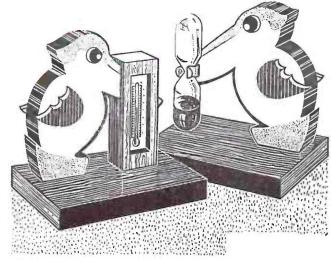
THE ORIGINAL DOUT-YOURSELFT HOBBIES WAGAZINE HOBBIES Weekly

FOR ALL HOME CRAFTSMEN

★ FREE
Design Supplement



NOMELT DAME CLUB UNING RADIO ACK FOR D WINES CABINET CABINET CABINET CABINET OOL IDEAS RAMPING IN DERBYSHIRE OY PATTERNS ETC. ETC.

Alman this indue :

HOCE N COLL

' PELICAN ' NOVELTIES

EGG TIMER AND A THERMOMETER



Up-to-the-minute ideas

Practical designs

Pleasing and profitable things to make



World Radio History

OW bells have an interesting history; perhaps that is why so many people collect them. Before the introduction of large-scale scientific farming, farmers relied on cow bells to help them locate herds lost in the woods or cows gone astray over hills blanketed in fog.

Back in fifth-century Ireland, bells were crafted by hammering out squares of metal, cutting off the corners, then bending the sides together and riveting.

COW BELLS -By R.L.C.

As the art of metal-working progressed through the centuries, cow bells came to be crafted by one of three methods. The hand-hammered ones continued in the making; but somewhat more substantial ones were stamped out with a press - and the finest of all were cast in a sand mould.

With a long heritage in both dairy farming and skilled craftsmanship it is only natural that Switzerland soon excelled in making quality cow bells. Swiss herders are proud of the bells belonging to their herds. In many cowsheds the herders' collection of bells may be seen hanging along the wall. Many of these, especially the larger ones, are handed down in the family and are two or three hundred years old. The leather collars on which the bells are worn are often in themselves works of art, being decorated with fur and embroidery or else ornamented with tooled designs.



Made in sizes ranging from a fraction of a pound to five pounds or more, the largest of the bells are usually hung on the queens, or herd leaders, who appear to take great pride in wearing them.

The queens and their bells play important rôles in traditional Swiss life. Throughout Alpine villages, Inalpe Day is a real event each spring. Early in the morning, at a prearranged signal, costumed owners open their barn doors and the bovine queens head for mountain pastures. All day there is a continual parade of small groups of cows. The noise from their enormous bells echoes and re-echoes.

It is an unforgettable sight to see the queens sedately leading the herds up the winding slope of the mountains, followed by the herdsmen and their wagonload of utensils. The effect of such a scene is even more impressive if many cows in the herd are outfitted with cast rather than stamped bells. In their graduated sizes these can be had in tuned arrangements. Occasionally a herdsman will use such a tuned set on his cows. Doubtless the music is solace during his lonely summer high in the isolated mountains.

Nearing the pasture, a curious brief struggle often ensues. Each herd has its queen of the previous year; but should another cow decide to be queen-of-theyear, a battle commences and the cows lock horns. It is then decided which one will be queen. Onlookers marvel that the cows can fight at all, hindered as they are with their giant bells swaying and banging at every move. If the lead cow who formerly bore the largest bell be deprived of it, she manifests her sense of disgrace by lowing incessantly, even abstaining from food for a time.

Again in August the sound of cow bells fills the air all day long during the descent of the cattle from their summer grazing grounds. Some villages at this season hold a beauty contest for the queen cows and the bells that ornament them.

Many cheese labels depict cows, cow bells, Swiss landscapes, etc. So add this story to your album.

REPLY COUPON

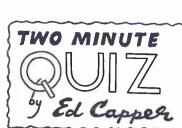
It must again be emphasized that all readers requiring information on subjects included in the 'Collectors' Club' and other features of Hobbies Weekly, must direct their enquiries to the Editor, Dereham, Norfolk, enclosing stamp for

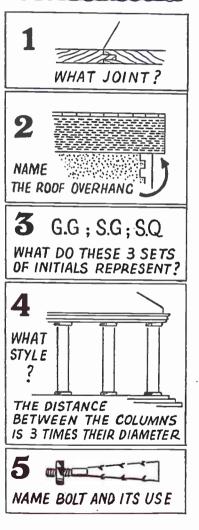
been inundated with correspondence sent to his private address, touching all manner to his private address, touching all manner of subjects and queries, and much of his time has been taken with giving information to inquirers who are not even regular readers of the magazine.

This is not fair to the regular reader and with all future queries, therefore, it is intended that letters should be accompanied by a proof of readership. This will be in the form of a small coupon to be printed each week inside the back cover (see page 231). It will be valid only for enquiries apper-taining to the month and year stated on the coupon, BACK-DATED COUPONS WILL NOT BE ACCEPTABLE.

We are justly proud of our advice service to readers on subjects covered in the magazine, and from letters received we know that the information we are able to forward is valued and appreciated. For instance, we have received many thanks for putting readers in touch of out-of-print designs through the 'Can we belp?' feature. Mr Cantwell's belp has also been particularly commented upon. To prevent abuse of this service, how-

ever, we have decided to adopt the 'Reply Coupon' as outlined — and we know that regular readers will understand the need for this measure and co-operate by including it with their queries.





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Rock 'n' Roll Skittles

HIS amusing game, using 'pingpong men', which are easily made from table-tennis balls and eggshape paper cut-outs, will be popular with children.

By the addition of a spinning top, the balancing 'skittle men' can be made to rock. roll and spin when the top is let loose amongst them. When top and skittles stop moving, the player obtains his score by adding up the numbers exposed towards him at the rear of each figure.

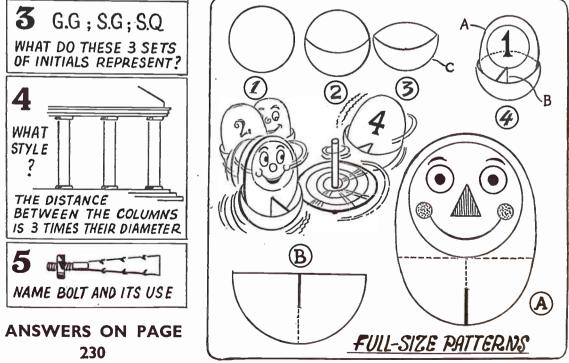
To make a team of four skittle men you will need two table-tennis balls. Carefully cut each ball (1) in half with a sharp hobby knife, guided by the original join in the material (2). You now have four halves like (C), (stage 3).

Transfer the egg-head pattern (A), four times on to stiff paper or thin card, with carbon paper. Transfer also four patterns of (B) on to this material. Paint comic faces with water colour and indian ink on shapes (A). When dry print score numbers on reverse sides with black ink or poster colour.

Surfaces of (B) and surround of faces of (A) may be left white to match celluloid cups, and numbers can be 1 to 4, as suggested, or other odd or even scores. Cut out the prepared patterns with scissors, including the half-lap slots. Slot (B) to (A) so that the base support thus formed can be fitted inside ball cup (4). Fix figures into cups with cement, glue or pieces of Sellotane.

The base cups, being slightly heavier than paper cut-outs, cause the completed little men to balance without falling over, and to rock and roll and spin with the slightest touch. To provide a novel score game for two or more competitors, cut little spinner tops from wood or cardboard, adding 'lolly-stick' spindles. Edges of spinner discs should be adjusted on spindle rods so that they touch edge of cups at the correct height.

Arrange the 'ping-pong' skittle men so that the top can be spun amongst them on a flat, smooth surface. A wellglasspapered wood panel, walled with stripwood, would make a suitable playing board for exciting games. (T.S.R.)



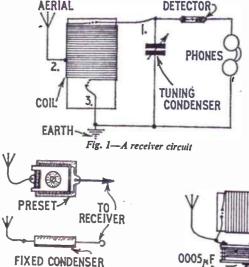
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SHARPEN YOUR TUNING

7ITH crystal sets and simple transistor and valve sets, tuning is often rather flat, or unselective. In some localities this does not much matter, because Home, Light and Third programmes may be on widely separated wavelengths, and received with much the same volume. But when the set is used fairly near a powerful station, this programme may be heard over quite a large part of the tuning scale, so that it interferes with the reception of more distant or foreign stations. With simple receivers, such difficulties can be caused by a powerful BBC station even 10 or 20 miles away. Some method of increasing selectivity, or cutting out the troublesome station, is then wanted.

The methods described here can be used with transistor or valve sets of simple type, as well as with crystal sets. Most of them make the receiver itself tune more sharply, so that a local station cannot be heard over so large a part of the tuning scale.

Fig. 1 shows a typical crystal set circuit, which can be made up for



PRESET

MINIATURE

COL

Fig. 4-Two wavetraps

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Fig. 3-Adding a pre-set or fixed aerial series condenser

experiments, or used as a guide when improving an existing crystal set. The coil may be ready-made, or home wound. For a home wound coil tuning the medium wave band, 80 turns of 32 SWG enamelled wire, on a 14in. diameter insulated tube, will be satisfactory. A 14in. diameter tube can have 70 turns of 30 SWG wire, and a 2in. diameter tube would need 50 turns of 30 SWG.

The tuning condenser is usually .0005µF, preferably air spaced. The detector may be a crystal, or germanium diode. Phones of the usual type for crystal sets are required.

With simple circuits, the aerial is often taken to the upper end of the coil, point (1) in Fig. 1. This gives best volume, but flat tuning. Taking the aerial to a tapping on the coil, point (2), will sharpen tuning. Point (3) is the other end of the coil, connected to Earth.

By 'Radio Mech'

The nearer the tapping (2) is to the earthed end of the coil (3), the sharper will tuning become. But it cannot be too near point (3), because this reduces volume. A suitable point is often about one-third up the coil. That is, at about 27 turns from (3), with the 80 turn coil. However, this depends on the aerial, so

RECEIVER

a number of tappings can be made, and the best selected by trial.

It is sometimes possible to prise up a turn and push a slip of thin card or other insulating material under it. Insulation can then be carefully scraped from the wire, and a connection can then be soldered on. Care is necessary not to break the wire, or cause a short circuit to adjacent turns.

Aerial Coupling Windings.

With some ready-made coils it is almost impossible to fix on a tapping. A coupling winding can then be used instead, and gives similar results.

If the tube is long enough, the coupling winding can be wound on it, near the original winding. If there is no space for this, a layer of insulation, such as stout brown paper, can be put over the original winding, and the coupling winding can be placed on top of this. Both these methods are shown in Fig. 2.

Connections to the original winding are not changed: (1) going to detector. and (3) to earth, as in Fig. 1. One end of the coupling winding, point (2) in Fig. 2, forms the aerial connection. The other end, point (3), also goes to earth.

need be made to the coil, when this is done.

If a variable condenser, such as can be used for tuning, is to hand, this can be employed. A pre-set, trimmer, or adjustable condenser is also satisfactory. Or a fixed condenser may be used, as also shown in Fig. 3.

A variable condenser can easily be turned to give a satisfactory capacity, this being found by trial. A trimmer or pre-set condenser can also be adjusted, with a screwdriver, for best results. But with the fixed condenser, no such adjustment is possible. A few different values should thus be tried. Normally, a ·0005µF or ·0003µF variable condenser or pre-set will be satisfactory. With the fixed condenser, values of 0002µF. -0001µF and 50pF may be tried. Other values can be arrived at by wiring two or more of the condensers in series or parallel. For example, the .0002µF and ·0001µF condensers, in parallel, will give 0003µF. If wired in series, the ·0002µF and ·0001µF condensers will give about 70pF, or .00007µF.

The smaller the capacity of the condenser, the sharper will tuning become. But volume will also be reduced. A compromise has thus to be made, exactly as with the aerial tapping or coupling winding.

It is quite usual for an aerial series condenser to be used even if the coil has

Simple Butter Cooler

covered over with an inner and outer disc of thin wood, as shown, the two held firmly together by a screw-eye, or hook, of suitable size. To prevent the entry of water, a washer of rubber may well be

a tapping or coupling winding. The im-

provement in sharpness of tuning will be

most noticeable when a long aerial is

The wavetrap is a device which cuts

out one troublesome station. It is found

in some large valve sets, and can be

added to any receiver, including crystal

sets. In favourable circumstances it

does not cause any reduction in volume.

circuit, and it can use a variable tuning

condenser, with a home-wound coil of

the kind already described. Or a minia-

ture, dust cored coil can be employed

instead, tuned with a pre-set or trimmer

Both these methods are shown in Fig.

4. The lead between trap and receiver

should not be too long, but the wavetrap

coil must not be very near the receiver

The variable condenser can, of course,

be turned with a control knob, but a

screwdriver will be needed to adjust the

pre-set type of condenser. The actual

capacity of the condensers is not very

important, provided that they will tune

out the offending station. With small

wavetrap circuits using a miniature

coil. a fixed condenser of suitable

value may be connected, the circuit

then being tuned by adjusting the

The wavetrap is actually a tuned

being used.

A wavetrap

condenser.

coil, for best results.

interposed between the upper disc and the flower pot. The plate, to hold the but-

ter, should be of a size to fit easily within the flower pot, and not touch it anywhere, or else when the pot is lifted up it may pull the plate off its support. The support should be 2 to 3 ins. high, and offer ample surface for the plate to rest upon. The shallow dish can be any size convenient, and be of enamel or earthenware.

The butter can be placed upon the plate in its wrapping, or in its usual dish. and sufficient cold tap water poured in the outer dish to reach nearly to the butter plate, but not higher.

To help in the cooling efficiency, the outside of the flower pot should be occasionally sprayed over with water, or kept damp by means of the following method. Take two strips of some absorbent material such as flannel or 221

position of the dust iron core in the coil.

To adjust the wavetrap, the offending station should be tuned in on the receiver. The wavetrap tuning is then adjusted until this station is reduced as much as possible in volume. In some circumstances the offending station may be cut out entirely, but in other cases it may still be heard weakly.

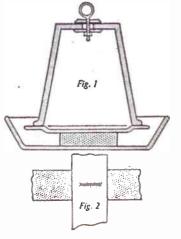
Other stations can now be tuned in on the receiver, without the troublesome station being heard as well. When it is desired to listen to this station, the trap must be disconnected, or short-circuited with a switch.

With very long aerials, the trap may tune rather flatly, so that it tends to cut out other stations as well. This can be cured by taking the aerial through a condenser, or using a tapping on the wavetrap coil, exactly as described for the receiver itself. When properly arranged, tuning will be quite critical.

With valve sets, it is often satisfactory to leave the trap in circuit. This is particularly so when it is used to remove interference by a station which is not itself ever wanted. An example of this is removing adjacent interference from Radio Luxembourg, when the interfering station is never required. In such cases, a miniature coil, tuned with core or pre-set, may be permanently wired in the receiver, and adjusted to clear interference.

towelling, about 3ins, wide and each long enough to extend over the flower pot, and dip in the water in the outer dish. Cross these over each other at their centres, as in Fig. 2, and cut a slit through both, just long enough to press over the ring on the pot.

On extra hot days, replace the water in the dish once or twice with fresh cold tap (W.J.E.) water.



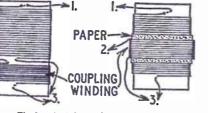


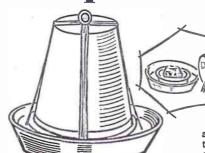
Fig 2-Aerial coupling windings

The gauge of wire used is not important, but 32 to 36 SWG will be convenient. About one-third the number of turns on the original coil will be satisfactory. That is, about 27, with a 80 turn coil. Using fewer turns will sharpen tuning more, but will reduce volume, exactly as moving the tapping (2) towards point (3) in Fig. 1.

Moving the coupling winding away from the original winding will also modify results. This can be tried by winding the coupling coil on insulating material which is a sliding fit on the tube. The greater the distance between the two windings, the sharper tuning will become.

Aerial condensers

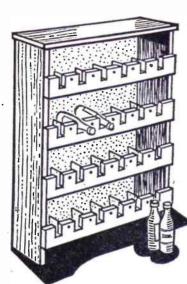
A somewhat similar effect is obtained if a condenser is added in series with the aerial lead to the receiver. No changes



cooler can be most useful in hot weather. It will keep the butter in fit condition and obviate that wasteful state of oiliness.

It consists of a flower pot of common type, which stands upon a plate for holding the butter (Fig. 1). The plate is stood upon a support of any suitable material, and rests in a shallow dish. A flower pot of medium size, say about 7 to 8ins, diameter, should be chosen. The central hole, normally for drainage, is





ANY readers, interested in the M brewing of home-made wines, should be provided with a rack for holding the bottles safely. A good design of rack is illustrated. Simple to make, and with accommodation for 2 doz. bottles, it makes quite a nice little 'wine cellar' for the enthusiast.

A front elevation is given in Fig. 1, and a side view in Fig. 2, the upper part of the latter, that part above line (A-B), being shown as a vertical side-section to make the interior fittings clearer. The dimensions given can be amended quite easily to suit individual requirements.

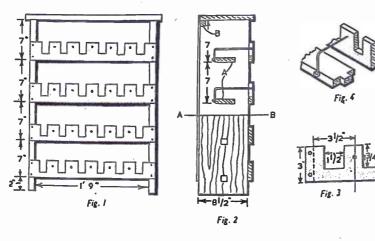
Cut the sides to dimensions given, and starting from the top, at distances of 7ins. each, square lines across, and over the front edges. On these lines mark off. at the centres, a lin. by lin. mortise to receive the tenons subsequently to be cut at each end of the interior cross bars (A). There are four of these bars, the other two being below the line (A-B), and indicated by the mortises, in which they will be fitted. Now cut the bars from kin. by 4ins. wood, reducing the ends to form a lin. by lin. tenon at each. Position the tenons exactly in the centre. Glue and nail all the cross bars between the sides, driving well home. Nails at top and bottom bars only are needed.

Across the sides at top (shown at B), and just below the bottom rail, nail strips of lin. by lin. wood across, to which the back of the rack can be screwed as a final job. A top for the rack can be cut from in. wood. It should overlap sides and front lin., and be screwed down firmly. A back of Jin. plywood can now be cut ready for fitting on when the interior fittings are finished.

MAKE THIS RACK FOR BOTTLED WINES

Across the front a series of 3ins. wide strips of 2in, plywood are needed. These have the necessary slots cut out to take the necks of the bottles. Ignoring those parts of each strip which will subsequently be screwed to the sides of the rack, divide the rest into six divisions of 33ins, each by pencil lines across, as at Fig. 3. Mark, and saw out the slots, and at lin. down from the top edges, on each pencil line, bore a small hole with a bradawl, just big enough to permit the entry of the divisional wires shown. Now fix the strips across with round-headed screws, driven into the front edges of the rack sides. The bottom edge of each strip must be in line with the underneath face of the interior cross bars behind it. Wire of reasonably stout gauge is

advised for the divisional wires, shown in Fig. 2, and more clearly in detail in



A simple, effective Hotplate

OES your family come in for meals at irregular times? If so, this can be your answer to keeping a meal hot at no great cost.

All that is needed is an empty toffee or similar tin, approximately 3ins, deep and 6ins. in diameter. Mark a circle in the centre of the lid, using the base of a tea cup. Turn the cup upside down, and draw another circle around the lip. Place the lid, inside downwards, on a block of wood, and punch a series of

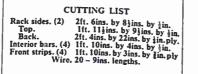


Fig. 4. Cut into 9ins. lengths, then twist one end of each to make an eyelet. At about 1 tins. from the cyclets, bend wires at right angles. Fix each one to the rear edges of the crossbars, directly in line with small hole in front cross strips, with a screw through the eyclet. Push the free end through the hole in the cross strip opposite, and snip off any surplus protruding. Screw or nail back of rack in position and finish as desired. (W.J.E.)

holes in the lid, taking care to keep

Do not punch holes in the centre of

the lid; leave this part intact to prevent

the naked flame playing directly on the dish being heated. A helpful feature is to

A night light is placed inside the tin to

(R.S.L.)

provide the heat. These can be bought

for a few coppers, and one will give

ensure that the lid is loose fitting.

within these two circles.

hours of service.

Project for the handyman **CORNER COCKTAIL CABINET**

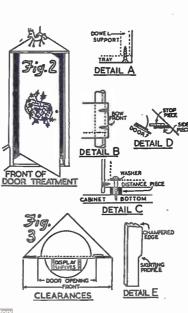
THE desire probably started from seeing a lavish Hollywood film. Be that as it may, anyone wishing to build a cocktail cabinet thinks of only one thing - it has got to be a novelty. The unit described here should satisfy the most finicky. It has a revolving door that brings the cocktail dispenser on view in a flash. What's more it needs only that useless corner to accommodate it.

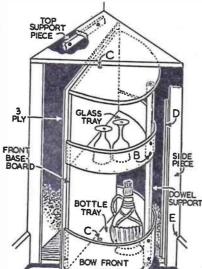


Anyone using a little care and patience can make it but there are snags to watch out for and a close study of Fig. 1 and the smaller detailed drawings that accompany it, will help to clarify make-up. As regards dimensions, a height of

3ft. and a width across the front of around 2ft. are satisfactory. Do not make it any lower for it will be used most often by persons who are standing rather than seated.

The top piece is a right-angled triangle made from kin. plywood and the two side pieces made from the same material are 3ins. in width. As the corner walls





will act as sides to the shell of the unit it is not strictly necessary to fit these. Instead the top piece can be held in place by supporting pieces of 1 in. square timber, screwed into Rawlplugged holes on the wall (see cut-away, Fig. 1). The side pieces are then held by screwing through from the top triangular piece and at the bottom skirting end by screwing to a short length of lin. square timber, already fixed in position, upright on the skirting board.

However, you may not wish to plug the wall. In that case make up a triangular shell, with sides made from gin. plywood and a matching triangular bottom cut and fitted as well as the top. Glue and screw the construction together in the usual way.

Allow for skirting

When cutting the two 3in, wide side strips, remember that if the room has a skirting board, its profile must be cut from the bottoms of the side strips to allow for the skirting. This is shown in detail (E). Also shown here is another important factor. The edges of the side strips abutting the wall must be chamfered at 45° to follow the angle of the walls into the corner.

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The base board of the revolving door is a rectangle cut from $\frac{1}{2}$ in. plywood. The two semi-circular trays to carry the glasses and bottles are held to the base board by screwing through from the outside. The top semi-circle is held likewise and also held further with screws along the top edge of the base board.

Around the circular edges of the trays, bow fronts are fitted, from 5mm. plywood. They are held with screws and glue around the semi-circle and on the upright edges of the baseboard.

The bow fronts are further supported by the insertion of a length of lin. dowelling. It is held at the top and bottom with screws traversing the semicircular pieces (see detail (A)) and at the bow fronts with two screws (see detail (B)). As shown, the dowelling traverses the glass tray and a lin, hole is drilled as near as possible to the bow front of this tray.

To the front of the baseboard an oversize piece of 3-ply wood is affixed with glue and panel pins. This covers up all the screw-heads and gives a clean front to the unit.

Revolving door

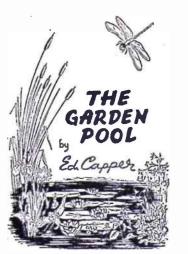
The door revolves on a simple mechanism of screw and washer. A thick washer or a metal distance piece keeps sufficient clearance from the floor to prevent the door fouling it (see detail (C)). The door revolves in a clockwise direction. It stays put when closed by fitting a stop piece (see detail (D)) consisting of a length of 2in. by 1in. timber, screwed behind the right-hand side piece and set to protrude to act as a stop piece. A ball catch or spring clip is used on the lefthand side of the door to keep it closed.

Care must be taken with clearances (see Fig. 3). The revolving door must have room to operate without fouling inside the triangular shell. Similarly, the hinging mechanism shown at (C) must of necessity be set back a little from the diameter line of the semicircle. Also, if you decide to use some front décor instead of having the front of the door plain, such as a plant-pot holder shown in Fig. 2, it must not protrude more than will allow it safely to pass with clearance into the triangular shell. Particularly is this so if display shelves are fitted to the front, as shown in Fig. 3.

It will be found, therefore, that it is best to proceed by first making the revolving door and its fittings, hinge to

• Continued on page 228

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UNLIGHT is the first essential in choosing a site for a large garden Dpool. An open site, giving a minimum of 5 hours a day of sunlight, should be aimed at. Shade at one end is no disadvantage as this suits some waterside plants. Avoid, however, the proxi-mity of trees; falling leaves will choke the pool.

Next, decide the shape. It can be rectangular, round, oval or irregular. In deciding the depth remember two categories of plants have to be provided for - some needing but 6ins. of water,

CONSTRUCTION FOR A LARGER SITE

round than the required finished size of the pool.

At (la) is shown a soak-away or poolemptier. It consists simply of a bottle, with its bottom broken off. It is placed in position as shown, traversing the hard core layer and sticking up above this level some 6ins. Later, it will be embedded in the 4in. concrete pool bottom and its extra height is to allow the bottle mouth to come level with the final layer of loam that is placed in the pool. The bottle should be of the type with a screw top, for obvious reasons.

Ram down well the layer of hard core (or brick rubble and ends), (see 2). Then apply a 4in. layer of concrete, making the mixture 3 parts of sharp sand, one of chippings and one of cement (see 2a). Do not make the mixture too sloppy and level it off by drawing a straight edge over its surface.

Smooth as glass

Leave overnight and the next day apply a top layer of a mixture of 3 parts of sand to one of cement. Smooth it off glass hard with a trowel and leave to set. Next, form the concrete sides of the pool. Erect shuttering (or wooden retaining pieces) around the inside edges of the hole. Fit it 4ins, away from the

18ins. long, on opposite sides of the pool will suffice. To fit in the shelf bottom pieces, leave gaps in the wooden shuttering through which the bottoms can be inserted, preparatory to being built in with the concrete sides.

If the overhanging part of the shelf sags whilst it is setting, support it with another stone, stood on edge and underneath.

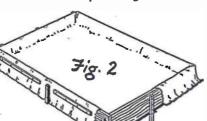
Again, leave overnight to set and the following day remove the shuttering. Then apply a top layer of 3:1 mixture as for the pool bottom (see 4), trowel off dead smooth and leave to set.

Building a surround

The actual pool is now complete and a surround is the next step to consider. Paving slabs or crazy paving make the best treatment, particularly as waterside plants can be grown in the crevices between the paving. Excavate a trench all round the pool edge to a depth of 6ins. and the chosen width. Fill in with a 4in. layer of rammed hard core (see 5). On top, lay the crazy paving stones using a bedding mixture of 5 parts sand to 1 of cement (see 6).

Next, complete the shallow water plant shelf by fitting retaining side pieces on to the protruding shelf bottom (see

Fig. 1 And the second sec



others up to 18ins. As explained later, a method is employed in accommodating shallow water plants in deep water. Decide, therefore, to make the depth somewhere between 12-18ins.

Fig. I shows a typical cross-section of a large pool and the numbers indicate the sequence of operations in constructing same.

Excavating the hole

Start by excavating the hole as shown by the heavy line at (1). Remember, this will not be the finished size of the pool. for a 4in. layer of rammed hard core is first applied to the pool bottom (see 2) and a similar thickness of concrete forms the walls of the pool. Therefore, the hole to be excavated must be 4ins. larger all

hole sides. Use any old wood and hold it in place with heavy weights or support-ing timber wedged between opposite sides.

Fill in the space between the shuttering and the hole sides with the previous concrete mix of 3:1:1 (see 3). Tamp it down as you fill and again do not make a sloppy mix.

At this stage some decision must be taken with regard to providing accom-modation for shallow water plants. A built-in shelf is by far the neater method. It is made from crazy stones or paving slabs and the important thing is that the shelf bottom must be built in at this stage (see 3a).

You will not need such a shelf all round the inside of the pool; two, about 224

7). A simpler method, if you have not incorporated the shelf arrangement, is to accommodate the shallow plants in flower pots placed on the pool bottom. This does not look so neat and tidy as a shelf but can be improved by using instead, hollow concrete blocks as shown

at 7a. Later on you may feel you can afford a centre piece for the pool. If you already have the pool stocked with fish and plants do not empty it in order to construct a concrete base to carry the

centre piece. As will be explained in a later article, the toxic elements in cement take some time to remove from a pool • Continued on page 225

Instructions for making THE 'PELICAN' NOVELTIES

THESE two novelties make an admirable pair for use in the kitchen. and can be recommended as ideal gifts for mother.

Of simple construction, they stand just over 3ins. high and are well balanced on bases measuring 3½ ins. by 2 ins. Both have a pelican motif, one being for use as a thermometer and the other as an egg timer. They would look well standing on either side of the kitchen clock on the mantelshelf, facing inwards.

• Hobbies kit for making up this novelty pair contains all the necessary wood plus the thermometer and sandglass, which is complete with a special clip for fixing and operation.

All the shapes to be cut for both articles are shown full size on the design sheet. Trace the various pieces from the design sheet and transfer them to their appropriate thicknesses of wood by means of carbon paper. Cut them out with the fretsaw and clean up well with glasspaper. Note the holes in the bases (piece 1) in which the tenons on the birds will be inserted.

In assembling the egg timer, the wing pieces (3) and the eyes (4) are first glued in their positions as shown by the dotted lines on piece (2) on the design sheet. Next screw the sandglass holding clip on the beak, making sure that it turns freely. Glue the bird in the hole provided in the base (1).

For the thermometer the wings and eyes of the pelican are added as before. The frame for the thermometer consists of piece (9), which is provided with a

Continued from page 224

A Raised Garden Pool

before stocking is attempted and the building of a concrete pillar may there-over the hollow rectangle, pressed into shape on the inside and the outer fore, introduce poisons to the water. edges retained in place by nailing 2in.

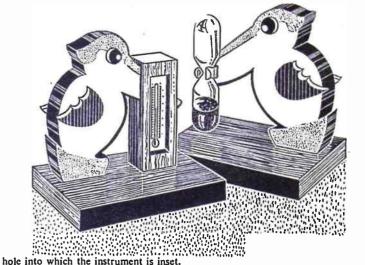
Instead, therefore, build up a pillar of bricks, without a cement bedding, to form a honeycomb on which to stand the centre piece. Incidentally, it is fun watching the fish dart in and out of the honeycomb.

The raised pool

World Radio History

For those who are not inclined to go to the trouble of excavating holes, a simple raised pool, which will last for many years, can be made in an afternoon. It is shown in Fig. 2.

A rectangular framework of 7in. by 1 in. planks is first laid on level ground and nailed at the corners with 4in. nails.



Note that the frame outline is also incorporated in the shape of the pelican and piece (9) is glued to this as shown on the design sheet. A dab of glue on the back of the thermometer will hold it securely in position. Glue the pelican into its base as for the egg timer. The pelican is coloured white with a

rosy tinge, the primary feathers being black. The crest and part of the neck is tinged yellow. As a novelty, however, it would look well finished in bright. colours to individual taste.

by tin. strips of wood on the outside

sides of the planks, as shown. Finally, as

the shape must carry a large volume of

water, 2in. by 2in. wooden stakes are

driven into the ground alongside the

planks. They should go at least 12ins.

The sheeting can be obtained from

Translantic Plastics Ltd., of Victoria

Road, Surbiton, Surrey and can be

bought from the roll at prices ranging

from 51d. per yard for 32in. width up to

225

underground.

you wish.

Both these 'Pelican' novelties can be made from Hobbies kit No. 3322 price 5/9. Kits contain all wood and materials, including thermometer and sandglass. From branches or Hobbics Ltd, Dercham, Norfolk (post 1/6 cxtra).

Naturally, deep water plants cannot be accommodated but as there are plenty of shallow water varieties on the market you can still have a well-stocked pool. Messrs. Stewarts Waterpool Nurseries of Ferndown, Dorset have a battery of such pools in use for young fish-breeding and will gladly give advice on what plants can be used in such a pool.

The fish are really happy in such a pool and, of course, a surround of crazy paving can encircle the pool and make it quite an attractive corner of the garden.

- Full instructions for making a labour-saving garden cart will be glven next week among many other
- exciting projects for the modeller
- 2s. 2d. per yard for 144in. width. You and handyman. can therefore make quite a large pool if

Simple Science Experiments SPHERICAL MIRRORS

/ITH plane mirrors you have found that the images formed are virtual, that is, they are formed behind the mirror, and they are always as far behind the mirrors as the objects are in front. They are, moreover, erect and the same size as the objects.

Now with spherical mirrors images may be virtual or real, erect or inverted, magnified, diminished or the same size as the objects. When they are real you

mirror forms a part), the image can be found on the white cardboard screen (E) beyond the focus of the mirror.

beyond the focus of the mirror. The diagram indicates the positions and natures of the images formed by objects in front of concave mirrors. If you repeat the experiment with a convex mirror you will find there is no need for the screen (E) for the images formed are always virtual images behind the mirror, moreover they are always

diminished and upright images.

cally correct.

You may remember an advertisement

for a certain kind of food which showed

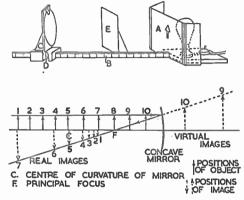
a small weak man looking into a convex

shaped bottle which served as a convex

mirror and showed a magnified image

as an omen of what would happen to him if he used this particular food. Unfortunately you will now understand

that this advertisement was not scientifi-



can see them on a screen and examine them there. When they are virtual you can see them behind the mirror. For these experiments you require a concave mirror, and a convex mirror. You may be able to obtain a concave shaving mirror and a small convex handbag mirror.

If you place your eye near to a concave mirror you will see a magnified virtual image. This is the image which is so helpful to a shaver. This image is called a virtual image because it is formed behind the mirror and cannot be shown on a screen. Move your face away from the mirror and note when the image of your face disappears. When this happens your face is roughly at the focus of the mirror and the distance between your face and the mirror is roughly the focal length of the mirror.

Using the apparatus illustrated, which is a simple optical bench, and the same concave mirror you can examine the real images formed in front of the mirror.

(A) is a cardboard screen, (B) is a strip of wood marked off in inches and eighths of an inch. (C) is a wooden stand to support the mirror and (D) is a pin in line with the mirror. When (A) is situated beyond the centre of curvature of the mirror (that is, the centre of the sphere of which the concave surface of the



WIDENED AND ELONGATED FLATTENED

CONCAVE SIDE

ELONGATED

WIDENED AND

FLATTENED

Cylindrical crazy mirrors

A method of making a combined cylindrical concave and cylindrical con-vex mirror from a sheet of brass or tin plate (which you may be able to borrow from the metalwork department if you try these experiments at school) is shown here. Polish both surfaces with metal polish and get someone to hold the sheet in various, positions, as shown and examine the peculiar images formed.

As with the spherical concave mirror you will only see virtual images in the concave side of the sheet when you are fairly near to it. The convex side gives images behind the mirror whatever the position of the object in front. (T.A.T.)

An odourless disinfectant

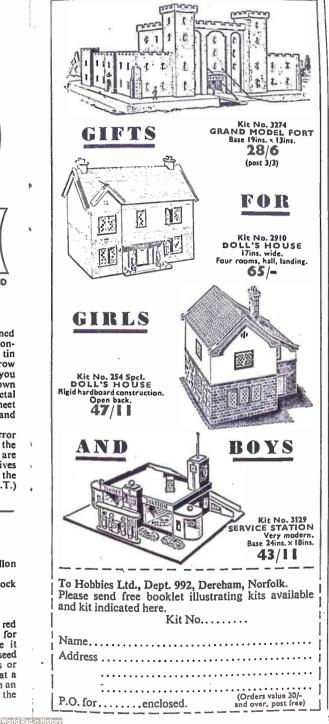
NON-SMELLING drain disinfectant is sometimes desired. An odourless and non-corrosive liquid A ▲odourless and non-corrosive liquid of this type can be made by first dis-solving 5 ounces of alum in a pint of boiling water. Keeping the solution boiling, add a boiling solution of 5 ounces of washing soda in 1 pint of water. Allow to cool, and just dissolve the white precipitate formed by the addition in small portions of technical hydrochloric acid ('spirit of salt'). Add to this solution one consisting of 1 ounce of sal ammoniac, 1 ounce zinc chloride and I ounce of kitchen salt in I pint of 226

water. Bring up the volume to 1 gallon with water.

For use dilute 1 pint of the stock solution to 1 gallon with water.

Plumbers' cement

Should you need a little of the red pasty cement used by plumbers for joints and washers, you can make it easily from red lead and boiled linseed oil. Put a little red lead on a glass or metal sheet, and add the oil a little at a time while rubbing the whole up with an old pliable knife until a paste of the desired consistency is reached.







Britfix 55 White Adhesive-a PVA adhesive for paper, card, balsa and hard wood, fabrics, etc. Now in the handy "squeeze" bottle with quick, clean application. Only 1/9d.

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MAKING DELICIOUS FUDGE

ANY home-made sweet enthusiasts fight shy of making fudge because they think that it is too difficult. Not a bit of it! Good fudge is just as easy to make as most other kinds of sweets and my word, how delicious it is. Even when using the best ingredients the cost of the home-made article is quite reasonable.

Fudge of all kinds should be fairly soft in texture and have a definite grain. This means that the sugar syrup is made to partly crystallize or granulate, and it is done by stirring the syrup with a spatula after it has been boiled to the necessary degree. As most recipes contain milk or cream there is a risk of the syrup burning and in order to avoid this it should be carefully stirred during the boiling.

The syrup for all types of fudge should be boiled with an even, steady heat and not overdone as this may cause scorching. Most fudges need boiling to the soft ball stage, or about 240°, and this should take from 15 to 20 minutes. Boiling too slow generally prevents the necessary grain from forming. When a recipe states cream it is generally understood that a good brand of unsweetened condensed milk is used.

Fudge is a high-class confectionery for which there is a constant demand and anyone who can turn out a good sample need never be idle. Besides being a most fascinating hobby, fudge making can prove very profitable, and some of the large firms of today were started by making a few simple sweets in the back kitchen.

Let us start with a simple recipe. PLAIN FUDGE

- 1 lb. granulated sugar
- 2 tablespoons evaporated milk
- 2 oz. margarine
- 1 pint water Vanilla essence.

Thoroughly dissolve the sugar in the water in a stout pan over gentle heat. then bring to the boil. Stir in the evaporated milk and margarine which has been previously warmed and cut into small pieces. Bring back to boiling point again. Stir and continue boiling to the soft ball stage or 238°F. Remove from the stove, stir in a few drops of vanilla essence and beat with a wooden spoon or spatula until the batch begins to grain. When it becomes too stiff to beat any more turn out into a greased tin and allow to set. When cold it can be cut into squares.

A simple coffee fudge can be made with this same recipe using 1 tablespoon of coffee essence which is mixed with the water to make it up to the 1 pint.

Nuts are often successfully used in fudge making and if you like this kind of confection here is a good recipe and it is called

BROWN BETTY FUDGE 11 lb. granulated sugar 11 oz. butter } pint milk

4 oz. hazel nuts (chopped)

teaspoonful vanilla essence This fudge is made in two parts and you will need two saucepans. First, in a. small saucepan put 1 lb. of the sugar and I teaspoonful of water and apply gentle heat. Then boil until it assumes a dark coffee colour, but extra care must be taken when nearing this stage to avoid burning. Remove from the stove.

Place the remainder of the sugar in a larger saucepan with the milk and dissolve over gentle heat. Now put a little of this syrup into the other saucepan containing the brown colouring and mix it over gentle heat, stirring well. Then put it back into the large saucepan and boil to 240°, stirring gently all the time. It is now time to add the butter in small pieces, the chopped up nuts and finally the vanilla essence.

Remove the saucepan from the stove and beat with a wooden spatula until it thickens and is ready to turn out into a greased tin. Firm this by placing a piece of waxed paper on top and pressing with a flat iron. Cut up into squares when dry and set.

CHOCOLATE FUDGE 11 lb. granulated sugar 1 pint cream 6 oz. chocolate

Put the granulated sugar and cream. which can be ordinary cream or diluted condensed milk, into the saucepan. Cut the chocolate into small pieces or grate it into the pan and place over gentle heat and stir until dissolved, then boil to 240°, being careful to stir gently all the time to prevent burning.

Directly this degree is reached remove from the stove and stir with a wooden spatula until it grains and thickens.

All the above recipes can be turned out into the mould which was described in Hobbies Weekly dated April 22nd 1959, or into the sweet-making frame in Hobbies Weekly of August 15th 1956.

The correct formation of grain is so important in fudge making that we conclude with a few remarks that should smooth out any difficulties which might arise.

Some people prefer to grain the batch while it is still in the saucepan, but others like to turn it out on to a marble slab and work it up in a similar manner

By A. F. Taylor

to that used in making fondant. When beaten up in the saucepan better results are generally obtained by having the syrup as deep as possible. Tilting the pan and beating with a wooden spatula will ensure this.

If poured out on to a slab the mixture is allowed to cool slightly before graining. Then the edges are turned into the centre, continuing to do this until the batch thickens. Working the batch too soon produces a light grain and a gummy texture.

Bubbles sometimes occur while beating up and more especially when done in the pan. This is caused by doing it too rapidly thereby trapping air in the mixture.

Directly fudge is made it should not be allowed to come in contact with a damp atmosphere which would make it sweat. Fudge generally improves in quality by leaving it overnight in a dry room before packing it away.

in any treatment you desire but the

inside or working side should be covered

with one of the plastic adhesive sheets

such as Contact or Fablon. Besides

being easy to wipe over if wine gets

spilt this will cover all the panel pins and

screw heads that are showing. All the

same, go around with wood filler, and

fill in any depressions caused by sunken

screw-heads or they will show through

Continued from page 223

Corner Cocktail Cabinet

the sheeting.

an oversize cut triangular shaped top. then trim off the front of the triangle so that it comes flush with the revolving door when closed.

It is a simple matter then to dismantle the hinging and to fit the triangular top piece in position with supports, to the wall, knowing that later on when the shell is complete with the side strips, the revolving door will be a good fit. The front of the unit can be finished

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ANIMATED INSECTS

Off the beaten track TRAMPING IN DERBYSHIRE

F you would enjoy a nice holiday on foot, tramping away from the beaten track, seek the sylvan lands, wooded dales, mountains, and the rugged moorlands and river valleys of Derbyshire or similar counties of Britain.

Provide yourself with a good clear map of the district you desire to travel in. An O.S. Map of Derbyshire will serve you well; a useful one is with a scale of one inch to one mile, which gives you all the field-paths, roads, motor ways, woods, moors, hills, rivers, villages. Indeed, you will find thereon the details so necessary to young hikers, who wish to find their way through this rambler's country.

The holiday tramper must bear in mind a few useful points. Foot comfort is an important consideration; remember, a blistered heel may well cloud your joys. Select a good pair of strong, easy-fitting boots which are water-tight and have fairly thick soles. Prior to a long day's tramp soak your feet in warm water, and rub a little vaseline in between your toes. Or a good plan is to apply common yellow soap to the insides of your hiking socks to prevent foot trouble.

Do not attempt to do too much the first day. Fifteen to twenty miles is a practical distance to start with, especially in rough country. Select your route so that you do not get belated on the wilder hills or in some lonely part when night drifts over the country; and do not plan

trail that leads to the friendly youth hostel.

bers' kitchen.

any problems you have.

FOR A MODEL HOLIDAY

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if you cook your own meals in the well-equipped mem-

And at the hostel, where everyone lends a hand with

the chores to keep down costs, you'll find friends in the

wardens, usually a married couple, who are always there

to see that everything runs smoothly and help you with

out too rigorous a programme, particularly in oppressively hot summer weather Take it easy—too stiff a programme, and too imperative a time schedule will be likely to spoil your country holiday.

As regards snacks on the road, tomato sandwiches are hard to beat. Marmalade on bread and butter is preferable to jam. A handful of ginger nuts or a fistful of big raisins, a couple of bananas or an apple or orange, are not to be despised. As to drinks — avoid alcoholics of any kind when on tramp. When thirsty, drink pure water sparingly. A cup of tea is to be recommended, especially after lunch at the wayside café. Millers' Dale and Monsal Dale are

Millers' Dale and Monsai Dale are exceedingly pretty spots for the hiker. In the vicinity of Bakewell there are two smaller and less familiar dales, namely, Bradford Dale and Lathkill Dale. The little river Lathkill that laughs its way down the dale which takes its name from the stream, is one of the most charming of Derbyshire trout streams and from its source in a limestone cave, about one and a half miles from the village of Monyash, until it links up with the Bradford stream, provides some of the most lovely brook scenery the rambler can wish for.

Bradford brook also supplies most beautiful scenery. Here and there, the pellucid stream is broken into waterfalls by a succession of small weirs, where trout leap and play in the sun-fretted waters.

ΞÇ

Albans, | details of

St

House,

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Y.H.A.,

Dovedale is noted for its beauty and its good trout fishing. Hereabouts may be seen the Fishing House of George Eliot's famous novel 'Adam Bede'. In the book Adam Bede, the hero, describes the view as 'A wonderful sight, rocks and caves such as you never saw in your life. I never had a right notion of rocks till I went there'.

Beresford Dale, too, is of outstanding interest, where you may see the Fishing House, mentioned by Charles Cotton in the book about Angling by Walton and Cotton, the 'Compleat Angler'. Over the door you will see inscribed the words 'Piscatoribus Sacrum, 1674'. This ancient fishing house is always of enthralling interest to anglers who visit the river hereabouts. In Milldale, which connects Beresford Dale with Dovedale, the rambler lingers on the ancient packhorse bridge mentioned by 'Viator' as being 'not two fingers broad'.

The whole course of the walker's path down the Dale for some miles from Hartington to the Stepping Stones at the southern entrance to Dovedale is encompassed by the most delightful and romantic scenery, rich in literary associations. Whilst in the neighbourhood of the Stepping Stones don't fail to see the llam Rock, the Pickering Tors, and the Lion's Head Rock by the river Dove. Anyone inclined to climb up the rocks known as the 'Three Sisters' will be rewarded by a fine piece of scenery, a natural 'Arc de Triomphe'. One must climb some of Dovedale's hills to see the beauty of this Derbyshire valley in all its noble beauty.

Near the Stepping Stones over the river when crossing to the 'Izaak Walton Hotel' you pass the village of llam, where the Hall is now the largest Youth Hostel in Britain.

You will never regret a summer's holiday in this part of Derbyshire. (A.S.)

QUIZ ANSWERS (see p. 219)

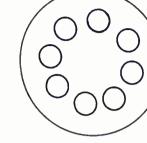
1. Tongue and Groove.

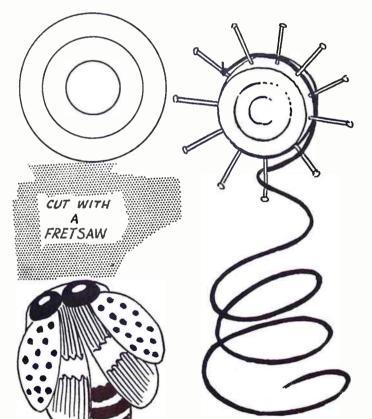
2. Verge.

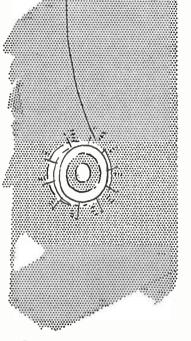
3. They are qualities of glass. G.G. means General Glazing and is the standard grade; S.G. means Selected Grade and is for better-class work; S.Q. means Silvery Quality and is for superior work, mirrors, etc.

4. Diastyle.

5. Rag bolt. Used to fix a wooden or other member by cementing into stone or concrete.







CUT OUT THE SHAPES WITH A FRETSAW

The animated insect is usually made from household pins and an acorn. The pins are stuck into the acorn and the cotton or thin string wound round as indicated. When the insect is released it jerks and spins, much like a spider descending its web.

The insects and shapes shown on this page are cut from §in. soft wood, such as obechi or balsa. The size is not important, but they should not be larger than those shown. Paint them in bright colours and push the pins in with a pair of pliers. The cotton or thin string is tied to one of the pins and is then wound round as shown in the diagram. (M.p.)

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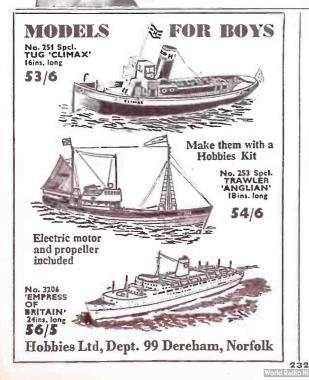


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