# HOBBIASwechly <br> FOR ALL 



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# ' PELICAN' <br> NOVELTIES 

EGG TIMER AND A THERMOMETER

Up-to-thr-minute ideas
Practisal detigna
Pleasing and profteable thingz to moke

NoW bells have an interesting Before the people collect them. scientific farming farmers large-scale scientific farming, farmers relied on 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 procame to be crafted by one of three methods. The hand-hammered ones continued in the making; but somewhat more substantial ones were stamped out cast in a sand mould.
With a long heritage in both dairy farming and skilled craftsmanship it is excelled in making quality cow beols. 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 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. designs.


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Made in sizes ranging from a fraction 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 im-
portant rôles in traditional Swiss life portant 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 con-
tinual 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 graduated sizes these can be their 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.

TWO MINUTE


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-the year a battle commences queen-or-thelock 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 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 Many cheese labels depict cows, cow bells, Swiss landscapes, ctc. So add this story to your album

It must apain be emphan

 direct their enquiries to the Editor,
Dercham, Nortolk, enclosing stamp for
reply. reply. R. L. Cantwell, in particular, has
meen inundated with comespondence

 readers of the mazazine no
Thisis is on fair to the regular reader and
with all future querics, therefore, it is in-














3 G.G;S.G;S.Q
WHAT DO THESE 3 SETS OF INITIALS REPRESENT?

4


BETWEEN THE COLUMNS IS 3 TIMES THEIR DIAMETER

## 

NAME BOLT ANO ITS USE
ANSWERS ON PAGE 230

## Rock 'n' Roll Skittles

HIS amusing game, using 'ping-
pong men', which are casily made pong men', which are casily made
from table-tennis balls and shape 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 fully 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). our halves like (C), (stage 3). 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 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 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 ement, glue or pieces of Sellotape. The base cups, being slightly heavier han paper cut-outs, cause the compieted ittle men to balance without falling ver, and to rock and roll and spin novel score game for two or more competitors, cut little spinner tops from wood or cardboard, adding lolly-stich sindles. Edges of spinner discs should be adjusted on spindle rods so that they Arrange the 'ping-pong' skittle men so that the top can be spun amongst glasspapered wood path surface. A wellstrippapood, would make a suiladed with ing board for exciting games. (T.S.R.)


## SHARPEN YOUR TUNING

W
ITH crystal sets and simple ransistor and valve sets, tun ing is often rather fiat, or un-
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 selcctivity, or cutting out the troublesome station, is then wanted. 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 the tuning scale. Fig. I shows a typical crystal set
circuit, which can be made up for

$0005 \mu \mathrm{~F}$, preferably air spaced. The $.0005 \mu \mathrm{~F}$, preferably air spaced. The 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. T. This gives best coil, point (1) in Fig. . This gives best 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

## 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 too near point (3), because this reduces
volume. A suitable point is often about 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.
depends on the aerial, so
a number of tappings can be made, and It is sometimes possib
turn and push a slip of thin card a other insulating material under it. In sulation can then be carefully scraped from the wire, and a connection can not to break the wire, or cause a shor circuit to adjacent turns.
Aerlal Coupling Windings.
With some ready-made coils it is 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 winding can be wound on it, near the
original winding. If there is no space for original winding. If there is no space fo
this, a layer of insulation, such as stou brown paper, can be put over the riginal 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 and (3) to earth, as in Fig. 1. One end of the coupling winding, point (2) in Fig. , forms the aeria connection. The , also gocs to carth.


Fig 2-Aerial coupling windings

FIXED CONDENSER
Fig. 3-Adding a pre-sel or fixed
aerial serfes condenser
experiments, or used as a guide when mproving an existing crystal set. The coil may be ready-made, or home wound. For a home wound coil tuning he medium wave band, 80 turns of 32 meter insulated tube will be satisfactory. of 30 SWG wire, and a 2 in . diamet tube would need 50 turns of 30 SWG .


Fis. 1-Two waverraps

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 of turns on the original coil will a 80 turn coil. Using fewer turns will harpen tuning more, but will reduce volume, exactly as moving the tapping 2) towards point (3) in Fig. 1. Moving the coupling winding away rom the original winding whits results. This can be tried by winding the coupling coil on insulating material which is a sliding fit on the ube. The greater the distance between he two windings, the sharper tuning

## - 1 <br> Aerial condensers

A somewhat similar effect is obtained acrial lead to the receiver. No changes
be used fariable condenser, such as can be employed. A prg, is to hand, this can justable condenser is also satisfor ad Or a fixed condenser may be used, as also shown in Fig. 3.
A variable condfnser can casily be turned to give a satisfactory capacity, 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 or pre-set will be satisfactory. With the fixed condenser, values of $0002 \mu \mathrm{~F}$, $.0001 \mu \mathrm{~F}$ and 50 pF may be tried. Other values can be arrived at by wiring two or more of the condensers in series or $0001 \mu \mathrm{~F}$ condensers, in parallel, will give $.0003 \mu \mathrm{~F}$. If wired in series, the $.0002 \mu \mathrm{~F}$ and $0001 \mu \mathrm{~F}$ condensers will give about 70 pF , or $\cdot 00007 \mu \mathrm{~F}$
The smaller the capacity of the conBut volume will also be reduced. A compromise has thus to be made, exactly as with the acrial tapping or It is quite usual It is quite usual for an aerial series
condenser to be used even if the coil has
tapping or coupling winding. The immost noticeable when a long acrial is being used.

## A mavetrap

The wavetrap is a device which cuts in some large valve sets, and can be added to any receiver, including crystal sets. In favourable circumstances it The wavetrap is actually a tuned circuit, and it can use a variable tuning condenser, with a home-wound coil of the kind already described. Or a miniainstead, tuned with a prese or trioyed condenser.
Both these methods are shown in Fig. 4. The lead between trap and receiver hould nust not be very, but the wavetrap coil, for best results. The variable cond
be turned with a control knob but a screwdriver will be needed to adjust the pre-set type of condenser. The actual important, provided that they will tune out the offending station. With small Wavetrap circuits using a miniature value mayed condenser of suitable value may be connected, the circuit
then being tuned by adjusting the

## 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 vent the entry of water, a washer of rubber may well be interposed between the upper disc and the flower pot.
The plate, to hold the butter, 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
HIS very simple and cheap butter cooler can be most useful in hot
weather. It will keep the butter in weather. It will keep the butter in state of oiliness.
It consists of a flower pot of common lype, 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 ins. diameter, should be chosen. The
central hole, normally for drainage, is central hole, normally for drainage, is
of enamel or earthenware.
The butter can be placed upon the plate in its wrapping, or in its usual dish, 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 bo 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 Tation should be tuned in on the re cciver. The wavetrap tuning is the adjusted until this station is reduced as much as possible in volume. In some be cut out entircly, but in other eases it may still be heard weakly.
Other stations can now be tuned in on he receiver, without the troublesom station being heard as well. When it is must be disconnected, or short-circuited with a switch.
With very long acrials, the trap may une rather flatly, so that it tends to cut ut other stations as well. This can condenser, or using a tapping on th vavetrap coil, exactly as described for the receiver itself. When properly arranged, tuning will be quite critical. to leave the trap in circuit. This is particularly so when it is used to remove nterference by a station which is no tself ever wanted. An example of this is Radio Luxembourg, when the interfer ing station is never required. In such cases, a miniature coil, tuned with core or pre-set, may be permanently wired in interference, and adjusted to clea
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 entres, as in Fig. 2, and cut a slit hrough both, just long enough to press ver the ring on the pot. On extra hot days, replace the water in water.
(W.J.E.)
 Wनाld ricio मision


MANY readers, interested in the showld be prome-made wines ding the bottles safely. A good design of rack is illustrated. Simple to make, and with accommodation for 2 doz. bottles, it makes quite a n A front elevation is given in Fig. $i$, and a side view in Fig. 2, the upper parı of the latter, that part above line (A-B), being shown as a vertical side-section to dimensions given can be amended quite easily to suit individual requirements. Cut the sides to dimensions given, and 7 starting rach, square lines, at distances of ins. cach, square lines across, and over
the front edges. On these lines mark off at the centres, a $\frac{1 i n}{}$. by lin. mortise to receive the tenons subsequently to be cut at each end of the interior cross bars (A). two being below the line ( $A-B$ ), and indicated by the mortises, in which they will be fitted. Now cut the bars from $\frac{1}{1}$. by 4 ins . wood, reducing the ends to rorm a $\frac{3 i n}{}$. by lin. tenon at each.
Position the tenons exactly in the centre. Position the tenons exactly in the centre.
Glue and nail all the cross bars between the sides, driving well home. Nails at top and botom bars only are needed. Across the sides at top (shown at B).
and just below the botom and just below the bottom rail, nail
strips of 1 in . by 1 in . wood across, which the back of the rack can be screwed as a final job. A top for the rack can be cut from lin. Wood. It should overlap sides and front zin., and be
screwed down firmly. A back of fin 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 zin. 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 sub rack, divide the rest into six divisions of 3yins. 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 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

## 

Fig. 1


Fig. 4. Cut into 9 ins. lengths, then twis one end of each to make an eyelet. A at right angles. Fix the eyclets, bend wire edges of the crossbars, directly in tine 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.)


Fig. 2

## A simple, effective Hotplate

DOES your family come in for this can be your answer to keep All that ist at no great cost. similar that is needed is an emproximately toffee or ins. in diameter. Mark a circle in and entre of the lid, using the base of a tea up. Turn the cup upside down, and Place the lid, inside downe the lip. block of wood, and punch a series of
holes in the lid, taking care to keep Do these two circles.
Do not punch holes in the centre of the lid; leave this part intact to preven the naked flame playing directly on the dish being heated. A helpful feat ensure that the lid is loose fitting.
A night light is placed inside the tin to Arovide the heat. These can be bought provide the heat. These can be bought
for a few coppers, and one will give hours of service.

## Project for the handyman

## CORNER COCKTAIL CABINET

T
HE desire probably started from secing a lavish Hollywood film. 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 only that useless corner to accommodate
By E. Capper

Anyone using a little care and patienc can make it but there are snags to watc out for and a close study of Fig. 1 and the smaller detailed drawings that ac company it, will help to clarify make-up
As regards dimensions, a height of 3 ft . and a width across the front of around 2 ft . are satisfactory. Do not make it any lower for it will be use most often by persons who are standin
rather than seated. rather than seated. made from $\frac{1}{2}$. is plywood and the twian side pieces made from the same material
are 3 ins. in width. As the corne wall are 3 ins. in width. As the corner wall

will act as sides to the shell of the unit it is not strictly necessary to fit these. place by supporting pieces of 1 in square timber, screwed into Rawl plugged 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. 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 a triplywood and a matching triangular bottom cut and fitted as well as the top
Glue and screw the construction together Glue and screw the construction together
in the usual way.
Allow for skirting
When cutting the two 3 in . wide side strips, remember that if the room has a
skirting board, its profile must be cut 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 chamstrips abutting the wall must be cham-
fered at $45^{\circ}$ to follow the angle of the walls into the corner.

The base board of the revolving door The two semic cut from din. plywood. 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 screws along the top edge of the base board.
Around the circulareds bow fronts are fitted edges of the trays, wood. 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 dowelling. It is held at the top and bottom with screws traversing the semicircular pieces (sce detail (A)) and at the
bow fronts with two screws (see detail (b). As shown, the dowelling traverses as near as possible to the bow front of his 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 mechanor a metal distance piece keeps sufficient clearance from the floor to prevent the door fouling it (see detail (C)). The stays put when closed by fitting a stop piece (sce detail (D)) consisting of a ength of 2 in . by $\frac{1}{2}$ in. 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 leitCare must be taken with clearances (see Fig. 3). The revolving door must have room to operate without fouling 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 decor 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 shelves ar
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


## THE <br> GARDEN POOL

EchCopper


SIUNLIGHT is the first essential in choosing a site for a large garden num of 5 hours a day of sunlight, should be aimed at. Shade at one end is no disadvantage as this suits some watermity of trees; falling leaves will choke the pool.
Next, decide the shape. It can be rectangular, round, oval or irregular. In categories of plants have to be provided or - some needing but 6ins. of water,

others up to 18 ins. As explained later, a 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 construct-

Excavating the hole
Start by excavating the hole as shown
by the heavy line at (1). by the heavy line at (1). Remember, this 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 the walls of the pool. Therefore, the hole
round than the required finished size of the pool. At (la) is shown a soak-away or pool-
emptier. It consists simply of with its bottom broken off. It is placed in position as shown, traversing the hard core layer and sticking up above this bedded in the 4 in. 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 top, for obvious reasons. Ram down well the layer of hard core (or brick rubble and ends), (see 2), ing the mixture 3 parts of sharp sand one of chippings and one of cement (sec 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 oft glass hard with a trowel and leave to set. Next, form the concrete sides of the taining pieces) around the inside edges of the hole. Fit it 4ins. away from the

18 ins . long, on opposite sides of the pool ieces, leave gaps in the wooden shutter ing through which the bottoms can be inserted, preparatory to being built in with the concrete sides.
If the overhanging part of the shelf another stone, stood on, support it with neath.
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 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 4 in. 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 (sec 6).
Next, complete the shallow water on to the protruding shelf bottom (see
hole sides. Use any old wood and hold ing timber wedged between opposite sides. Fill in the space between the shutterconcrete mix of $3: 1: 1$ (see 3 ). Tamp down as you fill and again do not make a sloppy mix. taken with regard tecision must be modation for shallow water plants built-in shelf is by far the neater method. It is made from crazy stones or paving shelf bottom important thing is that the stage (see 3a).
round the inside of the pool; a shelf all 224

7). A simpler method, if you have no incorporated the shelf arrangement, is fower pots placed on the pool bottom This does not look so neat and tidy as a shelf but can be improved by using in stead, hollow concrete blocks as shown at 7a.
a center on you may feel you can afford a centre picce for the pool. If you alplants do not empty it in order to con struct a concrete base to carry the centre piece. As will be explained in a take some time to remove from a poo - Continued on page 225

Tmirab two novelties make an admirable pair for use in the kitchen,
and can be recommended as ideal gits for mother. Of simple construction, they stand just over 3ins. high and are well balanced 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 n the mantelshelf, facing inwards. pair contains all the necessary wood plus the thermometer and sandglass, and sandglass, fixing and operation.
Alles are shown full size on both design shect. Trace the various pieces rom the design shect and transfer them o their appropriate thicknesses of wood by means of carbon paper. Cut them out
with the fretsaw and clean up well with lasspaper. Note the holes in the bases (piece 1) in which the tenons on the irds 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 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 pilar may the Instead, therefore, build up a pillar of ricks, without a cement bedding, to orm a honeycomb on which to stand the centre piece. Incidentally, it is fun honeycomb.
The raised pool
For those who are not inclined to go o the trouble of excavating holes, a many years, can be made in an afternoon. It is shown in Fig. 2.
A rectangular framework of 7 in . by in. planks is first laid on level ground
ngiled at the corners with 4 in. nails.

Next, black polythene sheeting is draped over the hollow rectangle, pressed into shape on the inside and the outer
sedges retained in place by nailing 2 in . by $\frac{1}{2} \mathrm{in}$. strips of wood on the outsid sides of the planks, as shown. Finally, as the shape must carry a large volume of
water, 2 in . by 2 in . wooden stakes are driven into the ground alongside the planks. They should go at least 12 ins underground.
The sheeting can be obtained from Translantic Plastics Lid., of Victoria bought from the roll at prices rangin from std d. per yard for 32 in . width up to s. 2 d . per yard for 144 in . width. You can therefo

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

Naturally, deep water plants canno be accommodated but as there ar plenty of shallow water varieties on the pool. Messrs. Stewarts Waterpool Nurs cries of Ferndown, Dorset have a baittery of such pools in use for youn on what plants can be used in such a on what plants The fish are really happy in such a pool and, of course, a surround of crazy paving can encircle the pool and make garden.

$\star$ Full instructions for making
$\star$ labour-saving garden cart will be $\star$ glven next week among many other $\star$ exciting project

## SPIEBICAL MIRIRORS

WITH plane mirrors you have
found that the images formed are virtual, that is, they are formed behind the mirror, and they are 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, crect or inverted, magnificd, 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) yond the focus of the mirror. The diagram indicates the positions 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 the mirror, moreover they are always

conver sig


ELONGATED

Cylindrical crazy mirtors A method of making a combined cylindrical concave and cylindrical convex mirror from a sheet of brass or tin plate (which you may be able to borrow rom 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 sec 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

A
NON-SMELLING drain disin- water. Bring up the volume to $\frac{1}{2}$ gallon fectant is sometimes desired. An this type can be made by first dis 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 o 5 ounces of washing soda in 1 pint of water. Allow to cool, and just dissolve addition in small portions of technical hydrochloric acid ('spirit of salt'). Add to this solution one consisting of 1 ounce of sal ammoniac, $\frac{1}{2}$ ounce zinc chloride and 1 ounce of kitchen salt in 1 pint of

$$
\begin{aligned}
& \text { with water. } \\
& \text { For use }
\end{aligned}
$$

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 i easily from red lead and boiled linseed oil. Put a little red lead on a glass or time while rubbing the whole up with an old pliable knife until a paste of the desired consistency is reached.


NEW
BRITYIX range

## OF CEMENTS TO COVER EVERY MODELLING NEED

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 MARFLERT • HULL ENGLAND
## MAKING DELICIOUS FUDGE

M
ANY home-made sweet enthusiasts fight shy of making fudge bocause they think that itis is just as casy to make as most other
kinds of sweets and my word, how kinds of sweets and my word, how
delicious it is. Even when using the best delicious it is. Even when using the best
ingredients the cost of the home-made ingredients the cost of the home-mad
article is quite reasonable. Fudge of all kinds should be fairly son in texture and have a definite grain This means tyat the sugar malate, and it is done by stirring the syrup with a degree. As most recipes con tain milk or cream there is a risk of the syrup burning and in order to avoid this
it should be carefully stirred during the it should be carefully sturred during the oiling.
The syrup for all types of fudge should not overdone as this may cause scorching. Most fudges need boiling to the son ball stage, or about $240^{\circ}$, and this Boiling too slow generally prevents the necessary grain from forming. When a recipe states cream it is generally under stood that a good brand of unsweetened Fudensed milk is used.
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 farge firms of today were started by making a few simple sweets in the back
Let us start with a simple recipe.

```
1 lb . granulated sugar
2 tablespoons evaporated milk
oo. margarine
1 pint water
```

Thoroughly dissolve the sugar in the Whoroughly dissolve the sugar in the then bring to the boil. Stir in the
ovaporated milk and margarine which evaporated milk and margarine which into small pieces. Bring back to boiling point again. Stur and continue bolling stage or $238^{\circ} \mathrm{F}$. Removo from the stove, stir in a few drops of vanilta essence and beat with a wooden spoon or spatula until the batch begins
to grain. When it becomes too stifi to to grain. When it becomes too stirired tin and allow to set. When cold it can be cut into squares.
Aith simple coffee fudge can be made with this same recipe using 1 tablespoon water to make it up to the $\$$ pint.

Nuts are often successfully used in fudge making and if you like this kind of canfect

BROWN BETTY FUDGE
if lb. granulated sugar
1 oz. butter
4 oz. hazel nuts (chopped)
It teaspoonful vanilla essence This fudge is made in two parts and you will need two saucepans. 1 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
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. and boil to $240^{\circ}$, stirring gently all the time. It is now time to add the butter in smail pieces, the chopped up nuts and finally the vanilla essence. Remove the saucepan from the stove
and beat with a wooden spatula and beat with a wooden sparula unt a greased tin. Firm this by placing a piece of waxed paper on top and pressing with squares when dry and set.

CHOCOLATE FUDGE
1 pint cream
Put the granulated sugar and cream, which can be ordinary cream or diluted the chocolate into small pieces or grate it into the pan and place over gentle heat and stir until dissolved, then boil to $240^{\circ}$ being careful to stir gently all the time to prevent burning.

- Continued from page 22


## Cormer Cocktail Cabinet

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
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
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 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 the sheeting.

Directly this degree is reached remove rom the stove and stir with a wooden spatula until it grains and thickens. All the above recipes can be turned 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 con clude with a ry difficultics which migh 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 manne

## 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 decp as possible. Tilling the pan and beating
If poured out on to a slab the mixture is allowed to cool slightly before graining. Then the edges are turned into the entre, continuing to do this until the 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 Direc Dillowed to sudge is made it should not damp atmosphere which would make it sweat. Fudge generally improves in quality by leaving it overnight in a dry
room before packing it away.

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## Off the beaten track

## ANIMATED INSECTS

## TRAMIPING IN DEIRBYSHIRE

I
F you would enjoy a nice holiday on
foot tramping away from the beaten rack, scek the sylvan lands, wooded dales, mountains, and the rugged moorlands and river valleys or 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, deed, you will find thereon the details so necessary to young hikers, who wish to find their way through this rambler's
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 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 in 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
out too rigorous a programme, particuarly in oppressively hot summer weather Take it easy - too stiff a programme, and loo imperative a time schedule As regards snacks on the road, tomato sandwiches are hard to beat. Marmalade on bread and butter is preferable to am. A handful of ginger nuts or a fistful 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 recommenced. Millers' Dale and Monsal Dale are exceedingly pretty spots for the hiker. In the vicinity of Bakewell there are two smaller and less familiar dales, namely, litte 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 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 by a succession of small weirs, where trout leap and play in the sun-fretted waters.

FOIR A MODEL HOLIDAY

- why not plan a youth hostel tour to see some of the exciting places you read about. With the sun on your back and the open countryside before you, follow
trail that leads to the friendly youth hostel.
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if you're under 16 (it's $8 s$. for older pcople) and you can if you're under 16 (it's $8 s$. for older people) and you can
make your hostelling holiday even cheaper, and more fun, if you cook your own meals in the well-equipped members' kitchen.
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 any problems you have.

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 Eliots 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 Beresford Dale, too, is of outstanding interest, where you may see the Fishing House, mentioned by Charles Cotton i the book about Angling by Walton and 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. 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 Ilam 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 re-
warded by a fine piece of scenery, a warded by a fine piece of scenery, a natural Arc de Tovimb some 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 'zaak Walton 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
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.


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## CUT OUT THE

## SHAPES WITH

A FRETSAW

T
7 HE animated insect is usually made from houschold 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 fin. soft wood, such as
obechi or balsa. The size is not import ant, but they should not be larger than those shown. Paint them in brigh 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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