PATTERNS FOR A "TYPHOON" FIGHTER FREE

Hobbies WEEKLY

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A SIMPLE UKULELE

MUSICAL instruments, such as ukuleles, are very popular with readers. A few, unfortunately, are apt to regard some of our designs with disfavour merely because the construction is beyond their abilities as fretworkers.

As it is our policy to endeavour to please all readers, therefore, here are full details of a "uke" that can be made by the veriest beginner. As usual, in designing the instrument, the tonal quality, plus the scarcity of suitable wood, has been considered—hence the large, hexagonal-shaped body.

This allows deal or spruce (thin cheese-box wood, margarine-box wood, etc.) to be employed—apart from beech or birch—and the size ensures a deep, resonant tone. Unlike the usual violin-shaped ukulele body, there is no difficult bending to worry about.

Wood to Use

A really beautiful instrument, rich in tone and appearance, could be made from ⅛in. thick padouk and sycamore (both hard-woods), using the former for the back and sides, with the latter for the front.

The illustration at Fig. 1 gives a splendid idea of the finished instrument. The only fittings required is a set of gut strings and pegs; the pegs no doubt, could be made, preferably from a hardwood like walnut.

One could use a set of single mandolin strings. These produce a nice. "twanging" sound, being steel. They are tuned the same as gut strings the pitch however, should not be too low, otherwise you get a banjo effect. One good point about steel strings is that they are not affected by heat or cold in the atmosphere and, as a result do not need to be tuned up so often as the gut strings.

Handle and Body Construction.

The handle is made by gluing two ⅛in. pieces of wood together to build up the desired thickness (see Fig. 4). The face shape (see Figs. 2 and 3) is cut first, then having planed a ⅛in. deep bevel at the head, the side shape is done. The underside of the handle neck is spokeshaved elliptical in section, as shown at Fig. 5.

Note the ⅛in. deep recess to be cut in the shoulder block end. This is to allow for the thick ness of the body front piece. The "nut" notch is cut in the neck, as detailed, and the four ⅛in. peg holes bored through, the position of which can be judged from Fig. 2.

Regarding the body, cut out the back and front pieces to shape and trim the edges. Mark a central line up the centre of both pieces, doing so on the interior side. Mark off the handle shoulder point to be 1½ins. flat, then gauge an ⅛in. wide marginal

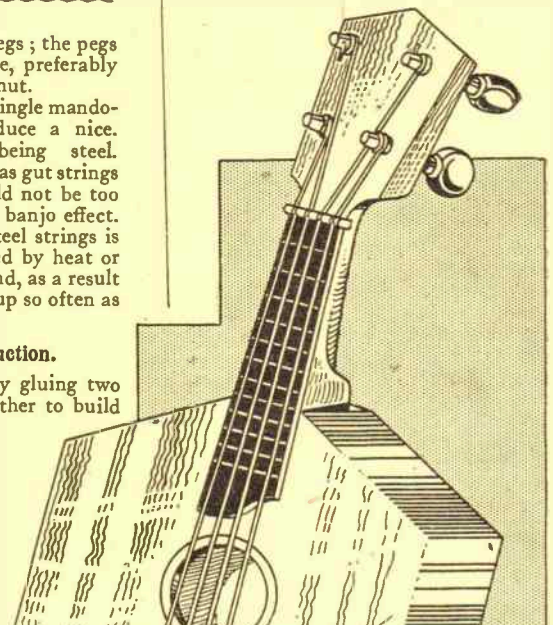


Fig. 1

line around, following which the corner blocks and filleting position is marked out.

To assemble, glue the handle shoulder to the back body piece in line with the shape, adding a panel pin here and there to hold it true (from the reverse side). Attach the shoulder corner blocks, then the other five corner blocks, the length of which is 1⅝ins. Filleting strips ¼in. wide by ⅛in. thick) are glued to the guide lines so the two body pieces fit together neatly and truly.

Before doing so, however, a ⅜in. piece of triangular blocking fillet is glued across the interior sides. These cross bars of wood serve to strengthen the body. If the wood is fairly strong, such "braces" are not necessary.

Side Construction

Having attached the body pieces together, add the side pieces. These are best fitted and their relative positions numbered to avoid confusion during gluing operations. The side ends are, of course, cut to a joining mitre to suit the shape.

In this connection, an alternative method of construction is worth suggesting, as it saves the use of fillets and the trouble of executing neat mitres in the side pieces. One has only to prepare five corner blocks to the shape shown at Fig. 4. These are secured to the body back and front with glue and a couple of panel pins, following which the side pieces are fitted and adhered; if the plan is adopted, take particular care to coat the edges of the side pieces with glue, apart from the ends.

Finger Board, Pegs and Bridge

When the work, so far, has set, plane the surface of the handle neck level with the front of the body. Fit the nut piece in its groove. The edge is rounded over slightly and four knife nicks cut in same to be ¼in. apart

The finger board should, for preferance, be cut from ⅛in. walnut. However, any ⅛in. thick wood will serve. The best way to prepare the finger board is to plane the wood 1⅜ins. wide, then mark out the fret wire positions or spaces, to the dimensions shown at Fig. 6, using a small set square to ensure absolute alignment.

Having marked the positions, cut them, using a fine tenon saw, with a steel set square as a guide for the saw. Cut to a depth of 1/16in., then cut the wood to shape.

Normally, one could buy brass or silver fret wire. If you cannot obtain it anywhere 1/16in. celluloid, ivorine, xylonite, etc.) can be used. Cut off, with the scissors, ⅛in. wide strips, then tap the strips into the saw kerfs applying a smearing of glue to the edges inserted.

Level off the tops of the frets to 1/16in. high by glasspapering or filing, finally rubbing over them with a piece of folded (fine grade) glasspaper. Be sure to remove any traces of sharpness at the ends of the frets.

Glue the finger board to the neck and body. The bridge (Fig. 6) is easily shaped up from a piece of hardwood. Glue it to the front in the position shown at Fig. 2. If you wish to make your own set of pegs, helpful details are provided at Fig. 3.

If you have used deal throughout, the back and sides of the body should be stained and polished mahogany. The front is merely coated with thin mahogany polish. The head and underside of the handle should be ebony polished. If you have made the fingerboard from walnut, leave it in the natural state; if from deal, just stain it walnut or mahogany. The pegs are ebony polished.

Decoration

It is usual to have a ring of black around the sound hole. This is done with a pen compass, using the edge of the sound hole as a guide. A black, soft-leaded pencil gives a neat, tidy line; it will not tend to "spread" like black drawing ink, if used.

The usual tuning for a ukulele is shown at Fig. 6. To fit the strings, insert the knotted ends in the elongated saw slot in the bridge, then carry the plain ends up to the pegs and turn the pegs so the strings wind on, as shown at Fig. 1.

When completed you should have a splendid playing instrument.

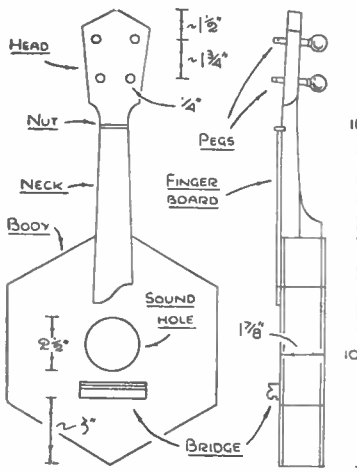


Fig. 2—Front and side elevations

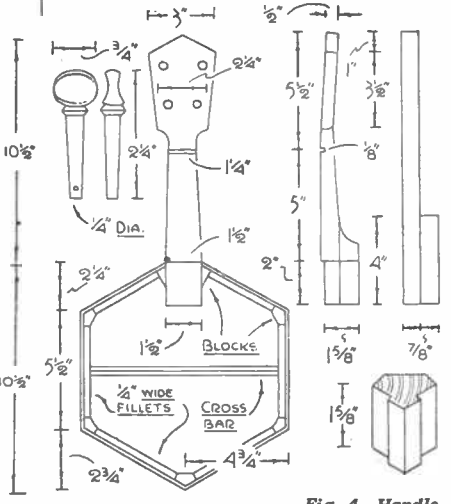


Fig. 3—The interior details

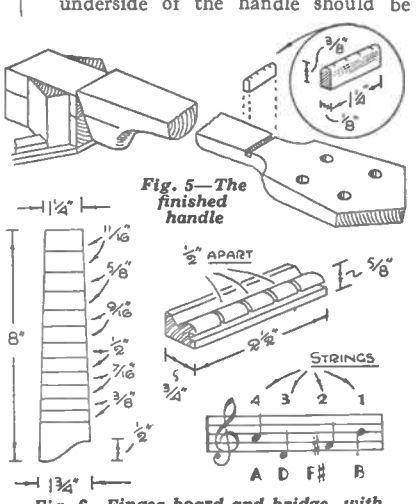


Fig. 4—Handle parts

Fig. 5—The finished handle

Fig. 6—Finger board and bridge, with tuning key

A modern popular game you can make is
TABLE SKITTLES

SKITTLES is still a popular game especially in some parts of the country. The modern form of the game is of the table variety, not needing a skittle alley to play it in. Some readers may care to make the game for themselves, or for money-raising purposes for the various "weeks" when special cash efforts are called for. A simple, and quite inexpensive form of the game is shown quite easy to make.

First consruct a box, as shown in Fig. 1. This can be made of deal, ½in. thick or even wood from a soap or other box. If of the latter variety either plane the wood or glasspaper it to make it smooth. Leave one side of the box open for the time being, as it has to be fitted with something to weight it later.

The socket for the stick, which carries the ball, is a 2in. disc of thick wood glued to one end of a suitable wood bar, as at A. If this disc can be cut from thick hardwood all the better as it will provide a firmer support for the stick than a soft-wood like deal.

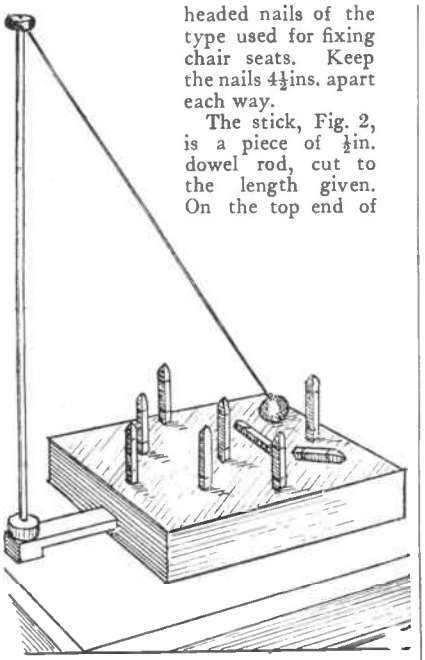
The Bar Holder

The bar is then pushed through one side of the box, a hole being cut out for that purpose, of course, and is there nailed, or screwed to the bottom of the box. The bar should extend outside the box about 8ins. or so. To the bottom of this bar, just under the disc, nail a piece of wood the same thickness as the wood used for the bottom of the box to keep the stick from tilting downwards.

The box should now be filled up with dry sand to weight it, and then the open side can be closed up by nailing in the side piece previously left out.

The idea of weighting the box is to keep it steady while the game is in play, otherwise the motion of the ball may cause the box to shift about and the skittles to fall over without waiting for the ball.

On top of the box mark out a diamond in pencil, 9ins. each way, and on this and in the centre, as a mark for the skittles, drive in 9 brass headed nails of the type used for fixing chair seats. Keep the nails 4½ins. apart each way.



The stick, Fig. 2, is a piece of ½in. dowel rod, cut to the length given. On the top end of this drive in, very carefully, a 1½in. wire nail, leaving about 1in. of the nail sticking out.

Cut off the head of this nail. This will leave a pin for the rotating cap to swing round on. Bore a hole in the discs in A for the stick to enter, and be a close fit, the hole might penetrate right through the bar as well to give a firmer support.

Rotating Top

The rotating cap is shown at B. It is a simple affair made from a small tin such as that used to contain vaseline or boot polish. Find the centre of both tin and lid and punch holes through both large enough to be an easy fit over the pin on the stick.

These holes, by the way, should be punched from the outside so that the resulting burrs will be on the inside of the box. Take care to avoid knocking the box out of shape when punching the holes.

You can pretty well ensure this if the box and lid, in turn are supported on the top of a broomstick when punched for the holes.

In the tin punch a second hole, this time near the side, for the cord to enter which carries the ball. The cord is pushed through this hole and there knotted to prevent it pulling out. Replace the lid on the tin.

On the pin drop a washer or two, then drop the tin on top. It should now rotate easily if given a twist with the fingers.

The Skittles

The skittles, Fig. 3 can be bought or made from wood ¾in. or 1in. square. It is unusual for square skittles to be employed, but there is one advantage in doing so—they are not liable to roll off the table. They can be made shapely, as shown in the drawing, by being pointed at the top and having grooves worked across the sides with a file.

The bottom ends must be cut square across so that the skittles can stand upright and not one-sided. In the centre of the bottoms work a shallow recess to clear the marking nails on the box. These can be worked easily enough with a countersink, just a few swings with the brace being enough.

The ball to be used should be about 2ins. diameter, and made of wood. In this a screw eye is driven to which the cord can be tied.

Making a Ball

If any difficulty is experienced in getting a suitably sized ball, quite a good substitute can be made without trouble. Just saw out two discs, 2ins. across from 1in. thick wood, and glue them together, as at C in Fig. 4. Then with a sharp chisel, level off both top and bottom and drive in a screw eye, as shown at D.

It will be wise also to drive in a couple of nails, or screws, in case the ball, in banging against the skittle, falls into two, which it may if the gluing is not too secure. The ball can be used as it is now, but a little shaping up with file and glasspaper will improve it and make it look more like the real article.

The whole of the work, including the skittles, should receive a coat of stain and varnish before being used. It is also as well to provide a small calico bag in which the skittles can be safely kept when not employed.

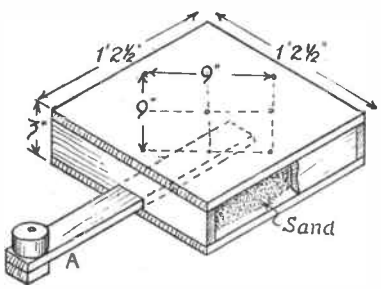


Fig. 1—Detail of base and bar

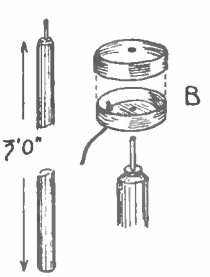


Fig. 2—The stick and cap

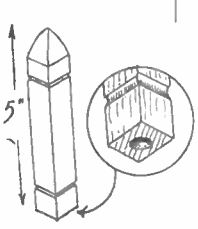


Fig. 3—The skittles

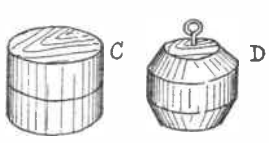


Fig. 4—A home-made ball

An economical and easy way of constructing
A SHAVING CABINET

HERE is a very useful type of shaving cabinet, where the contents can be shut away out of sight and at the same time be always accessible by simply lifting the door. If the worker should make the cabinet with the intention of hanging it in the bathroom then he should finish the wood with enamel or paint.

A useful sized mirror is suggested for placing on the back, and it may so happen that the worker has one which can be adapted here.

The whole cabinet is made with the fretsaw, and the graceful and easy curves to be cut are a distinct feature of the work. The work of making the cabinet has been kept simple, the shelves and brackets all being attached to one common backing, thereby gaining strength as well as simplicity of construction.

Main Back

For the back, one of Hobbies J4 panels will be found most convenient for size. This panel measures 15ins. long and 10½ins. wide, so that it will be seen from the lay-out diagram in Fig. 1 that all parts fit this size admirably.

Set out the lines as shown direct on the wood, and mark round the mirror lightly in pencil and get it central with the back. The shaped corner pieces at the top of the panel, shown shaded in Fig. 1, are utilized for the bracket supports of the shelf above the mirror.

For the fixing of the mirror we have adopted a rather new method. Instead of cutting an opening in the back panel to the size of the mirror and letting the latter rest on an overlay in the opening in the usual manner, we suggest the mirror might simply rest on the face of the panel and be held to it by shaped corner pieces.

In Fig. 2, the idea is illustrated, and in A we see the three pieces cut and placed ready to glue up or pin together to make the complete fitting shown at C. In B the measurements are given for setting out the three pieces.

Top Shelf

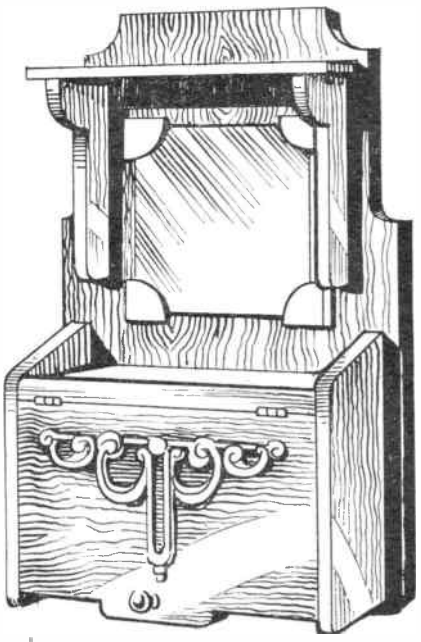
The shelf above the mirror measures 8ins. long and 2ins. wide and when cut and the two outer corners taken off, it is glued and screwed in place 1¼ins. down from the top edge of the panel. The brackets are glued up underneath, and one or two screws put in from the back to make them secure.

The cupboard below the mirror is made up from two simple shelves and a hinged front which drops down between the two ends as shown in the sectional diagram Fig. 3.

Top and Floor

The upper shelf is to be 2¾ins. wide while the lower one is 2½ins., both of them are 8½ins. long and cut from ¼in. wood. Glue and screw the lower shelf 1in. up from the bottom edge of the panel, and the upper shelf 4ins. up from this. While doing this see they are equi-distant from the vertical edges.

The sides of the cupboard are 6ins. long by 3ins. wide but ¼in. thick. Round off the bottom outer corners and slope the top edge and round off the outer corner at the top also, taking off all sharp edges afterwards with glasspaper.



Glue and screw the back edges of the sides to the panel and put some gluing blocks inside between the shelves and the uprights. To the front edge of the lower shelf glue on a ¾in. by ¼in. bead to hold the contents of the cupboard in place. The sectional view in Fig. 3 shows the positions of the various parts.

The Door

The door is shown in Fig. 4 and is cut from ¼in. wood. Shape the bottom edge and cut off a strip of the top ¾in. wide to be fixed later to the front edge of the cupboard shelf. The strip and the door are to be hinged together with a pair of ¾in. brass hinges let into recesses cut in the two parts.

Glue in a small knob to the door after the painting or polishing is done. If it is desired to add any ornamentation at all to the cupboard, an appropriate overlay may be cut from ¼in. wood and glued to the door as shown.

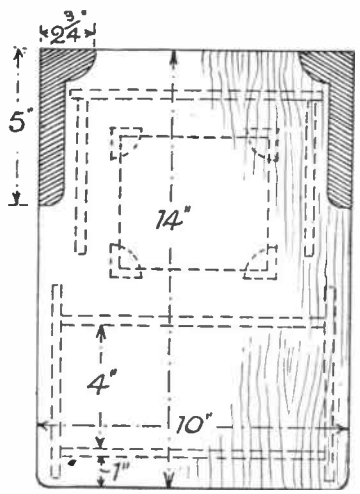


Fig. 1—Outline of back and front

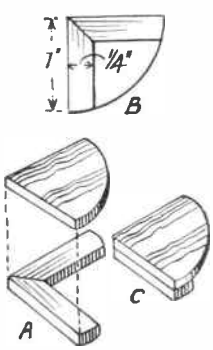


Fig. 2—Mirror holders

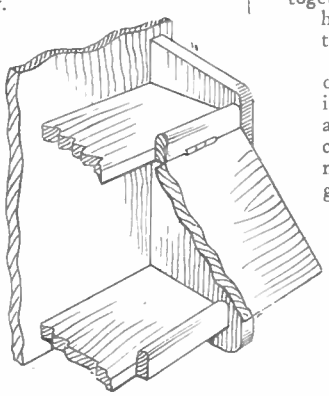


Fig. 3—General constructional details

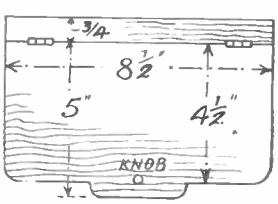


Fig. 4—Door dimensions

Patterns for a Miniature Mosquito next week

You light the face when the bell rings in this NOVEL ALARM CLOCK

WE have had alarm clocks that operate an electric bell or buzzer, but what about one that also lights a bulb? Such a thought occurred to one of our readers, A. C. I. McEvoy of S. Cornwall, who writes: "I have had the clock in use for a long time to suit blackout conditions. My own particular model is operated through a 1 amp. mains bell transformer which is easily substituted for a battery if so desired."

Describing the working principle, he says: "As soon as the alarm key begins to revolve, it makes firm contact with the terminal insulated from the metal back of the clock, thus completing the circuit. This operates the buzzer and lights the bulb, which saves a lot of fumbling in the dark. Two separate switches are incorporated to allow the buzzer to be switched off, leaving the lamp alight."

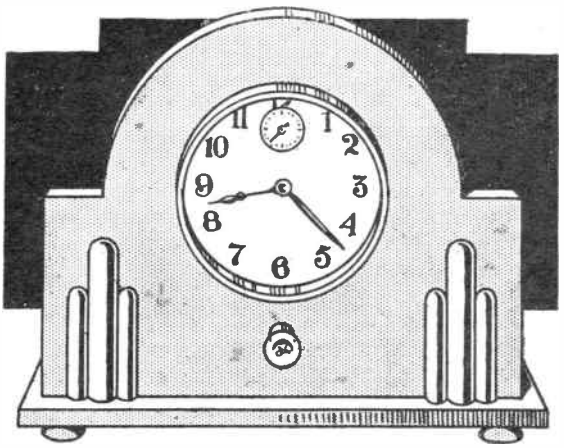
Our model works much on the same lines, but we have introduced a 9-volt grid bias battery instead of the ordinary type. The grid bias battery ensures long life, for as soon as the power (4½ volts) diminishes, one can plug into fresh cells to keep the power constant. In fact, it is just possible that 3 volts will work both buzzer and bulb.

One Switch Only

Two separate switches are included, so the light can be switched off after use. One could have a single switch only, however, where the buzzer is concerned. To switch off the current running to the bulb, the latter need only be partly unscrewed from its holder. What could be simpler?

One can do this, of course, even though a switch is provided. You cannot incidentally, switch off the light and leave the buzzer to buzz, for the light switch is the master switch; it controls the entire circuit, as does the alarm winding key, as shown at Fig. 5.

Nor is it possible—owing to the method of automatic contact—to have a bulb lighting only in conjunction with the mechanical - working bell on the clock. The bulb would light, but the bell would give a few tinkles, then stop, because the unwinding key will be stopped against the terminal contact on the back plate.



The Clock Case

The case for the clock is really a holder for the various parts used. To make it, cut out a ½in. thick floor 9ins. by 3½ins. In the centre, at one edge, cut a 2in. wide by ½in. aperture (see Fig. 2).

The floor piece is raised on 3½in. long by 2½in. wide by 1in. thick blocks, these being glued to the underside, flush at the ends, as shown by the back view at Fig. 2.

At this point you need an M.E.S. bulb holder (partly seen at Fig. 2). It is screwed in the aperture cut in the floor. A flexible, covered wire should be connected to the support, with another wire connected to the set screw at the side of the holder cup; if no set screw is provided, the wire can be twisted around the cup itself.

You now need the front piece of the case, this being shown (half only) at Fig. 3. Cut it to the size and shape, then glue and nail it on the floor parts so the supporting blocks are level with the bottom edge and ¼in. inwards at each end.

Two end pieces (cut to the shape and size given in the end view at Fig. 4) are attached against the work to be flush. A bottom piece 10ins. by 4ins. by ¼in. is screwed beneath the casing to complete it.

Attaching the Clock

The working principle of the clock is ideal for clocks having a broken-down mechanical bell mechanism, providing the alarm business still is effective and accurate. The bell gong and beater is not wanted and should be removed.

If possible, the dial hole cut in the front of the case should be a neat fit for the face edging of the clock case itself so it projects slightly (see Fig. 1). If this is not feasible, the clock can merely sit behind the dial hole.

To keep it centred and firm, a small supporting bracket cut from thin brass or tin, should be attached to the top of the casing (see back view). There will be a threaded hole in the top of the clock, where the bell gong support was fixed. Try and find a small screw which fits this hole neatly.

The clock legs should be set in small holes suitably made in the floor piece. The holes, made with a drill, will prevent the clock from sliding about.

Wiring Up

Now, while the sizes for the clock case will suit most round alarm clocks, it is not every one that has its mechanism arranged the same. The usual position of the alarm winding key is shown at Fig. 2.

The contact terminal is fixed beside it so that, as the key turns, its "wings" touch against the terminal. An ordinary small wireless terminal

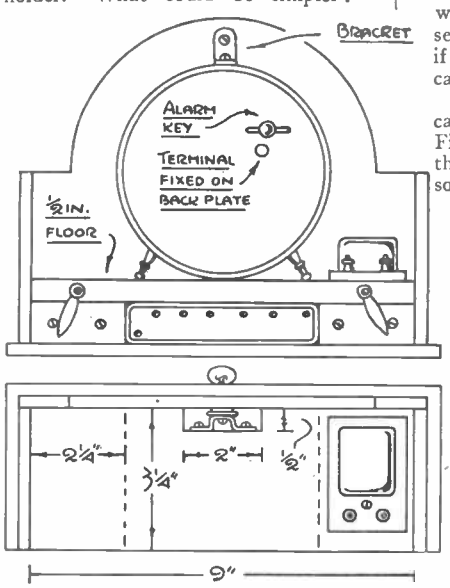


Fig. 2—Back view with top plan of casing

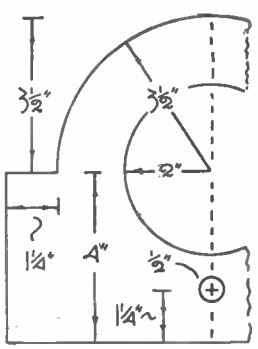


Fig. 3—Half the front

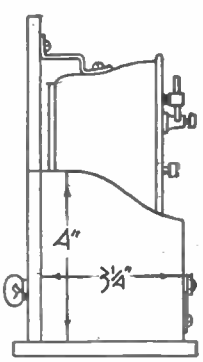


Fig. 4—End view

is wanted. Drill a hole for it, just slightly larger than necessary, then make a couple of cardboard washers to suit the terminal (hard fibre washers are the best to use) and slip one on the threaded shank.

To insulate the shank from the metal back, wind thread around it. Insert the shank into the hole, put the other washer on its projecting end, then tighten on the nut. The back of the clock will require to be removed in order to fix the terminal on, as explained.

Electrical Material

You now need a small electric buzzer, the grid-bias battery and some pieces of flexible cotton-covered wire, including two wireless plugs. Screw the buzzer to the floor and push the battery into its space beneath.

Two small switches are shaped from thin brass and attached by means of roundhead screws based with suitable washers. Other roundhead screws (fixed to the supporting blocks) serve as contacts.

The wiring circuit appears at Fig. 5. The wires from the bulb holder are connected to a clock leg, the other wire going to the buzzer switch contact screw. A wire runs from the same screw to the battery plug, the latter being attached.

To the Switch

The wire from the second plug is attached to the lamp switch contact screw. The wire from this switch goes up to the contact terminal on the back of the clock. A wire leads from the second leg of the clock to one of the buzzer terminals. A wire from the other terminal goes to the buzzer switch. It is better to have the wires looped around the underside of the switches.

Now, as shown in the back view at Fig. 2, there are six plug hole positions graded from 1½ volts up to 9 volts in a grid bias battery. You will notice a seventh plug hole all by itself. Insert one plug in there and keep it there. If you require more voltage, shift the other plug to any of the other six plug sockets.

On no account immediately plug in at more than 4½ volts. If you go beyond this voltage, you are liable to fuse the flashlamp bulb, especially if a 3.5v. one. Do not use any other type of bulb, such as a 6 volt bulb, for instance. It is much too heavy in consumption and would exhaust the battery in quite a short time.

The "free" plug, i.e., the plug you can shift to fresh sockets, is known as a "wander plug." It forms yet another switch, for by withdrawing it from the battery, the circuit is broken.

The Finish

To complete the clock casing, you could "decorate" the front of it with ¼in. wide and ⅜in. wide pieces of small moulding. You could make this moulding easily from suitable strips of ¼in. wood or by cutting pieces of ½in. and ⅜in. dowelling in half.

Round over the top edges neatly, then glue the pieces in the position shown in the illustration. The finish depends on the class of wood used. If deal has been used, the work is best given two thin, separate coats of enamel paint, such as mahogany, rosewood or chocolate.

Alternatively, the wood could be stained mahogany or dark oak and polished accordingly with the beading lighter in shade to contrast. Add four small wooden feet to the base, or a covering piece of green baize, or four discs of it about the size of a halfpenny attached to the corners.

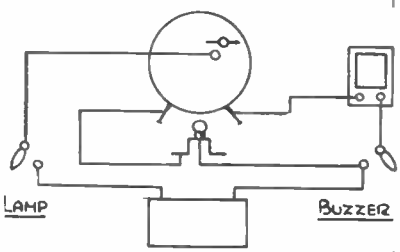


Fig. 5—The wiring circuit

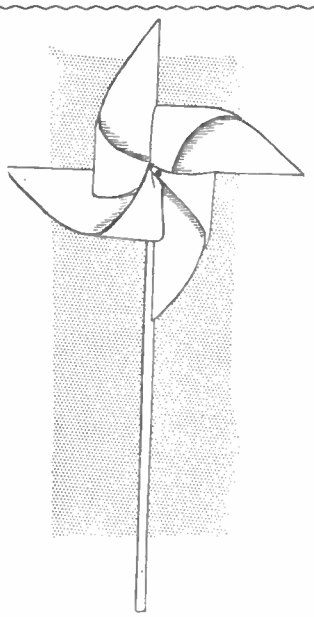
Prior to attaching the winding key terminal contact to the back of the clock, the alarm spring should be wound up fully, but not too tightly. Having set the alarm mechanism, turn the wings of the winding key away from the terminal contact.

Alternative Designs

The design and shape of the clock holder is, of course, simple and straightforward. There is no reason, however, why the reader should not, if he wishes, have a different shape and style.

Some of the clock fretwork designs illustrated in old numbers of Hobbies Handbook will provide a useful pattern. Or you can notice shapes of clock cases in houses or shops.

A WINDMILL FOR BABY



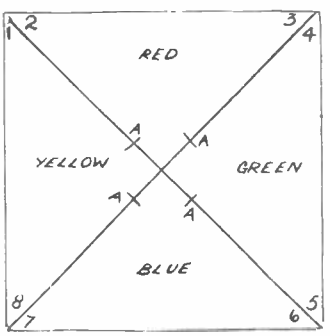
ALL you will require to make this windmill is a stick, a pin, a piece of paper (about 5 inches square), and a colour-box of paints or crayons.

First of all draw a line in pencil on the paper with the help of a ruler, from one corner of the paper to the corner opposite to it. Take your line, of course, right through the centre. Do the same with the two remaining corners.

Colouring

Now, from the centre, where the two lines have crossed each other, mark half an inch off each line as can be seen in the diagram. The next thing to do is to colour the paper on both sides, painting each quarter in a different colour.

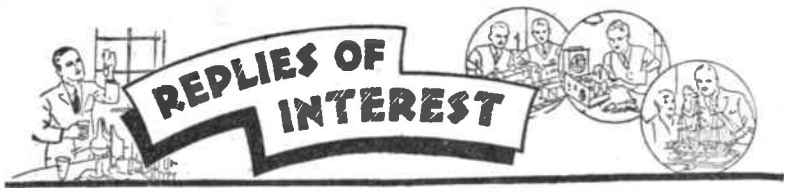
When the paper is dry, cut down the lines you have drawn, from each corner in turn, until you come to the mark which you made half an inch from the centre. Stop cutting when you reach this mark.



Now number each of the eight corners as shown in the diagram. The windmill is ready to be shaped, so have your stick ready and the pin handy.

Take up the tips of the corners numbered 1, 3, 5 and 7, and bring them together, without creasing them, in the centre of the paper. Push the pin through them all and through the centre of the paper, finally pressing the pin-point firmly into the stick an inch or two from the top.

Hold the windmill up, facing the breeze, and the sails will spin round and look very pretty if you have coloured them nicely.



Headphones for Pick-up

IF I plugged a pair of headphones into the pick-up on the back of a radio, would it ruin the headphones or would you be able to hear the programme? (J. S. —Rochdale).

YOU would most likely damage the set and you certainly would not hear the programme. To incorporate headphones for separate listening, you would need a resistance or choke-capacity circuit tapped into the output lead of the power valve, but this is a matter for a technician.

Paint Removal

I HAVE an aquarium and wish to remove some paint on one side without scratching the glass. What should I use? (D.B.—Rotherhithe).

THE best way to remove paint without scratching it is to use a caustic potash wash, or preferably employ any of the ready prepared paint removers to be had at any good oil and colour merchants. Follow the printed instructions of the particular brand you obtain, but in general it is only necessary to brush on the solution, leave it for a while and then wipe off the softened paint with a rag steeped in turpentine or turps substitute.

Solution to Last Week's Crossword

Heating an Aquarium

PLEASE tell me if it is possible for a small cost to make a heating appliance for a few tropical fish? (P.B.—Cricklewood).

WE suggest that the cheapest and easiest way of keeping up the temperature for a few tropical fish in a small aquarium would be to place one of the very small oil lamps, sold for use as a night light, close to or beneath the aquarium. This would provide sufficient local heat at night to keep up the normal warm room temperature. Anything in the way of an electric immersion heater would probably overheat (or boil!) the water.

Making a Compass

I HAVE two fairly strong bar magnets and a double protractor of 5ins. diameter. Would it be possible to make a magnetic compass from these? (K.F.W.—Lincoln).

TO make a magnetic compass, all you require is a thin light metal (hard steel) pointer, pivoted on a very delicate needle point and perfectly balanced. This pointer should be stroked from end to end with one end of your bar magnet. The pointer is thereby magnetised and will then respond to the magnetic field of the earth and, in this country the "south" end of the magnetised pointer, will point towards the magnetic north. The case or support for your compass must be of non-magnetic material, but otherwise of such size and shape as you desire.

BUILDINGS IN BOTTLES

MR. Kenneth Beggs of Brainerd, Minnesota, U.S.A. is, without doubt, the world's most skilful model constructor who works exclusively *in* bottle. He builds complete buildings as well as small boats, battleships, miniature villas, bridges, windmills, and many other things, *inside* a bottle.

It is generally thought that this sort of model, usually seen in the windows of antique shops and wine importers, are built first outside the bottle then either the bottle is blown around them or the bottom of the jug is removed and replaced after the model is inserted.

Well, it might be true in some cases but it is entirely false in the case of Mr. Beggs. He pokes and glues every bit of his models and builds his buildings inside the jug with an inexplicable skill.

"I prepare and place in the bottle one piece at a time" states Mr. Beggs. "When I have inserted material enough for working on them, I glue them inside the jug."

Mr. Beggs has a family of eight to look after, yet he finds time for this amazing hobby. He built in a bottle, for instance, a stone-building, complete with beautiful landscapes, using 3,500 separate pieces in the construction in no less than two months. Mr. Beggs has just completed his largest work yet which contains 30,000 separate pieces of various materials.

For building buildings in bottles he uses actual construction materials of real buildings as far as it is possible and practicable. For windows he takes Cellophane, for shingles he uses bits of pasteboard, for the fences of his houses some parts of matchboxes, for his swinging gates—(and they swing all right inside the bottle!)—odd and tiny bits of firewood. The diminutive villas are surrounded inside the jugs with carefully planned gardens, gay flowers, etc. For this even he doesn't know exactly what he uses; anything he can lay his hand on around the house.

The tools Mr. Beggs applies to his work are surprisingly few. Apart from a pair of small but long pliers, he does not use anything else than a variation of ordinary hay wires.

Mr. Beggs cultivates the other extreme too; for he builds articles not only in big jugs but in extremely small bottles, as well. His smallest creation is built in a 3-inch bottle and contains an axe, saw buck and log.

The picture shows Mr. Kenneth Beggs of Brainerd, Minnesota, U.S.A., greatest "model constructor in bottle" with some of his models.

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. Fretwork goods or those shown in Hobbies Handbook not accepted. Orders can be sent to Hobbies Weekly, Advertisement Dept., as below.

LONELY? Then write Secretary U.C.C., 5 B.B. Hay Street Braughing, Herts. Genuine. Est. 1905.

GAS ENGINE. "Planbook" gives instructions and drawings for working model which runs on air. Made with simple tools and materials. New technique. YACHT. "Planbook" tells how to make and race Model. New simple timesaving method of construction. GALLEONS. All the secrets of making lovely models of these old-time ships are in this "Planbook" with working drawings. AIRCRAFT and SHIPS. Use "Scaleline" plans. SEND 2d. and addressed envelope for list of over 50 plans and above Modelcraft "Planbooks."—77(H) Grosvenor Road, London, S.W.1.

LONELY? Then write confidentially,—Secretary, VCC., 34 Honeywell Rd., London, S.W.11. Stamp.

BE TALLER! Quickly! Safely! Privately! Ross System. Increased my own height to 6ft. 3½ins. Ceylon client age 20, gains eight inches. Fee £2/2/-. Complete details 6d. Stamp.—Malcolm Scott, Height-Specialist, BM/HYTE, London, W.C.1

MAKE A MODEL FORTRESS (non-flying) from Hobbies Patterns No. 2405, price 4d. (postage 1d.) Or a Boston Bomber (No. 229 Special) price 6d.—From Hobbies Ltd., Dereham, Norfolk, or Branches.

APPROVALS on request. Postage appreciated. — Warrington, Letham, Bearsden, Glasgow.

BOUND VOLUMES HOBBIES—6 months October to March or April to Sept. 15/- each post free. Separate Index 1/- each. Full of useful hints and suggestions.—Hobbies Ltd., Dereham, Norfolk.

BATTLESHIP MODEL PATTERNS (No. 280 Special) for waterline model in wood of King George V, 18½ins. long. Post free 5d. Materials also supplied. — Hobbies Ltd., Dereham, Norfolk.

STAMPS FREE!! Twenty Unused (2½d.)—G. H. Barnett, Limington, Somerset.

CRUISER Tank Model, 12ins. long, made from Design Sheet No. 223 Special (Price 9d.) Parcel of wood for making, 10/9, postage 7d.—Hobbies Ltd., Dereham, Norfolk.

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OO GAUGE RAILWAY. Designs for making an Engine Shed, Signal Box, Footbridge, Railway Station, Fencing, etc., 10d. the set, post free.—Hobbies Ltd., Dereham.

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