

# Hobbies

## WEEKLY

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## A WALL SUNDIAL

THIS is an interesting form of sundial to make, especially useful where space in the garden is limited. The board, Fig. 1, is made of wood, stout wood about 1in. in thickness. The method of construction recommended can be followed easily enough from the diagram. Use T and G boards if possible—a piece of floor board would serve nicely, if free from knots.

Glue together and cramp up until the glue is set hard. The ends are

then reduced to form tongues,  $\frac{3}{4}$ in. thick and  $\frac{1}{4}$ in. long. Cut the end clamping pieces to size given and a little longer than the width of the board, so as to overhang each side.

In these pieces cut grooves to admit the tongues on the board, glue up and add a few nails to tighten the joint. These clamps are then bevelled off, as at A, the ends being bevelled also to suit.

Give the board a good rubbing with glasspaper and then three coats of white paint all over, back as well,

letting each coat dry before applying the next. The final coat should be lightly rubbed over with worn glasspaper to smoothness.

Screw a pair of brass wall plates to the board for fixing it in position afterwards. Now for a pattern for the dial.

The first thing is to ascertain the aspect of the wall, how far it declines E or W from true S. This can be done very simply. Draw on a sheet of cardboard three concentric circles, as in Fig. 5, the largest about 6ins.

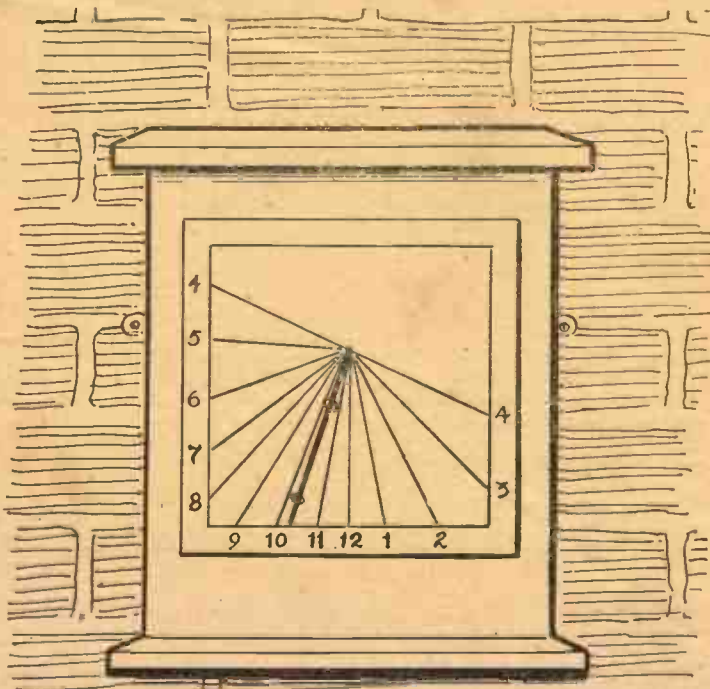
### Marking the Hours

Cut a disc of cork from a bottle cork, push a needle through it and push the point of the needle through the centre of the circles. Let the needle stand vertical about 1in. or more. Lay the card, with its edge B against wall of house, any time before 12 o'clock (G.M.T.) and watch the shadow of the needle. When it touches one of the circles make a pencil mark at the exact spot.

A little after 12 o'clock watch the card again and when the shadow again touches the circle (same circle as before) make a second mark. Bisect these marks, and from the point of bisection, draw a line C, through the centre of the circles. This line points due N.

Draw a line DE at right angles to the N line, and measure the angle between this line and line B. This angle will be the angle of declination, E or W.

In the example given the angle is 20 degrees E and the sundial will be a 20 degree SE decliner. With this information proceed to work out the pattern for the dial as follows, on drawing paper, as in Fig. 2.



Draw horizontal line AB and at right angles to it CD. This line is the 12 o'clock line of the dial. On centre E, and with any radius, describe the quadrant CEF. Draw line CG, equal to the complement of the angle of latitude.

Through centre E draw line HI, at an angle with line AB equal to the declination E or W of the wall. (In this case 20 degrees, E).

Again on centre E, and with distance EG, strike an arc to the line HI, and from there erect perpendicular KL. Measure off KL and make EM the same, and draw a line from C through M and continue a little distance down. This is the line on which the gnomon will be fixed.

Through M draw a long line, at right angles to the gnomon line. This is the tangent line. On this make distance MN equal to EL and draw line CN. The angle between CN and CM is the angle of the gnomon, dealt with later on.

Now for the hour lines. From centre M, measure off a distance near to N, say  $\frac{1}{2}$  in. less, and prick this off on line CM, from M to NN, and from centre NN describe the semi-circle OP, a large one preferably.

Now strike a line from NN through the point where the tangent line cuts line CD, and extend it to the semi-circle at Q and from there divide the semicircle into equal parts of 15 degrees each.

### The Hour Lines

Lay a ruler from NN to each division in turn on the semi-circle, and make a mark where each line would cut the tangent line, then draw lines from C through these points on tangent line. These will be the hour lines and should be marked.

Limitation of space prevents showing where the hour lines IV and V cross the tangent lines. Hour line IV a.m. is a continuation of IV p.m.

It should be mentioned here that the complement of the angle of latitude is the difference between the angle of latitude of the place lived in (to be got from atlas, or map) and one of 90 degrees.

For example, latitude of London, 51 degrees, complement of angle, 39 degrees. Now make a tracing of the hour lines on the pattern, and include line CM—the line where the gnomon is to be fixed.

Readers whose wall may decline S.W. instead of S.E., can work out a

sundial as follows. As the declination is in the opposite direction, strictly speaking, the tangent line should rise to the left instead of right, and the quadrant, etc., be on the left.

### For S.W. Wall

In actual fact, however, it is simpler to draw a S.W. decliner exactly the same way as a S.E., tracing the hour and gnomon lines as before. But the tracing should be used on the reverse side—being turned over.

The same effect is obtained if the drawing is done on paper with a carbon paper, coloured side up, underneath it, giving a reverse impression. Turned over, the reverse

brush, but needs care.

When dry, lay the tracing over, the 12 o'clock line on it directly over the pencilled centre line of the squares, and point C about 3 ins. down from the top. Place a piece of carbon paper underneath and trace the hour and gnomon lines through.

The hour lines can then be painted carefully on, also the numerals as shown in the general view of the sundial.

### The Gnomon

The last part to make is the gnomon, which casts the shadow. This is shown in Fig. 4. Make line FG the same length as the gnomon line on dial. Draw line FH making

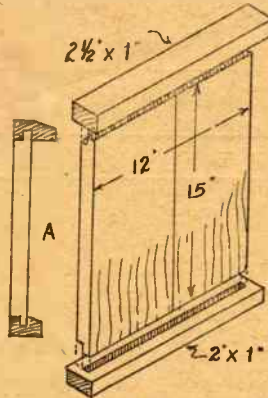


Fig. 1—Details and dimensions of board

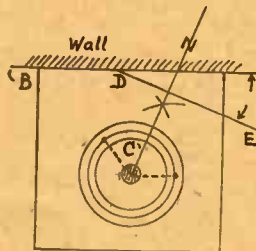


Fig. 5—The angle card

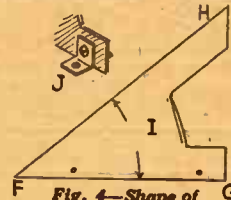


Fig. 4—Shape of Gnomon

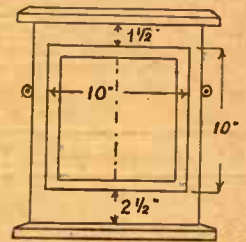


Fig. 3—Panels of the wall board

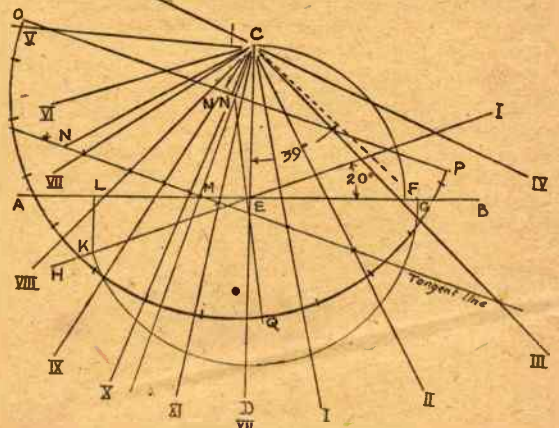


Fig. 2—Working out the hour lines

impression is the correct one.

Remember, however, that the hour lines should be re-numbered, the A.M. ones being on the left and the P.M. ones on the right of the 12 o'clock line.

On the board paint the two squares, as shown in Fig. 3 of 10 ins. and 8  $\frac{1}{2}$  ins. respectively, and draw a pencil line down the centre. The painting in can be done with a fine

brush, but needs care. the angle I the same as the angle between lines CN and CM on the pattern. Cut to shape from thin sheet brass (not too thin).

Fix the gnomon to the dial, with small brackets, as at J, with its tip, K, tracking point C and itself on the gnomon line.

Now fix the completed sundial to the wall with nails or screws, plugged between the brickwork.

## “Salute the Soldier” Cut-out Figure

In our issue of April 19th, we had a reproduction of the famous “Salute the Soldier” Figure in connection with the various “Weeks” being held. It was suitable for cutting out as a striking statuette in wood, and in order to meet popular demand we offered reprints of it for 9d. a dozen. The figure is 5 ins. high and is easily cut out with

a fretsaw and made to stand quite realistically.

We still have a few of these reprints left, and those who have “Salute the Soldier” Weeks still to come, should obtain a supply to help the appeal. These reproductions are obtainable, as long as our supply lasts, from the Editor, Hobbies Weekly, Dereham, Norfolk, for 9d. a dozen post free.



# War-time needs and difficulties overcome in these HANDYMAN'S NOTES

**A**MONG our readers there are probably many who have commenced the work of model making and the use of the fretsaw on fretwork, but have not had any detailed guidance of the work they are going to undertake. There will probably be also many others who will be interested to reach a number of points of which they are probably not now aware.

No matter how many years a craftsman may have been at the game, there are always some new ideas to be learned and some new methods to be undertaken which will not only lighten the actual labour, but also reduce the time involved in completion of the work.

## Know the Job

One of the first points to be suggested is surely to know your design and what it is going to turn out to be, quite thoroughly, before commencing work. So often beginners just glance at the patterns and immediately cut them out to paste on the wood, and straight away get down to the job of sawing, shaping, and construction.

Then, half-way through they find they have to spend quite a lot of time

trying to sort the parts out to see where they should fit. This is never so easily done in such a case.

Far better, surely, to make a complete study of the sheet and patterns and instructions before you begin. The pattern sheets which we give, as well as the smaller designs printed on our cover pages occasionally, have a number of detailed instructions against each pattern.

## Completing Designs

Sometimes two patterns are put together to save space. Sometimes only half an outline is given, and the other half has to be reproduced. Sometimes in cutting two parts alike, one has to have additional frets or apertures cut into it.

Therefore, before you begin work, make a complete study of your design, "read" the patterns carefully and peruse the instructions thoroughly. This will form a simple conclusion, surely, in fretwork designs, but in the making of a model is apt to become more involved.

By making such a study, however, you should have in your mind's eye a clear picture not only of the finished article, but of the method in which it is put together.

The actual construction of, say, a

tank, a ship, or a gun, involves the placing of quite a number of small parts, and their position should be understood before any piece is commenced upon. It is like trying to put all the parts of a clock together without realising where the various gears, ratchets, etc., have to be placed.

First of all, therefore, study your pattern sheet and make sure you know the whole construction before commencing to cut out.

## Saving Time

The next thing to realise, too, is that a good deal of work can be saved by marking the shapes to be cut on to the wood itself rather than paste down the paper pattern. This is not, of course, possible or advisable in intricate fretted work.

The design patterns have been carefully prepared by the designer, and produced correctly by the printer. It is not so easy to copy them off by the average amateur, and the pasting of them down is advisable.

On the other hand, many of the parts—particularly in model work—may be plain shapes with straight lines forming squares or rectangles, or ordinary geometrical shapes. These can quite easily be transferred to the wood itself.

## Transferring the Pattern

One method is to fit the design down to the board and hold it there with drawing pins. Then, with a sharp awl or similar needle-pointed tool, prick a slight hole through each corner or angle of the part to be marked out. Be careful not to get the pricked hole too large, and be sure also to get the piercing exactly through the point of the angle at the corner.

Take away the design paper, then connect up the holes with a ruler or square. Test out the angles to see they are a true right-angle, in order to ensure a proper shape.

These lines, by the way, should be marked in with a fairly hard pencil. This will make a definite narrow line which is not likely to be rubbed out in use.

## Saving Saws

In these days, fretsaws are scarce and it behoves us to use them with greater care than ever to ensure a long life for them. For this reason, as well as others, it is probably advisable to use a tenon saw on any straight lines which have to be cut.

## A REAL MODEL "LANC"

This is surely something like a model! It doesn't fly, but it is a realistic replica which is complete in many more details than you usually find. The airscrews, for instance, revolve from power actuated by an accumulator in the fuselage, and the bomb doors open and close on controls in the cockpit whilst the bombs themselves are released in similar manner. The under-carriage retracts correctly, gun turrets rotate and an electric battery provides illumination to the navigation and landing lights.

The worker to be congratulated on this large-scale model is Alan York, a 17 year old craftsman of Staveley Road, Wolverhampton, whom you see in the picture. The work took six months of spare time to complete, but it is a splendid achievement for any worker.



Photo by permission of Wolverhampton Express.

A small tenon saw is best, and it must, of course, be guided along the flat surface of the wood carefully so it does not break into the rest of the board.

Remember, too, that the teeth on a tenon saw have a certain amount of set, and allow for this when it is used to cut the edges of a part. If the saw is used dead centre on the cutting line, there will be a little wastage on either side, and if this is done on all four edges, then the receiving piece will be decidedly smaller than it should be.

#### Use a Tenon Saw

Use your tenon saw, therefore, so that the inner edge of the teeth are along the line itself, and no wastage or width of cut will be made in the spare wood outside the dimension of the piece to be used.

In cutting these straight lines with the tenon saw, take an easy sweep and do not try to force the blade through too quickly. If you do, the teeth are apt to tear the wood on the reverse side, and so entail a good deal of cleaning up afterwards with a glass-paper block. Wherever possible, too, hold the wood in a vice and guide the first cut with the thumb nail to prevent it gashing into the wood.

The fretsaw itself can be used on the thin wood wherever curves are required, and here again the work must be done carefully and methodically in order to conserve the precious fretsaw blades.

#### Preventing "Jump"

A lot of the trouble is due to the fact that the worker does not hold the wood down firmly to the bench or cutting table. He is usually afraid, particularly as a beginner, that it should leap up at him and so break the saw. This is more likely to occur if one does not conveniently hold down the wood firmly. The sawblade is most likely to be broken by being twisted when the wood jumps.

For interior work, of course, a small hole has to be made to allow the fretsaw blade to be threaded through. Here again, present-day scarcity of drill bits is a problem. Like everything else, however, it is one which can be overcome by a little thought and ingenuity.

#### Holding a Drill

An ordinary fretwork drill bit in the hands of the experienced craftsman seldom breaks. The worker who is constantly breaking them has really only himself to blame, because it is carelessness very often which is the cause of the trouble. If the drill is held upright and the pressure applied gradually whilst the motion of the bobbin rotates the drill, then there should be no trouble so far as the boring is concerned.

It is usually in the extraction where

the breakage occurs. So many try just to pull the drill straight out, and at an angle. The bit has made a hole only sufficient to allow itself through, and consequently must be withdrawn straight through that hole.

If you try to pull it out with the drill sloping and not upright, then obviously the delicate end of the bit is going to break off at the narrow neck. Hold the wood firmly with one hand, and the drill equally firmly with the other. Rotate the latter gradually, at the same time pulling upwards with the straight even motion, keeping the drill turning much as if you were extracting a screw.

On the other hand, if you have come to the point where all drills have been broken and no further supplies are available, then you must find some substitute. In many cases, a small bradawl can be used on soft wood. This makes a larger and more ragged hole than the ordinary drill bit, but unless the tiny part to be cut out is very small, the size of this hole is immaterial.

#### Making a Borer

Another plan is to file a small bradawl down to a point so it will make a suitable pricker. A long, narrow, tapering point should be made, which should be pressed through the wood to make the desired hole.

Here again, it should be turned with pressure from the palm of the hand, gradually boring into the wood until a point is shown the other side. Then reverse the wood and bore a hole from that side until it is large enough to allow the entrance of the blade.

These tiny holes are sometimes the cause of the breaking of the fretsaw, and a little care with them should be entertained. If the hole is not large, the end of the blade is sometimes pushed into them carelessly, and the whole thing snaps.

#### Mind the End

Take care to get the wood held at a right angle to the end of the blade, and pass it through gradually, threading the whole blade on with a gentle persuasive movement rather than a hard piece of force. If you have no bradawl, you might be able to substitute a long, thin nail.

Here again, however, the point should be filed to make a sharp piercer, and the boring can be done by gentle taps with a light hammer on to the head of the nail until a satisfactory hole is made. This method is not recommended in tiny pieces of wood where the nail borer is likely to snap the part.

By watching these points, the worker can largely overcome some of the shortage of supply troubles or replacements.

## A SIMPLE DART CASE

**D**ART cases are easily made, providing the leather available is thin and pliable. The next best thing is leatherette. One cannot give precise dimensions owing to the various sizes of darts in use.

There are two ways the case may be made. The pouch end may be allowed for in the length of the material or else it can be a separate piece sewn on, the same as the strap.

Find the adequate length and width required by setting the darts on a strip of the leatherette and folding the ends over them to form the pouch and the tucking-in flap end. Having ascertained your requirements in this manner, cut the material to size.

#### Folding and Sewing

The pouch is folded over, then the strap glued across the width at such a distance so as not to interfere or press on the dart flights. The work is then run through a sewing machine, going all round the outside edges, as shown.

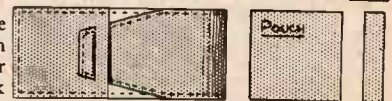
Naturally, the face side of the leatherette is kept to the outside, as indicated by the mechanical stipple (shading). You should get your mother, or sister, to sew the material together on a machine.

If a sewing machine is not available

the sewing can be done by hand. In the case of thin leather, such as kid the sewing will need to be done by hand.

All thread holes should be made with a pointed bradawl or burnishing awl. Use a good, strong thread. Thin, waxed, black (or brown) thread is the best thing to use.

There is no need to continue the sewing all round the edges of the work, unless desired. A thimble should be worn on the third finger, or second finger, for it is dangerous to try and push the needle through



with bare fingers, the head often penetrating the flesh when not expected.

Note the cut made in the pouch for the flap. The flap can be tucked into it, as shown, or through it. A small piece of thin card, or wood, put beneath the pouch, will enable the slit to be cut.



# How to overhaul your cycle before you become THE SUMMER CYCLIST

**A**LTHOUGH summer is still a little distance ahead, now is the time to overhaul one's machine by cleaning it, making necessary adjustments, fitting parts, enamelling rusty spots, oiling bearings and doing all the countless little jobs that are invariably "put off" when the good weather eventually comes along.

After the winter months, a bike needs cleaning. It will look damp and clammy, feel damp and clammy—and is bound to be damp and clammy, for in spite of every care, dampness has been in the atmosphere and it gets everywhere.

If the cycle has been laid up chromium-finished parts will, of course, have had a preserving coating of vaseline smeared on them (chromium is not damp proof, incidentally; it reacts to dampness much in the same way as brass, copper, etc.). Wipe the vaseline off with a rag when you begin to clean the bike.

## Frame Cleaning

The frame, including the mudguards, should be brushed, using an old whitewash brush, hand-brush, etc. to remove most of the thin layer of gritty dust. The enamelled parts are then wiped with a dry cloth, preferably a waste rag. When wiped fairly clean, go over the parts with a rag slightly saturated with paraffin oil.

Allow the thin, oily smearing to dry. Clean off with a piece of flannel. The paraffin enables the smooth enamel finish to be rubbed into a bright, glossy sheen that almost dazzles the eyes when caught in, and reflecting, a shaft of sunlight. Dry-cleaning in this manner is better than using soap and water, particularly on a new bicycle.

## Enamelling

Avoid applying a new coating of enamel to a bike frame, unless absolutely essential. It is entirely wrong to do this, each year, as some do.

One can never obtain the same smooth, hard, glossy finish as that produced by the manufacturer. Moreover, stove enamel and bicycle enamel is difficult to obtain these days, and besides, when the original finish has been enamelled, a lot of features are hidden beneath it, such as the important, decorative transfer designs giving the manufacturer's name, the class of bicycle, etc.

Never enamel a bicycle, if it can be avoided. Such things as a metal carrier, saddle springs, pedals, cranks, mudguard supports and odd, rusty,

bare spots on the frame may be touched up, but never the whole of the bike frame.

## Adjustments

If any adjustments are necessary, make them prior to painting up parts. Exposed places, as an outcome of certain adjustments in respect to the saddle pillar, handle-bars, brake fittings and so on, can then be touched up together with the other spots. This is better than applying enamel, allowing it to dry, then finding you have to touch up exposed places as a result of necessary adjustments.

Attention and time should be given to adjustments. See to the saddle height first. Get it correct to suit your legs; raise, or lower, the angle of the pommel (fore-end of the saddle so you sit comfortably. There is not much backward and forward movement in saddle seats; an in. or 1½ ins. is about the limit.

If you find you sit too much forward—too near the handlebars, the in. or 1½ ins. of adjustment backwards will make a great difference to your comfort. Pommels should never be too high or too low. Sitting upright on an elevated-pommel saddle, you may notice nothing, but when pushing the jigger up a hill, with back bent well forward, the high pommel will make itself felt in no uncertain manner. When the pommel is too low, there is a tendency to keep sliding forward off it. The best angle is found by individual experiment.

Handle-bars, like saddles, should not be too high or low. Old people generally prefer a high handle-bar position, for they can (as you may have noticed) sit almost upright on the saddle. You, however, who are young, should avoid an upright position on a bike. Apart from the rather odd feeling, pedalling is difficult. And in a fairly stiff breeze, you cannot bend forward to cut down as much wind resistance as possible. Again the only advice that can be given is to experiment.

In the beginning of summer, oiling and greasing is often a scamped job. It should be done diligently, for lubrication is about the most important thing about a bike requir-

ing attention. If sadly neglected, ball-bearings become pitted, the cones and collars wear out and the wheels squeak. Chains (so hard to obtain) become rusty and stiff, not to mention brake cables.

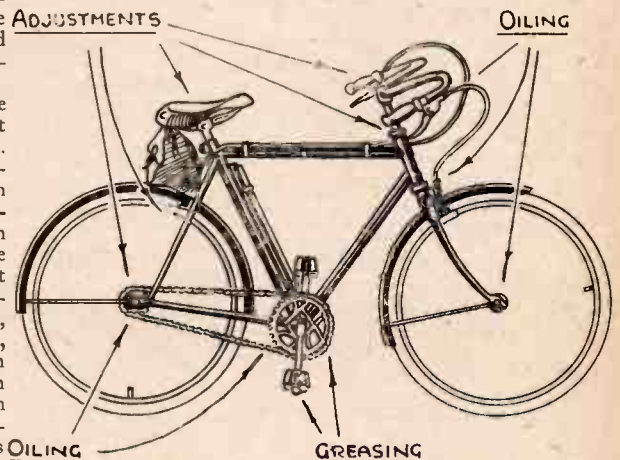
## To Clean Bearings

A quick, simple, efficient way to clean the bearings in wheel hubs is to tilt the bicycle against a wall at a good angle, then turn the wheels around until the oiling "nipples" are uppermost.

A large oil-can, filled with paraffin oil, is wanted and the paraffin is injected into the hubs until these overflow. Wheels are given several quick turns to work the paraffin into the sticky, black oil and loosen it, following which the bike is inclined against the wall again and the dirty oil allowed to filter out.

After draining, new lubricating oil is injected into the hubs. A motor-car, or motor-bike, lubricant is the proper stuff to use. The usual bike oil is just too thin. A much thicker oil is needed for, after cleaning hubs as described, there is always an amount of paraffin left in them that reduces thick oil to the right consistency.

Regarding chains, you all know how these are best treated when stiff and rusty. A thorough soaking in a deep plate containing sufficient paraffin oil to cover the chain (which



should be curled up), followed by a stiff brushing to remove clotted oil and dirt, then by wiping and drawing the chain through a dry, clean rag. It is only after the chain has been replaced on the bike that it should be lubricated, using graphite paste, vaseline or a thick oil.

# STAMP COLLECTOR'S CORNER

## AMERICAN MIDDLE ISSUE

THE stamps of U.S.A. rival those of Great Britain in popularity and interest, for no other country has a finer range or has maintained such a consistent high level in colour and design. The three lowest values of the 1870-1882 Bank Note printings (see Figs. 1-3) offer a particularly interesting study for several reasons.

Firstly because they are easy to get, secondly, because there is a wonderful range of shades, thirdly because it is astonishing how often they are mis-identified, even by people who



Fig. 1—1c. blue (Franklin) Fig. 2—2c. brown (Jackson) Fig. 3—3c. green (Washington)

have had considerable experience. It must be made clear at the outset that there are four main issues in this period of a dozen years. The first was printed by the National Bank Note Co. in 1870-71 on a thin hard paper. The second was by the Continental Bank Note Co. in 1873, also on a thin hard paper.

### Different Paper

The third was by the American Bank Note Co. in 1879 on a soft thicker paper, and the last by the same company in 1881-82 on a similar paper but from re-engraved or re-touched dies.

The papers mentioned above were not invariably used in the different printings. Some of the Continental Bank Note printings, for example, are on a soft porous paper similar to that used by the American Bank Note Co. Others are on "ribbed" paper or on an experimental "double paper," patented by C. F. Steel.

### Paper Examination

The last two, however, are so comparatively rare that the ordinary collector need not bother about them.

The important thing to remember for identification purposes is that stamps on a thin hard paper are either "National" or "continental" printings, and that the vast majority of those of a soft thicker paper are either "American" or "Re-engraved." The easiest and surest way to distinguish the papers is to hold them up to the light.

The first, you will find, is almost transparent, every detail of the design showing up sharply on the reverse side. The second is opaque, with a woven texture, and often appearing to have almost a brownish tinge.

The two can also be distinguished by touch: the thin hard "clicks" if flicked between the finger and thumb while the soft porous has a woolly feel, without the springiness of the first. With practice, you will be able to tell which is which merely from their appearance.

It is necessary to emphasise this difference between the two chief papers used because it is owing to

carelessness about this that most of the mis-identifications occur.

Another general observation that might be helpful is that in the three issues that preceded the "Re-engraved," the colour in the oval background to the head is deeper in each successive issue, being darkest of all in the "American." This is particularly useful in identifying the 2c. red-brown of the "Continental" issue, and the 1c. blue of the "American."

### Look for a "Grill"

If you are lucky you may find that you have some of these stamps with a curious rectangular pattern of embossed points on the back. This is a "grill" or "grille." It is so called because it looks like the barred casement window in a prison door, though of course on a very tiny scale. The size varies from 8x8mm. to 10x10½ mm.

These are the first printings of the National Bank Note Co. and are much scarcer than the same stamps without grill. The 1c. ultramarine is the least common of the three with grill, especially mint or unused. A few thousand stamps of the "Continental" issue are known to have been issued with a grill, but they are so very rare that they can be ignored here.



Fig. 4—(a) National (b) Continental 1c.

It will be best now to take each of the three stamps in turn and note the chief changes it underwent in successive issues.

### The Picture of Franklin

The "National" and "Continental" 1c. carries a portrait of Benjamin Franklin and is ultramarine in colour, varying from a pale greyish to a brilliant bright bluish tint. The later printing can be distinguished from the earlier by examining the pearl nearest to the figure "1."

In the "Continental" printing there is a tiny stroke of colour in the lower part (see Fig. 4b), but in the "National" there is none (see Fig. 4a). The stroke may sometimes be faint, but if it is not obliterated by the cancellation it can always be made out and is an infallible test for these two issues.

(To be continued)

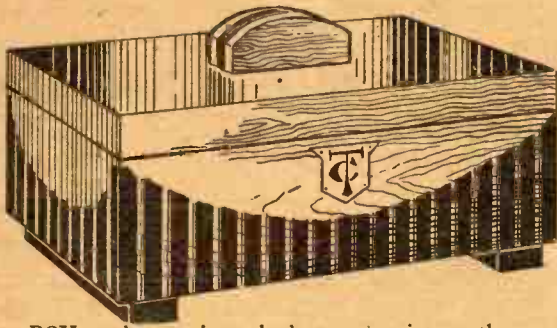
## Good Work in Rhodesia

AWAY in Southern Rhodesia they are doing a very good spot of work with the fretsaw for War Funds. S. P. Wakefield, of Salisbury, tells how he was asked to run a novelty at the monthly Morning Markets held there. "I was fortunate" he says "as I had a fretwork outfit left behind by a friend who joined the forces, and got a large quantity of waste pieces of three-ply wood from builders. I made lots of dolls' house furniture, toys and animals for children and many small articles for the household, jig-saw puzzles, etc. The high light, however, turned out to be sets of letters and figures. These I cut out from ¼in. wood, gave them one coat of flat

paint and one of glossy enamel. We put them in boxes, one set of letters or two sets of figures and covered the tops of the boxes with Cellophane. We priced them at 12/6 and 10/6 respectively, and they went like wildfire, the whole lot being sold within half an hour of opening the market. A further 37 orders were taken for sets to be completed in time for Christmas. Altogether my fretwork effort brought in just over £20. I am now busy with these 37 lots and may say that all this work is being done with a hand frame at nights and on Saturdays. I calculate that I have done over three thousand pieces during the last three months."



# Lower compartment and tray are fitted to this PAINTED TRINKET BOX



A BOX such as pictured here would make a splendid gift for a lady, and we think that some of our workers will find pleasure in making one. The interior size of the box is 9ins. by 4½ins. and it can therefore be used as a trinket box for the dressing table. There is a useful tray also provided which could be used for smaller articles.

It is difficult to suggest a suitable wood in these days as there is a dearth of fancy material that should be chosen for such an article as this.

However, it is still possible to get white wood and mahogany, and we think therefore that good contrast can be got by adopting these two woods.

The general construction of the box, the tray and the lid are clearly

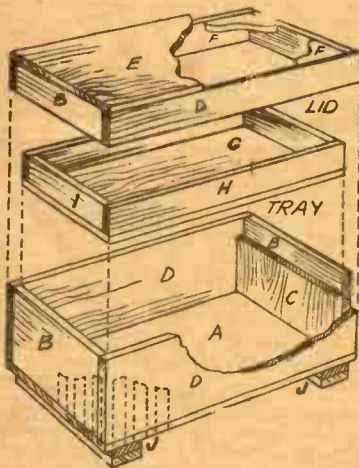


Fig. 1—Details of the three units

shown in the sectional diagrams in Fig. 1, and there seems little need, therefore, to tell in detail the actual assembly of the parts.

The box, which consists of floor A, ends B, sides D and top E is made up complete and is then sawn through on a line marked all round, 1in.

down from the top surface. There are two inner ends C, which some workers may prefer to put in the box before the cutting round is done.

This would be beneficial in as much that the sides and angles are strengthened by additional nails or panel pins which can be put through the sides into the parts C. Looking at C it will be noted that the grain of these two pieces runs vertically so that any nails driven into them do not run into end grain.

These two pieces form the rests for

## CUTTING LIST

- A—One 10ins. by 5ins. by ½in.
  - B—Two 4½ins. by 3½ins. by ½in.
  - C—Two 4½ins. by 3½ins. by ½in.
  - D—Two 10ins. by 3½ins. by ½in.
  - E—One 10ins. by 5ins. by ½in.
  - F—One 3ins. by 3ins. by ½in.
  - G—One 9½ins. by 4½ins. by 3/16in.
  - H—Two 9½ins. by 1in. by 3/16in.
  - I—Two 4½ins. by 1in. by 3/16in.
  - J—Four 5ins. by 1in. by ½in.
- Strips—One dozen pieces 12ins. long by ½in. in width and about 1/16in. or less thick.

the tray also. When sawing through to form the lid of the box, grip the whole thing firmly in the bench vice and cut with a tenon saw from one corner, partly through. Then remove and again insert so the double cut completes the work. Keep an eye also on the drawn lines on the two surfaces while cutting.

## Corner Stiffeners

In the lid diagram of Fig. 1 there are two strengthening corners shown. Make four of these, of course, and see they are cut with perfectly square angles before gluing in.

With a full sheet of medium/coarse glasspaper glued down to a flat-surface board, proceed to rub down the surfaces left by the tenon saw and also clean up all the other surfaces of the box and lid.

The end grain of the sides D where they join the ends B, should look perfectly level and neat, and if the joint has been well made it should hardly show.

Measure off carefully inside the box for the tray, keeping the measurements full so all sides can be rubbed down until a good fit is obtained. Put little loops of leather or tape to the tray at each end to facilitate lifting out.

When the tray is inserted in the

box and rests evenly on its supports at each end, the top stands a bit above the top edge of the box, thus forming a lip all round for holding the lid in place. If desired, the lid could be hinged along the back of the box instead of just lifting off.

## Side Decoration

The decoration consists of strips of darker wood cut to the simple curves shown and glued on. The curves should be set out on paper with the spacing of the strips too, so each piece can be marked accurately before cutting with the fretsaw.

If the strips are required very dark then each should be stained before it is glued to the box. Two cross-feet each consisting of two thicknesses of wood glued together, are fixed to the underside of the floor a little way in from the ends.

Quite a feature of the box can be made by adding any of the composite handles shown in Fig. 2.

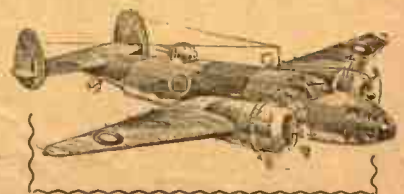


These are all made by gluing three pieces of different coloured wood and then cutting round to outline. Protecting tenons for gluing securely into the lid can be included on one or even all three of the pieces.

Varnish and stain is suitable as a finish to the box, or it may be oiled and rubbed up with wax.

## Our Free Pattern Sheet for making A MODEL VENTURA

The design (No. 2536) is given with this issue for a non-flying model in wood, with a 12in. wing span. A parcel of planed boards for its construction is obtainable for 1/6 from Hobbies' Branches, or 2/1 post free from Hobbies Ltd., Dereham, Norfolk.





# MISCELLANEOUS ADVERTISEMENTS, etc.

The advertisements are inserted at the rate of 3d. per word or group of letters prepaid. Postal Order and Stamps must accompany the order, and the advertisements will be inserted in the earliest issue. Frequent goods or those shown in Hobbies Handbook not accepted. Orders can be sent to Hobbies Weekly, Advertisement Dept., as below.

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**BOOK KEEPING BY POST,** inclusive fee 10/. S.A.E.—Stay, 25 Ranalagh Road, Sandown, I.O.W.

**AIR MAILS FREE** to approval applicants enclosing stamp.—Bloomfield, 51 Hackford Rd., London S.W.9.

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**INTERESTED IN STAMPS—** write 32 North Street, Goole.

**CHERRY WOOD PIPES,** easily made, good profits, unlimited market. Clear diagrams and instructions plus the secret of the C.W. perfume. 3/6, materials stocked.—H. Barham, Hilltop, Bradmore Green, Coulsdon, Surrey.

**SECONDHAND MOULDS** for making soldiers in battledress, planes, farm animals, wild animals, racing car, which runs on wheels, from 7/- each. Stamped addressed envelope for list.—15 Rosemary Gardens, Mortlake, London, S.W.14.

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## RECONSTRUCTION



Just as model builders have used Pyruma Putty Cement to build tactical models for war purposes, so will they and others build models for town-planning and reconstruction.

Pyruma is the home plastic which bakes stone hard, ready to be assembled, sized and painted in natural colours. Illustrated Instruction Sheet explains how to model in Pyruma, obtainable from 1/3 a tin, from your local Ironmonger, Hobbies Shops, Bassett-Lowke Depot and many Art Material Dealers.

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The arrows indicate the direction of grain of wood



RING ON FRONT OF ENGINE. CUT TWO 1/8". AND SHAPE TO SECTION.

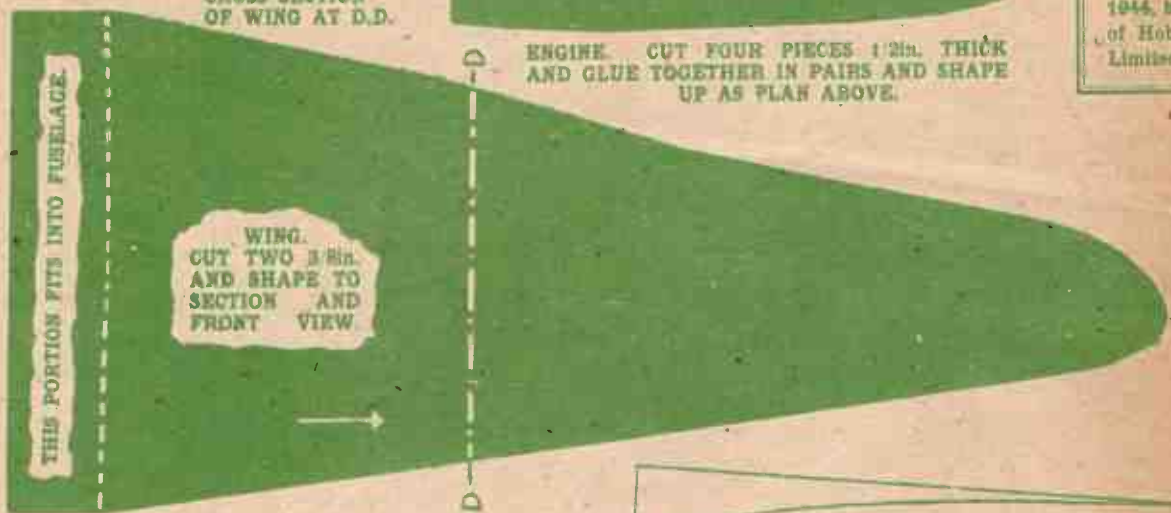


CROSS SECTION OF WING AT D.D.



ENGINE PLAN SHOWING THE TWO PIECES TOGETHER AND MARKED READY FOR SHAPING.

PANELS OF WOOD REQUIRED THIS DESIGN  
**ONE G2 ONE ND8**  
The price is shown in Hobbies West 1944, but is subject to revision. See the of Hobbies Handbook; or write for price Limited, Dereham, Norfolk.



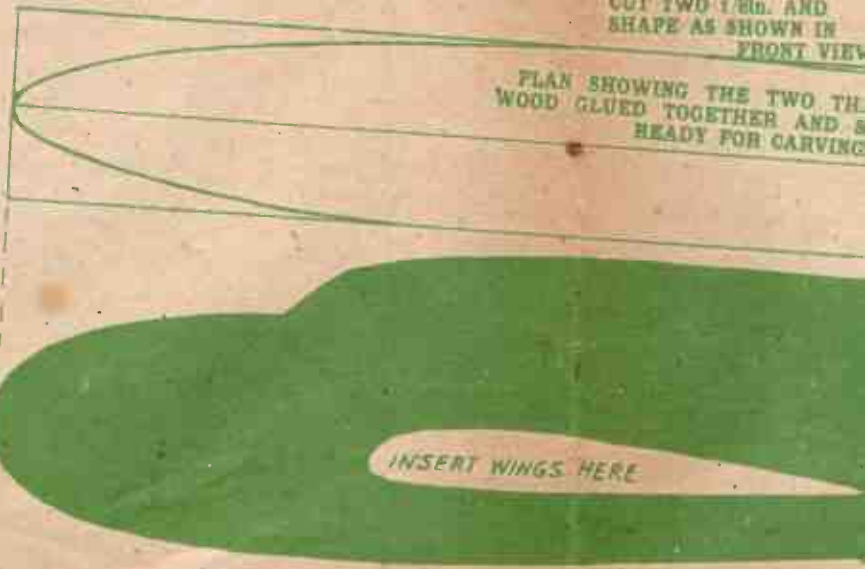
THIS PORTION FITS INTO FUSELAGE

WING. CUT TWO 3/8". AND SHAPE TO SECTION AND FRONT VIEW

ENGINE. CUT FOUR PIECES 1/2". THICK AND GLUE TOGETHER IN PAIRS AND SHAPE UP AS PLAN ABOVE.



TAIL PLANE TIP  
FIN AND RUDDER. CUT TWO 1/8". AND SHAPE AS SHOWN IN FRONT VIEW



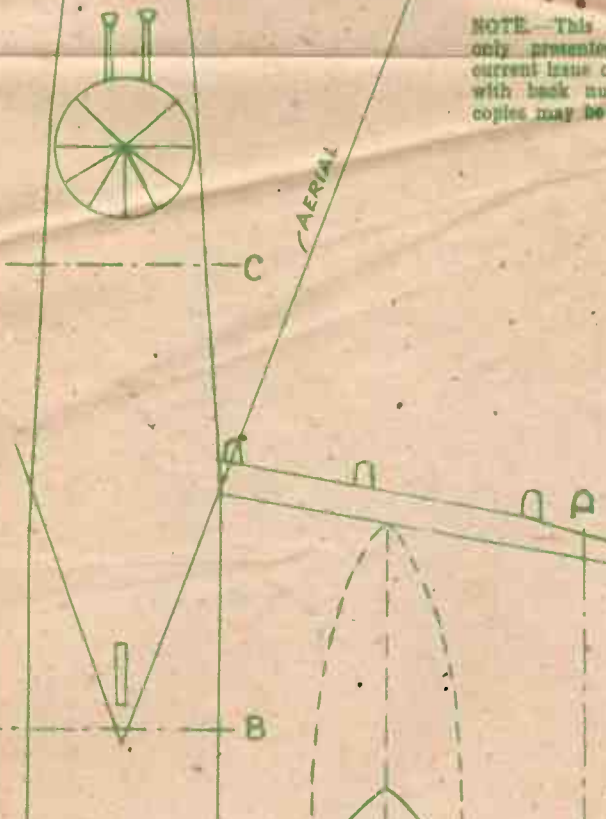
PLAN SHOWING THE TWO TH. WOOD GLUED TOGETHER AND READY FOR CARVING

INSERT WINGS HERE

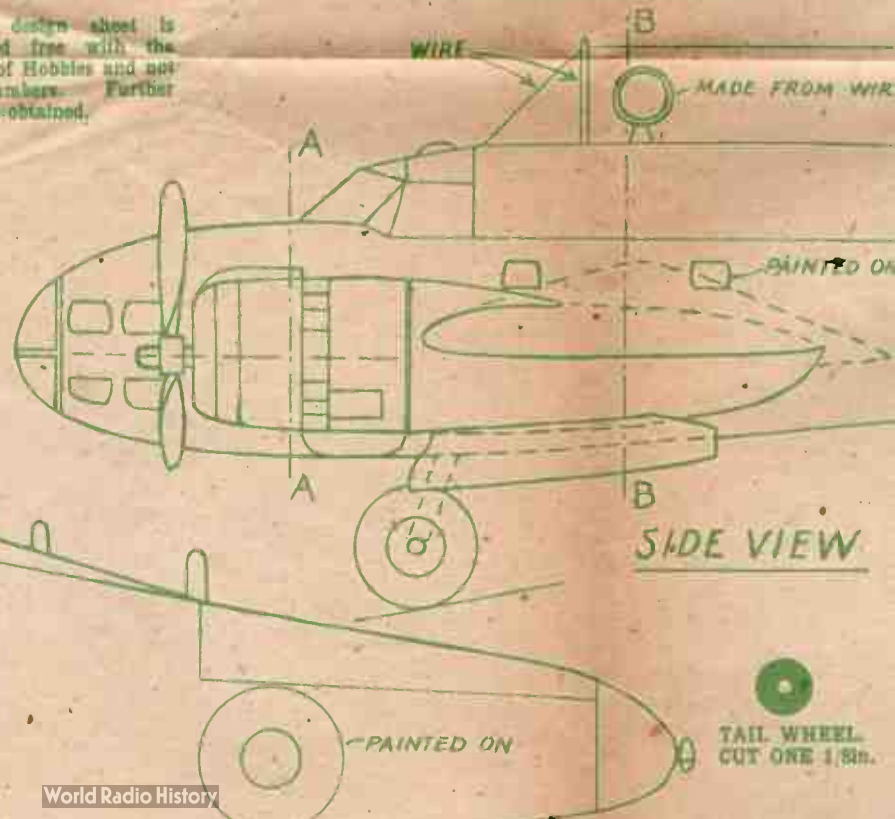


PAINTED ON

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AERIAL



SIDE VIEW

WIRE

MADE FROM WIRE

PAINTED ON

PAINTED ON

TAIL WHEEL CUT ONE 1/8".



The arrows indicate the direction of grain of wood.



DESIGN

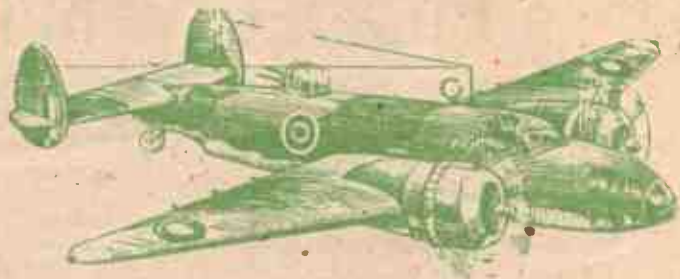
No. 2536  
24.544

SUPPLEMENT TO HOBBIES No. 2538.

MODEL OF

# LOCKHEED VENTURA

R.A.F. RECONNAISSANCE-BOMBER.  
SPAN 65 ft. 6 ins. LENGTH 51 ft.



PANELS OF WOOD REQUIRED FOR THIS DESIGN  
**ONE G2 ONE ND8 ONE GD6**  
The price is shown in Hobbies Weekly, May 24th, 1944, but is subject to revision. See the current edition of Hobbies Handbook, or write for price to Hobbies Limited, Dereham, Norfolk.

THICK SHAPE

SCALE OF MODEL  
5/16 in. = 1 FOOT.

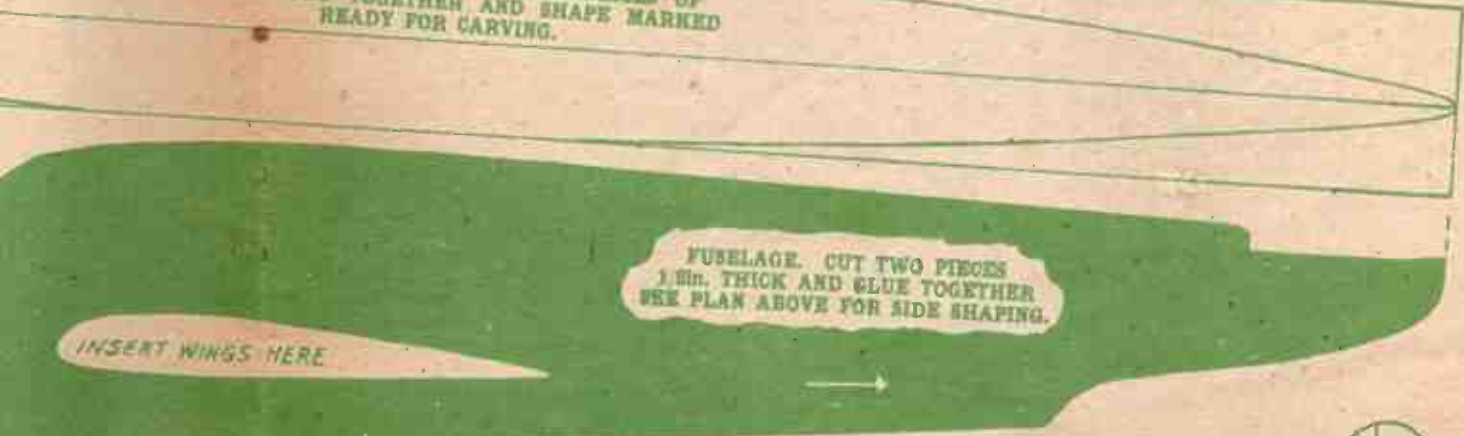


TAIL PLANE TIP  
FIN AND RUDDER. CUT TWO 1/8 in. AND SHAPE AS SHOWN IN FRONT VIEW.



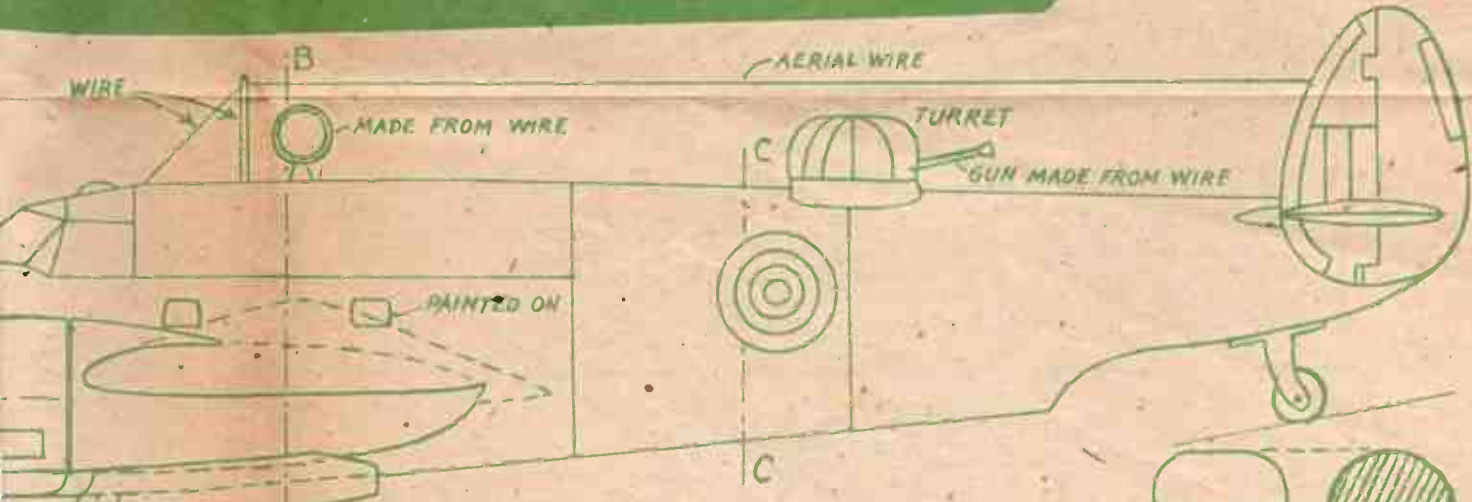
TAIL PLANE. CUT ONE 1/8 in. INCLUDING THE TWO END TIPS WHICH ARE GLUED TO FIN AFTER THIS HAS BEEN FIXED

PLAN SHOWING THE TWO THICKNESSES OF WOOD GLUED TOGETHER AND SHAPE MARKED READY FOR CARVING.

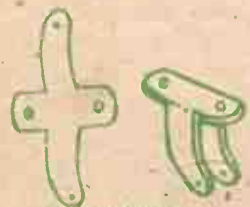


FUSELAGE. CUT TWO PIECES 1/8 in. THICK AND GLUE TOGETHER SEE PLAN ABOVE FOR SIDE SHAPING.

INSERT WINGS HERE



SIDE VIEW



SUPPORT FOR TAIL WHEEL. CUT ONE FROM TIN AND SHAPE UP AS

PROPELLER BOSS MADE FROM HARD WOOD. CUT TWO.



GUN TURRET ON TOP OF FUSELAGE.

CUT ONE 1/2 in. AND SHAPE UP.

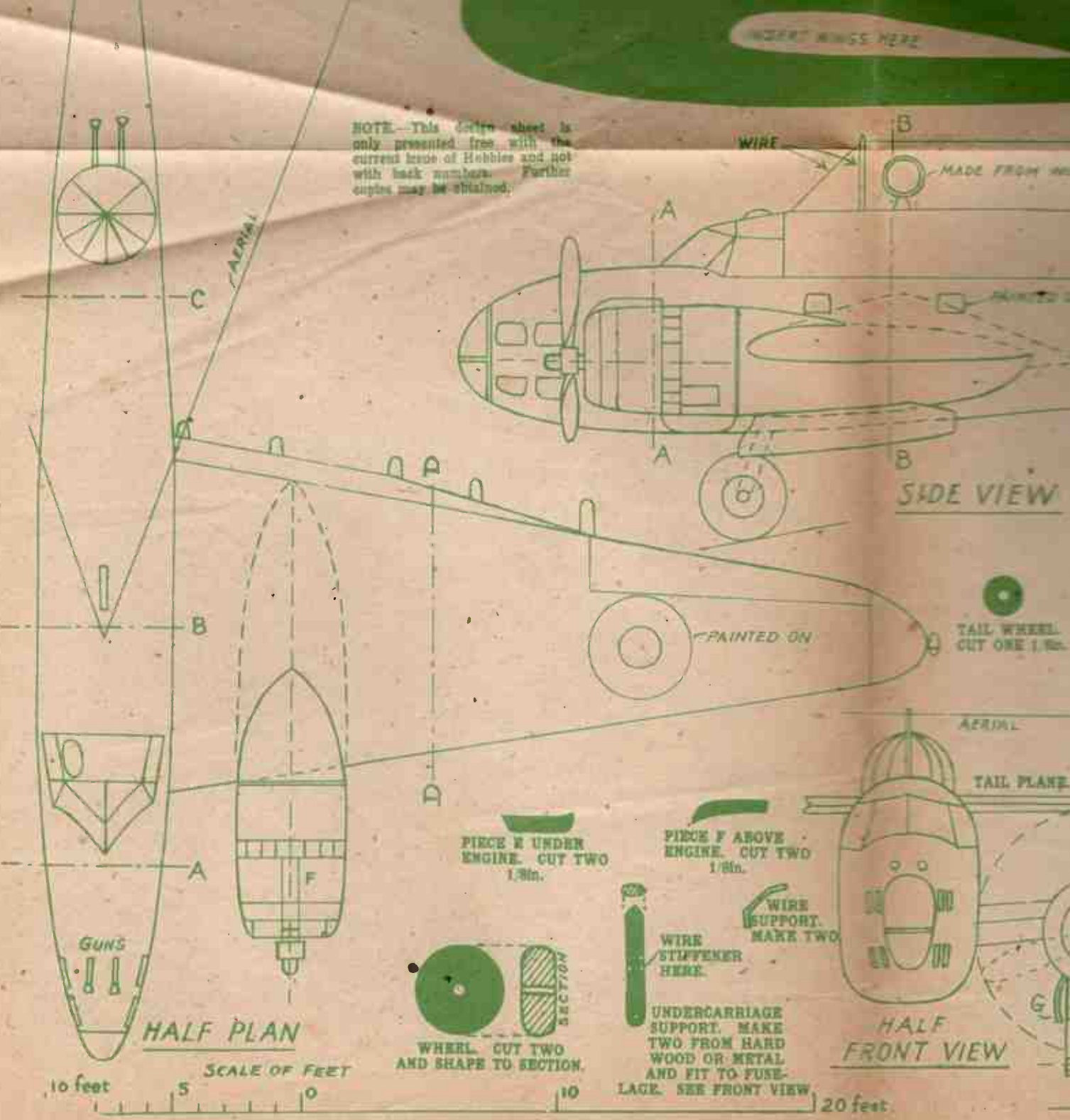
PAINTED ON

TAIL WHEEL. CUT ONE 1/8 in.



INSERT WINGS HERE

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TAIL PLANE TIP

FIN AND RUDDER. CUT TWO 1/8in. AND SHAPE AS SHOWN IN FRONT VIEW.

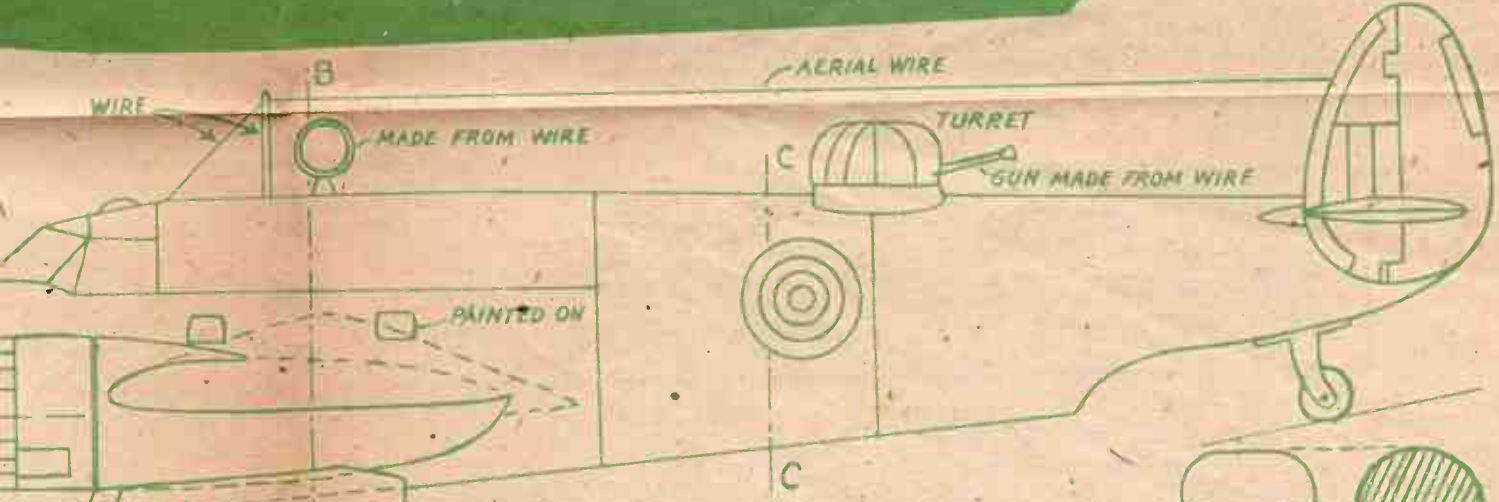
TAIL PLANE. CUT ONE 1/8in. INCLUDING THE TWO END TIPS WHICH ARE GLUED TO FIN AFTER THIS HAS BEEN FIXED.

TIP

PLAN SHOWING THE TWO THICKNESSES OF WOOD GLUED TOGETHER AND SHAPE MARKED READY FOR CARVING.

FUSELAGE. CUT TWO PIECES 1/8in. THICK AND GLUE TOGETHER. SEE PLAN ABOVE FOR SIDE SHAPING.

INSERT WINGS HERE



SIDE VIEW

SIDE VIEW

CROSS SECTION

GUN TURRET ON TOP OF FUSELAGE.

CUT ONE 1/8in. AND SHAPE UP.

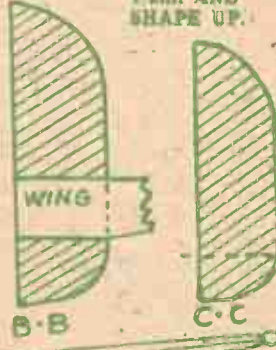
SPINDLE FOR PROPELLER. MAKE TWO.

PROPELLER BOSS MADE FROM HARD WOOD. CUT TWO.

SUPPORT FOR TAIL WHEEL. CUT ONE FROM TIN AND ANGLE UP AS SHOWN.

TAIL WHEEL. CUT ONE 1/8in.

SHAPING TO FUSELAGE. CROSS SECTIONS ON THE LINES. SHOWN ON PLAN AND SIDE VIEW.



PIECE F ABOVE ENGINE. CUT TWO 1/8in.

WIRE SUPPORT. MAKE TWO.

WIRE STIFFENER HERE.

UNDERCARRIAGE SUPPORT. MAKE TWO FROM HARD WOOD OR METAL AND FIT TO FUSELAGE. SEE FRONT VIEW.

HALF FRONT VIEW



UNDERCARRIAGE FLAPS G. CUT FOUR FROM CARD AND GLUE ON BY MEANS OF TABS SHOWN.

PROPELLER BLADE. CUT SIX FROM 1/8in. WOOD AND PARE DOWN AND SHAPE TO GET TWIST.

PRINTED IN ENGLAND.

20 feet.



# MODEL VENTURA BOMBER

**C**OMPLETE patterns are provided on the other side for making a non-flying model of the reconnaissance bomber Lockheed Ventura. It is completed in wood, and the finished model has a span of 12ins. and a length of 9½ins. It is built to a scale of 3/16in. to 1ft., but for those wishing to increase or decrease, a scale is given at the foot.

The construction is straight-forward and in accordance with the usual procedure of our design sheets. The patterns themselves should be marked out through carbon or tracing paper on to the boards of the thickness shown, and cut out with a fretsaw or the outlines required. Finishing off is done by shaping the parts with a rasp, file, and finally glasspaper.

## Know Construction First

A front and side view are given, and from this the exact positions and shapes of the various parts can be easily obtained. Study the sheet before commencing, in order to know how each part is fitted, then follow these constructional hints to produce a properly finished model.

All parts, of course, must be finally thoroughly cleaned and painted in the appropriate colours. It is best probably to do the painting of the main parts of the model before the additional tiny pieces are added. This will prevent them becoming damaged during that phase of the work.

Beyond the wood, the only other materials needed are some odd pieces of wire and a little cardboard, with a small piece of sheet tin for under-carriage work.

## The Fuselage

The fuselage is built in two pieces glued together; from each of them a central aperture is cut to take the root end of the wing which, after shaping, is glued into place. The fuselage, of course, also has to be carefully shaped, and for this purpose sectional diagrams are given at

A, B and C. Notice the cabin and nose compartments are part of the fuselage with the glass and framework painted on afterwards.

The mid-upper gun turret is, however, added later. Get the fuselage and wings satisfactorily shaped and fixed, and then add the two engines in the position shown.

## Engines

Each engine is composed of two ½in. pieces of wood glued together and then shaped circular at the front, tapering away at the rear. Notice the portion cut out which should be done nicely over the shaped wing.

This piece cut into the engine is straight in the first instance, but has to be tapered to take the fall of the wing itself. The engine, of course, must project parallel with the fuselage (see plan) and the interior after filing to an angle, to take the leading edge of the wing itself.

By the way, there is a slight dihedral on the wing, as can be seen by the front view. This is obtained by filing down the root end of the wing, and lifting tip to the required angle.

## Tail Unit

The tail portion can be built as a complete unit, and afterwards glued to the top of the fuselage where the little recessed portion is provided. Notice the tailplane is cut into three parts with the upright fin and rudder glued between after the shaping has been done. Small headless pins driven into both parts concerned will be helpful in stiffening it up. Be sure to get the fins upright and the end of the tail in line with the main portion.

The various other small pieces can now be added, and when they have been temporarily fitted in place, the main portion of the model can be painted before finally adding the other parts. The propeller boss is cut as one piece and tiny blades afterwards glued on. If, of course, you prefer, you will make a stronger piece of work by cutting the whole lot from one board.

The propeller boss fits on to the

spindle which is glued into the nose cap of the engines. A shaped ring is, of course, added to the front of the engines around this spindle.

The gun turret is rounded off, then the underneath side also rounded the same shape as the fuselage top. A good plan is to put a piece of glasspaper on the body, and rub the gun turret along until it gets the same shape, then glue it in place and paint before adding the wire guns projecting.

## Wheels

The forward wheels are shaped from ½in. wood and fixed to an under-carriage support made from a piece of hard wood or metal. This can be seen in the front view, and the detail of the shape is given just to the left of it. It is a flat rounded strut glued into the engine nacelle and stiffened up with a piece of wire which can be seen in position also in the front view.

The under-carriage flaps are cut from card with a gluing tab at each end. These are fixed below the engine nacelle in the position which can be seen on the side view, and in the front view. The card is very slightly rounded so that it would be the shape of the engine casing when the wheel is retracted.

The tail wheel is cut as shown, and fixed just under and forward to the tailplane (see side view). The loop aerial and ordinary aerial wires are added to the top of the fuselage by means of wire and cotton and tiny pieces of wood shaped and glued to the trailing edge of the wings to form the parts shown on the plan view.

## Painting the Model

The painted model is done in the usual bomber colours with targets and roundels on fuselage and wing. The Perspex portions should be painted a light blue with a shading of glass and a surround of black or brown to indicate the metal frameworks. The gun turret can be treated in the same way.

The finished model should have a baseboard upon which it can stand, to finish the whole thing off satisfactorily.