



TOBY jugs were first made in Staffordshire for use in the taprooms of village inns and taverns. But the old Staffordshire potters never dreamt that one day their crude jugs would be coveted by collectors throughout the world. How would they have greeted the news that an American collector had recently paid £1,000 for a genuine Toby!

I say genuine, because there are many fakes about. The amateur should never buy without expert advice. Beware of crude Victorian specimens and cheap continental imitations. Don't be fooled by those well finished blue and white jugs from Holland.

The real snares for the collector are the specimens that have been faked with consummate skill and given the appearance of age by every device from burial in the ground to the application of acids, reinforced by chippings and abundant sand-paperings.

The name Toby Philpot comes from

an old tavern song about a notorious toper, 'as thirsty a soul as e'er drank a bottle or fathomed a bowl'. This ditty was written by a clergyman.

The first jugs were designed with the simple idea of making the drinker thoroughly at home by reminding him of himself. Toby was a country labourer, dressed in his Sunday best, equipped with his beloved pipe and glass. That is the type of jug with which we are most familiar.

TOBY JUGS

—By R.L.C.

Conceivably, the first potters had no intention of venturing beyond a conventional picture of the countryman. Nevertheless, they introduced a variety

of details which are apt to escape the eye of the merely casual collector.

Some figures hold a jug and glass, others a jug and pipe; sometimes the pipe lies on the ground, with both hands grasping the jug. The glass may rest on the knee, or be raised breast high, or be held to the lips. With the 'sailor' it is usually placed on the edge of the chest on which he sits.

These variations are only matters of detail, but they add to the interest of a representative jug collection, just as they do to a collection of Windsor chairs. No two are precisely alike, yet all reveal a family likeness.

Important ventures were afoot when this fellow Toby came on the scene. Mr Thomas Chippendale was launching his volumes of furniture designs, and the famous Chelsea and Worcester porcelain factories were under way, with Wedgwood following shortly at Etruria. But this common toper, with his tricorne hat and bulbous nose, belonged to another world.

His place was in the shoddy taprooms of village inns, with their low, blackened ceilings, and sanded floors, reeking of coarse tobacco. The squire's lady would never have admitted this rustic clown into her 'parlour' to contaminate her treasured blue and white 'chincy' ware. Perish the thought!

Today — what a change! Toby has the right of entry to palaces. Princely collectors welcome him. He leans down at you from the mantelpiece over the hearth in some gracious Tudor retreat, or consorts with the Dresden shepherdesses and Chelsea Columbines that frolic in the china cabinet. He is at ease among the fair ones, impervious to their feminine wiles.

The women adore him. They dote on this bibulous old rascal, with his stumpy legs and prominent teeth, his uncouth body and self-satisfied smirk. From the taproom of the 'Barley Mow' to the ducal castle — what a promotion!

The day arrived when some old potter, more enterprising than his fellows, thought of expanding the type. Toby the rustic 'entered a profession'. He became a soldier or a sailor, a judge or a lawyer. Then, instead of an ordinary soldier or sailor — the one who happened to be the hero of the moment.

Other characters

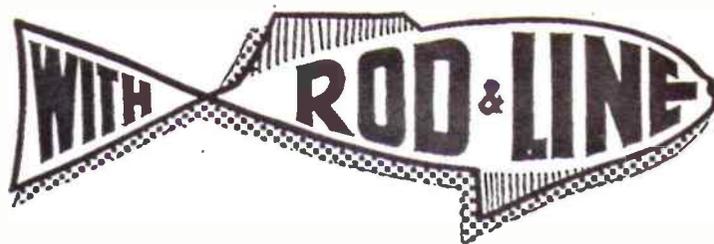
So we get a Clive Toby and a Wolfe and a Washington. The navy has its Nelson Toby and a Jervis. Even foreign nations are honoured. There is 'Boney', hand on breast, with his three-cornered hat, and Frederick the Great, masquerading as the 'Prussian Hussar'.

Some characters speak for themselves. The 'Thin Man' is known by his meagre proportions. The 'Sailor' sits on his chest, generally marked 'Dollars'. The 'Postboy' is astride a barrel. The 'Night Watchman' holds his lantern. 'John Bull' wears a flat-topped hat, in place of the universal tricorne.

The 'Sportsman' rests his foot on what purports to be a spaniel. Rockingham introduced a new note by equipping the rich chocolate-brown figure with a snuff-box. Hence the 'Snufftaker'.

A representative collection of Tobies is not only a coveted ceramic acquisition; it is an historical document compiled in clay by the potter.

I have a collection of 38 Tobies.



IT is a great pity that so many anglers put away their fishing tackle with the advent of cold weather. For the majority of our coarse fish species the best time for fishing is from September to the end of the season in March. Such fish as dace, chub, roach, perch, and pike are all there waiting to do battle with you, and on days which are a little warmer, you will also find bream on the move; whilst that great sporting fish — the grayling — will give you good sport on a day which is dry, and with a touch of frost in the air.

However, at the moment we are concerned with pike fishing, and this fish can be taken by three methods — spinning, and the use of the increasingly popular plug baits; live baiting with a live fish on suitable tackle which is left to its work; and lastly, paternostering, which also entails the use of a live fish as bait.

In this article we will take a look at the most sporting method, which is spinning. You may not have experienced pike fishing before, yet you may have seen others doing it, and on occasion you will see the angler walking along the bank making a cast here, and a cast there in his search for a fish. At times he will be lucky, and will get a run, but that is not exactly the right way in which to spin.

My own method is to select a position on the bank of river or lake, and then make my first cast either to my right or left, and almost parallel with the bank. However, let me say first that the selected position is not chosen in a haphazard manner. I select a spot from which I think I can reach 'fishy-looking'

spots; for example, where there are a few bushes near the bank. (See Fig. 1.)

The second cast is made to the same distance, but a little further away from the bank, say, a distance of 2 ft. in clear water, and if the water be coloured, then a distance of 1 ft., so that the fish has every chance of seeing the lure.

This procedure goes on until I have completed a half-circle, so that, assuming my first cast to have been to the left, then my last cast in that position will be to the right, and almost parallel with the bank on that side.

WINTER PIKE

By 'Kingfisher'

Fig. 2 shows how I 'fish out' the water in that half-circle. When the first cast is made I note where the bait falls in the water and identify the spot with some object on the bank, and then I proceed to that spot, and start all over again to do another half-circle. That one finished, I go to the other side, and repeat the performance, thus overlapping the first position casts. I carry on in the same manner until I have completely covered a section of the water, and I proceed to do as much as I can in this manner throughout the day, or for as long as I happen to be fishing.

That, then, is the method of fishing, but what about the action of spinning? Here again I advise the beginner to

watch another angler spinning, and he will see at least two types. One casts out, and proceeds to recover his tackle as quickly as possible. This is wrong. A pike has a great speed when it starts to move, but with a quick recovery of the spinner, the latter is out of sight of the pike before it can even position itself for a strike. This angler gets very few fish, and even they will be the smaller ones of the species.

The next type of angler is the one who casts out, waits a few seconds for his lure to sink, and then recovers the line slowly for a few turns of the reel handle, and this will be alternated by one or two rapid turns. This causes the spinner to lift in the water, and by doing this all the time the line is being recovered, the lure has done what it is intended to do — imitate a sickly or dying fish, which is easy prey for a pike.

A thing to remember at all times is that you should not have your rod pointing towards your lure. Hold it low and parallel with the bank for two reasons. One, when a pike 'takes', the rod can come into action immediately. Two, when the lure is being followed by a pike it is often taken just before reaching the bank, and if the pike sees you, it will sheer away. By bringing the lure to the right or left of your position, the last foot or two of recovery will bring the lure parallel with the bank, and in a nice position to be taken by the pike.

Remember, too, that although a particular bit of water may look 'pikey' it can so happen that if the fish are on the move you will not get a run from that spot, but it is always worth a return visit later in the day when you may be fortunate enough to find the pike at home and ready to oblige you with a run.

Pike have to move in winter when the weeds are no longer there to provide them with cover. They also feed more often in the colder weather, and a good time to go after them is a day with a little warmth in the air after a spell of frost.

A last word. Keep your spinner low in the water in imitation of cold fish, which do not rise into the cold upper layers of water in winter. Imitate their movements, and you'll get your pike.

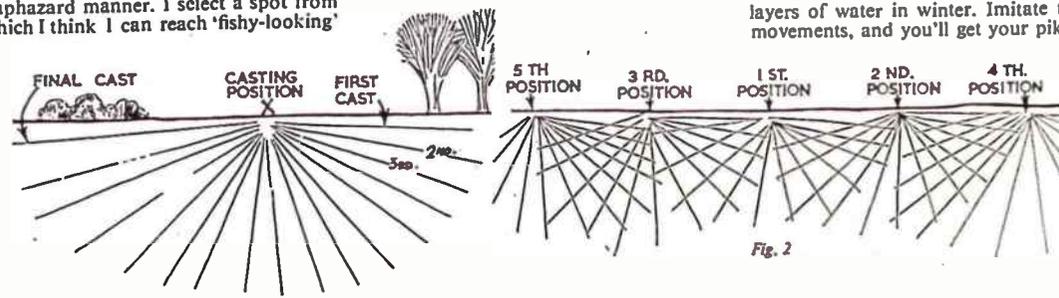


Fig. 2

Fig. 1



AN EXTENDING WORKBOX

EVERY woman knows that it is ideal to have ready to hand, at a minute's notice, all the materials and accessories needed for her sewing, making, and mending jobs. Buttons, in particular, have a nasty habit of coming off at the last minute, when everyone is in a hurry, and it will simplify matters if you can go to the workbox and find all that is required for a hasty replacement.

Such a comprehensive workbox is illustrated on the front page. It consists of one large and four smaller containers, which are cleverly jointed to give an extension effect. The sides are opened by indi-

vidual handles, thus exposing the contents of all the trays to give an immediate selection of the article or material required. The box is 11½ in. long and 6 in. wide. The height is 9 in. to the top of the carrying handle.

This design would also be ideal to

serve as a jewel box. The individual containers can be nicely lined with flock paper or velvet material, and it could stand on the dressing table for the safe keeping of necklaces, rings, and brooches, etc. For whichever use it is intended there is no doubt that this project will prove ideal as a special gift.

Most pieces which go towards its make-up are shown full-size on the design sheet. These should be traced and transferred to their appropriate thicknesses of wood by means of carbon paper. Similarly, mark out the dimensions of pieces 5 and 6 as given on the

A KIT FOR 19/3d.
All the panels of wood, knobs, handles, etc., for making the Extending Jewel or Workbox are contained in Hobbies Kit No. 3346, price 19/3d. from branches, etc., or from Hobbies Ltd (Dept. 99), Dereham, Norfolk (post 2/- extra)

design sheet, on to the wood, and cut out all the pieces. Clean up well preparatory to assembly.

A clear indication of how all the pieces are assembled is shown in Fig. 1, which should be studied carefully. Glue should be used throughout.

For a start, make up the four smaller boxes as shown in Figs. 1 and 2. The make-up for the larger box is clearly shown in Fig. 3. Rub down with glass-paper the width of the four small boxes, so that when assembled they will work freely between the uprights (pieces 10) of the handle. This is to prevent spoiling the finish, be it of paint or varnish, and the addition of which should also be allowed for when rubbing down the small boxes.

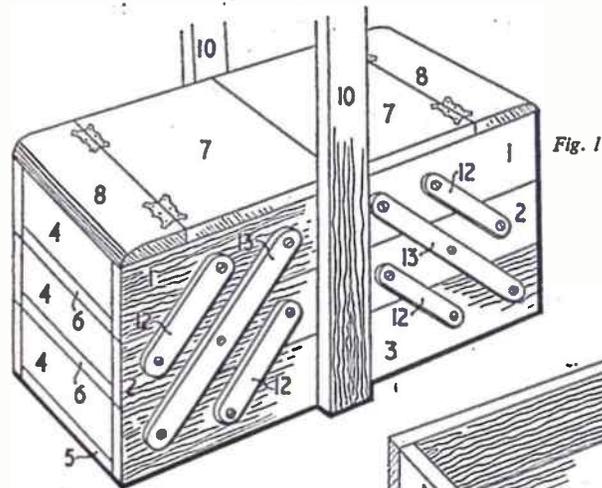


Fig. 1

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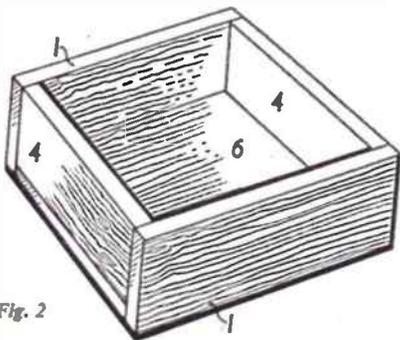


Fig. 2

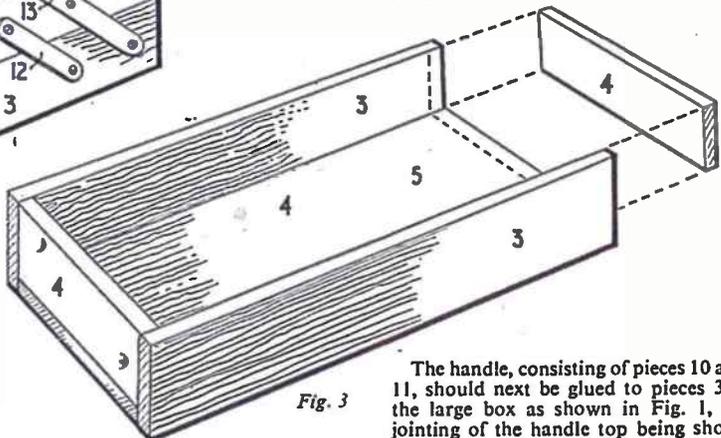


Fig. 3

The handle, consisting of pieces 10 and 11, should next be glued to pieces 3 of the large box as shown in Fig. 1, the jointing of the handle top being shown in Fig. 4.

Finish off the two top boxes by adding the lid portions (pieces 7 and 8) which are hinged together as seen in Fig. 1. Suitable pins for affixing the hinges are supplied in Hobbies kit of materials.

Now arrange the boxes in the final assembly order shown in Fig. 1, and screw the extending wood links on each side. The positions of the holes made in pieces 12 and 13 are clearly indicated on the design sheet. These should be made with a ¼ in. drill to allow free movement of the screw shank. The exact

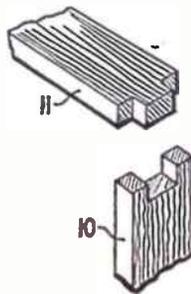


Fig. 4

Continued on page 297

Grab evenly on the paper... to know if you could... wish to make some plan... matter? (R.P.—Wolverhampton.)

Replies to Readers

to charge a 12V. battery, as... made by J... board over a 3in... and 15V... (more.)

Lawn Fertilizer

WOULD it be possible to give me a formula for lawn fertilizer? (P.W.—Upper Norwood.)

A LAWN fertilizer can be made from 23 ounces ammonium sulphate, 5½ ounces superphosphate (of 18 per cent available P₂O₅), 17 ounces bone meal, 7½ ounces potassium sulphate and 47 ounces dry sifted earth. Mix all well.

Treating Pigskin

A FRIEND brought me home from Spain a pigskin water bottle. Could you please advise me as to how I could treat it to remove the nasty taste? (G.W.—Regents Park.)

USAGE will gradually remove the taste complained of. A treatment which should speed it is to rinse well with sodium bicarbonate solution (1 teaspoon to 1 pint water), rinse with water, put in hydrogen peroxide solution (1 volume of '20 vol' strength to 2 volumes water), and leave overnight. Finally rinse well.

Repainting a Cycle

PLEASE send me some information on stripping paint from a cycle frame. I do not want to scrape it. (D.B.—North Petherton.)

THE paint on a cycle frame is stove enamel. No chemical stripper will affect it and the only way of removing it is mechanical. A steel wire brush driven by an electric drill will help, but there will have to be a fair amount of hand scraping. As the stove enamel finish is better protection than anything you can apply by hand, it might be wiser to rub down the remains of the old enamel with emery cloth so as to make a matt surface, then put the new paint over this.

Continued from page 296

An Extending Workbox

positions where these links will be screwed into the sides of the boxes are shown by dotted lines on the design sheet. Before the screws are driven right home, test the opening action of the boxes to ensure that everything is free and balanced. Finally add the knobs and side handles.

Amplifying a Ukulele

I AM a member of our Scout skiffle group and we wish to electrify our ukuleles, which are either plastic or wood. Could you advise us? (M.L.—Wallington.)

THE microphone used for such a purpose is wired up in exactly the same way as a mike used for speech, etc. That is, with a screened lead, the screening being earthed at the amplifier. If the amplifiers have microphone input sockets, simply plug into these. A fairly large degree of amplification is needed. The mike unit is usually fitted fairly near the bridge of the instrument. The best position can be found by trial. For playing in this way only, no soundbox is required, and instruments of this kind can have a simple wooden body, suitably shaped for good appearance, with the microphone unit fitted under or near the bridge, so that vibrations are conducted to it. Keep the microphone some distance from the loudspeaker, or howling will arise if maximum volume is being obtained with a sensitive amplifier.

Converting Radio to Mains

I HAVE two radios — a Coscor and a Philips. They are both powered by a 120V. dry battery and a 2½V. wet battery. I would like to know if it is possible to convert either of them into an electric set. If so, please tell me the components required and a rough estimate of the cost. Does it matter in what direction an aerial runs? I have been told that best reception is got from a North-South one. (M.M.—Cooraclare.)

A 2-VOLT (single cell) accumulator is usual, and an eliminator supplying 2V. (not 2½V.) and 120V. could be obtained from Radio Supply Co., 29/31 Moorfield Rd, Leeds 12, in kit form, for 49/9 post 2/9. This would allow the set to

be run from A.C. mains. The direction of an ordinary aerial used for medium or long wave reception does not make any worthwhile difference to volume. However, reception from a particular station is theoretically at maximum when the aerial is in such a direction that it points to the station, with the receiver at that end of the aerial which is near the station.

Crystal Set Interference

I HAVE experienced recently a loud clicking on a crystal set M-wave. It seems to keep on all the time, like Morse, yet it is not high pitched like a Morse signal. How can I get rid of it? (M.E.—Portishead.)

THE circuit itself would not be responsible, so the noise is picked up by the aerial or earth. Sometimes interference is present in a water pipe earth. If the noise ceases when you disconnect the earth from the set, try another separate earth to an earth-spike. Such noises may also be induced into the aerial by the lead-in coming near house mains wiring. If so, changing the position of the down-lead or aerial may help. If the noise persists after making these changes, it probably arises from industrial or similar apparatus fairly near. If the volume of the noise is influenced by turning the tuning knob, an improvement may arise if you wire a fixed condenser of about .0001μF or .0002μF in series with the aerial lead-in at the receiver.

Plating a Reflector

CAN you tell me how to repolish a reflector of a head lamp? It is 8 in. in diameter. Most of the polish has come off. (J.R.—Hornsey.)

THE reflector is presumably chromium plated on brass. To avoid the somewhat complex working rig for renewing the chromium by electro-deposition, we suggest the use of a simple nickel plating paste. This is made by intimately mixing powdered nickel ammonium sulphate 20 parts, magnesium powder 1 part and precipitated chalk 10 parts; all parts by weight. Put some of this mixture on a tin lid, wet a rag, dip it into the mixture and rub the reflector. Nickel will be deposited in a few seconds. By repeating the process several times, the whole area of the reflector will be plated. This nickel plating, although not so thick as electrolytically deposited chromium, is quite durable, may be polished with the usual metal polishers and has been found to wear satisfactorily for several months. Since touching up only requires a few minutes, it has much to recommend it.

Out with a camera

TRY GENERAL STREET SCENES

MANY amateurs don't bother to snap general open street scenes — even when on holiday or on a visit to a new town. They may have a liking for the pictorial possibilities of odd picturesque corners and buildings, the alley-ways and view of the church or cathedral — yet don't bother with a general view of the village street, the market town, or the bustling traffic-filled thoroughfare.

By E. G. Gaze

Having become keenly interested in their hobby, filling albums with interesting scenes or pet subjects, they tend to remember too many photographic maxims — such as 'the part is often better than the whole' — or 'fill your frame with the main subject' — while an open street scene is usually a conglomeration of subjects with no one predominating, and odd parts of the street may give several interesting snaps. So they ignore the general view as of no particular interest — but it is!

Your album holds prints of all the pictorial corners of your favourite holiday scene — yet one or two general views mixed in with the others add an interesting change, and can be memory evoking.

Too often general street scenes are confined to picture postcards bought on the trip and posted off. We all know the sort of thing — it gives a general view of the place but misses all the photographic possibilities: it crams a mass of meticulous detail into a small space.

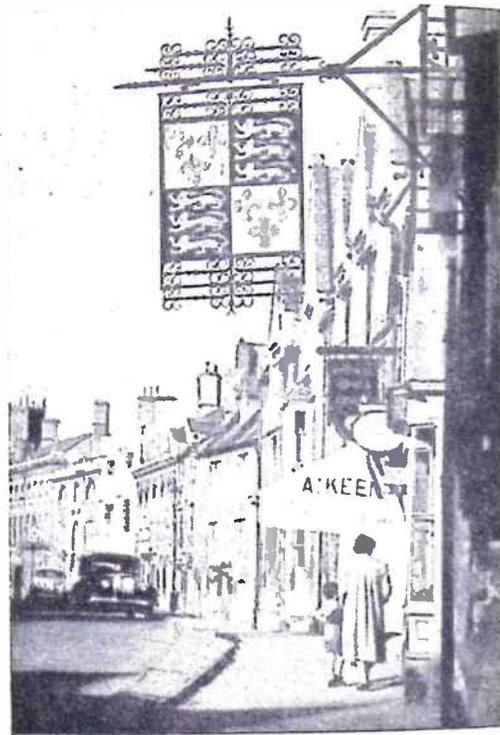
In suggesting that general street scenes can be usefully added to your holiday record it is not also suggested that you aim at the strictly record, visually dull picture postcard of the usual type.



A side street in Alexandria, Egypt. — Off centre position prevents perspective effect converging to far centre, provides unequal masses either side. Distant tower gives some vertical play.

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Street scene Chipping Campden, Cotswolds. — Large sign overhanging foreground gives vertical play, prevents gaze from running out at once to end of street curve. Cross lighting gives shadows to left, helps to balance mass of buildings to right.



In the first place that might be more difficult than it seems. The picture postcard was probably taken from a position inaccessible to the holiday amateur — the time of day carefully chosen to give even over-all lighting conditions, so that as little detail as possible is veiled or hidden in shadow. Secondly, if you aim

for visually interesting prints in your album, you want the same effect in your general street scenes — and the normal run of holiday picture postcards bought on the front, or in the village post-office, are not very interesting, visually. They show the 'sort' of place it is — little more: you want a print to show the 'sort' of place it is — and to be interesting enough to mix with all the photographic gems you found as well!

Perhaps a few suggestions will put the point:

(1). The general street scene may be a conglomeration, with no one outstanding point of interest — you gain visual interest by deliberately using lighting conditions to give contrasts of highlight and shadow.

The bought picture postcard usually has even lighting — avoid it: look out for strong cross lighting — or a forty-five degree lighting from back or front. Try to get the most interesting part of the street highlighted, let shadows subdue the rest. Already you are turning the scene into one of interesting masses with shadow and highlight.

(2). But avoiding the 'even' record effect doesn't mean avoiding the clear detail of the bought picture postcard — be sure you focus accurately. In a general scene where the visual interest is scattered from near to far distance anything blurred, or out of focus, jars. Use as small a lens stop as possible in conjunction with the exposure speed necessary to 'stop' moving traffic or pedestrians.

(3). Try to keep the visual interest 'in' the picture. A street scene running to a distant 'hole' in the sky, especially if a blank sky, won't hold the gaze on the foreground or middle distance — you'll tend to look straight at the end of the street, the 'hole'.

A tall building or tower in the background, giving a vertical visual interest, will help to counteract this tendency — or a cross street closing your street in the background.

A vertical interest can often be introduced in the foreground, holding the gaze in the print from running 'out' too swiftly. Inn or shop signs, overhang-

ing the pavement, provide examples — they also help often by an interesting shape or pattern filling up a large area of blank sky.

'Stoppers' — to keep the gaze within the picture area — are always useful things to remember at any time.

(4). Perspective — normally you'll be snapping from street level. You want to avoid the steep perspective effect in the print of a wide road foreground and pavements converging to the far distance. Sometimes traffic or knots of people can help — but a good rule is to avoid a dead-centre snapping position. Snap from an angle to the run of the street: this prevents the road running dead central from foreground to far distance — it also gives unequal masses either side of the print, and if used in conjunction with lighting conditions mentioned above, can give a lively play of highlighted and shadowed masses.

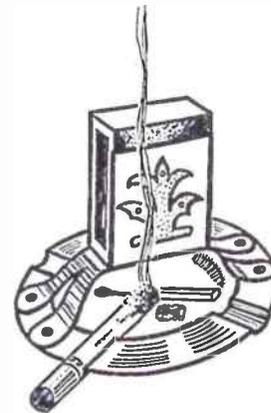
(5). Traffic and pedestrians. As it's a snap of a general street scene to show the 'sort' of place it is, normally you won't want to get up at dawn to find

deserted streets! If it's normally drowsy on a hot afternoon, take it that way — if filled with hustle and bustle, take it that way. But try to avoid fast moving or bulky traffic close to the lens, for obvious reasons — you want to see the street! Pedestrians fit in easily when moving away from the camera, if in the foreground — they won't be staring at it then, either — but usually folks are in too much of a bustle to bother about YOU — unless it is a very quiet village street or market town, when they may become very interested in your camera.

Maybe enough has been said to include one or two of these general street scenes on your next holiday or outing — whether it's a busy town, village or abroad. Remember — you're aiming at the picture postcard effect of showing the 'sort' of place it is, but you're also aiming to give it enough visual interest to mix with your pet snaps.

Looked at in this way, general street scenes needn't be ignored — try them and see. You mightn't like them — but you might ...

Match Box Holder and Ash Tray



By A. F. Taylor

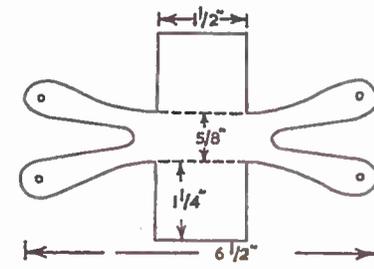
NOT only will this little match box holder and ash tray be welcomed by the smoker, but by other members of the family also. In the kitchen it will be useful to have near to the gas stove for receiving dead matches. Being easy to construct, why not make one or two more to have in the bedrooms in order to keep them tidy also?

The ash tray used is the standard type obtainable at most stores, but if you are keen on metalwork there is no reason why you should not attempt to make this part also.

Sheet brass, copper or even aluminium alloy are all suitable metals to use, and quite easy to work with. Because you have a brass tray, this is no reason for making the match box holder of the same metal. A contrasting colour could, indeed, be a very pleasing change. A copper overlay on aluminium for the holder with a brass tray is quite attractive, and this is only one of the many variations which could be tried.

Most ash trays vary in size between 4 in. and 5 in. in diameter, and due allowance must be made when cutting the metal for the holder. 2 in. added to the diameter of the tray should be about the correct amount, and this will allow for bending the feet and to give a nice arched appearance.

Perhaps you would like more room between the tray and holder, in which case another inch or even two must be added to the length of the metal. About 16 s.w.g. will be thick enough, and



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Electricity in Your Aquarium

by L. Warburton

IN the past, many keen aquarists have given up the hobby because they suffered heavy losses among their stock as a result of defective equipment, particularly on the electrical side. With the publication of this book, such pitfalls should soon be avoided, as the author writes with considerable experience of the equipment needed. Written with the average aquarist in view, it concerns the properties, uses and application of the electrical apparatus so vital to the successful keeping of tropical fish.

Published by Percival Marshall & Co. Ltd, 19-20 Noel Street, London, W.1. Price 7s. 6d.

PIECE 5 CUT
ONE 1/8 IN.

PIECE 6 CUT
ONE 1/8 IN.

PIECE 7 CUT
ONE 1/8 IN.

PIECE 3 CUT
ONE 3/16 IN.

PIECE 4 CUT
ONE 1/8 IN.

PIECE 2 CUT
ONE 1/8 IN.

PIECES 1
CUT TWO
3/16 IN.

PIECE 8 CUT
ONE 1/8 IN.

PIECE 10
CUT ONE
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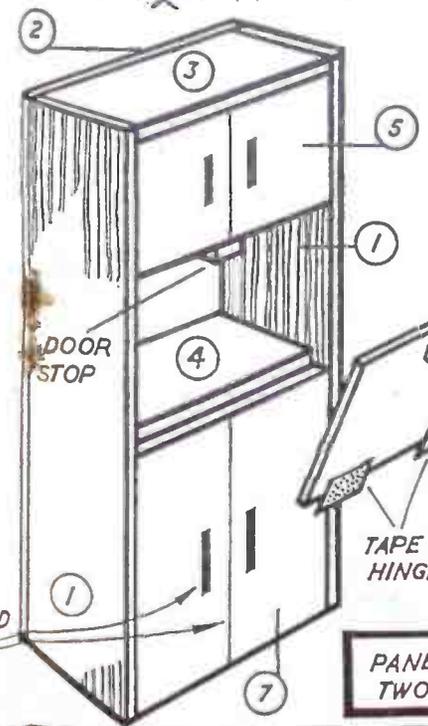
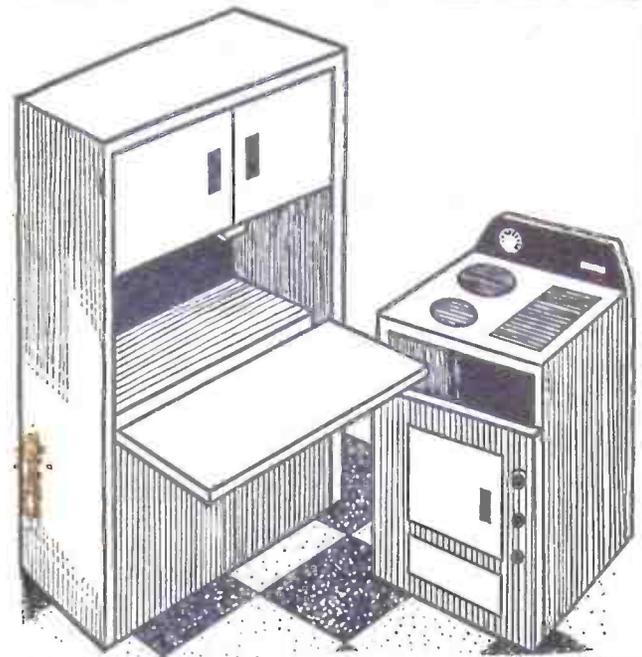
PIECE 11
CUT ONE 1/8 IN.

PIECES 9
CUT TWO
1/8 IN.

KITCHEN CABINET & COOKER



DETAILS PAINTED ON



PAINT ON ALL DETAILS

PANELS OF WOOD REQUIRED
TWO G2 ONE G3



DOLL'S HOUSE FURNITURE PATTERN

PRINTED IN ENGLAND

HOBBIES LATHE CONVERSIONS

THE utility of the Hobbies Bench Lathe can be greatly extended by converting it to operate as a face lathe. It can then be used to turn up quite large objects, such as mahogany salad bowls, biscuit barrels, breadboards, fruit dishes, etc. Conversion is simple, and can be done with ordinary hand tools. It is also possible to modify the Companion Treadle Lathe, but another method must be used and this also will be described.

A strong faceplate
The egg-cup bit supplied with the

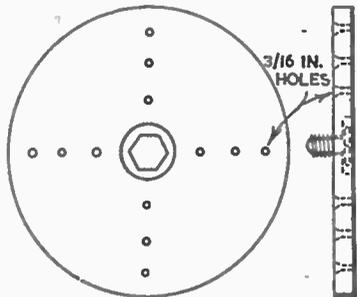
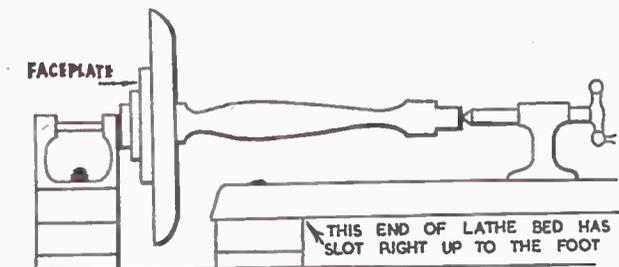


Fig. 1—The faceplate



lathe will not cope with the extra stress of turning large diameters, and so a robust faceplate must be fitted. This is made of a plywood disc 5 in. in diameter and 1/2 in. thick. Drill a pattern of holes as shown in Fig. 1, countersinking them on the reverse side. This faceplate is secured to the headstock by a 3/8 in. B.S.W. bolt 3/4 in. long. File the bolt head to 1/2 in. thick and countersink it into the centre of the disc.

Work is screwed to the faceplate through the 3/8 in. radial holes, and the whole screwed into the headstock.

The lathe bed

More space is arranged beneath the headstock centre by removal of the cast-iron lathe bed. Dismantle the lathe and

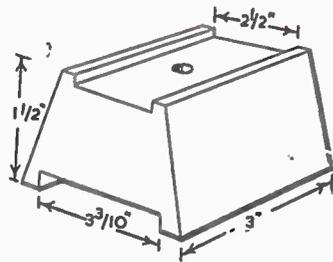


Fig. 2—Headstock block

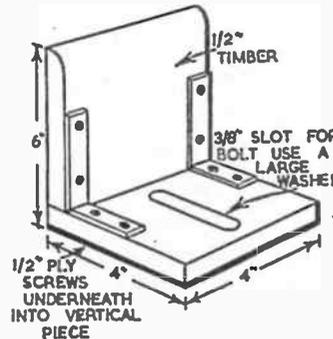


Fig. 3—Tool rest for bench lathe

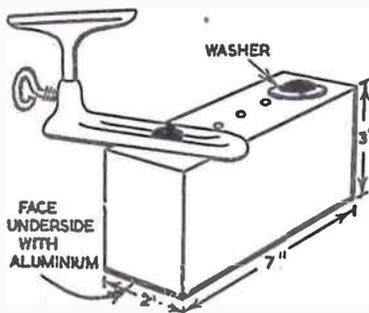


Fig. 4—Tool rest for treadle lathe

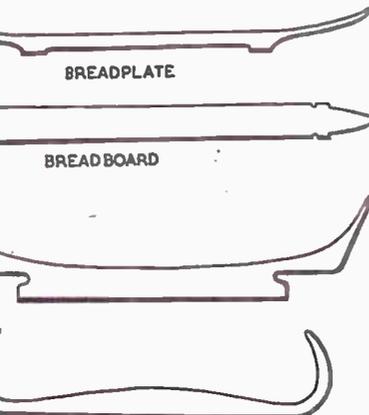


Fig. 6—
Designs for beginners

replace the bed with a block of hardwood cut as shown in Fig. 2. This will give a clearance of 6 in. from the headstock centre to the bench, enabling articles of up to 11 in. or so in diameter to be turned.

Tool rest

The tool rest is shown in Fig. 3. This item must be very strongly made and

quite rigid in use. A 3/8 in. coach bolt secures the rest to the bench, and holes must be drilled for this purpose. A rest for a treadle lathe is shown in Fig. 4.

A gapped lathe bed

This arrangement permits the lathe to be used normally, as well as for large diameters up to a certain depth. The lathe bed with its remaining wooden foot is reversed, so that the foot is at the headstock end; the other end is supported by another block of wood. Screw this assembly to the bench with the near

Continued on page 304

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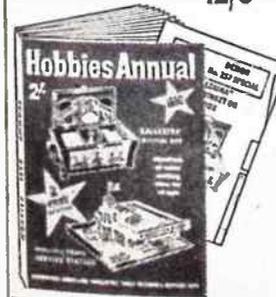
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The essential equipment is a pair of scales. While these need not be of the expensive, highly accurate type used by dispensing chemists, ordinary household ones are not usually sensitive enough for weighing the small quantities which are required. A good compromise is the sort used in offices for weighing letters. These can often be picked up cheaply in sale rooms. To the handyman, however, it is not a very difficult

By C. Robinson

task to construct a pair, using Meccano parts, strip metal, wood, or (as illustrated) an old hack-saw blade and two tin lids. To obtain correct balance, attach, under one of the pans, anything to make up the weight. Pieces of tin, or card, fixed by Sellotape, will be perfectly satisfactory.

Photographic formulae are usually printed in both metric and avoirdupois weights. If you use the metric system you will require a set of weights costing around 10s. 0d. Using the avoirdupois, it is possible to make use of 'coins of the realm', which are minted accurately by weight. With doubling up, and combinations of the following, it is possible to make up most photographic formulae:

Threepenny piece (silver)	22 grains
Sixpence	44 grains
Shilling	88 grains
Half-crown	$\frac{1}{2}$ ounce

There are, of course, hundreds of different developer formulae. The two I am quoting will cover most types of black and white photography.

Standard M. Q. — borax fine grain developer

Metol	22 grains
Hydroquinone	44 grains
Sodium sulphite (anh.)	2 ounce
Metol	22 grains
Hydroquinone	44 grains
Sodium sulphite (anh.)	2 ounces
Borax	22 grains
Water	20 ounces

This is suitable for all types of film, and development times vary from $8\frac{1}{2}$ to 12 minutes at 65°F. temperature, the longer time being required for the faster type of film, and vice versa.

A developer giving high definition and sharpness with all fine grain thin emulsion film (Ilford Pan F, Kodak Panatomic X, Adox KB17, etc. is given next.

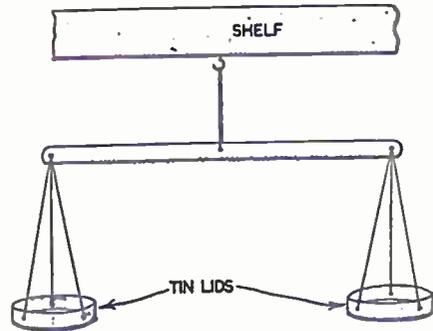
W. Bentler formula
This is a two-solution developer consisting of:

'A' solution	
Metol	88 grains
Sod. sulphite (anh.)	1 ounce
Water	20 ounces
'B' solution	
Sod. carbonate	1 ounce
Water	20 ounces

For use take 1 ounce of solution 'A', and 1 ounce of solution 'B', and add 10 ounces of water. This can then be used once only; developing times are $7\frac{1}{2}$ –9 minutes at 65°F.

This developer has the advantage of being both economical (less than 1d. per film) and consistent in result, being used fresh for each film. The keeping properties of the A and B solutions are good.

When mixing developers, it is advisable to use water that has been boiled and allowed to cool to approximately 120°F. Chemicals should be dissolved in the



order given in the formula, making sure that one chemical is dissolved entirely before adding another. It should then be filtered before use through a funnel containing cotton wool, a filter paper, or tissue of the Kleenex type.

An acid fixing solution can be made up economically by using hypo crystals and potassium metabisulphite. The proportions are:

Hypo.	4 ounces
Pot. metabisulphite	$\frac{1}{2}$ ounce
Water	20 ounces

Continued from page 302

Hobbies Lathe Conversions

and the lathe bed. A longer driving belt is necessary. There will now be clearance for work of up to 10 in. diameter. The tool rest is raised by a wooden arm 7 in. by 3 in. by 2 in. (Fig. 4), held to the lathe bed by a $\frac{1}{4}$ in. diameter bolt $4\frac{1}{2}$ in. long. The normal tool rest is fitted at the other end of the arm by another bolt, $\frac{1}{2}$ in. by 4 in. A sheet of tin or aluminium must be screwed to the underside of this arm to prevent the ridges of the lathe bed from cutting into the timber.

It must be stressed that all the work throughout conversion must be soundly executed, particularly the tool rests, for an insecure tool rest is dangerous. The speed of the lathe is also worthy of mention. It will be found that the surface speed of a piece of wood 10 in. or so in diameter is surprisingly higher than that of a small piece. Use the low geared drive and feed tools in very slowly until the 'feel' of turning large diameters is familiar. Furthermore, wood must be at

least fairly circular before commencing work.

Suitable simple beginning designs are shown in Fig. 6. Beech or mahogany are the most suitable woods. Turn the bottom surface before reversing the wood to start on the top and sides. Plug the screw holes in the base with plastic wood when the job is finished. Varnish, or finish with linseed oil, whilst the work is still on the lathe. Thin walls to a bowl will give an appearance of delicate workmanship, but leave a solid base to minimize the chance of cutting into the screws holding the work to the faceplate, and also to reduce the tendency to warp.

Wood may be obtained from any good timber yard or from furniture makers or repairers. Old furniture is another source. The Victorians were very fond of using mahogany, and many excellent pieces of well seasoned wood may be obtained from an old table costing only a shilling or two at a second-hand dealer's store.

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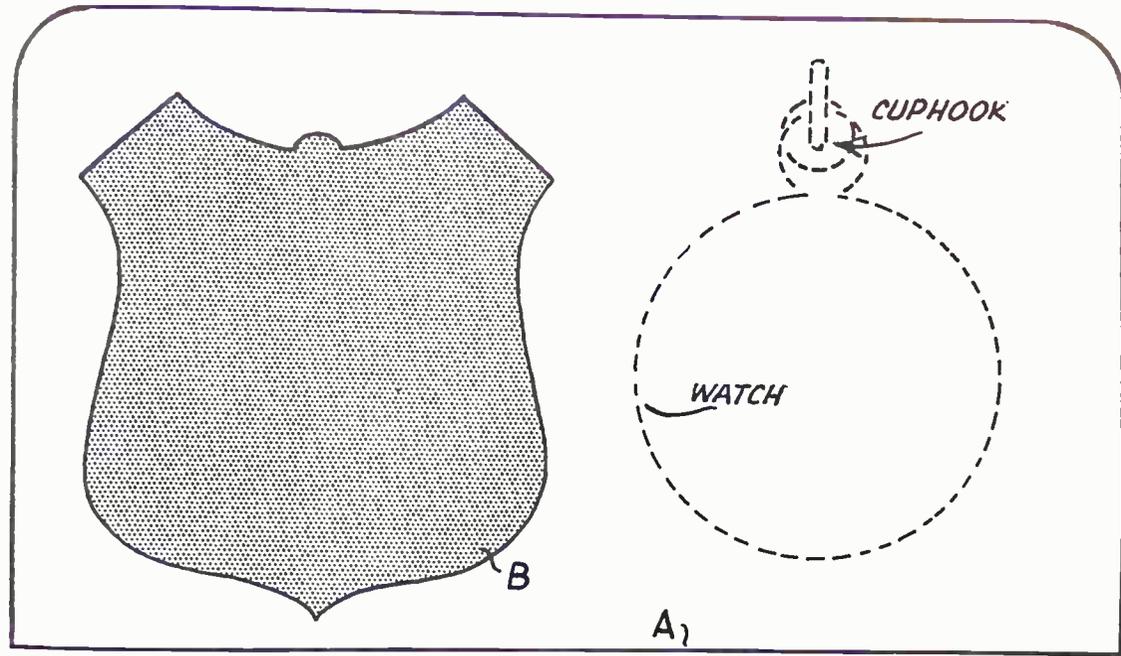
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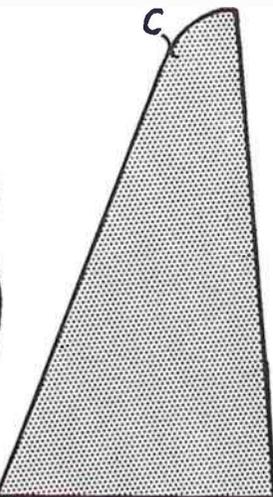
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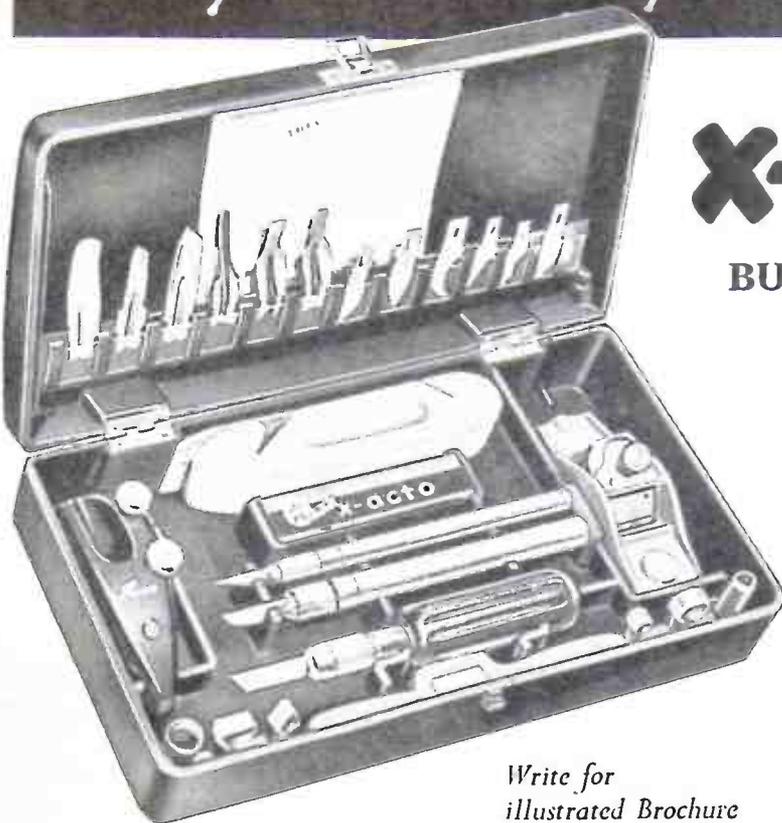
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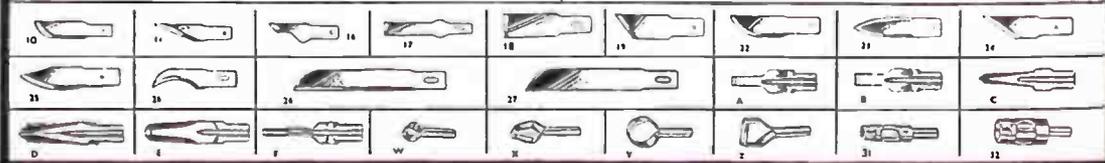
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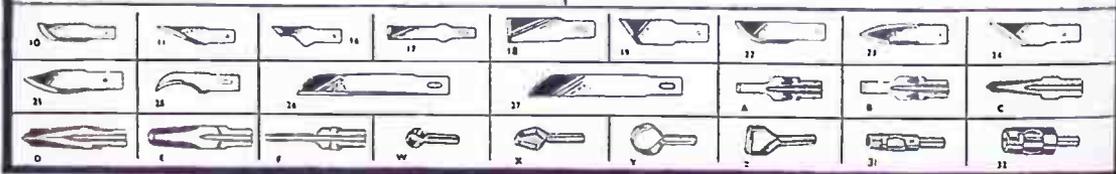
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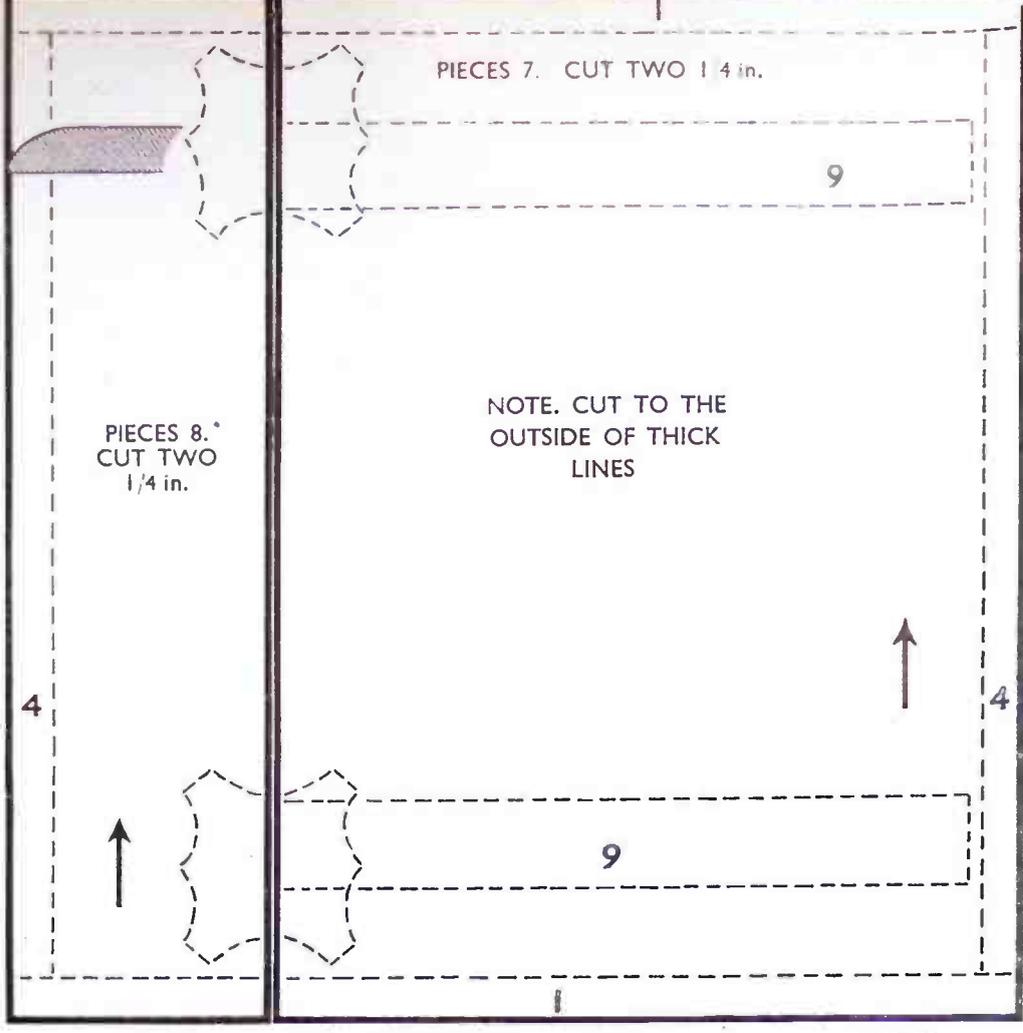
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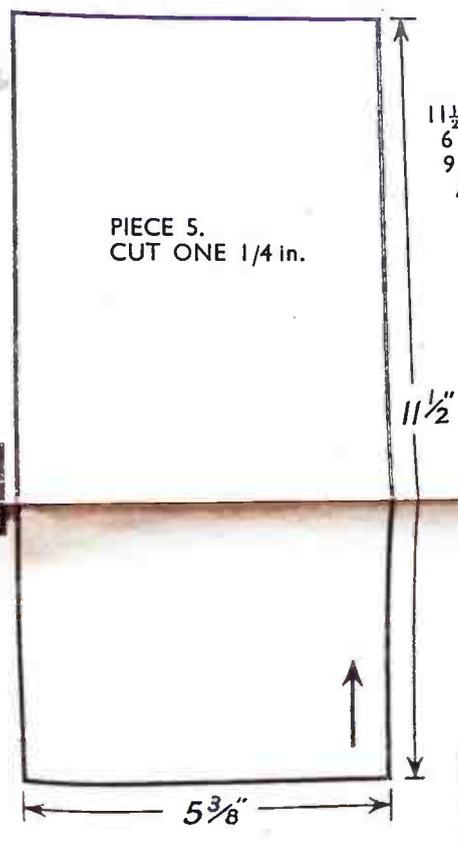
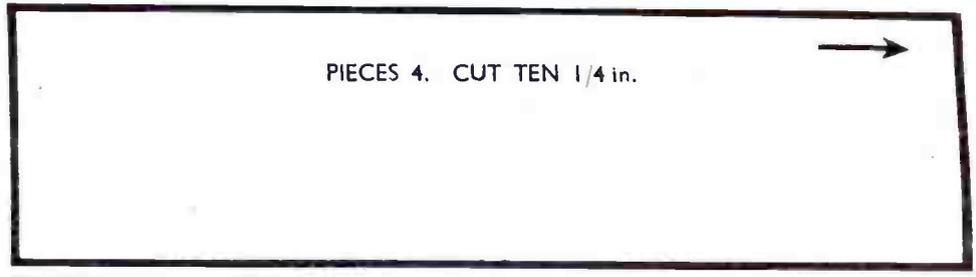
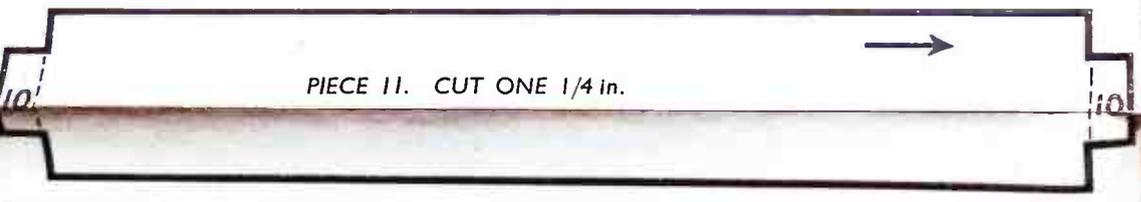
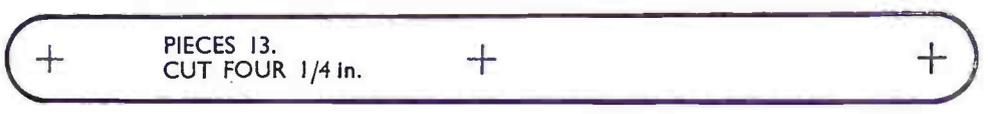
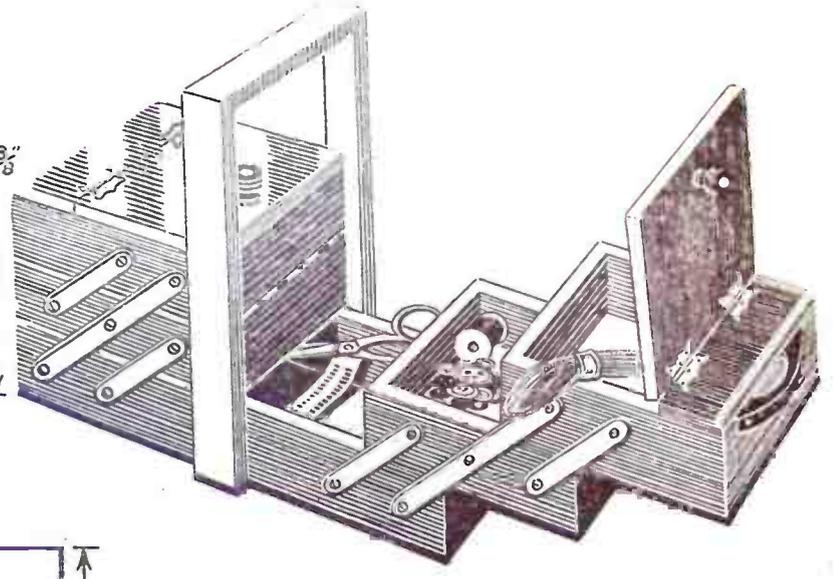
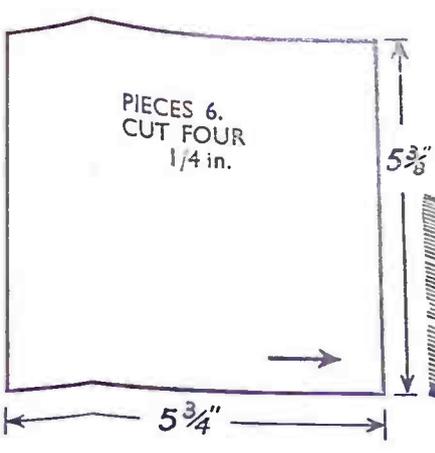
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