

HOBBIES WEEKLY

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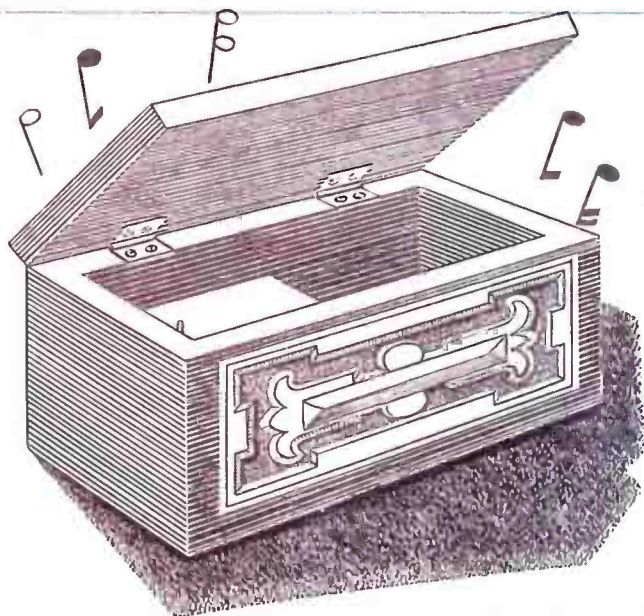
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SEPTEMBER 19th 1956

VOL. 122

NUMBER 3177



*Make this
delightful
novelty for
your home*

PHONE MONEY BOX

THE attractive box shown in the illustration is intended primarily as a receptacle for telephone contributions. When friends or neighbours use your phone and leave enough money to cover the cost of the call, it is handy to have this extra amount when the telephone bill comes in. Place the box close to the phone, so that it cannot be missed. Incidentally, the box can also serve as a means of saving up for your own telephone calls.

A musical movement can be incorporated by increasing the width as mentioned later. With a movement included, the box can alternatively be used as a novelty cigarette or trinket box.

The construction is quite straightforward as shown in Fig. 1. The ends (B) go between the front and back (A,A) and the base (with the grain running lengthwise), is screwed to these.

The front and back (A,A) measure 6ins. by 2ins. by $\frac{1}{2}$ in. and the ends (B)

2ins. by 2ins. by $\frac{1}{2}$ in. The base (C) is 3ins. by 6ins. by $\frac{1}{2}$ in. If a musical movement is to be used, the ends must be extended to 2 $\frac{1}{2}$ ins. by 2ins. by $\frac{1}{2}$ in., and the base to 3 $\frac{1}{2}$ ins. by 6ins. and of only $\frac{1}{2}$ in. thickness because of the winding key.

The lid (D) is illustrated in Fig. 2 and measures 3ins. by 6ins. by $\frac{1}{2}$ in. Increase this to 3 $\frac{1}{2}$ ins. by 6ins. with a musical movement.

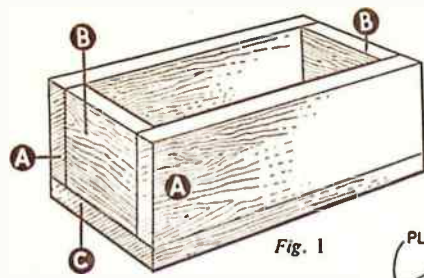
The hinges are recessed in the back

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*For Modellers, Fretworkers
and Home Craftsmen*

4 $\frac{1}{2}$ ^D

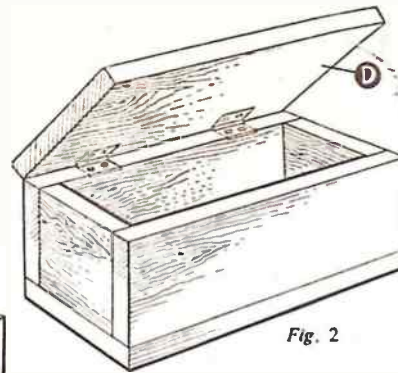
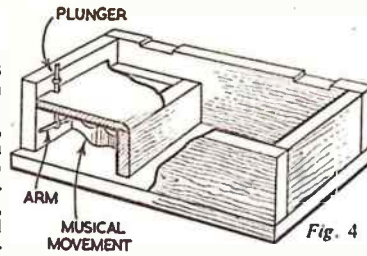
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Illustrations for making Money Box

and also in the lid. Use $\frac{1}{2}$ in. butt hinges and position them about 1 in. from each end.

The overlay, shown full size in Fig. 3, is cut from $\frac{1}{4}$ in. or $\frac{3}{8}$ in. wood. It is cut in two parts and chamfered all round to simulate a carved finish. Cut three complete overlays and glue them to the back, front and top. A long lozenge of wood can be shaped and glued to each over-



polishing or varnishing. If you prefer a painted finish we suggest leaving out the matting between the overlays, since this will detract from the appearance when painted. (M.h.)

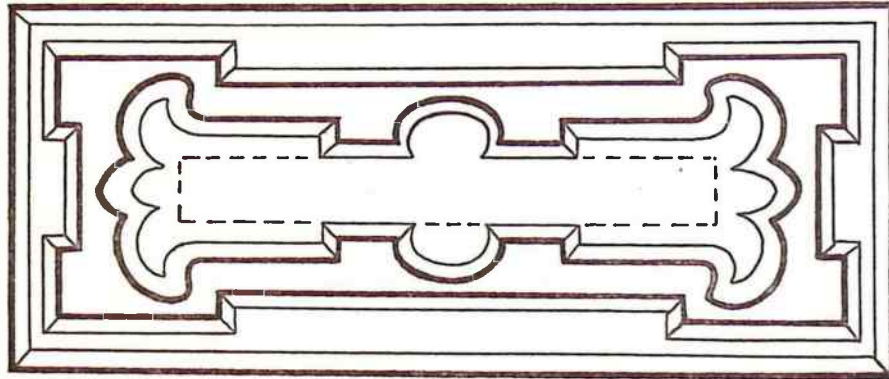


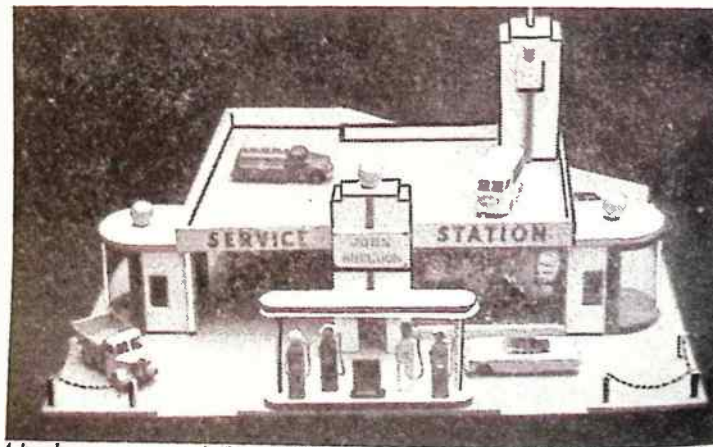
Fig. 3—The overlay (full size)

lay. You will see this in the picture of the finished box. After the overlays have been glued in position the spaces between the two parts of each should be matted. A proper matting tool can be bought for this purpose, but failing this a large nail with the point filed flat can be used. With this effect the overlay will look just like hand carving.

The musical movement, if fitted, should be enclosed as shown in Fig. 4. Make up a small box from three pieces of $\frac{1}{2}$ in. wood and place the movement inside. Screw holes are provided for fixing, so it is an easy job to secure it. Do not forget to provide a hole in the base for the winder key.

The stop mechanism consists of a piece of wire connected to the arm of the musical movement. The wire goes up through a small staple made from a fretpin and projects about $\frac{1}{4}$ in. above the end of the box. When the lid is closed it depresses the wire plunger and stops the mechanism.

When the construction is complete, the whole assembly should be cleaned up and given a light coat of stain before



A handsome garage made from Hobbies Kit and Design No. 3129 by J. H. Bamford, 14, Brookside Road, Archway, London, N.19, who in a letter to the Editor says he is 'extremely pleased with the result'

A marvellous present for a youngster, the kit (No. 3129) costs 39/11 from branches, stockists etc., or Hobbies Ltd, Dereham, Norfolk (post free).

E. G. Gaze writes on

FILLING THE FOREGROUND

A PART from close-ups of one main subject — such as an arch or architectural detail — open, outdoor scenes are seen by the photographer in relation to their foregrounds. Yet the resulting print often disappoints merely because the foreground bulks largely in area, while the main subject in the middle distance appears dwarfed.

Perspective remains the same from any one given stand-point, yet the scene compressed on to the small area of the negative often appears a distortion of what was actually seen — because the foreground looms large. While our natural vision is selective and roams over foreground to middle distance and background, when viewing a print the eye takes in the scene as a unit: a foreground which bulks largely in the original scene will also bulk largely in the print — and its relative nearness

only on to the enlarger easel paper area; or it can be tackled at source by using a long-focus or a telephoto lens, though this is only possible with cameras having provision for interchangeable lenses.

Whether one has to use a large area of foreground or not, the final result must be visualised in relation to the relatively large area it will occupy on the negative.

The area of foreground can make or mar a print, and much can be done, with a little forethought, to ensure that it becomes a part of the scene, and not merely an unwanted area of no interest.

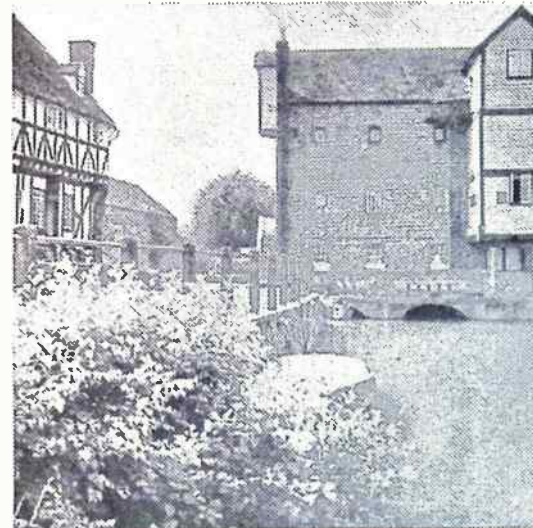
(1) *Sharpness*. If foreground objects bulk largely, by necessity or choice, in the print then, being mentally nearer the

particularly if light, will catch the eye when viewing the print and detract from the main scene. Large blank areas are as unsettling as cluttered up UNSHARP foregrounds. Here lighting plays a part, open foregrounds can be made interesting by being broken up by the play of shadows without stealing the interest from the main subject, and, in fact, helping to lead the eye across foreground to main subject.

Bushes, water, even a line of posts — objects of interest but which do not hold the eye from the main point of interest itself — are also useful to break up a large expanse of foreground. (No. 1).

A combination of light and shade

(Right) No. 2—A paving pattern adds interest to foreground.



No. 1—Foreground objects not detracting from main scene, included by low angle snapping. Small lens aperture ensured over-all sharpness.



appears to increase its weight and area in relation to the main subject which may well lie in the middle distance.

Normally, the foreground is a necessary and integral part of the scene, leading to the main subject — as with street scenes, village lanes, etc. Add to this that to include the tops of buildings often means moving further from them — and the area of foreground increases.

One way of eliminating unwanted foreground is by selection in enlargement, projecting the main subject matter

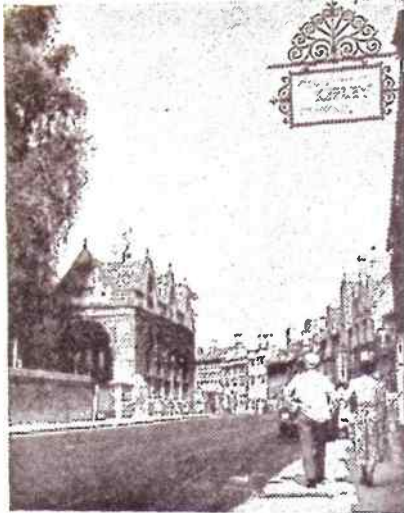
eye, they are critically examined as the eye is led towards the main subject. The foreground must be sharp, a woolly foreground detracts from print appeal — in a country view tall grasses or tree branches out of focus in the foreground can ruin a print, however sharp the main and more distant subject is. To ensure sharpness from foreground to subject may call for a small 'stop' or lens aperture, plus careful focusing. (No. 1).

(2) *Tonal Values of Foreground*. A large foreground area of level tone,

with unobtrusive foreground objects is often ideal and may well be found by a slight alteration in 'snapping' viewpoint, or by changing from eye-level to low-level snapping. (No. 1).

(3) *Roadways and Paths*. In open street scenes it is often impossible to avoid including a large expanse of uninteresting roadway. Paths made of paving slabs or cobbles form an interesting pattern that both helps to give interest to the foreground and to lead the eye naturally to the main subject. (No. 2).

With concrete roadways, light in colour, the shadows cast by trees or buildings outside the angle of view can usefully be used to break up the large expanse of white tone. Tared surfaces are dark and can further be subdued in printing by shading-in. A combination of tared surface and light toned pavement is helped by shadows on the pavement, or by the inclusion of figures (preferably walking AWAY from the camera if near, so as to remain impersonally part of the general view). Figures used impersonally in a street scene prevent the eye from running straight to the middle distance and background.



No. 3 — Large expanse of roadway subdued in tone, a tared surface.

Projecting Signs

Look out, too, for projecting inn or shop signs overhanging pavements. These are also of value in breaking up a monotonous expanse of pale blue cloudless sky so often found toneless in prints. (No. 3).

(4) *Foreground Frames.* A foreground frame with a cast shadow is often of use. Even a partial framing — hardly a frame at all — caused by including a

bush or tree trunk right in the foreground and not in a dominant position in the print, is useful. Beware of walls running from foreground to middle distance — they may have the effect of appearing to steepen perspective and so hurrying the eye too quickly to the middle distance.

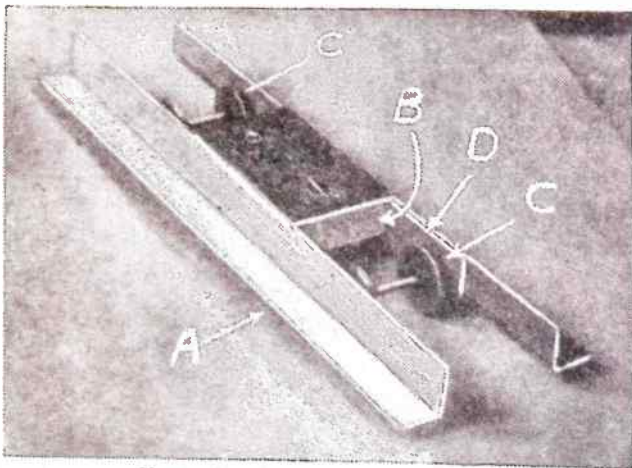
Tonal Values Subdued

If a bush or tree trunk or pillar is used right in the foreground — possibly in connection with other means of adding foreground interest — it will be underexposed if in shadow. This often helps by subduing its tonal values which might well have too much eye-catching interest if brightly lit. (No. 2).

Remember, the foreground is an integral part of most outdoor scenes and you may have to bulk it largely on the negative space. See that it is interesting and not just a 'dead' area of the print. Watch for tonal values, shadows, unobtrusive objects not detracting from the main subject in the near or middle distance, and, often, use can be made of impersonal figures.

Model Railways

A NOVEL TRANSPORTER TRUCK

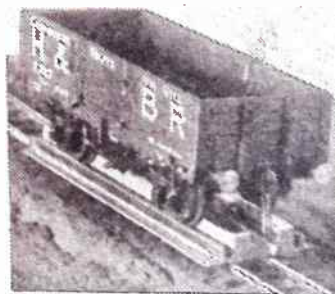


Showing how the transporter is constructed.

THE accompanying illustrations show an item seldom seen on model layouts — a transporter for the conveying of the trucks of one gauge over the tracks of another. Such transporters are found in various parts of the world, and they have been used in this country. The model transporter depicted (and made by the writer) runs on gauge OO track and is carrying a gauge O truck. These two gauges are ideal for the purpose.

Make-up of the vehicle is simple, consisting of a tin body (A) with a step on either side on which is soldered the rails of the wider gauge. This body sits across the wooden block (B) and the space between the vertical sides is just sufficient to take the OO wheels (C). These run in bearing holes made at either end of two strips of thick tin (D), the strips being soldered in position.

At the ends, the frame sides are stiffened by cross pieces held by a touch



Gauge O truck loaded on the OO transporter.

of solder at the extremities. Couplings are drop hook bars, bored and secured at the inner end to the block (B), recesses being cut for them, and a pin goes through the boring. At the outer ends the bars lie in short recesses cut in the tops of the cross end-pieces.

The gauge O trucks are loaded on by means of a ramp which brings that gauge level with the rails on the carrier. Once on, the truck stays in position by small depressions being taken out of the rails on the steps into which the wheels settle, though not obviously.

When loaded, the transporter can easily be hauled by any standard OO locomotive. (H.A.R.)

Neatness in the garden with

A DIBBLE and DISTANCE GAUGE

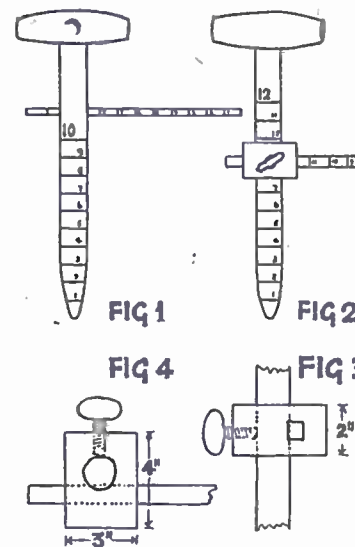
NOTHING looks worse in a garden than a row of plants set at irregular distances apart. To the keen gardener neatness is essential, and anything that will help him to achieve this is sure of a hearty welcome.

The subject of this article is one of these useful little gadgets which not only makes the correct size hole for the plants but also marks the distance to which they should be spaced. A gauge to give the planting depth may also be added without much extra trouble and this greatly adds to uniformity in planting.

We are giving examples of both types so that you can make the one that is likely to be more useful, or if you possess a large garden both will doubtless be necessary. They may also be made in different sizes to accommodate varying plant growths and the measurements quoted are for most average purposes.

Fig. 1 is a very simple tool to make yet it is extremely efficient in use. It is made from an old fork or spade handle the type having a 'T' end being best, and can be about 15 ins. long and with a diameter of 1 1/2 ins.

Drill a small hole a few inches from the top to take a length of dowel rod about 1/2 in. to 3/4 in. diameter which is marked off in inches as shown. You should be able to move it freely in the handle without being too tight or too loose. A better method, however, would



be to fit a thumb-screw so that the dowel rod can be slid to the appropriate setting and then tightened up.

Marking the dibble in inches from the bottom upwards is also very useful as it enables each hole to be made to the same

depth to suit the particular type of plants being set. Something more permanent than pencil or ink is necessary as these would soon wear off, and cutting a shallow notch all round would probably be most suitable.

The adjustable depth and distance dibble shown in Figs. 2, 3 and 4 is well worth the little extra time taken to make it.

The handle passes through a block of wood with the distance bar crossing it at right angles, both being secured with one thumb-screw.

With a spade or fork handle having a diameter of about 1 1/2 ins. the block should be 4 ins. long, 3 ins. wide and 2 ins. deep. Drill a large hole for the handle to slide through so that it is an easy fit, then cut the hole for the distance bar at right angles to this. It can be either rectangular as shown or round, and one hole should very slightly overlap the other so that when the thumb-screw is tightened it will securely hold both parts.

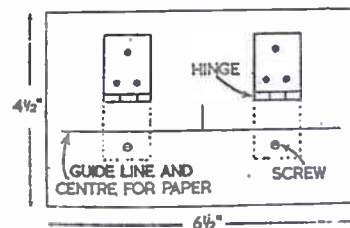
The distance bar is about 18 ins. to 24 ins. long and 1/2 in. by 1/2 in. if rectangular, but for a round one 1/2 in. should be suitable. Mark off in inches and either paint these or make notches and number them.

When made from a good hardwood it is really not necessary to do any finishing, but a coat of paint would help to preserve the tool, especially as it may be used in wet ground. (A.F.T.)

'Hinge' Paper Punch

THOSE using loose-leaf books will recognise the value of a simple punch, without springs, for inserting odd pages and pictures which do not possess the necessary holes. A serviceable punch can be made from a pair of hinges and a few screws.

A block of wood, 4 1/2 ins. by 6 1/2 ins. by 1/2 in. will be found large enough for most sizes of loose-leaf pages, the holes usually being about 3 ins. apart. Obtain a pair of 1 1/2 in. square hinges, having three holes for the screws in each leaf.



You will also require screws for fastening down one leaf of each hinge.

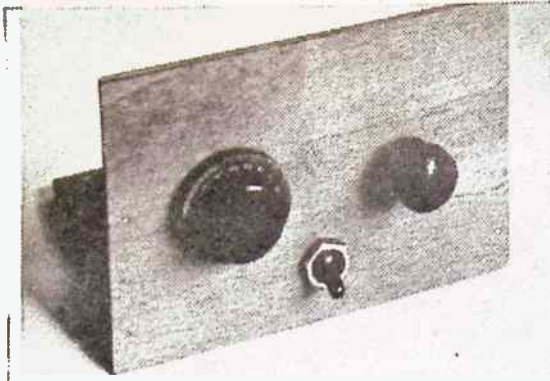
Take a sample piece of paper already punched, fold in the middle and fit to a centre line drawn across the block of wood. Note that the holes in the paper should coincide. About 1 in. from the long side of the block, and with the paper properly centred, mark the centre of one hole with a pricker. Now you may fasten on one hinge, using the centre for the top hole of the hinge. With this fixed, fold down the free leaf flat with the top of the block, sliding the paper, which has been straightened out, underneath the leaf, so that the hole in the paper and the hole in the hinge fit together. Keeping the paper in this position the other leaf may be positioned and screwed fast.

With the hinges fastened on to the block, all that remains to be done is to fit the screws which will form the punch. The leaves of the two hinges are folded down and the centres of the top holes marked with a pricker. Take care that these marks are quite correctly centred.

for the hinge hole has to pass over the screw head. The screw head must be slightly smaller than the hole in the hinge to allow free passage. This can be effected with a file or carborundum stone with good results, a burr being formed which will improve the cutting edge of the screw. Note also, that the two screws must not be screwed right home, but allowed to project about 1/2 in. above the level of the wood.

When the screws have been fitted, once again lay the paper on the block, but this time with the holes slotted over the screw heads. For punching other papers it is necessary to have some guide line, and this is now made by ruling a line on the block of wood to fit with the edge of the paper.

To operate the punch, paper is placed centrally and in alignment with the guide line, and each hinge leaf in turn brought down and pressed over its screw head. The paper page will be found to have been perfectly punched. A punch of this kind can be made for any size of notebook by slight modification of the distance between the hinges and screws. The screw heads can be sharpened quite easily whenever necessary. (S.H.I.)



BEGINNER'S ONE-VALVE RADIO SET

Described by F. G. Rayer

RADIO constructors who have made crystal sets frequently progress to a one-valver, which can give much better results, and the circuit described here is a simple yet efficient one, ideal for such purposes. Though a valve set requires batteries, these have a very long life in a single valve receiver, and also cost much less than the batteries usually employed with larger valve sets. The few extra components required are also inexpensive, so that the total cost need not exceed that of many ready-made crystal sets.

is to hand (possibly from a crystal set) this can be used for tuning instead, and is a trifle more efficient, though needing much more space. There is no advantage in using an air-spaced condenser for reaction, but a value of $.0003\mu\text{F}$ is satisfactory here, if to hand.

A $.0002\mu\text{F}$ fixed mica condenser is also needed, and a grid leak of 2 or 3 megohms. A small on/off switch is also required.

To obtain proper reaction, a H.F. Choke is desirable, and it may be purchased, or wound as will be described.

The complete circuit appears in Fig. 1, and comparing this with the wiring plan will help a beginner to become accustomed to following theoretical diagrams.

Coil Winding

This item is very simply made, and requires only one gauge of wire, 32 S.W.G., enamel covered, being most suitable. A 2oz. reel would be sufficient for several coils.

An insulated former 1in. in diameter and at least 2½ins. long is used, bakelite

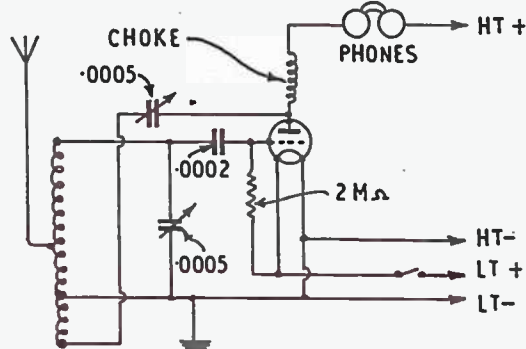


Fig. 1—Circuit of the one-valver

Compared with a crystal receiver, a one-valver will give very much greater volume from the local stations, and also provide other stations which would not be heard at all with a crystal set. The one-valver is of particular advantage when no earth is available, and only a poor aerial, as volume can still be adequate, though a crystal set would be useless in such circumstances.

Assuming that all parts are to be purchased from a radio component supplier, a few words describing them may be of help. Two variable condensers, with knobs, are required, and $.0005\mu\text{F}$ solid-dielectric types are suitable. If an air-spaced tuning condenser

is purchased, then it should be of the usual Long and Medium Wave reaction type.

A pair of headphones which have been used with a crystal set will do well. If to be purchased, however, care is necessary to obtain phones of normal, medium or high impedance type, intended for crystal sets and 1-valvers.

The valve suggested is an ex-service HL2, since this is robust, efficient and obtainable at very low cost, indeed. It will require a 4-pin English type valve-holder. In actual fact, almost any battery-type valve can be used successfully in such a circuit, with a suitable holder appropriately wired.

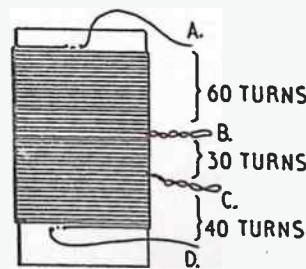
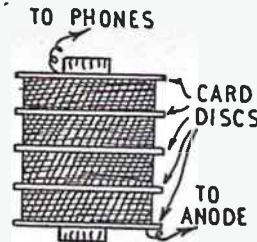


Fig. 2—
The tuning coil

Fig. 3—
Making the H.F. Choke



or paxolin being best. If a tube is to be made, this can be done by winding thin glued card round a suitable object, carefully removing, and allowing to dry.

Fig. 2 shows the completed coil. To begin, the wire is anchored near one end of the tube, by passing it through two small holes. Sixty turns are then wound on, evenly side-by-side. Loop (B) is then made, and a further thirty turns wound

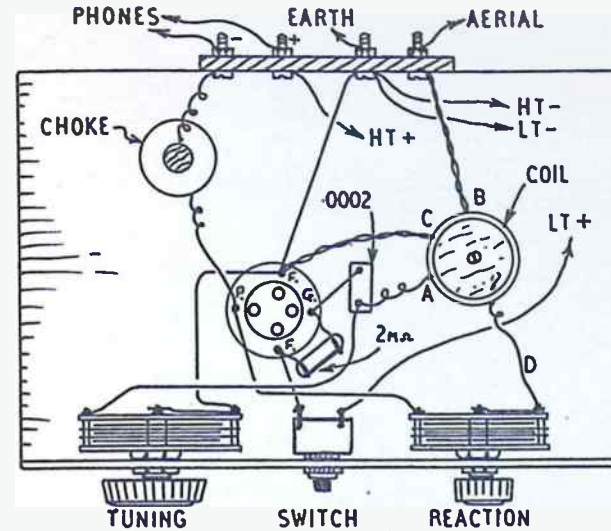


Fig. 4—Complete wiring plan of receiver

on, after which loop (C) is formed. After a further forty turns, the wire is terminated at (D) by passing the end through further holes.

Connecting up will be simplified if the ends are long enough to reach the appropriate points, as in Fig. 4. (A) goes to the $.0002\mu\text{F}$ fixed condenser and fixed plates of the tuning condenser. (B) is taken directly to the aerial terminal. (C) goes to the earth circuit and moving plates of tuning condenser, while (D) is connected to the moving plates terminal of the reaction condenser. The enamel must be scraped away at connecting points.

If the loops (B) and (C) are tightly twisted when winding the coil, there will be no danger of turns coming loose. All turns throughout must be in the same direction, and the coil should not be waxed or varnished. The coil is mounted vertically by pushing it on a cork screwed to the receiver baseboard. It tunes approximately 200 to 550 metres.

H.F. Choke

This component prevents radio-frequency signals passing, so that they may go into the reaction circuit, strengthening the signals in the coil. Almost any winding having several hundred turns will act in this manner, and a choke can be made as shown in Fig. 3. For the centre, a piece of wooden dowel about ½in. to ¾in. in diameter and 1½ins. to 2ins. long is satisfactory. Five or six stout card discs or washers about 1in. in diameter are cut, and glued to the dowel. When dry, the spaces thus provided can be wound almost full.

The actual wire used is not very important, provided it is fairly thin, so

that some hundreds of turns in all are obtained. The wire may be silk or enamel covered, and something suitable may be had from a broken component. If the wire is to be purchased, then 20zs. of 40 S.W.G., silk covered, will do well. Winding will be simplified if one projecting end of the dowel is held in a geared drill fixed in a vice, or if some other form of mechanical winder is used. To begin, the wire is passed through a small hole near the centre of the uppermost disc. Each space is wound nearly full before passing on to the next, the wire going through a small notch cut in the disc. All turns are in the same direction, and the finished choke can be mounted by a screw driven up from below.

Building

As the exact size of panel and baseboard is unimportant, they may be cut to suit an existing cabinet. If not, then 5ins. by 6½ins. will do well for both, the panel being of 3-ply or other thin wood, and the baseboard about ¾in. thick.

A terminal strip, of paxolin or ebonite, is screwed to the base, as in Fig. 4, and can be about 3ins. by 1in. high. Four small bolts or terminals are necessary. Alternatively, a 4-way socket strip can be used, and aerial, earth and phone leads fitted with plugs to insert in this.

After connecting the coil and choke, the other leads may be put on, insulated wire of about 22 S.W.G. being most convenient. If components with soldering tags have been obtained, soldering will prove quite easy if the tags and wire are absolutely bright and clean, and the iron hot enough to melt the solder readily. Cored solder is convenient, as

no soldering flux is necessary with it.

Short lengths of thin flex form battery connections and clips or plugs are fitted to suit the kind of battery.

If Fig. 4 is studied carefully, no error can arise in wiring, and the set should operate correctly as soon as switched on.

Notes on Using

When the phones are connected, the red lead should be taken to the H.T. positive side of the circuit, as in Fig. 4. If no earth is available it can be omitted. Almost any aerial will give good results, though an outdoor wire will, naturally, improve volume of weak stations. The normal aerial terminal provides a tapping on the coil, and this is most suitable for average purposes. However, if the aerial is very short or poor, it may be wired directly to point (A) on the coil, or the fixed plates tag of the tuning condenser. This will help to maintain volume, but will result in flatter tuning.

Any high tension voltage between about 30 V and 60 V will be satisfactory, volume being a little greater with a fairly high voltage. A 45 V miniature type H.T. would do well, or two 22½ V deaf aid batteries wired in series.

The valve type mentioned is intended for a 2 V filament supply, but will work quite well with a 1½ V battery. For 2 V, a small accumulator is the ideal source of supply. If this is not wanted, a 1½ V dry battery can be used. Alternatively, a 3 V (2-cell) dry battery will be satisfactory, with a 10 ohm resistor wired in one connection, to drop this to 2 V. On no account should a 3 V battery be connected direct, as this will destroy the filament.

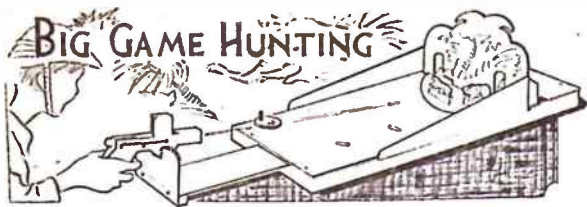
If an 'all-dry' valve type has been used, then a 1½ V dry cell will be required for this. Larger batteries, even if somewhat discharged, must not be used.

It will be found that reaction will greatly increase volume. The reaction condenser should be closed until the set tends to oscillate, and careful adjustment of reaction is particularly necessary with very weak stations. Reception of distant stations also improves considerably during the hours of darkness, when the more powerful European stations should be received at sufficient volume. A small dial or scale on the tuning condenser will be helpful in allowing stations to be located again.

OLD INNER TUBES

AFTER renewing the inner tube of a bicycle, cut the discarded tube into strips and tack them to the wooden-edge of your broomhead. This prevents paint and furniture from being scratched when floors are swept.

The marking of polished surfaces can also be avoided by sticking pieces of the tube to the base of ornaments, etc.



A POPULAR TOY FOR YOUNGSTERS

THIS simple but effective toy gun which fires wooden 'bullets' should be popular with young toy-makers, especially if made for use with the novel shooting range also to be described here.

Fig. 1 shows the underside of the shooting range. It consists of a sheet of $\frac{1}{4}$ in. plywood 17 $\frac{1}{2}$ ins. in length by 9in. width. It has a disc, 7ins. diam. cut out with a fretsaw at the top end, which is later replaced to form a revolving table for the cut-out animal targets.

Strips of wood about $\frac{1}{4}$ in. are cut to required lengths and glued and pinned forming sides around the plywood. The bottom end strip, it will be

corner of the board. The pulley axle is then slotted through this hole (which must be free to turn, of course) and the crank (C) simply cut from $\frac{1}{4}$ in. plywood, with a hole to take the rod, is glued on. A stick glued into a hole forms the little handle for turning.

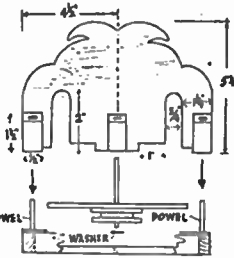


Fig. 3

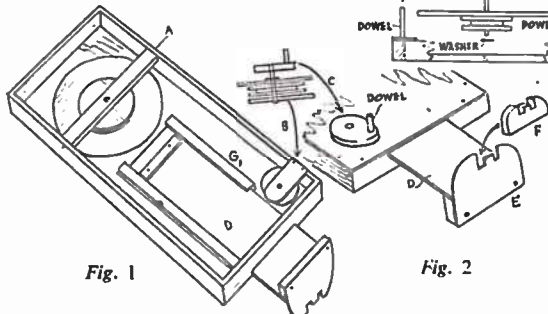


Fig. 1

Fig. 2

noted, has a slot cut 4ins. long before fixing, so that the adjustable piece (D) may slide smoothly through it. A further strip of the same thickness as that of the sides is fixed across the width of the board (A) and has a hole drilled centrally to take the dowel rod on which the revolving disc and pulley are glued. Strips of thin wood are glued accurately to the board to form runners (G) for piece (D). The latter is 12ins. long and has a support for the gun (E) and (F) assembled at one end with a stiffening strip across the width. Piece (D) is then slid into place and a thin strip of wood glued to the inside edge to form a stopper when drawing the slide out.

Revolving table

Figs. 1 and 2 show the small pulley and crank assembly used for driving the revolving table. The pulley is made up of two discs 1 $\frac{1}{2}$ ins. diam. sandwiched on either side of a slightly smaller-in-diam. disc. A hole is drilled through the three discs to take a bit of $\frac{1}{4}$ in. dowel which is glued in position. A hole is drilled to take this dowel at the bottom left-hand

Free-running axle

A plywood support piece (B) is screwed to the underside to take the pulley axle. It is 2 $\frac{1}{2}$ ins. by 1in. by $\frac{1}{4}$ in. thick. The side is cut away so that it comes flush and provides a firmer hold for the support. The axle rod should run freely through the hole drilled for it in piece (B), and any projecting rod smoothed down level.

Through the centre of the disc cut from the board, drill a $\frac{1}{4}$ in. diam. hole. A pulley is made up of a disc 2 $\frac{1}{2}$ ins. diam. glued between two 3in. diam. discs in the same way as the smaller pulley, and again these have a hole through which an axle rod (about $\frac{1}{4}$ in. diam.) is firmly glued. The turntable and pulley glued together is shown in Fig. 3. The axle rod is 2 $\frac{1}{2}$ ins. long, and about $\frac{1}{4}$ in. projects through the pulley so that it fits loosely into the hole provided for it in the cross-strip (A).

One or two metal washers are added to give smoother running and bring the turntable to the level of the board from which it was cut. If the turntable has been carefully cut out with a fairly thick fretsaw only a little smoothing

round with glasspaper will be required to prevent any jamming when being revolved.

Two dowel rods 2ins. long are glued into holes drilled vertically through the baseboard and into the sides on each

Described by T. Richmond Jr.

side of the turntable. These are supports for the upright 'jungle' scene cut-out

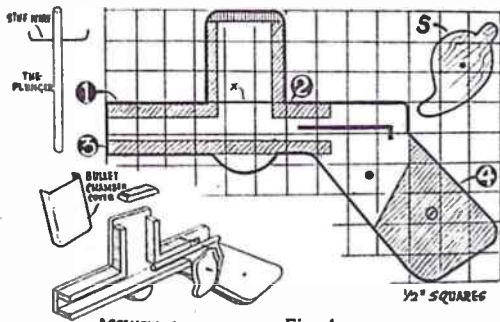


Fig. 4

board. Fig. 3 shows the shape and dimensions of this $\frac{1}{4}$ in. board through which the animal targets pass on the turntable. Three strips of $\frac{1}{4}$ in. square wood have holes drilled through them, so that, when glued to the back of the board they may be slotted on to the two dowels, with the hole in the centre block taking the turntable axle rod on which the table revolves.

'Bullet' stoppers

As illustrated in the sketch, sloping sides cut from thin wood, or cardboard may be glued on each side of the game to help prevent 'bullets' from bouncing out of reach of the player when firing the gun.

These sides should not be glued to the blocks supporting the target board, as this has to be lifted off when adjustments are necessary to the animals, and for fixing the belt to the pulleys.

From a length of $\frac{1}{4}$ in. stripwood cut six 1 $\frac{1}{2}$ in. blocks. These are glued evenly around the turntable as supports for the animals. Space does not allow full-size patterns for the animal cut-outs, but

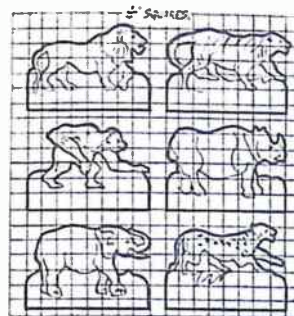


Fig. 5

these can be copied on to $\frac{1}{4}$ in. squares to the correct size, and then transferred on to $\frac{1}{4}$ in. fretwood for cutting out with the fretsaw. A sketch with the reduced-size pattern shows how each animal is hinged to its support block by means of little cloth hinges glued on at the back.

A belt is made for driving the turntable round by passing a length of garter elastic around the pulleys, and fastening with a double knot after finding the correct tension required to drive the turntable when turning the crank handle.

It is important that the animal cut-outs run clear of the slotted board when in the upright position, or when knocked down.

Making the gun

The patterns for making the gun are given in Fig. 4. Half-inch squares are ruled off on paper and the outline of the gun, including the shaded parts (1), (2), (3) and (4) copied full size. Transfer the outline for the side of the gun on to $\frac{1}{4}$ in. or $\frac{3}{8}$ in. thick plywood. A further side piece of the same shape but without the top bullet chamber section (cut away as at (X)), is also transferred on to the plywood. Both shapes are cut out with the fretsaw, including the slot along which the plunger wire slides. With the two sides held together, bore the hole for the trigger pivot wire. Sections (1), (2), (3) and (4) which sandwich between these sides are next cut from $\frac{1}{4}$ in. wood. Glasspaper them smooth and glue carefully in position. Cut and fix also the bullet chamber lid and round off the edges to section on pattern. Cut the trigger piece (5) from $\frac{1}{4}$ in. wood. A short bit of stiff wire is fixed firmly through the hole in the trigger.

The ends of this wire should pivot freely through the holes in the gun sides when assembled. From $\frac{1}{4}$ in. dowel cut the

2 $\frac{1}{2}$ in. long plunger rod— $\frac{1}{4}$ in. from one end carefully drill a hole and fix through it firmly a 1 $\frac{1}{2}$ in. length of stiff wire. This wire slides along the slotted sides of the gun. With the trigger in position, the side cover is put on, fixing with a screw through the handle piece (4) and small fretnails into pieces (1) and (3). Do not use glue at this stage. Push in the plunger rod when assembling and bend back the wire so that an elastic band may be hooked on at each end. The elastic or rubber band passes around the bullet chamber. When stretched back and engaged in the notched slots it should hold there whilst loading bullets and until released by pressure on the trigger. Some adjustments may be necessary for smooth working.

The bullet chamber

A bullet chamber cover is made from tin or thin brass and this grips firmly over the chamber side, keeping the bullets in. The bullets should

be carefully cut to the correct size from $\frac{1}{4}$ in. dowelling so that they slide into the chamber without any jamming. The chamber will hold six 'bullets', but any amount of 'spares' may be cut as required. The ends may be rounded off with glasspaper. The gun may be hand-held, but using the target game, it is better placed on the support provided for it (E) and (F), (Fig. 2). The gun may be painted any colour desired. Two or three coats, smoothed down with glasspaper between each coat after drying will give the best finish. The overall colour of the game is best green, with the gun support and the crank painted a bright red. A jungle scene is sketched and painted as desired through which the animals pass in and out. Alternatively a suitable colour picture from a magazine could be cut out and pasted on. The animals themselves need to be nicely painted using colours as bright as possible according to the natural colouring of each animal.

Youthful Admiration



This group of youngsters are obviously interested in the model boat displayed on the Hobbies stand at the Crafts Exhibition, Hammersmith Town Hall, London. Hobbies latest addition to their working model boat range is the trawler 'Anglian'—driven by the Mighty Midget electric motor. A free design for this is given in Hobbies 1957 Handbook, price 2/- from branches, newsagents, etc. or 2/3 post free from Hobbies Ltd, Dereham, Norfolk (see page 398)

THE MAGIC TUBE . . .

YOU only need a piece of string and a small piece of cardboard tube, about 3ins. long and 1/4in. in diameter, to make this mystifying trick. These properties are so small that you may carry them about in your pocket and amaze your friends when the opportunity arises.



Fig. 1

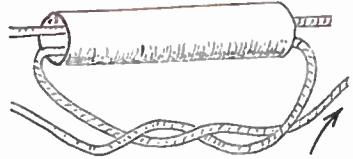


Fig. 2

ENDS HELD BY THE ASSISTANT



Fig. 3

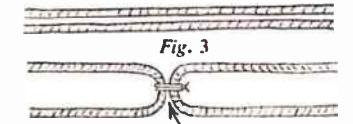


Fig. 4

COTTON TIED ROUND CORDS

Two cords are held together, one end by yourself and the other by your assistant. The cords pass through the tube as shown in Fig. 1. One cord is taken from each end and tied in a single knot as shown in Fig. 2. This tying must be done quite freely and loosely. You now hold the tube with one hand and tell your assistant to pull—after you have said the magic words and counted one, two, THREE. When the cords are pulled taut, your assistant will still hold one pair, you will hold the other, but the tube will have gone. Actually it has freed itself and is in your hand. Fig. 3 shows the appearance of the cords after pulling taut, with the tube freed, although a knot was tied.

There is nothing difficult about this trick when you know the secret, which is revealed in Fig. 4. Take a short length of cotton, the same colour as your cords, or string, tying the cords together so that they are looped in the middle but fastened by a single thread of cotton. The cords are passed through the tube which hides this secret joining, but when the cords are tightened, the cotton breaks and releases the tube.

Note that you must tie the ends together without straining the cords in any way or the cotton will break before you have performed the trick. If you wish, you may have two friends holding the cord ends and make a slight modification by covering the tube with a handkerchief. When the strings are pulled, the tube will be left in the handkerchief.

Another point to watch is that you say one — two — THREE. This latter word must be reasonably loud, and sufficient to drown the small 'pop' the cotton makes when it breaks. Incidentally, no one usually notices this tiny piece of cotton, and every piece of the apparatus used can be examined most carefully after the trick without the secret being revealed.

. . . and Passing Pencil

FOR this trick you require two long narrow envelopes. One is shown to be empty and a pencil placed in the other; but with your magic powers the pencil is persuaded to pass back into the empty envelope, which has been sealed before the eyes of your audience.

The envelopes are like those supplied at fountain pen shops, but it is quite a simple matter to make some yourself. Do not forget to apply a little gum for sealing purposes on the flaps.

In actual performance of this trick, the envelopes are passed round to show that they are quite normal, without any trick openings. A brand new pencil, unsharpened and of the rounded type is produced from a pocket and waggled about inside one envelope to show it is empty. The flap is moistened and sealed, with the envelope laid on one side of the table. The second envelope is now taken and the pencil dropped in, again moistening the flap and sealing. This second envelope is then laid at the other side of the table, and it should have been made quite clear, by your actions and patter, which envelope contains the pencil.

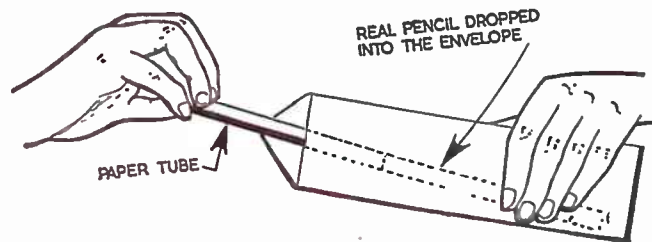
With your hand a few magic passes are made to assist the pencil in its movement to the empty envelope. It will be found that the pencil is actually in the first envelope, which should be opened and the pencil shown. The second envelope is then picked up and

thoroughly squashed and crumpled to prove that it cannot possibly contain the pencil.

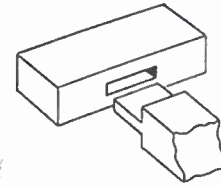
There is a trick in this operation, of course, and it lies in the pencil itself. It is best to procure a brightly coloured pencil, say, red, and it must be round. Next obtain a strip of shiny paper, which must be of the same colour as the pencil, although a slight difference will not matter. The paper is rolled round the pencil in the form of a tube and glued along the edge. If you are able to obtain some with a gummed back, so much the better. Do not roll the paper too tightly, for at the appropriate time we want the pencil to slide out, and this is how it is done.

If you look at the sketch you will see what really happens. When the first envelope is taken up, it is supposedly shown to be empty by waggling the pencil inside, but here let the pencil slide into the envelope, withdrawing the paper tube. The audience sees the paper tube and believes it to be the pencil. The paper tube is then dropped into the second envelope in place of the pencil.

Although the sketch shows a sideways angle, it is better for the envelopes to be held vertically, and the pencil will drop quite easily if you do not grip too tightly. A little practice will reveal this, but it may help to rub a little French chalk on the pencil. Needless to say, you must not grip the tube when it is supposed to be a pencil.

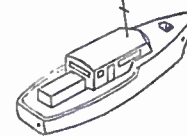


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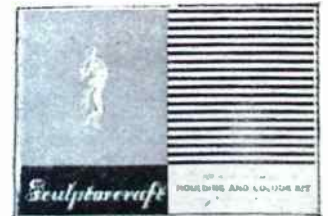
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With rod and line

FISH BAITS THAT TEMPT

FINDING the right bait to catch fish is of vital importance. At this period when weed growths flourish in the low waters, and insects are abundant, the fish are well fed and the angler needs something wherewith to tickle their capricious appetites.

Happily, it is not difficult, during the summer season, to find plenty of baits. Worms are always a good standby. Few fish ignore a lively worm. When seeking big fish like barbel, carp, bream, tench, the common or garden worm — the lob — is very useful. You can find them on the lawn, or any patch of grass at night, or after rain in the day, or by digging deep down for them in a moist part of the garden.

Red worms, brandlings, and others are attractive to trout, chub, bream, perch, gudgeon, etc., especially if the water is coloured by rains. The smaller worms are found in manure heaps, piles of decaying vegetable matter, and the gardener's refuse dumps. Maggots — or gentles — are very popular baits. They will catch almost any kind of fresh-water fish, any day, any time.

Silk Weed Useful

Now, let us consider baits not so universally known, but which, in summer, are really useful. Dock grubs, found at the roots of dock plants, are almost irresistible to chub and trout. Wasp grubs are very good summer baits, also, for these fish, and bream, roach, dace, and grayling. A little bit of silk weed — a long silky weed growing on the stones and woodwork of a weir — wrapped on a suitable hook, succeeds frequently. Collect up a quantity and keep it in a tin containing river water. Cover the hook with weed and swim it down the runs below a weir where fish, such as roach and dace, collect during warm summer weather.

All kinds of fruits, strawberries, raspberries, cherries, gooseberries, damsons, etc., are excellent for chub, especially in summer. With cherries and damsons take out the stone and in its place insert a small treble or single hook, squeezing up again the fruit until the hook is buried. Swim the baited hook down stream under trees and bushes.

Don't overlook natural flies like the bluebottle, woodfly, cowdung fly, butterfly, which should be impaled on the hook and dapped on the water. Grasshoppers and field crickets also should be tried. But, first, catch your grasshopper! Dapping with such baits will account for trout, chub, and others. Slugs, snails, beetles, bees, wasps (ware stings!),

moths, and dragonflies may all be used with prospects of success in summertime, when dabbed or dabbled on the surface of the pools. Don't let the fish catch sight of you! By tapping the rod butt with your free hand you can impart a quivering motion to the bait, which makes it more attractive to the watchful fish.

Wheat for Roach

On hot days of glaring sun, it is little use fishing for chub, roach and dace on small streams with heavy float tackle. Let your hooks be fine and your bottom gut-casts be also fine, of 3x to 6x, and equivalent sizes when using Nylon instead of ordinary gut.

In late summer creed wheat, creed barley, or stewed pearl barley are excellent baits for roach. Buy good wheat, put a quantity in a pan and stew gently until the grains crack and the white kernel shows. If water is soaked up ere the wheat is quite ready, replenish it as required. If you prefer, you can purchase wheat ready for use from bait dealers and tackle dealers. Hemp is

another bait for summer use and this also can be had ready for use.

Sport in the Shade

If tench are your objective, try slugs, snails, or dew worms; and for carp, a par-boiled small potato or knob of sweet bread paste mixed with honey. Wasp grubs also account for these two species of pond fish in summer. Fish for them early and late in the day.

In sun-bright weather fish love the shade; so that it is a good plan to fish close as possible to weed-beds, bridges, margins of reeds and rushes; under bushes, trees, and places shielded from the blazing light of day at noon. Evening is mostly the best time for summer fishing, in tropical conditions. Don't leave maggots, grubs, worms exposed to a hot sun — it does not suit them! Keep maggots in a little damp sand in a box with perforated lid, and worms in a bag or tin filled with freshly damped moss. In hot, tropical-like weather see that your baits — live ones especially — are kept as fresh as possible. (A.S.)

A Photo Film Wiper

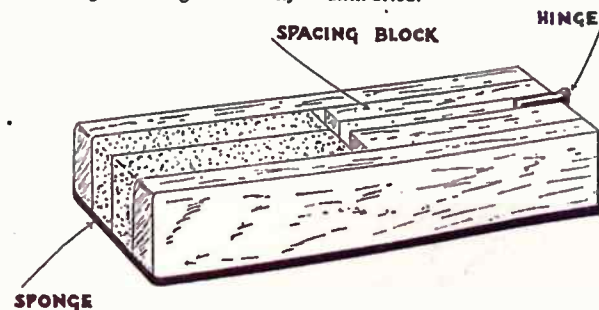
A FILM wiper will not only hasten drying of films, but absorb any remaining drops of water. The latter will often cause small, thin spots on a negative if allowed to remain. For perfect negatives, the film should be free of water before being hung to dry.

Take two pieces of wood, 1 in. wide, 6 ins. long and 3/4 in. thick. Smooth off, rounding the corners at one end to avoid the possibility of damaging the films. Two pieces of foam rubber are required to make the wipers, approximately 3 ins. long and 1 in. wide, to fit on the wood arms. This material is readily available in the form of domestic sponge of the better quality. Do not use the type suitable for rough cleaning. It is easily

cut with a sharp knife and straight edge and can be attached with a little rubber cement.

To prevent too tight a grip on the film, a fillet is attached on the arms in the manner of a spacing block, but narrower than the sponge. Finally a hinge holds the two arms in position. Since the wiper will be used with wet materials, a coat of paint is advisable, especially on the hinge. A piece of leather, or rubber, would serve as a hinge, but it would not be as firm.

The film is passed between the sponges slowly and with a gentle pressure. A little pressure on the sponges will free surplus water for repeating the process until dried. (S.H.L.)



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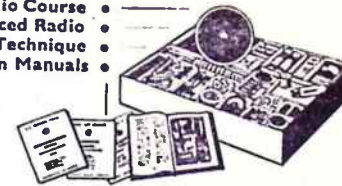
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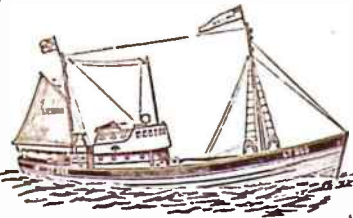
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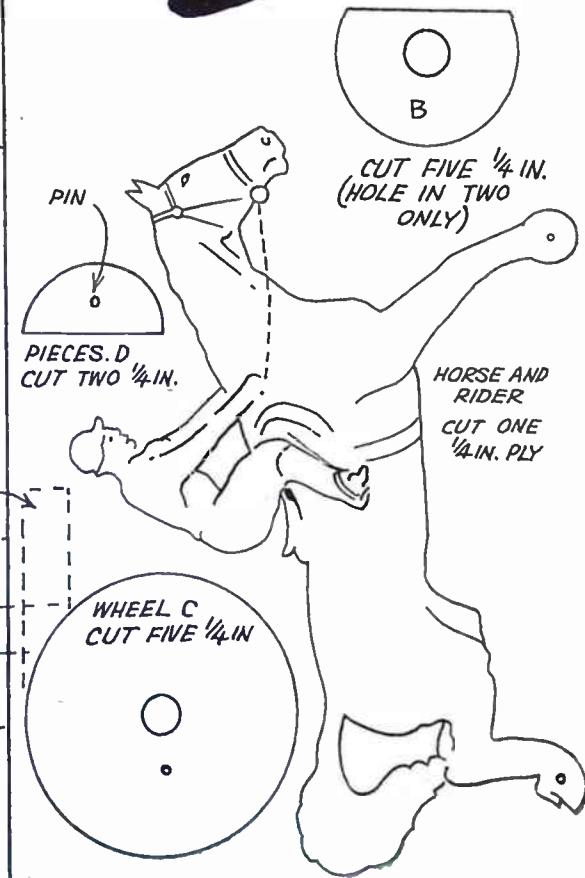
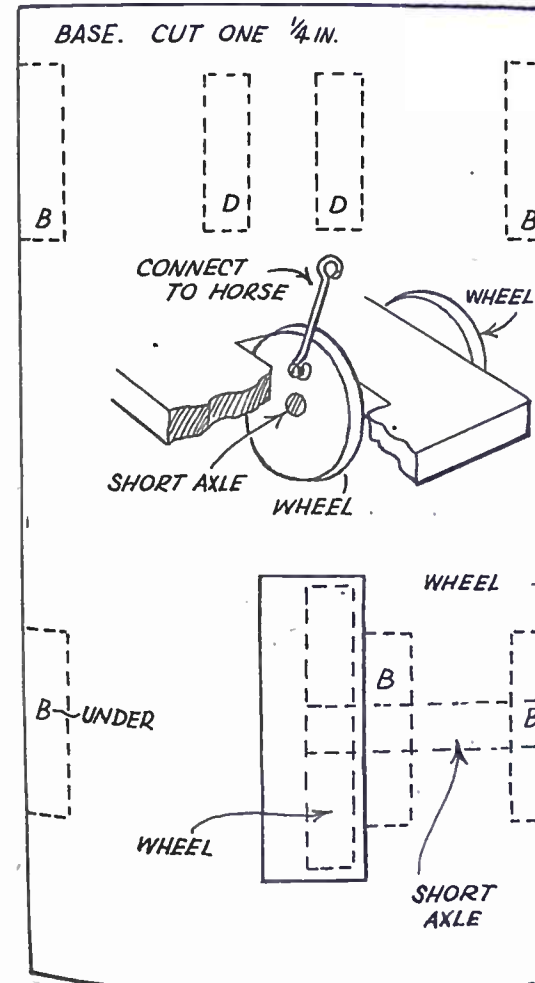
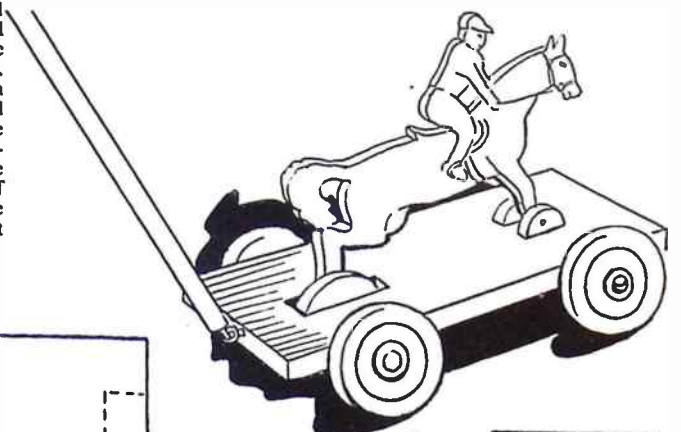
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