Hobbies WEEKLY

May 2nd, 1945 Price Twopence Vol. 100 No. 2585

Patterns for making a miniature

MODEL MARAUDER

HERE'S another fine model which can be added to our popular miniature series of aircraft. The model is, of course, based on the Marauder—a medium bomber. Those of you who have never tackled the construction of a twin-engine type of aircraft, such as the monoplane illustrated, will find the work interesting and greatly facilitated by means of the full-size detailed patterns provided on page 39 of this issue.

The "Marauder" medium bomber has a wing span of 71ft. and a length of 58ft. Our tiny model has a span of 9¾ins. and a total length of 8¼ins. as shown by the various elevations.

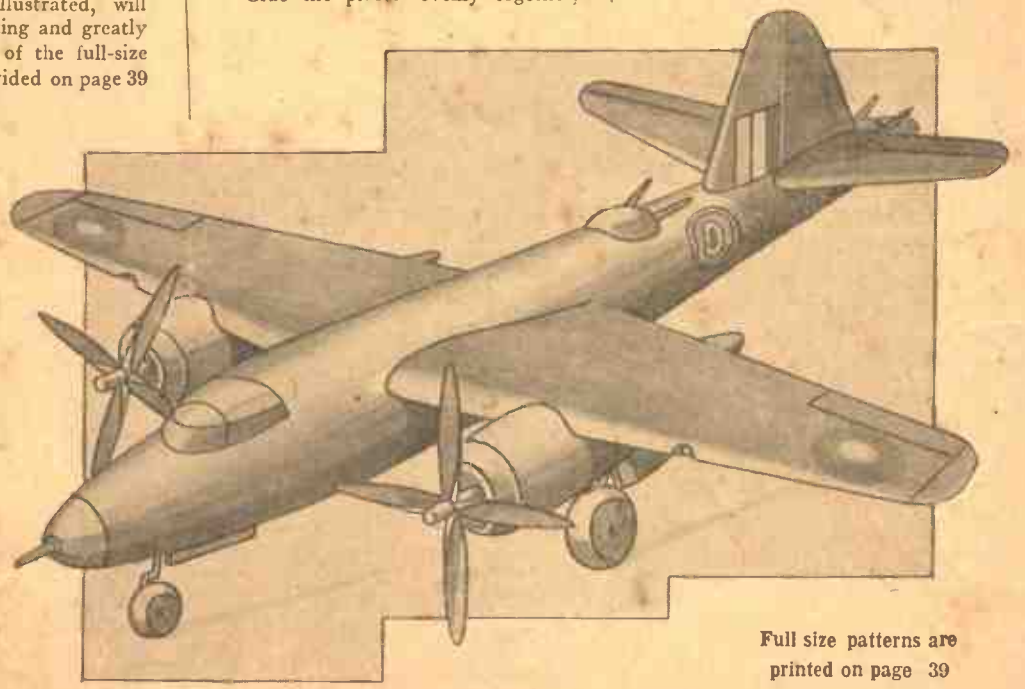
The twin airscrews, incidentally, are made to revolve. By inserting a plain pin through the elongated hub, one can have the airscrews free to turn in a light gust of wind. When airscrews, made as shown, are a fixture, the blades are liable to get knocked off under the least strain. If the blades can revolve, at a touch, there is less chance of causing damage.

As usual, the fuselage is made first. It is built up from three shaped pieces cut from ⅜in. wood. One of the shapes, the central one, however, should not have a wing "root" slot in it.

Shaping

Glue the pieces evenly together, with the unslotted piece in the middle, then mark out the top shape (see Fig. 1) and pare away the waste with a pen knife. The work is then crudely rounded to the half shaping sections indicated by A, B, C, D, E and F.

It will be seen that the fuselage is circular in section. The front view (Fig. 2) shows that the "nose"



Full size patterns are printed on page 39

is eccentric with the rest of the hull. It is out of the centre by an ¼in. only, but it makes all the difference to true shaping. The rear end, of course, is split up to form a gun turret (see side elevation).

The cabin is merely formed so windows and lines can be painted on it afterwards. The shaping here will call for sharp implements and patience.

The Main Wings

Having cut out the main wing pieces from ⅜in. wood, plane to a taper at the underside, then streamline the top and bottom and round the leading edges. The root of the wings, of course, are shaped to fit neatly into the slots.

It will be observed, from the front elevation at Fig. 2, that the top surface of the wings are in a straight line. As the wing is tapered at the underside, we obtain the upward tilt necessary without trouble.

The tail plane, on the other hand, has a more pronounced tilt. This is obtained by cutting a kerf, with a saw, down the centre, then bending the wings to close the saw cut. A single cut with a tenon saw, should suffice, but if the tilt is not sufficient, make a V-shaped groove with the edge of a file.

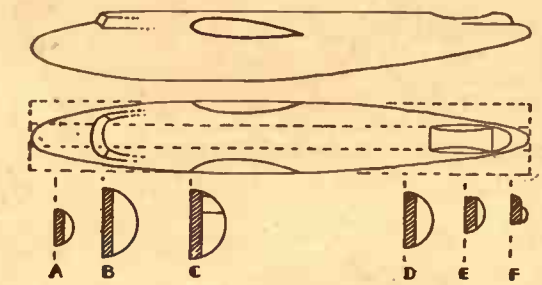


Fig. 1—Fuselage shaping with six sections

Fixing the Tail

The tail plane, like the fin, is cut from ¼in. wood. Both are streamlined following which the former is cut and bent as described. Due to the bend, it is necessary to fix the wing down on a bed of plastic wood or putty; the excess is pressed out and run off with the tip of your little finger, following which the fin is fitted, then glued in place.

By the way, aeroplane cement is much better and quicker in drying than ordinary glues. As you know, it sets almost at once—in fact, just while you hold the part in position for a few seconds.

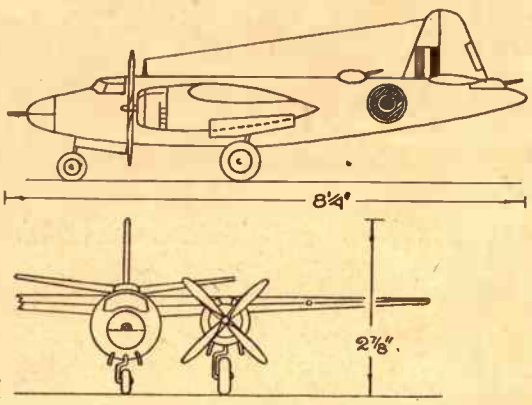


Fig. 2—Side view and front elevation and dimensions

Engines and Airscrews

The engine nacelles are shaped from ⅜in. wood. Having fitted them against the wings, shape round in section, then true the nose ends and glue on the nose rings (cut from ¼in. wood). The edges of the latters are rounded over, as shown on the pattern page.

Glue the engines to the wings, then cut out the propeller parts. You need, in each case, a ½in. long by ⅜in. hub (cut from dowelling) and four blades (cut from ¼in. wood). The blades are shaped to give a twist.

The hub is drilled centrally right through for a plain pin 1½in. long. A heavier pin, with the head removed, makes an excellent drill when fitted to a hand brace or fretwork drill. Round the nose end of the hub, then carefully glue the blades upon it as indicated at Fig. 3. This is where the quick-setting cement comes in handy.

Having seen that the airscrews revolve easily on their pin axles, insert the latter into the centre of the engine fronts. Allow for a little side play to ensure absolute freedom.

The Wheels

You need a front wheel disc (cut from ¼in. wood) and two trailing wheels (cut from 3/16in. wood). Round the edges neatly, then drill the centres for heavy pins, the latter being bent (after inserted through) into the shape indicated on the pattern page. Large pawn, or draper, pins are the right type to use, but long household pins will serve. On account of the bending, the wheel disc should be cut from a hardwood so the "axle" shape is bent squarely, otherwise the wheels will hardly run upright.

Make holes beneath the front of the fuselage and under the engine bellies for the wheel forks in the position judged from the side view. Having inserted the wheel pins, provide covers, shaped from thin card, these being glued to each side of each wheel (see front view).

Camouflage

Complete the model in camouflage colours, all linework being done with black. Cabin windows are painted up in the usual manner. Roundels and identification colours are then added. Small guns, made from wire, or wire nails, are fitted to the gun turrets (see top plan), there being only one gun nozzle at the fore end of the fuselage.

The latter, by the way, should be painted up the same way as the cabin windows. The gun, of course, projects through a "bubble" of transparent window material, the same as the "blister" on the top of the fuselage and the rear gun turret.

Such bubbles and blisters are best indicated with a white paint lined with brown and coloured in slightly with a light blue shade of colouring. Actual transparency is rather difficult to imitate with paint, at least.

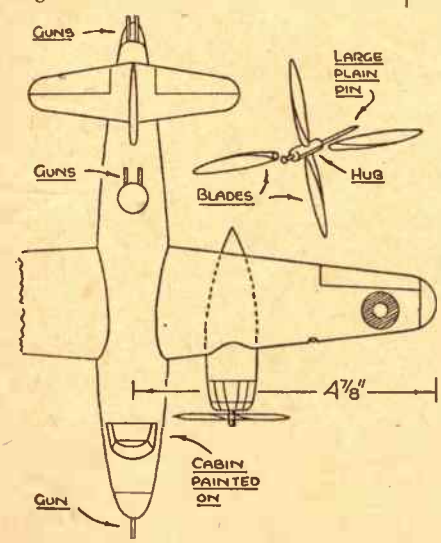


Fig. 3—Plan of plane and detail of airscrew

Here is the correct solution to last week's Cross Word Puzzle

Economy in material has been studied for this FIREPLACE SCREEN

Fig. 1—The Completed Screen in use

THE time will soon he here when we shall be able to discard an open fire at home and in its place we shall see the screen to cover the dark spot of grate and chimney-back.

For those who have not yet had the pleasure of making up a screeen for their fireplace, we commend the design shown here. It is simple in construction and reasonable regarding wood.

In Fig. 1 is shown the finished article, which consists of five plain upright rails fixed to a top and lower rail. Certain other requirements make an artistic, but not overdone piece of furniture.

Wood Required

Fig. 2 supplies the working details and measurements for preparing the various pieces. Starting with the uprights we have five pieces 19½ins. long and 2ins. by ¼in. in section.

It should be mentioned that all the parts may be cut from Hobbies prepared panels of wood as mentioned at the end.

Holding the uprights securely at top and bottom are two cross rails measuring 15ins. long by 1½ins. by ¼in. in section. In spacing out the uprights along the two cross rails it will be found that they may be exactly 1in. apart. It will be simple therefore to effect this setting out and to glue the uprights in place.

Take care that all cross-cuttings are at right angles, and that, after gluing, the frame is tested with a square.

An old-time but effective appearance is then given by first boring ⅜in. or ¼in. holes with a twist bit right through the two thicknesses of wood, two each at top and bottom of the upright rails, and then driving in hard-wood dowels ⅜in. long. These dowel pins are dipped in glue for ¼in. of their length and then gently driven in, the remaining ¼in. of the dowel being left to project.

Base Strips

At the base of the frame there are two pieces of ¼in. wood glued together. The lower piece is 17ins. long by 1in. wide, and the upper piece 16ins. long and ⅜in. wide. Round off the end and front edges of the larger piece before gluing on the upper strip. See they go together as shown in the base detail in Fig. 3.

The top of the frame is finished with a strip of wood 16ins. long and 1in. wide. On this again is fixed the shaped pediment rail shown in detail in Fig. 3. This rail is cut to the overall size shown in Fig. 2, and then with the fretsaw to the proper shape.

Glued blocks or strips may be put along at the back of the pediment rail to hold this securely to the top strip of wood

The decorative additions at A and B in the frame are shown in detail in Fig. 3, and two each of these will be cut from ¼in. wood and glued or screwed as shown.

The Overlay

The feature of the screen is, of course, the central overlay and its decorative medallion. As will be seen from Fig. 2 the overlay may consist of four distinct pieces viz, the circular middle measuring 7¼ins. by 7ins. the two top scrolls and the foot piece.

In Fig. 3 is a squared diagram which simplifies the work of enlarging and drawing out full-size . Each square shown measures 1 inch. Set these out full size on paper and follow the outline through each

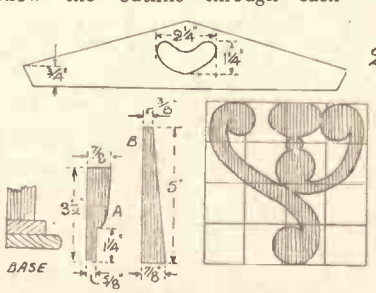


Fig. 3—Details of minor parts

Then make a tracing of the scroll and transfer this to ¼in. wood and cut out in the usual manner.

The two top scrolls are so simple in outline that they may almost be drawn on the wood direct and cut out. Cut the one scroll and then after cleaning it up with glasspaper lay it on the ¼in. wood and draw round it to produce the fellow one to it.

Glue all the overlays to the rails in the positions shown and finally add the centre decoration—a transfer or a coloured picture pasted on. An enlargement made from one of Hobbies designs if cut out from ⅛in. wood would make an excellent centre medallion.

Suitable Finish

The finish given to the woodwork of the screen will be influenced by the kind of wood used. If it has been possible to procure mahogany, then a high polish might be given with french polish, completed of course before the central overlays have been added.

If oak has been used then it might be stained to the desired tone and given a rubbing of wax polish. The finish of the central overlays must be left to the individual worker.

Two of Hobbies K4 panels of wood will be found sufficient for the frame of the screen, with an H3 panel for the central decorative overlays.

Particulars of the size and cost of these are given in the 1945 Hobbies Handbook, Whilst no definite class of wood can be stipulated that supplied is of good texture, planned both sidss and suitable for staining and polishing.

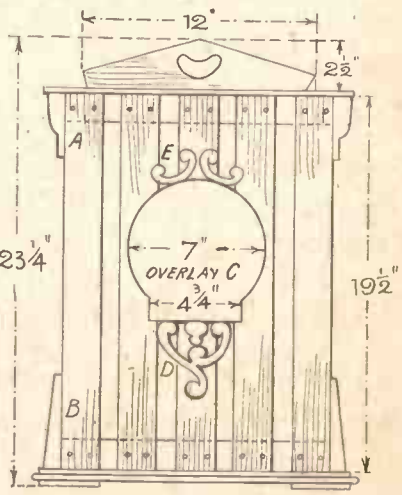


Fig. 2—Front view with dimensions and shapes

You get better results by periodically undertaking

A CAMERA OVERHAUL

OWING to the severe shortage (for civilian purposes) of films and printing paper, thousands of amateur photographers put away their cameras for the "duration." As these words are written, however, it seems clear that, before long, the situation will be very much eased, and it is hoped that thousands more cameras will soon be clicking.

Now is the time for an overhaul. It will be a pity if your post-war negatives are marred by fluff on the lens, spasmodic working of the shutter, pin holes in the bellows, etc. The whole job can be done in an hour or so.

A Dusting Brush

First, dust all over the outside of the camera, then dust the inside. A sable hair brush, as used by artists is very useful here; better, in fact, than a camel hair (or dog hair or whatever utility brushes are made of).

Practically every reader knows that old stunt of rubbing a piece of ebonite on a coat sleeve and picking up tiny pieces of dry tissue paper. In the same way, if you rub or stroke the brush on your sleeve a few times, you can generate enough static electricity to attract particles of dust from awkward corners. The brush must be quite dry.

The lens must be well polished. An old silk handkerchief is useful here. Some lenses are difficult to get at. An easy way to do the job is to take a small wooden golf tee and cover the concave top with a little cotton wool and silk. Hold the tee against the lens and twirl between the fingers. In no circumstances should the lens be removed.

The Shutter

Another warning here! Do not oil the shutter. Oil will pick up dirt with disastrous results. Usually, by working the shutter several times, stiffness is taken out.

It is not wise to tamper with the shutter mechanism, but small screws holding the camera carcase together might well be tightened with a watchmaker's screwdriver. If they are rather loose, apply a spot of celluloid cement on each.

Though most cameras take roll film, there are plenty of people who use plates of film packs. The slides of these sometimes tend to bind. A little paraffin wax applied to the offending spot will usually cure matters.

After much use, the bellows of a folding camera tend to crack, and the light leaking in spoils many an otherwise good snapshot. If the bellows are in a very bad way, it is possible to have new ones fitted, but for small repairs, black sticking plaster (black adhesive tape) is useful. Rubber cement (black rubber cement if you can get it) is useful for painting along worn folds.

Treating Bellows

For freshening up leather bellows and camera leatherwork generally, black boot polish may be used. Apply sparingly and make sure that all surplus is wiped off. Sometimes the leather is so worn that a brown undersurface shows. This can be stained black with the dye sold by boot repairers for staining leather.

Some camera bellows are made of cloth, and a reviver for these may be made up as follows:—

Methylated Spirits	16ozs.
Shellac	4ozs.
Oxalic Acid (poison)	½oz.

Shake until dissolved and then add 3ozs. of linseed oil. If the bellows are black, give them a preliminary coating of indian ink dissolved in a little water, and a trace of prussian blue to kill the brownness. When quite dry, apply the reviver, using a pad of cotton-wool. Remove the surplus by brisk brushing.

It is quite possible that many readers will make the first extensive use of their cameras on a seaside holiday. It is as well to remember that the salt sea air can play havoc with a camera, and sand manages to "infiltrate" into the interior of the camera.

An Oilskin Cover

Even if you have a leather or canvas bag, it is a wise plan to wrap a valuable camera in an oilskin bag of the type used to hold toilet articles. Metal parts can be very lightly smeared with vaseline.

One last word: take care not to twist or bend the front of a folding camera as it is opened. Many people wonder why their cameras never produce pictures in proper focus, and fail to realise that the front (which forms the bellows rest) is bent.

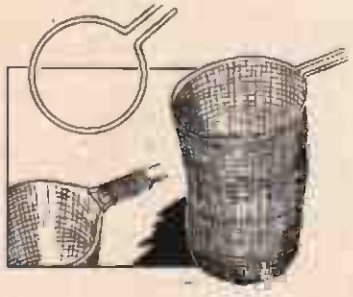
20 Planes in Five Weeks!

THE ardent young modellist whose photograph you see is Howard Wragg of Berridge Rd., Nottingham, and although not yet 15, he has the interest and ability of many twice his age. He completes almost perfect planes from our design, adding replicas of crew, guns, etc. before presenting them to his friends. His father, who has been abroad two years, asked for a special collection for his home-coming, so Master Howard set out to make 20 between Christmas and the end of January, five weeks! He succeeded with one day to spare. A picture of the twenty reveals them as splendid pieces of workmanship, and we must congratulate our friend on his work, because although he was working against time he sacrificed no detail or accuracy which would mar the result. And this craftsman is also studying for his matric! There is no doubt about the popularity of these planes of ours, and the wide range we have published have been made in hundreds. New readers who have not been able to get the back numbers can, of course, always buy the actual design sheet, although it costs 4d. apart from the Hobbies Weekly. We have in preparation, by the way, a new sheet of miniature planes of the latest type. Look out for them soon.

Photo: R. Barber, Nottingham

How to begin making a simple collection of MOTHS AND BUTTERFLIES

THIS is the time of the year when we are drawn more and more into the open air, and in our various walks around, a nature study of moths and butterflies is a particularly pleasing and interesting recreation. You will see these fancy creatures flitting through hedgerows, gardens and fields in great variety, and their beauty has an appeal to a number of naturalists and a desire



to preserve the specimens in an orderly and instructive way.

There are many more types of moths than butterflies in the British Isles, and it is almost impossible to get a complete range of them. The amateur, however, can get a very large number of varieties in a comparatively short time, and make a most interesting collection.

Simple Apparatus

The apparatus concerned is not expensive, and much of it can be homemade, whilst the interest of sorting and preserving the specimens is a pleasing occupation for wet days or dull evenings.

Naturally it is worth while first of all to know the distinction between a moth and a butterfly. Generally speaking, butterflies may be recognised by their antennæ which are slender but are gradually or abruptly clubbed at the ends. The moth, on the other hand, has various kinds of antennae, but in no case is it clubbed.

The collector, however, can sort out his own varieties from the books on the subject usually to be found in libraries, or which, of course, can be obtained from the publishers concerned. A number of these books illustrate the specimens in colour so that it forms an interesting part of the hobby to sort out the variety concerned and name it, much as you would stamps in a collection.

The first matter is the apparatus required, and the illustrations herewith show most of the necessities. Obviously the specimen needs to be caught alive, and for this purpose a suitable net is necessary. Any piece of muslin can be shaped into a suitable bag provided with a hem through which a loop of wire is arranged.

This wire has two fork projections which in turn can be bound on to a light handle of bamboo or cane. You may even be able to arrange that the forked portion of the net can be removable by putting it into the end of the cane or of staples fixed in the stick.

The Killing Arrangements

Having obtained your specimen satisfactorily you need some form of killing bottle to dispatch the actual butterfly or moth without damaging its body or wings. You can dispatch the insects quite satisfactorily with stong liquid ammonia (.880) and the illustration shows a useful way of doing it.

Some cotton wool is placed in a circular flat tin box in the lid of which a few holes have been pierced. The inside of the box is partly filled with cotton wool, then the ammonia is put on to it. Half a teaspoonful of ammonia is sufficient and the lid of the box is replaced. The insect is then put into a jam jar and inverted over the box.

Suffocation takes place directly the fumes reach the insect, and you have it ready for fixing. Allow half an hour or more to ensure that there is no further movement.

Of course, the ammonia will gradually evaporate so you may have to add a little more if it has been used more than once.

Mounting

Having satisfactorily dispatched the butterfly or moth, you want to be able to mount them in the way which will display the beauty of their wings in the best manner. If you find, however, that your insect is very rigid, it will be necessary to relax the parts before mounting.

One method of doing this is to pin the insect on a flat piece of cork to float in a jar half filled with water. The water should not touch the specimen, and the jar should be covered with a damp cloth. Within a matter of hours, the insect should be pliable enough for final fixing to the mounting board.

A Mounting Board

A simple board of this character is shown herewith, and one illustration also depicts how the butterfly can be set out. A small board can be made originally, and a larger one later for several specimens. If you can get sheet cork to line the top and the groove down the centre, so much the better.

A suitable size for this board is a piece 12ins. long and 5ins. wide, down the centre of which a groove is planed about ¾in. deep. For the ordinary setting board, a similar one but much smaller can be used.

A Killing tin and Bottle

The final stage is the fixing of the insect to the board itself, and this can be done with strips of thin pliable card in the manner shown. The strips are pinned to the board outside the wings until the specimen has become rigid in that position. Put the actual butterfly or moth in place, holding it very lightly with a long pointed needle which can be driven into a small piece of dowel to act as a handle.

Pinning the Specimen

Place the legs and antennæ in their proper position, and put pins by the side to keep them until they are fixed. A main pin is put through the specimen itself, passing through the centre of the thorax (or chest) and pressed down to hold the whole body in the groove of the board.

Have your stiff paper or thin card strips ready and then move out the wings to their correct position very carefully with the needle instrument mentioned—known as a setting needle.

Patience will be required for this as small movement only can be made until the wings are stretched to their

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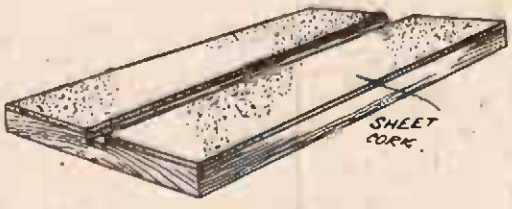
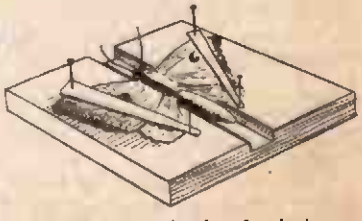


Details of a suitable mounting board



The specimen in place for drying

THINGS you SHOULD KNOW

ARCHIMEDEAN drills are hard to obtain and, being an important part of the fretworker's kit, the alternative is to make use of a small geared hand drill, the chuck of this implement taking archimedean drill points. However, few may possess such an implement.

The next best thing is to buy a fine bradawl and use it in place of the drill points, or one could purchase the handle only and fit a drill point into it, or again, it is possible to fit drill points into 4in. lengths of ¼in. dowelling which serve as handles that can be easily rotated with the fingers.

Having fitted the points tightly, the ferrule end can be tapered, the "palm" or opposite end being rounded by rubbing with glasspaper.

• • •

SOFT, white parcel cord makes excellent wicks for petrol lighters. Three-ply twist bootlace cord is another useful substitute, including ordinary corset tape or the interwoven shoelaces having a "core" of soft cord, i.e., a braided covering with soft cord running through the centre.

• • •

EVER see a shooting star and have you wondered just what it is? Well, to start the ball rolling, what you see isn't a star at all, but a very tiny "earth" which, together with countless other similar bodies moving about in the vast space beyond our earth, are sometimes attracted by the gravity of larger earths, including our own earth.

You may not know it, or realize, in fact, that our earth is constantly "bombarded" by these small bodies from outer space. They are drawn towards us at tremendous speed and, striking the air-belt, this acts as a cushion, slowing up the speed of their fall.

This braking effect gets up a great friction so that the bodies become white-hot and we see them flash from nowhere into nowhere as "shooting stars." No danger can be attached to such "burning bodies" because, before hitting the earth, they usually dissolve into dust. Particles which do sometimes strike the earth are known as "meteorites."

• • •

WHEN cutting slits in metal, such as the top of rods or tubes, the kerf made by a single hacksaw blade is sometimes not wide enough. To save filing, assuming a double width of the cut made is desired, a good plan is to fit double blades together on the hacksaw frame and make a suitable double cut at one go.

Should the additional blade be somewhat slack, a binding of cord, or adhesive tape, at the ends will serve to keep it firmly against the other blade.

• • •

DO you know the matchstick trick called the "hymn and the song"? It is a good money-making trick, thanks to the curiosity of most people. Of course you'll need three live matches, plus, an empty box, and it might be added that you will have to use the matches to perform the trick properly.

Having got the matches and box, insert a match into the top corners so the ends are held between the end of the tray and cover and sloping upwards at a slight angle, this occurring when the tray is pushed in fully. Bring the two heads close together and place the head of the third match against them, its end resting on the top of the box.

Now borrow a penny or halfpenny from your friend and set it below the end of the match resting between the supporting ones. The scene is now set, consisting of the match box, with two matches sticking up at one end, with a third match resting on the heads of them and the box—and coin.

Now ignite the heads of the matches by applying a flame; the three heads fizz off and become united; allow the sticks to burn; it will be seen that the third match slowly raises itself from the coin and burns itself out completely. The two remaining matches may need to be blown out as soon as this occurs.

While it is happening, you say:—"That's the song—'Horsey keep your tail up'!" Your victim will smile and undoubtedly ask: "What about the hymn?" Thereupon you remove the coin and say, shyly: "Abide with me!" And you suit the action to your words by putting the coin in your pocket, feeling you've rightly earned it; but it is a trick to be tried on kind uncles—your pal will probably hand out a thick ear!

• • •

READERS new to cycling should, to ensure comfortable riding, buy themselves a saddle cover. A good, soft saddle cover helps to break in new, hard saddles, that is the leather type. The insides of some covers are lined with a waterproofing material.

Perhaps you may wish to know why. During wet weather, such covers can be turned inside out so the waterproofing material is uppermost. It helps to protect the saddle from rain if the bike has to be left out in the open.

• • •

KNOW what a primary battery is? It is an ordinary dry cell, such as the flashlamp type. Secondary batteries are wireless accumulators, these being the "wet" type. Recently, however, there has appeared on the market a new type of "dry" accumulator for wireless sets, portable or otherwise, which can be constantly re-charged, these differing from the usual non-spill celluloid types used in portable sets only. It would be interesting to know which category these cells belong to!

Moths and Butterflies (*Continued from previous page*)

correct extent and resting on the setting board. Both sides are put alike, and then the antennæ fixed in its position.

When the specimen is set finally, and there is likely to be no movement, the pins and their strips can be taken away. If you find a certain part of the wing lifting, it can be held by a shorter strip of card or paper pinned to the board outside the wing, and just overlapping that part sufficiently to hold it down.

Take care in removing the pins finally in order that no damage is done to any part of the specimen. The only one holding it then in position is the pin through the thorax.

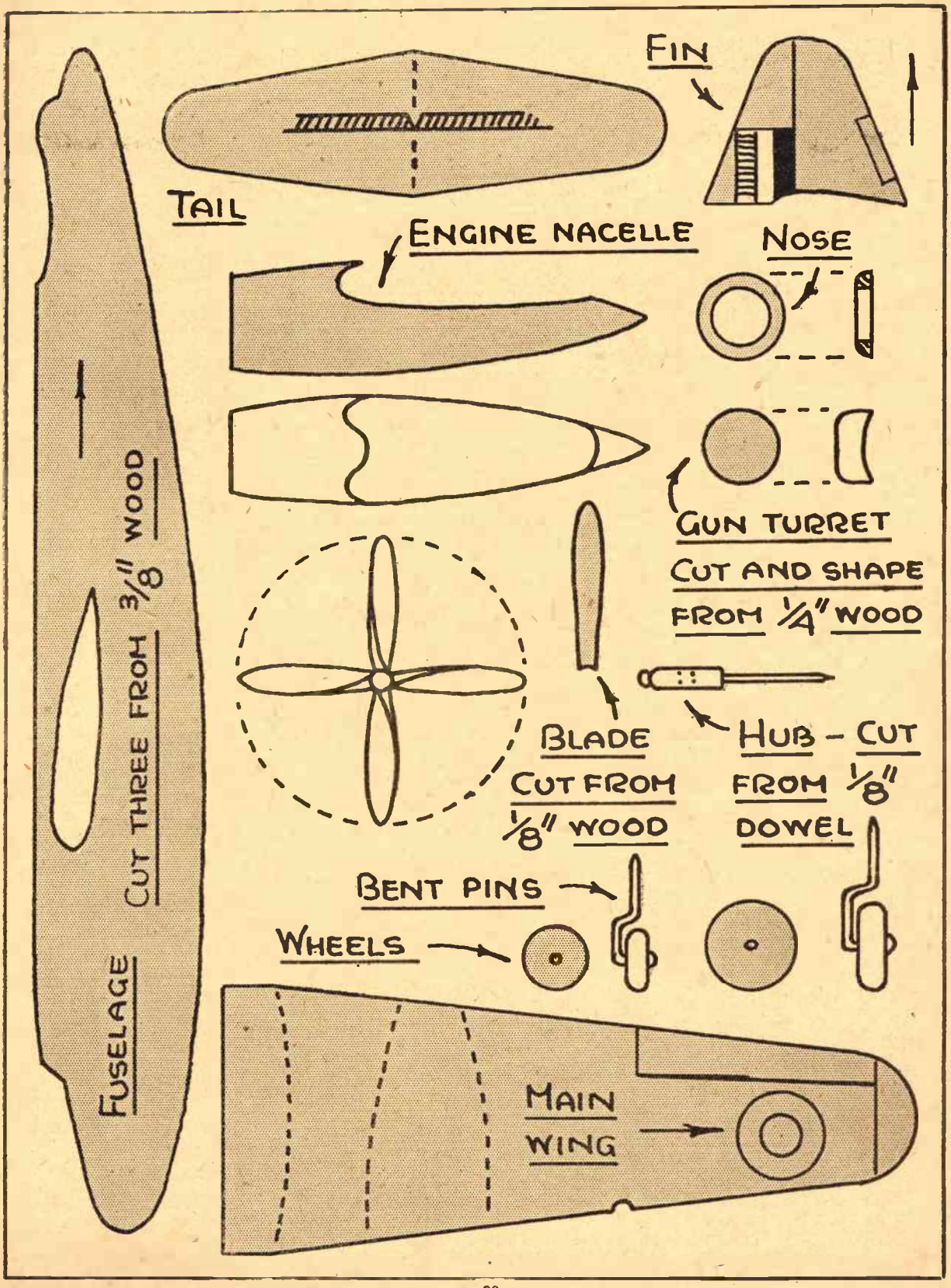
Exhibition Specimen Cases

Specimens can be arranged to go in boxes, and we have had details for different specimen boxes in these pages which would prove of service. They are only about 2ins. deep and can be fitted with a glass top so that examination can be made without likely damage to the exhibits.

If you have not such a box, an old picture frame and glass can be used as a lid for the lower portion of the box made, say, about 10ins. or 14ins. long by 10ins. wide. The box should be damp-proof and in order to prevent mites injuring the specimens, a little naphthalene should be fastened into opposite corners of the exhibition cabinet.

The information relating to the specimens can be written on a card and added near the actual specimen, or data can be kept in a book in which are numbers corresponding to the number printed against the actual insect itself.

See page 33



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