from the circumference. These holes are loaded with molten lead, or alternatively, the circular lead weights could be cast in holes bored through ½in. wood, with a bottom piece fixed beneath.

A strip of emery cloth is glued around the circumference of the wheel. A ring of it could be adhered to the face of the wheel, such as a coarse grade of emery cloth, this being used for doing the rough work.

Regarding the finish of the model grindstone, it could be painted black or grey. The wooden emery wheel, like the actual abrasive type, is attached by first inserting a thin plywood washer, then the wheel, then a second washer, a roundhead screw being driven into the spindle end to tighten the latter against the wheel. One washer has a ½in. square hole; the other has a small hole suiting the diameter of the screw.

An ordinary 2in. fretwork cramp is used in holding the grindstone to the edge of the table top or bench top. It is only the work of a moment to screw up the grinder and take it down again.

SMALL HOME-MADE GRINDSTONE See page 142



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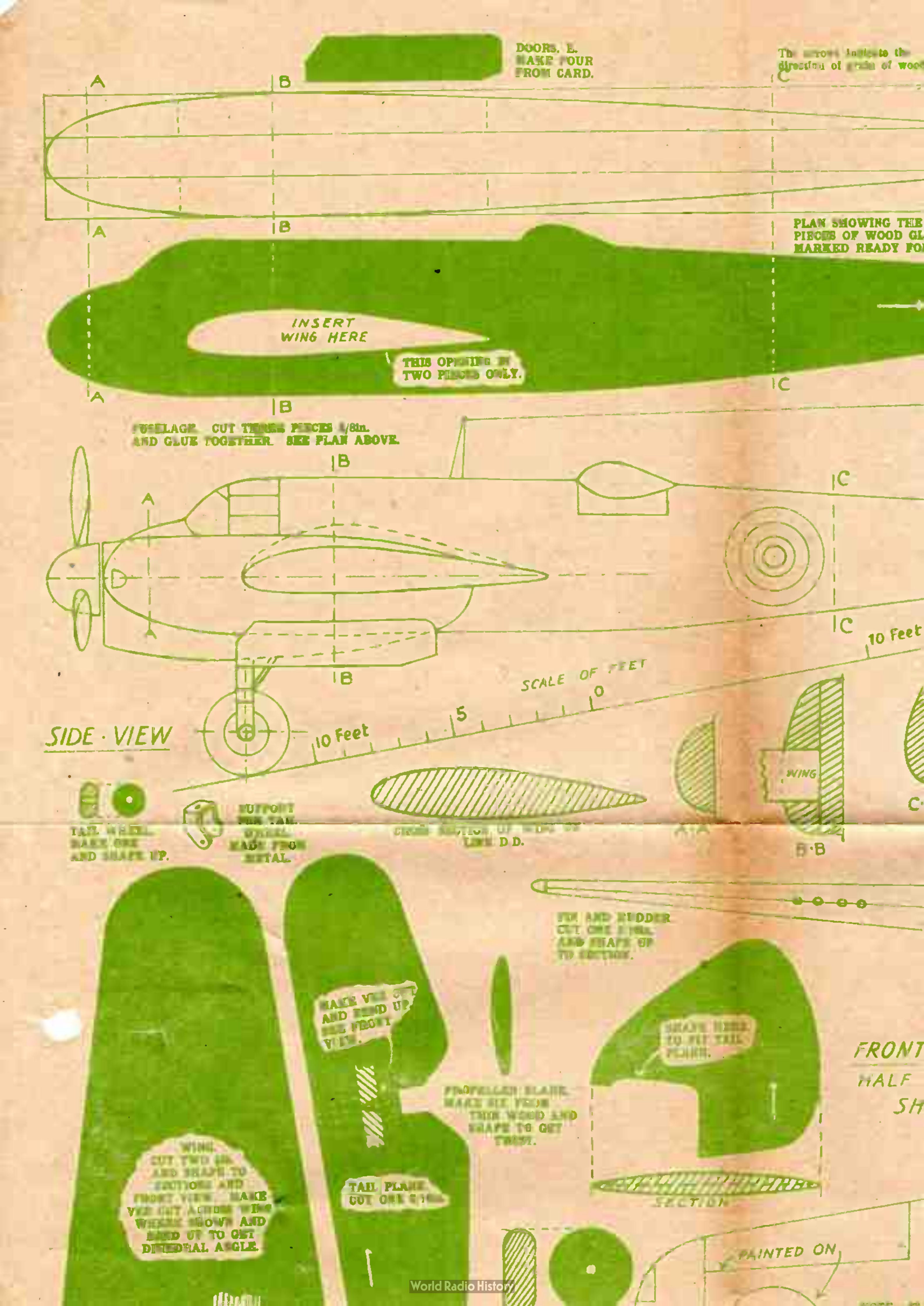

DOORS. E.
MAKE FOUR
FROM CARD.
The arrows indicate the
direction of grain of
A
B
C
PLAN SHOWING THE
PIECES OF WOOD
MARKED READY
INSERT
WING HERE
THIS OPENING IN
TWO PIECES ONLY.
FUSELAGE. CUT THREE PIECES 1/8in.
AND GLUE TOGETHER. SEE PLAN ABOVE.
SIDE · VIEW
SCALE OF FEET
10 Feet
5
0
10 Feet
WING
TAIL WHEEL.
MAKE ONE
AND SHAPE UP.
SUPPORT
FOR TAIL
WHEEL
MADE FROM
METAL.
CROSS SECTION OF WING ON
LINE D.D.
A·A
B·B
FIN AND RUDDER
CUT ONE
AND SHAPE UP
TO SECTION.
MAKE VEE CUT
AND BEND UP.
SEE FRONT
VIEW.
SHAPE HERE
TO FIT TAIL
PLANE.
FRONT
HALF
PROPELLER BLADE.
MAKE SIX FROM
THIN WOOD AND
SHAPE TO GET
TWIST.
WING.
CUT TWO
AND SHAPE TO
SECTIONS AND
FRONT VIEW. MAKE
VEE CUT ACROSS WING
WHERE SHOWN AND
BEND UP TO GET
DIHEDRAL ANGLE.
TAIL PLANE.
CUT ONE
SECTION
PAINTED ON

Hobbies DESIGN

No. 2546
2. 8. 44.

SUPPLEMENT TO HOBBIES No. 2546

Model of the
BRISTOL BEAUFIGHTER
— TWO-SEAT NIGHT FIGHTER —

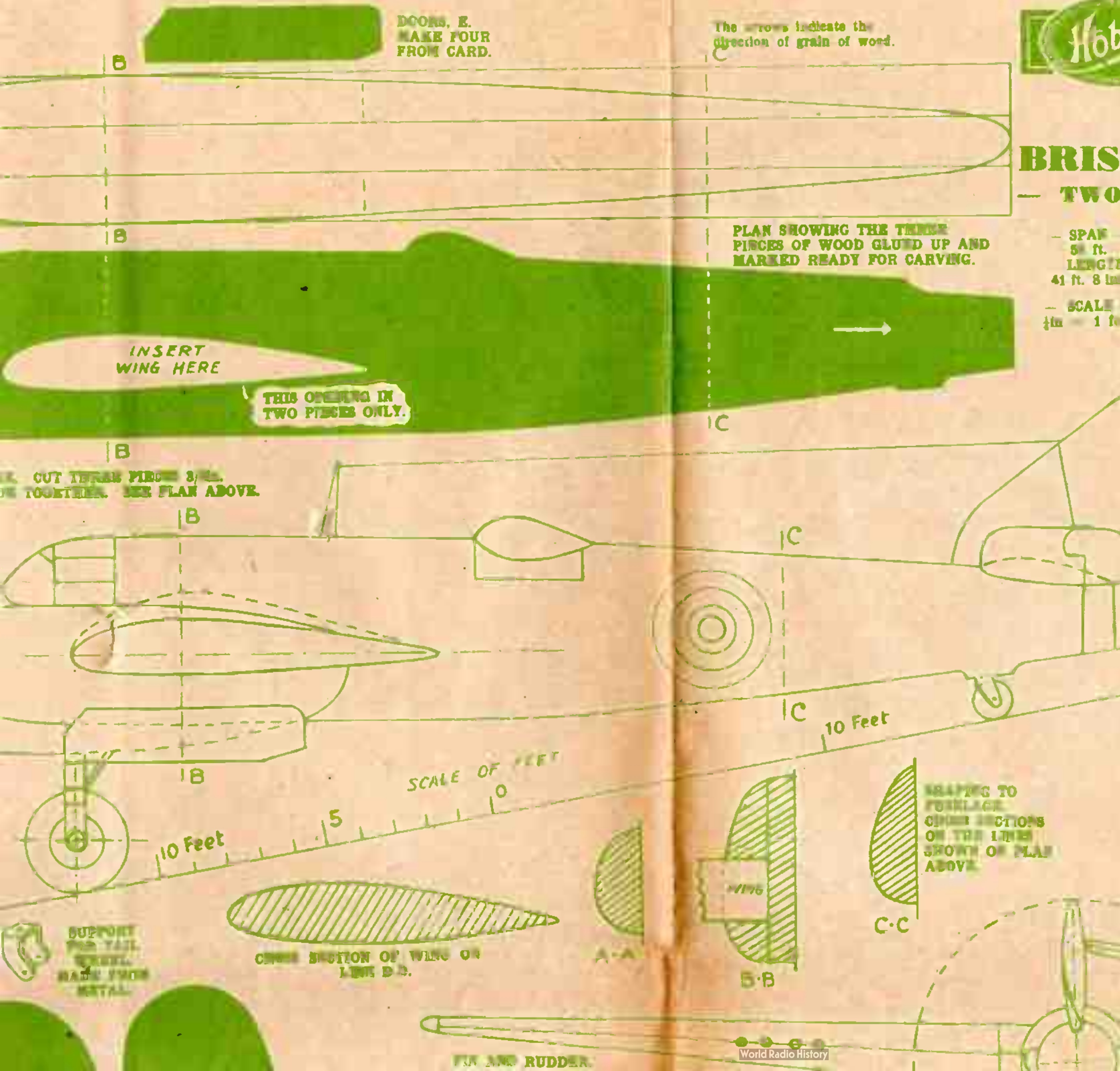
— SPAN
5? ft.
LENGTH
41 ft. 8 ins.

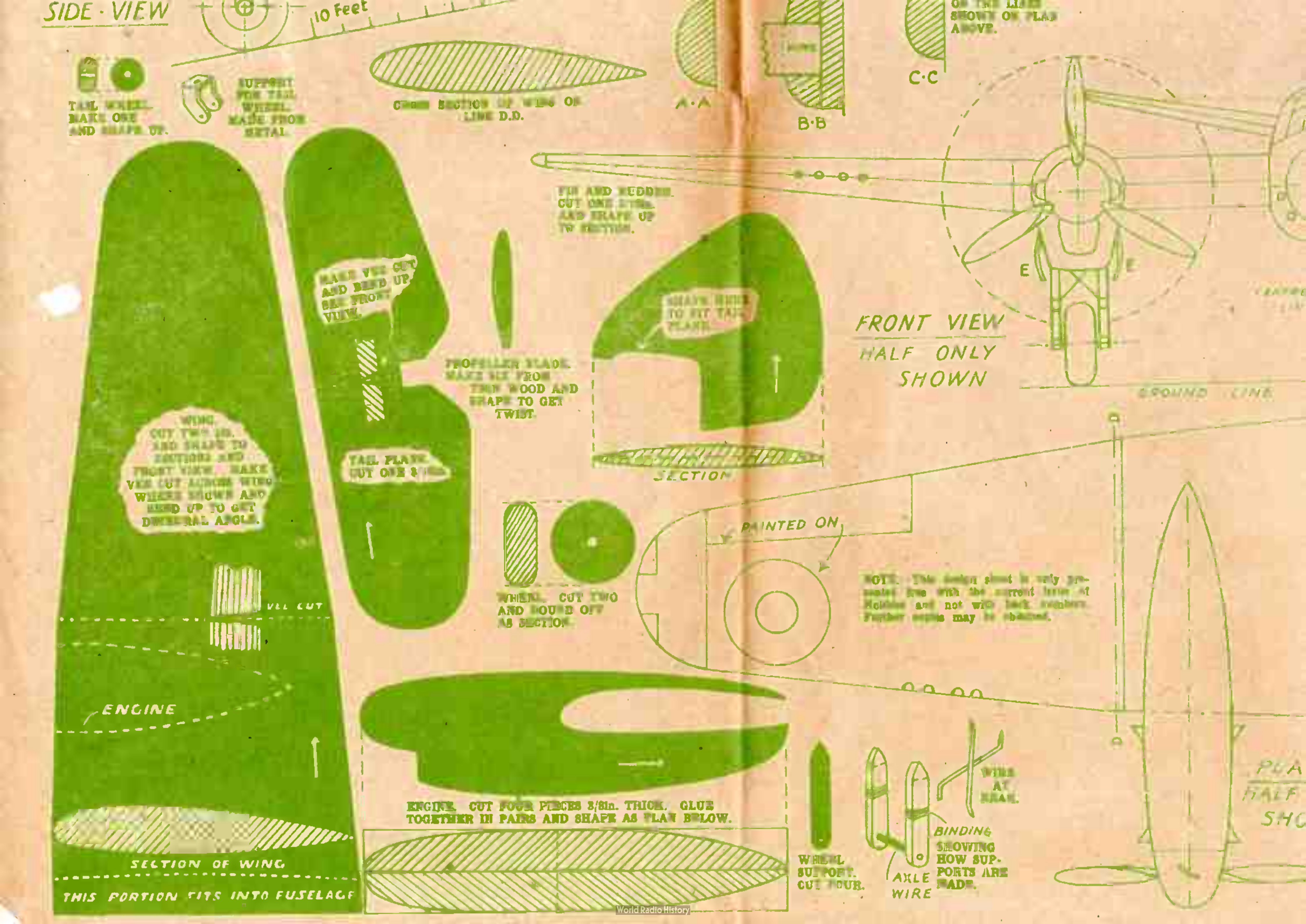
— SCALE
¼in — 1 foot

PANELS OF WOOD REQUIRED FOR THIS DESIGN

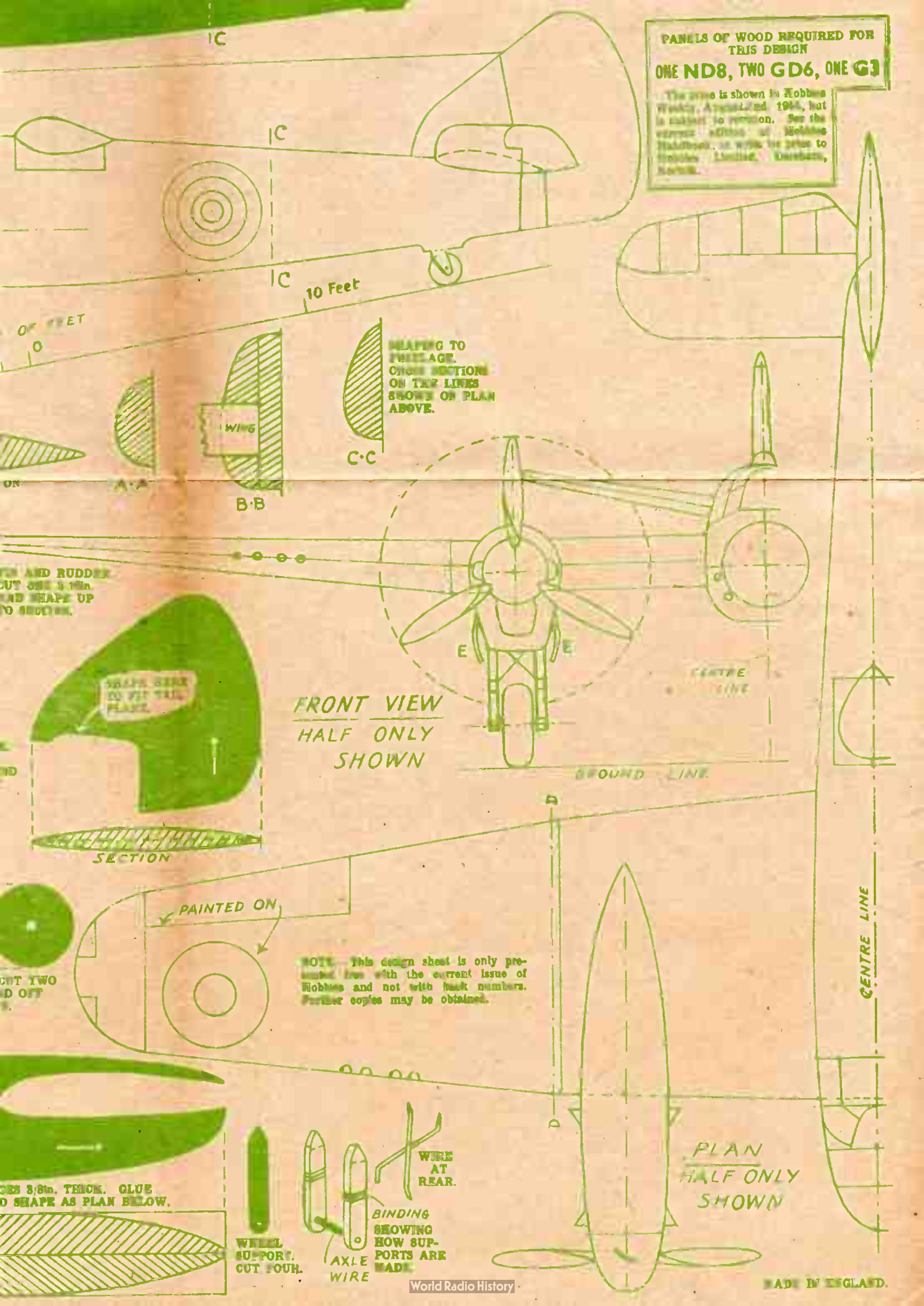
ONE ND8, TWO GD6, ONE G3

The price is shown in Hobbies Weekly, August 2nd, 1944, but is subject to revision. See the current edition of Hobbies Handbook, or write for price to Hobbies Limited, Dereham, Norfolk.





SIDE · VIEW
10 Feet
CROSS SECTION OF WING ON LINE D.D.
A·A
B·B
C·C
FIN AND RUDDER.
FRONT VIEW
HALF ONLY
SHOWN
GROUND LINE
E
PROPELLER BLADE.
TWIST.
SECTION
PAINTED ON
VEE CUT
TAIL PLANE.
WHEEL. CUT TWO
AND ROUND OFF
AS SECTION.
ENGINE
ENGINE. CUT FOUR PIECES 3/8in. THICK. GLUE
TOGETHER IN PAIRS AND SHAPE AS PLAN BELOW.
SECTION OF WING
THIS PORTION FITS INTO FUSELAGE
WHEEL
SUPPORT.
CUT FOUR.
AXLE
WIRE
WIRE
AT
REAR.
BINDING
SHOWING
HOW SUP-
PORTS ARE
MADE.



C
C
C
10 Feet
SHAPING TO
FUSELAGE.
CROSS SECTIONS
ON THE LINES
SHOWN ON PLAN
ABOVE.
WING
A-A
B-B
C-C
PANELS OF WOOD REQUIRED FOR
THIS DESIGN
ONE ND8, TWO GD6, ONE G3
FRONT VIEW
HALF ONLY
SHOWN
E
E
CENTRE
LINE
GROUND LINE
SECTION
PAINTED ON
NOTE. This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.
CENTRE LINE
PLAN
HALF ONLY
SHOWN
WIRE
AT
REAR.
BINDING
SHOWING
HOW SUP-
PORTS ARE
MADE.
AXLE
WIRE
WHEEL
SUPPORT.
CUT FOUR.
MADE IN ENGLAND.

MODEL BEAUFIGHTER

THE patterns provide for the building of a non-flying type Beaufighter model, with a span of 14¼ins. and a length of 9⅞ins. The wood is provided as shown and tbe thicknesses needed are indicated against each pattern. Transfer these patterns to the wood, and cut out the outlines with the fretsaw.

The fuselage is made of three pieces of [illegible]in. stuff, two of which have an open slot cut in them to take the root of the wing. Notice that the cockpit and astradome on top are cut as part of the block, and must be shaped in afterwards. Round the solid block off according to the plan, and side view, using rasp, file and glasspaper. A section of the shape is given in the shaded portion on the lines A, B and C.

Each wing is cut to the shape shown, and a dihedral obtained just outside each engine. This tilt to the wing tip is obtained as follows. With a fairly coarse saw, cut down a slight V from the top of the wood on the top of the line shown.

Carry it almost through the board, then steam the part and gradually press the outer portion upwards to get the angle required as shown in the front view. Put some glue in the V before it is closed, and fix the whole thing until it is set. A piece of adhesive tape will help to hold the part together temporarily. Be sure to get the dihedral on both wings the same. This is done, of course, after the shaping has been completed. The shaded cross section shows the curve required from leading to trailing edge.

To the front of each wing at the position shown, is fitted the engine nacelles. Each engine is built of two pieces of ⅜in. wood glued together and rounded as shown. The air intake below can be afterwards painted, or if you wish, can be hollowed out with gouge to make more realistic.

The engines are afterwards slipped over the end of the wing, and up towards the root where they are glued in position where indicated. Get them to fit snugly and pointing forward parallel with the fuselage, not at rightangles to the leading edge of the wing.

The tailplane has dihedral which can be made similar to that in the wing. It is afterwards shaped and glued in place in the little recess in the top of the rear end of the fuselage itself. Bed it snugly and over the top glue on the fin and rudder portion vertically. Shape these to take the rounded tailplane and glue securely to the fuselage itself.

Small details are shown of the construction of the landing wheels and gear. Note the two wire struts between the upright wooden legs. The top of these wire supports are filed to a point, and driven into the engine nacelle to stiffen the whole thing. The position of the wheels is shown in the side and front view and the cover doors are made from card and glued on with little tape tabs the whole length.

The airscrews are cut from thin wood and shaped to take a normal twist before being let into the front end of the engine which forms the spinner. The actual line of the spinner must, of course, be painted on afterwards.

The model should be painted before the airscrew, aerials and wheels are added, although they should have been made and tested. Clean the groundwork thoroughly before putting on the first coat of paint, and finish off with a matt surface in the appropriate colours.

Add roundels and other markings as indicated, and get an imitation cockpit by painting the front a light blue for glass, and black lining for the framework. The aerial mast and lead can be added finally, whilst thin lines indicative of ailerons, step holes, gun ports, entrances, etc., are put on in black.