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VOL. 131

NUMBER 3405

THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

Also in this issue:

'BUDDIE' CAGE
FURNITURE PLANS

COLLECTOR'S CLUB

CARVING WITH
A MODELLING KNIFE

DRY-MOUNTING
PHOTO PRINTS

CHILD'S STURDY
TOY TROLLEY

GALLEON MODELS

ETC. ETC.



**Instructions
for making . . .**

**AN INDIVIDUAL
AND PERSONAL
GIFT FOR A
21ST BIRTHDAY**

'KEY' LAMP

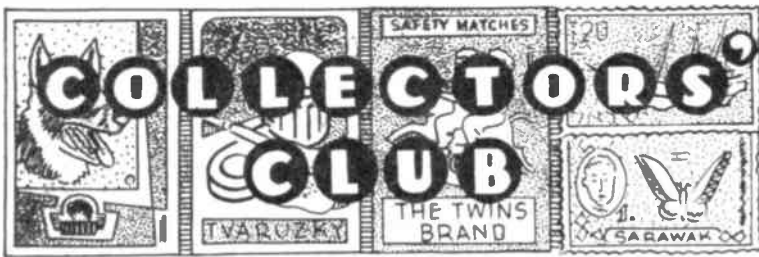


Up-to-the-minute ideas

Practical designs

Pleasant and profitable things to make

5^D



THE new issue of Gibraltar stamps consists, like the 1953 set, of fourteen pictorial values. The old 1½d. and 5d. have, however, disappeared and have been replaced by a 7d. stamp, which is the current air mail rate to foreign countries in Europe, and by a 9d., which is the air mail rate to the United States.

GIBRALTAR PICTORIALS

The new stamps are produced by De La Rue & Co. in two-colour photogravure, except the £1 stamp which is in two-colour recess.

The designs are the result of a competition which was held in Gibraltar and are

based on drawings and photographs submitted by a wide variety of local artists and aspiring stamp designers. The Annigoni portrait of Her Majesty the Queen has been used on all the stamps. Small insets illustrate the local fauna. The idea of the insets was introduced by a local architect, Mr N. A. Langdon, who also provided the designs for the 1d., 3d., 6d., 7d., 9d., and 1s. 0d. values. Mr J. Celecia had winning entries for the ½d., 2d., 2½d., 2s. 0d., and 10s. 0d. values of stamps. The £1 stamp is from a drawing submitted by Sgt T. A. Griffiths. The two remaining values were designed by Mr M. Bonilla and Mr L. J. Gomez.

½d. — Magenta Yellow-Green

Subject: Gibraltar Candytuft (Iberis Gibraltarica) is peculiar to Gibraltar and grows nowhere else in Europe. The inset is of swallows which migrate across

the Straits every spring and autumn.

1d. — Mid-Green Grey

The Moorish Castle was built by the Arabs during the early part of their occupation of Gibraltar from A.D. 711-1309 and is still one of the outstanding landmarks of the town. The inset shows swordfish which are regularly caught in the Straits and make delicious eating.

2d. — Mid-Brown Blue-Grey

St. George's Hall is one of two spacious chambers excavated from the Rock on its north front as part of the fortifications carried out during the Great Siege from 1779-83. The inset shows sea horses.

2½d. — Mid-Blue/Black

The Keys of Gibraltar, with which the main gates of the Fortress were locked every evening during the Great Siege, are still used on ceremonial occasions, and are commonly regarded as the symbol of the office of the Governor. The inset shows porpoises, which are common in the waters round Gibraltar.

3d. — Red/Deep Blue

In the foreground can be seen the airstrip which was built out into the sea during the War, and on the right of the Rock is the magnificent harbour spreading out below the lights of the



town. The inset shows the prawns which are a local delicacy.

4d. — Green Blue Red-Brown

Catalan Bay is a small fishing village with a sandy beach on the eastern side of the Rock, and is a favourite resort of tourists. Local edible crabs are shown in the inset.

6d. — Yellow-Green Brown

Gibraltar is situated in latitude

36° 7' N. and longitude 50° 21' W., and stands out distinctively from the Spanish coast to which it is connected by a sandy isthmus about a mile long and half a mile wide. The Spanish town of Algeciras is about five miles to the west, across the Bay of Gibraltar, and it is about twenty miles across the Straits to the African coast. The inset shows a pair of Bonelli's eagles.

7d. — Mid-Red/Grey

The present Airport Terminal building was opened in April 1959, and provides up-to-date facilities and comforts for the increasing number of air travellers visiting or passing through Gibraltar. The inset shows the lesser blackheaded gull, which is a common winter visitor.

9d. — Green-Blue/Dark Blue

The American War Memorial was erected in 1932 to commemorate the achievements of comradeship of the

American and British navies during the First World War. It was built by the American Monuments' Commission, and the architect was Dr Paul Cret, of Philadelphia. The inset shows a squid, which is another local delicacy.

1s. 0d. — Brown/Blue-Green

The famous Rock Apes are a distinctive feature of the Rock of Gibraltar where they have roamed probably since the days of the Moors. There is a tradition that if the Apes disappear, the British will leave Gibraltar. The Apes are cared for and fed by the Government.

2s. 0d. — Red-Blue/Red-Brown

The Barbary Partridge (*Caccabis petrosa*) is peculiar to Gibraltar in Europe and lives in the upper parts of the Rock. It is distinguished by a chestnut band round the neck studded with white spots. The inset shows the Barbary Ape.

5s. 0d. — Brown/Blue

The Blue Rock Thrush (*Monticola cyanus*) is a distinctive inhabitant of the upper parts of the Rock and sea-cliffs. The inset shows a pilchard.

10s. 0d. — Red-Yellow/Mid-Blue

The Rock Lily (*Narcissus Niveus*) covers the Rock with flowers between October and February. The inset shows Rays, which are common in all parts of the Mediterranean, and which are caught both for eating and for fishing bait.

£1 — Red/Black

This design shows the distinctive silhouette of the Rock, and the Badge of the Gibraltar Regiment. The Regiment dates back to 1939 when as the Gibraltar Defence Force, it was formed as a territorial unit.

A DOUBLE-PURPOSE TABLE

A SMALL table that can soon be converted into a small desk, is a most useful piece of furniture in the home.

As a table, it can be used in the kitchen for all those small jobs that require a hard, level surface. If Waverite is used for the surface, or one of the plastic surfaced boards, it will be a simple matter to keep it clean. As a desk, it can be used by

children for doing homework, or for smaller children for resting a drawing pad. Fig. 1 shows the make up and suggested dimensions.

Fig. 2 shows how 1½ in. by 1½ in. timber is used for the legs, four of which are required. The top rails are of 1½ in. by ¾ in. section. The joint for the rails and the legs is shown in Fig. 2.

An alternative method for joining the

rails to the legs, by ¼ in. dowels is shown in Fig. 3.

Bottom rails are secured to the outer legs only, as shown in Fig. 4. The joints shown in Fig. 2 or 3 can be used for fixing.

A foot rest of 1½ in. by ¾ in. section timber is fixed to the two bottom rails. This can be jointed by means of dowels, or with a half lap as shown in Fig. 4.

A good adhesive can be used for fixing all the joints, but if the foot rest shown in Fig. 4 is used, insert a countersunk screw at each end as well as the adhesive.

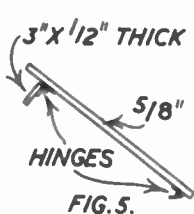
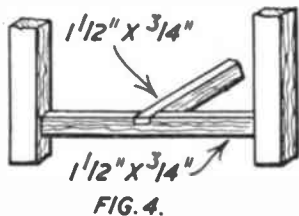
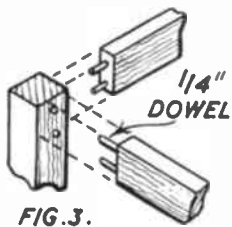
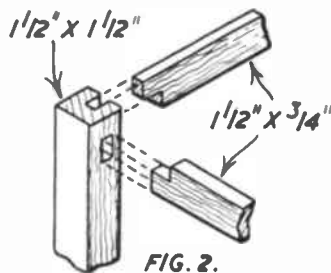
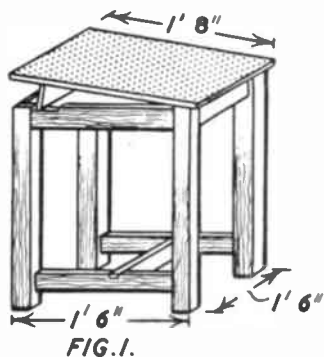
The top of the table can be made from plastic-surfaced blockboard so that it can be all in one piece. Plywood can be used with a plastic surface glued on the top.

Butt or piano hinges are screwed to the underside of the top, as shown in Fig. 5. To enable the table to be converted to a desk, hinge a length of 3 in. by ½ in. timber underneath the top, as shown in Fig. 5.

The top is then hinged to the top rail, as shown in Fig. 1, to enable the table to be used as a desk, cut a chase in the two end top rails, sufficient to take the folded flap when reverting to use as a table.

A sheet of plywood can be nailed to the underside of the top rails if it is required to have a compartment in which to place equipment.

The table is made 18 in. square with a top of 20 in. by 20 in. These dimensions can be changed to suit particular requirements. Whilst a height of 30 in. is suitable this will depend upon requirements.



ADJUSTABLE STILTS FOR YOUNGSTERS

MOST youngsters at some time or other like to try walking on stilts. It is an enjoyable pastime and although the craze does not last long it does at least provide a period of healthy exercise.

An adjustable foot-rest makes it possible to shift the step from a low position to a higher position as the user becomes more proficient. It also enables the height to be altered to suit various members of the family. In fact the stilts will even be strong enough for father to 'show off'.

Construct the blocks from a single piece of wood 8 in. by 3 1/4 in. by 1 3/8 in.

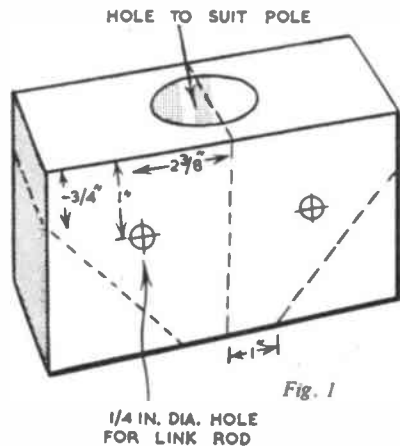


Fig. 1

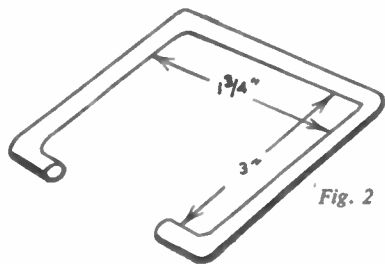
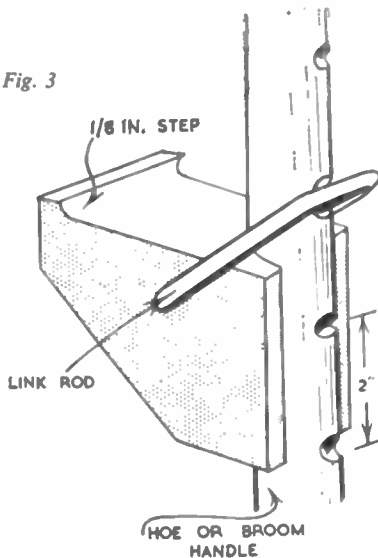


Fig. 2

Fig. 3



Saw the block in half so that one half of the hole is in each block, Fig. 1. Cut away the corners and form a step as indicated in the drawings. The support links are bent from 1/4 in. diameter metal rod to the shape shown in Fig. 2.

Notch the poles and spring the links into the holes in the blocks, Fig. 3. The stilts can, of course, be painted if desired.

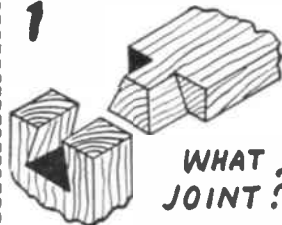
(M.h.)



TWO MINUTE QUIZ by Ed Capper

ANSWERS ON PAGE 421

1



WHAT
JOINT?

2 GIVE THE SIZES
OF THESE LETTER DRILLS:

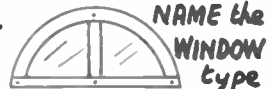
A, E, I, O, U

3



THE SUMMER HOUSE
BUILT INTO A WALL?
IS CALLED A WHAT.

4



NAME the
WINDOW
type

5

WHAT IS A
soffit?

★★★★★★★★★★★★★★★★★★★★★
★ Next week's free plan will be for ★
★ making a Lord's Prayer Plaque. ★
★ This has been particularly re- ★
★ quested by many of our readers ★
★ and there will be a big demand ★
★ for this issue. Make sure of your ★
★ copy. ★
★ ★
★★★★★★★★★★★★★★★★★★★★★

For a special occasion

21st BIRTHDAY LAMP

TO commemorate a twenty-first birthday, this table lamp is ideal. It makes a pleasing and unusual gift, and the novelty and thought behind the project will make it most acceptable.

The size is not particularly important, and you can take your measurements from these diagrams, or draw out the shapes to your own ideas.

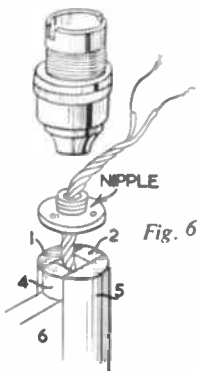
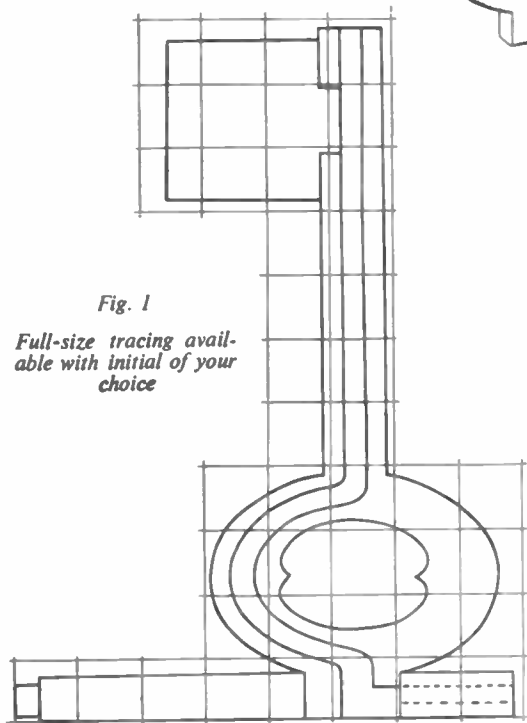
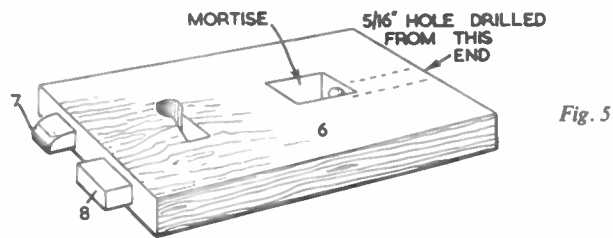
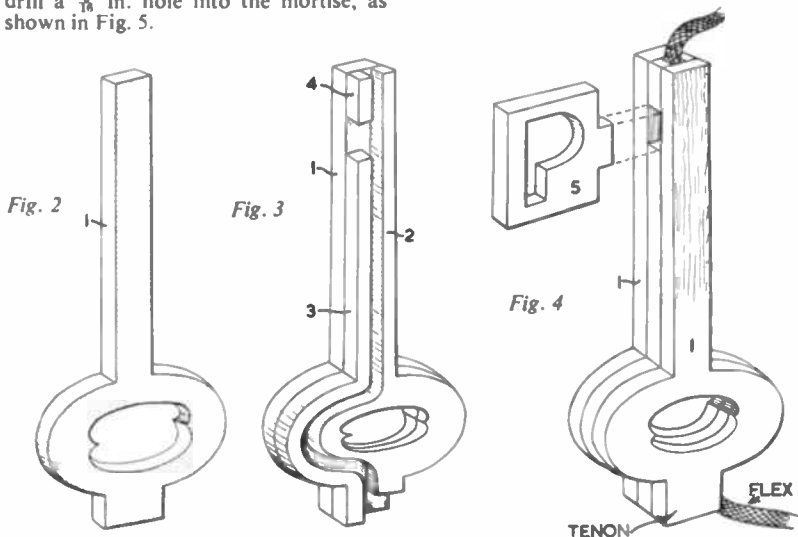
You will see that Fig. 1 is shown squared, and should be enlarged so that the squares measure 1 in. It is a simple matter then to fill in one square at a time to complete the shape. Reference to Figs. 2, 3, and 4 shows that the key is made up of six separate pieces glued together. Each piece is cut from $\frac{3}{8}$ in. wood, with the grain running lengthwise where possible. The sequence of gluing together is shown in Figs. 2, 3, and 4. Note that there are two pieces 1, forming the sides, and the flex should be laid in position in the groove before fixing the final piece 1 (Fig. 4).

The initial in piece 5 (see Fig. 4) will, of course, be changed to suit the recipient. Glue piece 5 into the slot, after shaping the shank of the key. Round off all parts of the key except the tenon.

The lock (6) is made up as shown in Fig. 5. It is cut from $\frac{3}{8}$ in. wood, and measures $7\frac{1}{2}$ in. by 4 in. Cut out the key-hole and the mortise, which should fit the tenon of the key. The protruding pieces 7 and 8 are cut from $\frac{3}{8}$ in. wood, and are glued in place. Remember to drill a $\frac{5}{16}$ in. hole into the mortise, as shown in Fig. 5.

Clean up all parts, and paint in suitable colours. The lock should be a pastel shade of blue, with pieces 7 and 8 gold. The key should of course be silver.

The final job is to fix the lampholder in position (Fig. 6). Screw the nipple to the top of the key, and then fix the wires



to the terminals. The lampholder will be fitted last. To further enhance the gift, a push/push switch can be incorporated on the lock by simply attaching the switch to one lead of the flex. Inspection of the switch makes it obvious how the leads are connected.

Lampholder and nipple cost 2/-, the push/push switch 2/-, and the flex 6d. per yd. (postage 1/-) from Hobbies Ltd, Dereham, Norfolk. An appropriate shade can be obtained locally.

If you would like a full-size tracing of the key, with initial of your choice, write to the Editor, enclosing a current reply coupon, and a stamped addressed envelope. Your tracing will be sent free with the compliments of the Editor. (M.h.)

WHITTLING AND CARVING

LONG before the advent of machine-made toys, dolls, animals and other small articles were often whittled from wood. This is still popular in some of the continental countries where wood carving is held in high esteem. With a sharp pocket knife and a little raw material you can quickly make some of these novelties.

Your knife must be really sharp, however. Keep it in good trim with an oil-stone so that it cuts straight-grained wood with a flick of the wrist.

The easiest novelties to make are small human figures and these can be produced from $\frac{1}{2}$ in. dowel rod about 2 in. long. You may find it difficult to hold pieces of wood so small, so it will be found better to work with a dowel rod about six or seven inches in length, cutting off the figure on completion.

whittled away with the knife. At C we have modified the head by shaping a small hat and leaving a few unfinished cuts for the hair. D represents a man, and here we dispense with the waist but have to shape legs clothed in trousers. You should also notice that we

By H. Mann

have left a base and added a hat. The child in E (although this figure may be smaller in size) is basically shaped as the woman, but here again to make the distinction, leave a shorter dress revealing the legs and include a base.

In each case the arms are added later. For these, drill fine holes in some thin wood after marking out and then whittle

for securing the arm. Another way is to drill a fine hole through the body, attaching the arms by means of a short length of elastic, tying a knot on the outsides.

Most animals are quite easy to whittle, and many, like dogs, cats, mice, and pigs need only a minimum of work. Use pieces of cocktail sticks for the legs, which should be inserted into small holes drilled in the body.

Larger animals, like the horse or giraffe, demand a different treatment, and here it is advisable to whittle off the end of the neck to a wedge-shape and then push into a V notch cut in the body. This is shown in Fig. 2. If necessary a touch of glue may be added, but you must be careful with the length of the neck and the setting angle or the animal will overbalance. The legs should be similarly treated. For a furry coat make a few short slices into the wood, but

FIG 1

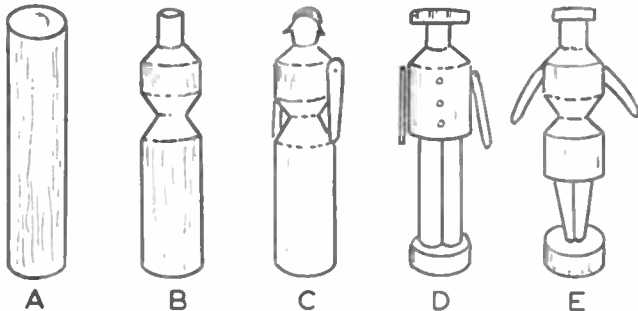


FIG 2

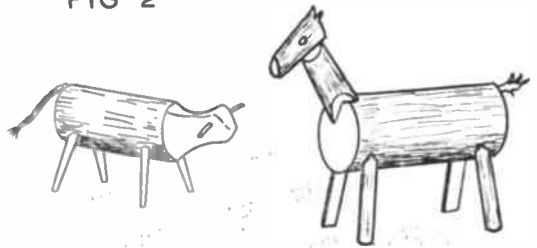


FIG 3

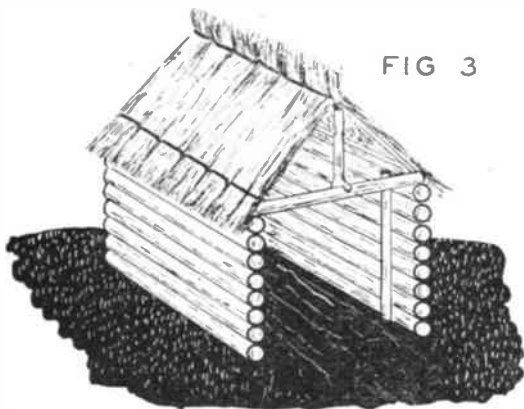


FIG 4

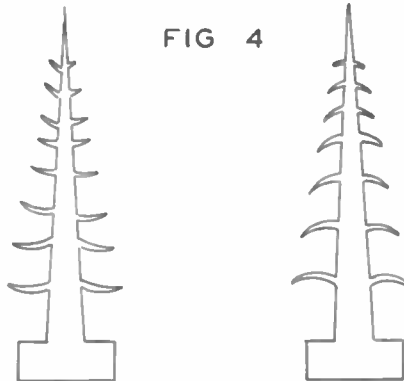


Fig. 1 shows the different stages involved in making human figures, a woman being the easiest. At B you will note that a cut has been made around the circumference for the shoulders and waist, the surplus material being

to shape. If you attempt to drill after shaping you will most likely split the wood. Use ordinary steel pins for attaching the arms to the body, and if you cut off the heads, leaving a quarter of an inch of the pin, it will be quite sufficient

practise this first on a spare piece.

Houses and log cabins can be made from either half-round section or round dowel rods. Make the sides by fastening to strips on the inside as shown in Fig. 3, joining together by cross-bars. You will also need 'spars' to support the roof, and these can be made from cardboard and either thatched or covered with half-round material. When doorways or windows are cut out you will require further reinforcement by strips of wood on the inside.

Trees of all kinds can be fashioned from dowel rod and to create variety the foliage may be either curled upwards or downwards. Here again you should leave a pedestal base and whittle off to a

• Continued on page 419

WITH ROD & LINE

WHOEVER heard of a fish talking? Sounds incredible, but it may interest you to know that submarine listening devices which were used during the last war were able to pick up fish noises. It has since been proved that these noises are understood by other fish. Since then, quite a lot of research has been done and numerous experiments carried out, particularly by one large American firm of tackle makers.

LURES WITH A TINKLE

By 'Kingfisher'

They have discovered that sounds or notes in the very high register and those which are of the basso profundo order will very quickly scare fish away.

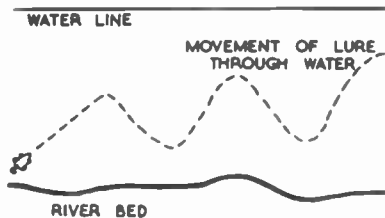
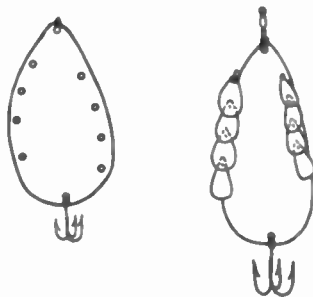
There is a wide range of sounds in between the two extremes which are attractive to fish — sounds which make them curious to discover the source. This firm has produced and is selling an instrument which is used in the far north by fishermen who have to 'fish for their dinner', as it were, and the gadget has proved a great success.

A hole is made in the ice and the instrument is lowered into the water. Movement makes it produce the right sounds and the fish gather round, see the bait, and are caught. The firm has also gone into the subject of sound producing with lures such as are used by the average angler who fishes for the sport, and they have put on the market a very comprehensive range of these lures.

In their literature they say that the things shown in their catalogue can be made without infringement of Patent Laws and therefore I propose to describe one of the simpler ideas which is calculated to improve your catch of pike or perch.

For the experiment you can use one of the spoons from your tackle box and the first job is to remove the treble hook for safety reasons. Then drill four or five

small holes along the edges of the spoon, near enough to the edge to take small split rings.



The next job is to cut some small pear-shaped pieces of metal and these must be drilled with similar holes to those in the edge of the spoon. These should be of a

● Continued from page 418

WHITTLING AND CARVING

pointed top as shown in Fig. 4. The foliage is produced by slicing the main trunk in either an upward or downward direction, which has the effect of making the leaves turn in one way or the other. These slices should be started either at the tip or at the base according to the direction of the cut, and should be made at irregular intervals throughout the length of the trunk.

Where larger objects are involved, you will require stouter pieces of wood, cut from small logs or trees. See that the wood is quite dry before attempting to whittle.

If you are making a farm, carts can be made from dowel rods while the wheels

size which will enable them to overlap each other when fixed to the spoon so that as they are fished they will knock together and produce the tune which will 'call' the fish.

The way to fish this spoon is by the 'sink-and-draw' method. First of all you make your cast and allow the spoon to sink well down in the water. When you think it has gone far enough recover a couple of feet or so of line as rapidly as you can and this will bring the spoon up in the water and will also flatten the 'tinklers' against the spoon so that the first sounds will be given out. When you cease to recover line the spoon will sink down again and the water pressure will push the 'tinklers' upwards and against each other and the spoon, so that you have another series of sounds. Repeat the performance until the lure is back at the bank.

The sketch gives a fair idea of the performance of the spoon during this 'stop-and-start' method of recovery which is the effect of 'sink-and-draw' motion when using a dead fish as bait. This movement is an imitation of a sickly or wounded fish, for which pike and perch are always on the look-out.

Angler's encyclopaedia

Colin Willock will earn the praise of all anglers who read his book. It is the 'Angler's Encyclopaedia' and is in alphabetical form. Covering sea, game, and coarse fishing it is a mine of useful information. It is written in an easily understood style and is therefore the ideal book for a youngster. At the same time the expert angler will find plenty of material which will be of interest to him and there are many things explained which may help to better fishing.

Published by Odhams Press at 21s. I regard this book as a 'must' for every angler's bookshelf.

are shaped from pieces sawn from logs, trued to make them circular. Drill a hole in the centre and use a dowel rod for the axle. Lumber carts and tumbrils are fashioned very easily if the dowel rods are joined together and a few cocktail sticks stuck in vertically for the sides, the wheels being attached as mentioned. The farmer's wife will require clothes posts and props for the washing, while the farmer will require all manner of equipment such as milk churns, wheelbarrows, and carts.

With a little practice plus a really sharp knife you will soon be able to make all manner of novelties from odd pieces of dowel rods and logs.

Cut Glass like a professional

SOME handymen are a bit doubtful about their capabilities when it comes to cutting glass, but provided a few simple rules are observed, there is no reason why they should not make as successful a job as the professional glazier. And this need not involve the purchase of expensive diamond cutting equipment, as quite efficient tools both for straight and circular cut-

clean before attempting to cut. If there is a coating of dust or grease or a grimy film on the surface, you cannot get a clean score.

The surface on which the glass is to be cut must be perfectly flat and preferably it should be laid on several layers of newspaper. A straightedge about 2 in. wide is used in cutting. When measuring off, do not forget to allow for the offset of the glasscutter wheel in its frame. Usually this is about $\frac{1}{8}$ in., but may vary with different types of cutters. You should check to make sure before measuring off. Also if there is any doubt about the squareness of the piece of glass you are to cut, check the corners with a square.

With a straightedge positioned, place the wheel of the cutter at the edge of the glass away from you. Hold the

along the cut, but if there is any gap in the score made through hesitancy, or a skip at any point, the glass will possibly break short. Slots are also provided on glasscutters for breaking off thin slices of glass (see Fig. 2).

When cutting glass for window panes it should be noted that at least $\frac{1}{8}$ in. should be allowed for the expansion of the glass and for bedding in the putty.

Circular panes of glass are easily cut



Fig. 1

ting can be obtained for a few shillings.

The main aim in cutting glass is to obtain a clean, sharp score to a uniform width and depth throughout the length of the cut. And as any glazier will tell you, do not be afraid of it—make the action quickly and firmly. If you fulfil this single requirement, then you should get a perfect break every time.

Apart from this provision, there are one or two simple preparatory steps which should nevertheless be carefully attended to. Many people make a mistake in the method of holding the wheel-type glasscutter, which can be obtained as a single wheel or with six wheels contained in a turret head type. The latter type, of course, allows for selection of another wheel when the one in use is no longer so effective. Note that in Fig. 1 the handle of the cutter is held between the *first* and *middle* fingers — not the thumb and first finger. This hold gives the maximum control over the tool when making the cutting or scoring stroke. The thumb rests underneath the instrument to give greater control. Also, when cutting you will find that the tool will have more effect if held at a slight incline, particularly when working against a straightedge.

The sheet of glass must be perfectly

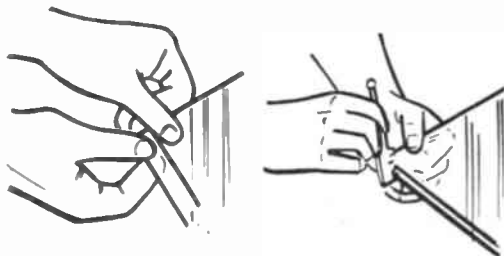


Fig. 2

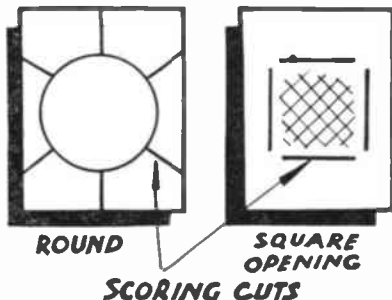


Fig. 3

cutter as shown in Fig. 1 and make the cut along the straightedge in one sweeping stroke, keeping light and uniform pressure on the cutter and holding the straightedge firmly in place with the other hand. Note that one cut is sufficient — do not go backwards and forwards over the same line.

When the score has been made, pick up the sheet by a corner and grasp the edge with both hands with a thumb and forefinger on each side of the score. Use a light breaking pressure to snap the sheet into two pieces along the cut. If this has been correctly made in a continuous line, the sheet will break right

with a circular glasscutter as illustrated. After the circular cut has been made, straight cuts are made from the four edges of the sheet, as shown in Fig. 3. Thin fractures are started by tapping lightly with the ball end of the glasscutter handle on the underside of the sheet and directly under each straight cut. Once the cracks are started, the pieces can be broken away, leaving the circular pane.

A square opening in a sheet can also be made as shown in Fig. 3. First cut the outlines of the opening, but note that the cuts are not completed to the corners. Next tap the underside of the glass at the centre of each cut. Then make the diagonal cuts in two directions as indicated. Tap these from the underside and it will be a simple matter to knock out the centre square. Break away, with pliers, any triangular corners that remain, and finish off rough edges with an oilstone.

The methods described apply not only to window glass in various gauges, but also to plate glass. If you have occasion to cut glass which comes with one side embossed or otherwise patterned, the cuts should always be made on the smooth side.



Strong composition handle and six-wheel turret.

Price 2/9 (post 4½d.)



Cuts circles and can also be used for straight cuts. Three cutting wheels.

Price 8/6 (post 6d.) from Hobbies Ltd., Dereham, Norfolk.

DRY-MOUNTING YOUR PRINTS

THERE is little doubt that the easiest and quickest way of mounting photographs is by the dry-mounting process, and although special presses with heated flatbeds are used commercially and there are small flat-irons for this purpose, we can use the ordinary domestic electric iron with every success.

All you require is a packet of special mounting tissue, sold under proprietary names, and made in several sizes to fit your pictures. While we will describe the method of mounting more fully the

spoon handle. It is warmed — only moderate heat — over a gas ring, held by the spoon end and then touched on the tissue. Trimming is now done according to your wishes.

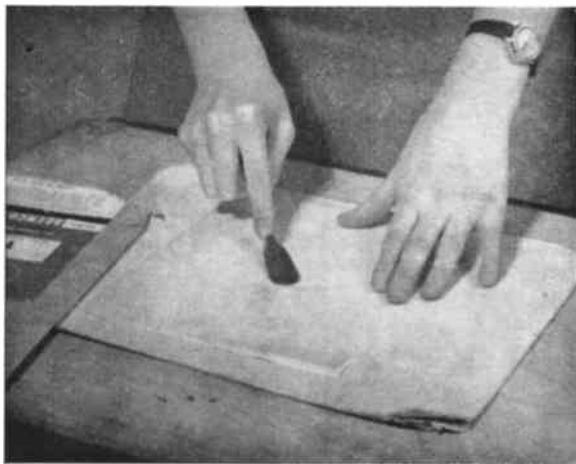
By S. H. Longbottom

You are now ready to mount on a board or on an album page. The iron is used at the same heat as before and the mounting board laid on a flat surface.

the book along as you proceed and finally placing under the glass.

If the iron is too hot the tissue will adhere to the mount but not to the picture. Reduce the heat by switching down the iron a degree or by using three sheets of greaseproof paper. If the iron is not warm enough you get the reverse, when the tissue sticks to the picture but not to the mount. Here we either switch up the heat or only use one sheet of greaseproof paper.

Once you have experienced the benefits of dry mounting you will find it is a



A tissue being fixed to the back of the print by means of a warmed spoon handle



The picture has been laid in position on the mount, covered with grease-proof paper and the iron applied

practice is nothing more than the bonding of a print to a mount by means of a thin, resinous tissue sandwiched between the two, applied heat being used to effect the fusion.

Ensure dryness

When your print is finished and ready for mounting first ensure that it is bone dry. This is done by placing the picture between a double thickness of grease-proof paper and ironing with a moderately hot iron. The mount must also be thoroughly dry and subjected to the same precautionary measures. The control switch of a thermostatically controlled iron should be set to the position marked SILK. If the iron is kept moving there is no possible danger of scorching.

The tissue is now attached to the back of the print and this is done by touching the tissue momentarily with the tip of the iron approximately in the centre. This is to keep the tissue and print together while trimming; I use an old dessert-

Position the print so that the margins are equal and the sides parallel with the sides of the mount. While holding the picture in this position carefully cover with a double thickness of greaseproof paper. Apply the iron at one end and slowly proceed to the other without pressure but using a slow, gliding action. We must not make any impressions of the iron on the picture hence the necessity for a flat surface, minimum pressure and continuous but slow movement.

When the print has been mounted and appears quite flat it is immediately placed under a sheet of plate glass where it should remain for about five minutes until cool.

I have discovered that some lightweight papers — such as album leaves — may buckle a little but the use of a heavy book for weighting will counteract this. The practice is to apply the iron as mentioned and when a few inches or so have been treated push the book into position so that it covers the mounted portion. Continue with the iron, pushing

great improvement on the messy process of mountants. Moreover, the tissues are very cheap, last indefinitely and do not dry up like so many paste mountants.

ANSWERS TO QUIZ (see page 416)

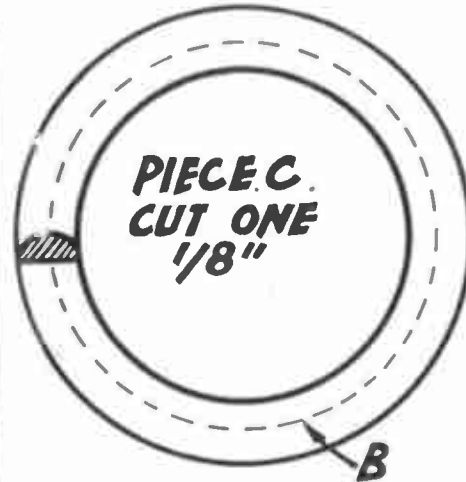
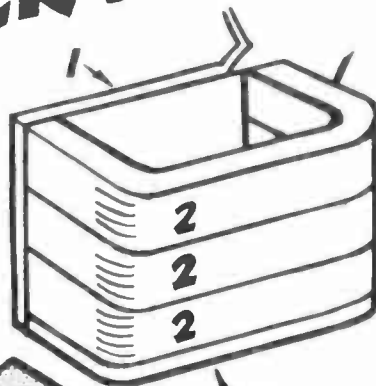
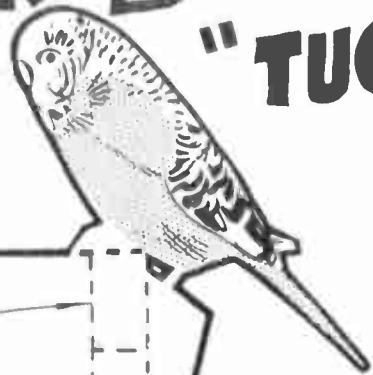
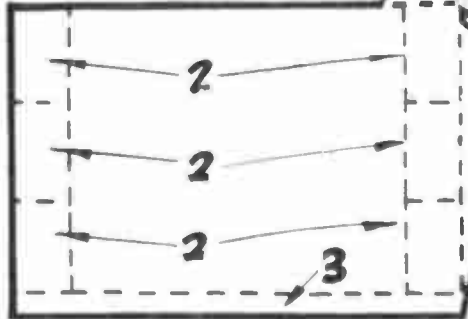
1. Dovetail Joint.
2. A — 0-234; E — 0-250; I — 0-272; O — 0-316; U — 0-368.
3. Gazebo.
4. Lunette.
5. The under surface of an arch, cornice window, or door head.

BRIGHTEN YOUR 'BUDGIE' CAGE

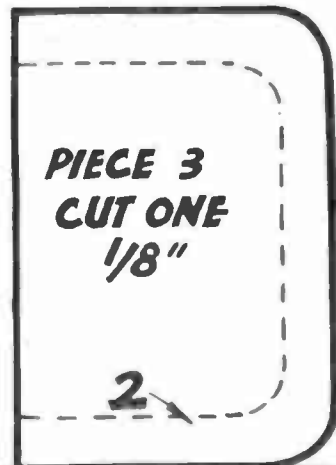
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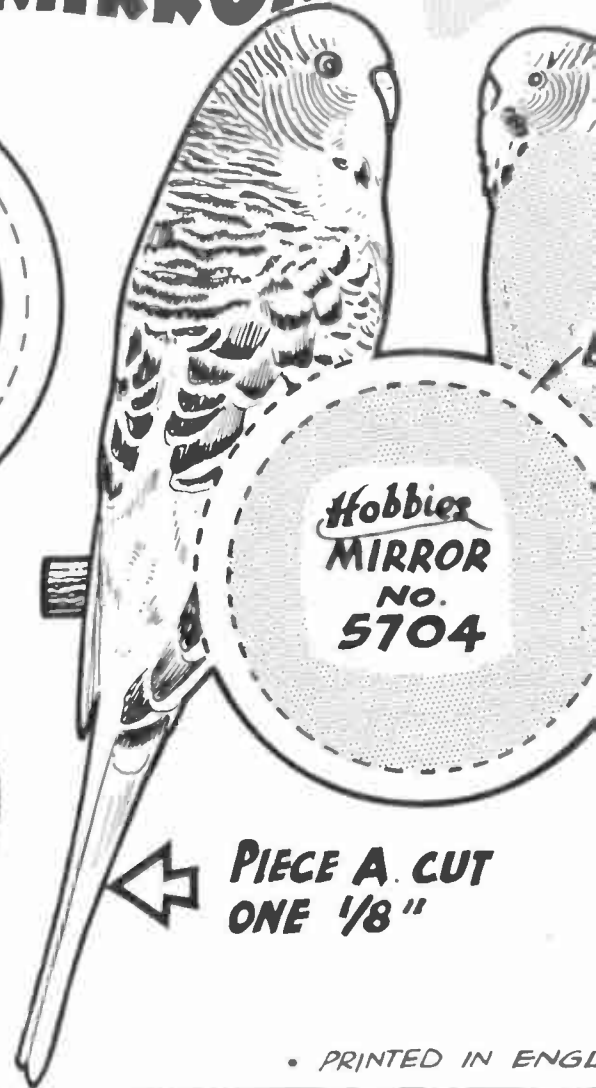


PIECES 2
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YOUR OWN PET
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Hobbies
MIRROR
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PIECE A. CUT
ONE 1/8"

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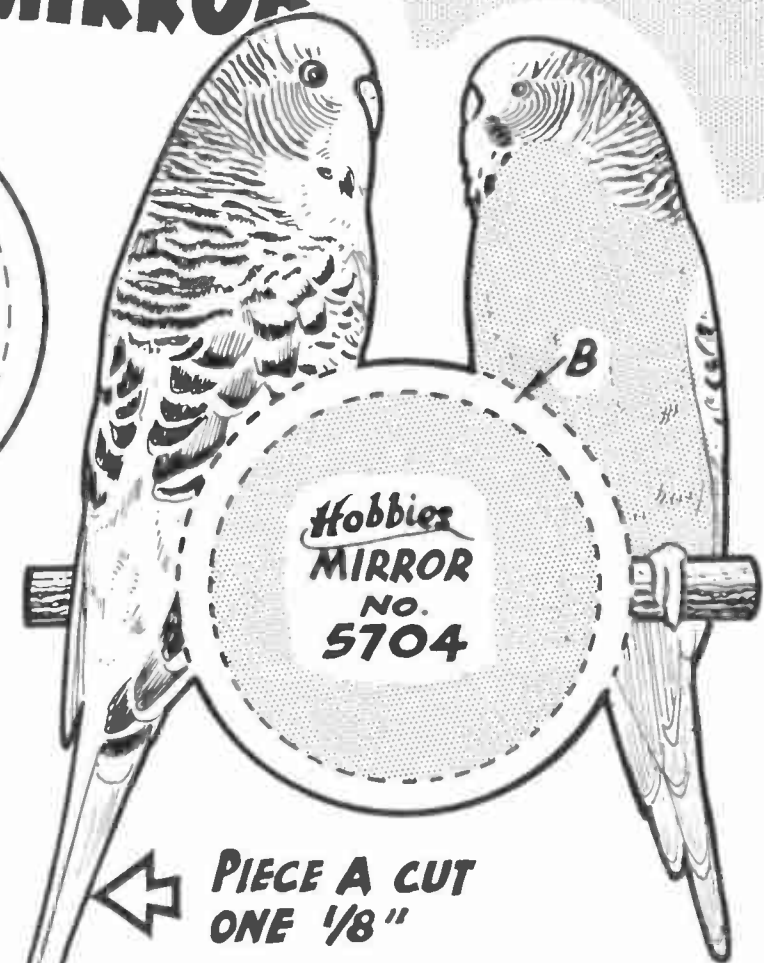
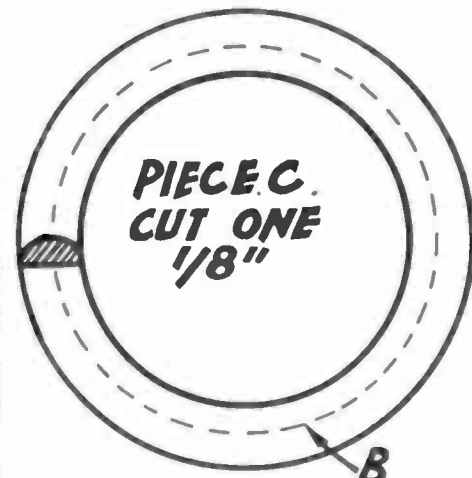
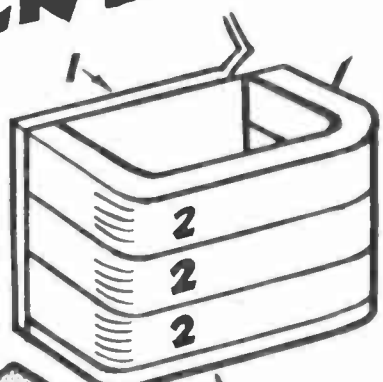
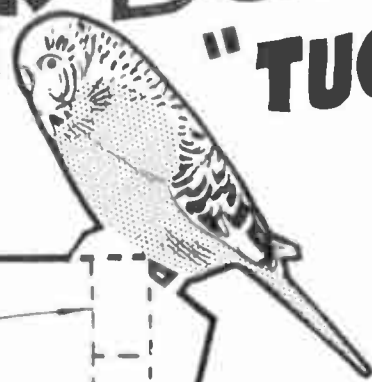
OUR "BUDGIE" CAGE

**WITH THESE TWO
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"TUCK BOX" & "VANITY MIRROR"

CUT



PIECE A CUT ONE 1/8"



**COLOURS
CAN BE
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• PRINTED IN ENGLAND •

CYCLE CAMPING IS FUN

CYCLE camping is good fun, but you need to be particular about choosing your equipment. Your luggage should be as light as possible, consistent with your requirements.

Do not, however, omit a waterproof cape. Our climate is notorious for quick changes in the weather. Even if it does not turn out showery, the cape thrown over the machine at night will protect it from dew.

Carrying the kit is always a problem for the beginner. But do not be tempted to pile a loaded rucksack or pack on your back. This is not only uncomfortable for the cyclist, but can be positively dangerous and apt to cause the rider to 'wobble' just as a vehicle is passing.

If at all possible, pack all your kit on the bicycle. Make a list of what you need and check it over to see that you have all necessities but no luxuries to add weight. For a weekend, a large touring bag will hold all that a 'solo' camper requires; but for a longer tour pannier-bags are suggested; panniers must be evenly arranged over the rear wheel or they may upset the balance of the machine when 'cornering'. They are better if fitted to a carrier with side pieces.

Pack the panniers evenly. If saddlebag and panniers are used, the tent should be stowed in the saddlebag, if you can manage to squeeze it in, as it will then be easily accessible. Some campers make do with secondhand army packs, but these do not fit over the rear wheel so well as proper panniers. An alternative is to put the tent into a waterproof container and strap it on to the back carrier.

Pack securely

Poles, if they do not fit into the container, should be strapped along the top tube. Always pack tent pegs and ground-sheet last, so that they are easily accessible on arrival at the camp site.

After having packed your heavier kit on to the rear carrier, any excess kit can be loaded into a haversack and accommodated on a front carrier, but do not put too much weight over the front wheel as it will affect the steering. Make sure that everything is packed securely and fixed on the machine so that it does not shift at all.

If carrying food, this must be stowed separately, wrapped in grease-proof paper and then in a container; also be sure not to put the spirit or oil for your little stove alongside eatables; it should be carried separated from other kit.

It is advisable to have an 'S' hook clipped to the top tube of your machine

and two guy lines which you attach one on each side of your cycle on arriving at the camping pitch, and peg down, so that it stands upright for packing or unpacking. You will find this a great help.

The tent should be of lightweight material of a handy type, easily erected. A bivouac pattern is best. Jointed poles are advised and light wood pegs — iron skewers are apt to pull out of the ground if the wind gets rough. Kit should weigh between 24 lb. and 26 lb.; if two pals are joining forces the kit may be around 34 lb. evenly divided.

You will need a suitable sleeping bag and blanket, waterproof ground-sheet, and cape. Also toilet requisites, pyjamas, cooking utensils — unless you intend to eat out of camp; even then you will need stove and kettle etc, for breakfast. If you are camping far from a village, wayside café, or farmstead, you will have to take sufficient foodstuffs and things required to cook with; but keep to simple necessities and have all your items small and

light. Mug, plate, etc, should be of unbreakable material.

Items such as soap, matches, spare socks, first-aid compact, etc, will go into the container on the front carrier. Map, camera, cigarettes, and spare handkerchiefs can be carried in your pockets.

It all sounds difficult, and you may wonder how you are going to stow all the stuff away without it being too bulky. A little practice will help you to straighten it all out, and you will find the different things fitting into place.

The rules of camping

You will, of course, conform to the rules — written and unwritten — of camping. The cycle-camper, touring from site to site, does not need to obtain a licence; but he must comply with any regulations pertaining to the different sites on which he may wish to pitch his tent. Never camp on private lands without permission. (E.)

ELECTRIC GUITAR ATTACHMENT

WITH the present craze for guitar music unabated, the small fitment described, which will provide electric modifications, may prove of interest. Briefly, it consists of a small carbon microphone insert fitted to the guitar, as shown. These small inserts are readily obtainable from ex-Service equipment Stores, of which there are several up and down the country.

The one used by the writer cost the modest sum of sixpence. The only other 'apparatus' needed is a small three-volt cycle lamp battery, a miniature mike transformer suitable for a carbon mike (also quite inexpensive), a small on/off switch, and a length of 2 amp. bell flex.

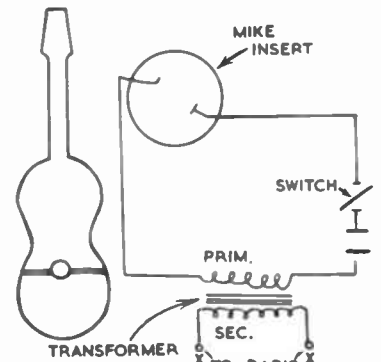
First attach the mike insert to the underside of the guitar, with the perforated side to the guitar casing. This is best done with an adhesive tape.

A length of bell flex is then soldered (not stuck) on to the two contacts at the back of the mike insert, and the switch, transformer primary, and battery are series-connected by bell flex. Alternatively, the small on/off switch may be fixed by means of two very small wood-screws to the base of the guitar.

As will be appreciated, some form of

amplification will be necessary with this attachment. However, if the two leads marked X are taken by means of two small plugs to the two sockets marked P.U. (pick-up) on the domestic receiver, quite good results can be obtained.

For party entertainment, or purely as an interesting experiment, this arrangement, though not original, will prove worth while. (S.G.W.)



Floodlight effect

A CHARMING CORNER NOVELTY



HERE is a little fitment to brighten a gloomy corner in the home, and achieve a pleasing coloured floodlight effect.

A glass flower vase is placed on a wooden stand in which is concealed an electric lamp. When the current is switched on, the water in the vase begins to glow with a variety of ever-changing colours. Pink merges into mauve, mauve to purple, followed by blue, green, yellow, orange, and so on. The effect is really beautiful, and most fascinating to watch. To the uninitiated, the way in which the colour tinges the water is a mystery!

Actually, the effect is quite simple to produce. The colours are painted on a disc of celluloid, which is balanced on a pivot directly above a 60 watt electric lamp. Heat from this lamp, rising up-

wards through a number of flanges cut in the celluloid disc, causes it to revolve slowly. The colours produced by the painted disc are reflected by a sheet of white card into the water of the vase. As the disc slowly rotates, so do the light rays, infusing the water change in colour.

By T. Holloway

The materials required are few and inexpensive, comprising a 3 in. disc of celluloid (or similar plastic material that will not warp with heat), a 60 watt lamp complete with batten-holder and flex, a piece of stiff white card, and any odd wood for making the stand.

The coloured disc

Mark and cut out a circle of celluloid 3 in. in diameter. The next step is colouring. If you find that water colours, or transparent colours such as used for tinting photographs, do not 'take' readily to the celluloid, first heat the celluloid, and apply the colours while the material is still warm.

Four colours were used in the model illustrated — red, blue, yellow, and green — the intermediate shades being produced by reflection in the water. Coloured inks may be used.

Twelve slots, each about $\frac{1}{2}$ in. by $\frac{3}{4}$ in., must now be cut around the edge of the disc. As you will see from Fig. 1, only two cuts per slot are made, as the flange has to be bent upwards at an angle of approximately 45 degrees. The dotted lines in the diagram show where the cuts and bends have to be made. You may find celluloid a rather difficult material to cut, but a small chisel will make the task easier.

Having cut and bent the twelve flanges upwards, the flanged disc should now be encircled by a strip of card about 1 in. deep. This is necessary in order to trap the maximum amount of heat rising from the lamp, and conduct it through the flanges. It is the uprising current of warm air passing through the flanges that causes the disc to rotate. As you see from Fig. 2, the disc is balanced on a wire pivot projecting from the inner wall of the stand. The end of the wire should be filed to a point, and care

should be taken to ensure that the pivot-point is in dead centre of the disc.

Making the stand

Fig. 2 gives a general idea of the construction of the stand. Four legs of $\frac{1}{2}$ in. wood form the framework, and the outside panels could be of plywood or stout card. The upper section of the stand (to which the white cardboard reflector is fitted) is made as a separate unit, and is not a fixture, but merely rests in place, as its position may need adjusting.

Between the rear edge of the projecting shelf (on which the vase stands) and the white card reflector is a strip of cardboard spanning the width of the top of the main stand. In it should be cut a slot about 4 in. long and 1 in. wide. It is through this slot that the coloured light rays pass to reach the white cardboard reflector.

The piece of slotted card should not be made a fixture, for by moving it nearer or further from the centre axis of the revolving disc the speed of colour change can be altered — e.g., if the slot is situated above the centre of the disc, the colour changes will be slower than if the slot is situated above the outer edge of the disc. You will have to experiment with the size and position of the slot to find which arrangement gives the best results.

Dimensions of the stand are not critical, but an overall height (including the upper section) could be about 15 in. and the base 9 in. square.

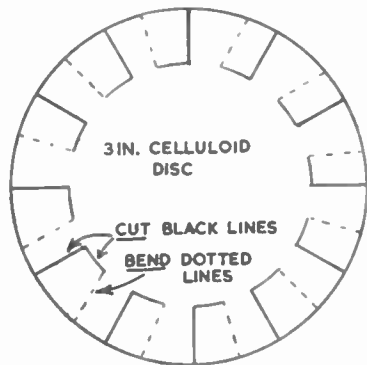


Fig. 1—How to make the flanges

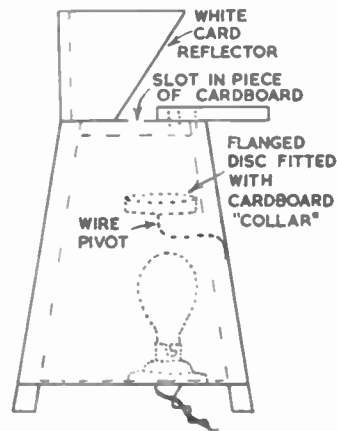
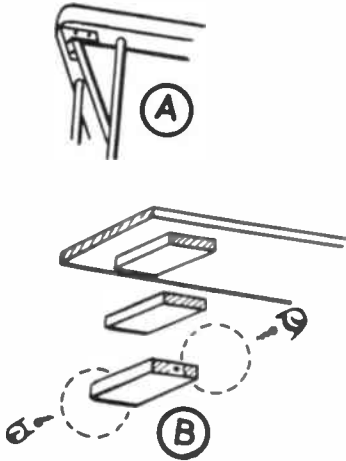


Fig. 2—The assembly

MAKE A STURDY TOY TROLLEY

ATROLLEY which is sturdy and attractive is an easily-made toy. The base is a 2 ft. by 1 ft. piece of $\frac{3}{4}$ in. thick blockboard, and the spars are 8 in. lengths of $\frac{3}{4}$ in. dowelling. The upper rail is 1 in. by 1 in. wood, and the axle beams are made from 2 in. by 1 in. wood.

First, the four pieces of 1 in. by 1 in. wood forming the upper rail are cut to



size. The two sides are each 25 in. long, and the ends are 15 in. long. The ends are mitred at 45 degrees to form the corners. The four sides are assembled separately before being fixed to the base.

Each side rail has five spars, one in the middle and the others spaced out from it at 4 in. intervals. Each end rail has three spars, one in the middle and one on either side, 5 in. from the centre spar.

Holes, each $\frac{3}{4}$ in. in diameter, are drilled in the underside of each rail to take the spars. These holes are angled slightly towards the inner side. The spars are glued in place in each of the rail sections, and these are left to dry.

The holes in the base are all made 1 in. in from the edge, and are angled slightly outwards. First, a hole is drilled in the centre of each longer side, and the two holes on each side of it are spaced at 4 in. intervals. Three holes are drilled at each end of the base, one in the centre, and one on either side, 5 in. away.

The spars sections are each glued and tapped into place, and the corners

By
A. Liston



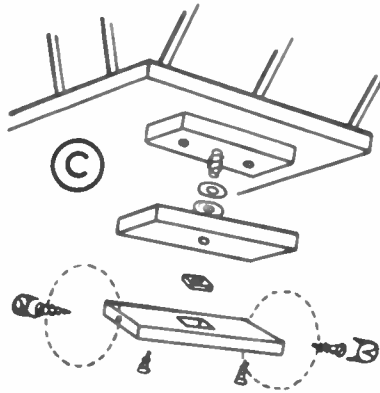
of the upper rail screwed together and strengthened with brass repair plates on the underside, A.

A 9 in. length of 2 in. by 1 in. wood is screwed to the underside of the base, 2 in. from the rear of the trolley. A

each screw on the wheels to act as a 'hub cap' and hide the screw. The section with the wheels attached is screwed to those already in place, and the rear wheels are complete, B.

The front wheels are assembled as follows. An 8 in. length of 2 in. by 1 in. wood is drilled in the centre to take a 2 $\frac{1}{2}$ in. bolt, which is countersunk into it from above, C. This piece of wood is screwed to the underside of the trolley, 2 in. from the front. A 9 in. length of 2 in. by 1 in. wood is drilled to take the bolt, and after two washers have been put in place, this wooden section is pushed over the shank of the bolt and the nut tightened until the axle swivels without any 'play'. Another 9 in. length of the same wood is fitted with 4 in. wooden wheels as before. A hole is made in the middle of the wood, large enough to accommodate the nut but so as to prevent it from turning, and this section with wheels attached is screwed to the axle beam already in place.

A 2 ft. shaft of 1 in. by 1 in. wood, hinged to the front axle, completes the trolley. All sharp corners should be rounded off and the trolley varnished, except for the wheels, which can be brightly coloured with black 'tyres'.



similar piece is screwed to this, while a third piece is fitted with a pair of 4 in. wooden wheels, secured by 2 in. screws. A furniture glide is tapped in place over

WHICH IS THE MAGNET?

TRY your wits with this seemingly simple problem involving a magnet. Obtain an identical pair of darning needles and magnetize one of them by stroking it with a bar magnet. Turn away while you lightly throw down the needles upon the table. You should not be able to recognize the needle you magnetized. Now, how can you discover which of the two needles is the magnetized one, without using any other apparatus?

Unless you remember the elementary property of magnets which will enable you to solve the problem, you may be completely baffled. Attraction will always occur when you place the needles end to end and you will be no wiser if you lay

the needles alongside each other. If you are stumped, be reassured by knowing that very clever men have been unable to think of the answer.

But do not remain in suspense. Here is the method you must employ. Place one of the needles upon the table and try attracting its middle with the other needle. If you are able to do this, then the needle which you are holding will be the magnetized one. Conversely, if the needle you are holding will not attract the middle of the other one, the needle upon the table will be the magnet. The power of a magnet is concentrated at the poles, while there is virtually no magnetism in the middle.

(A.E.W.)

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Mainly for Modellers

IN following our study of mediaeval ships, we find that the carrack types of the Mediterranean seas became the design which basically formed the pattern for the building of the later three-masted vessels.

The castles at stern and bow, from being merely temporary structures, became an integral part of the hull, forming the poop and forecastle we find in the later galleons and ships of the 16th century. In addition, the gangways along the sides of the ship became complete decks.

WOODEN SHIP BUILDING—12

By 'Whipstaff'

As we come to the 16th century we find that the introduction of the larger guns for use at sea resulted in an increase in the number of gun ports cut in the side of the ship, these being evidently developed from the earlier cargo ports cut in the ship's quarters and sometimes fitted with port lids. This period also saw the transition to the square tuck beneath the wing transom.

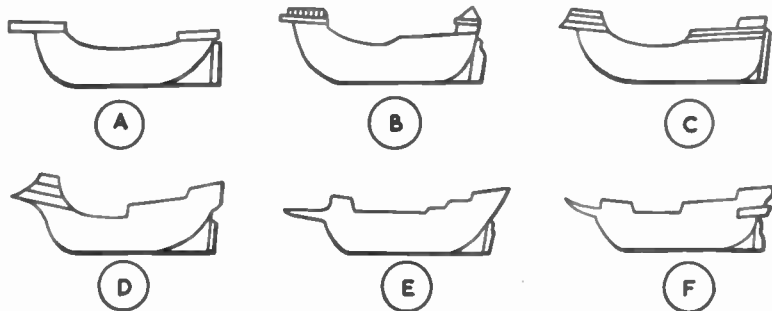
The next hull form to emerge from the carrack was the galleon type. This being longer and smaller in beam, it differed in the bow, the first form being the long galley type of beak. But this was not successful, and it became a compromise

between the beak of the galley and the forecastle of the carrack, forming the characteristic galleon beakhead. The square castle of the carrack during this period became the triangular forecastle of the galleon.

The beginning of the 15th century saw the introduction in Northern waters of ships carrying more than one mast, and with the decision of several countries, including our own, to build 'Royal Ships', we find a great increase in the size of individual vessels. About the middle of the 15th century we find the first of our references to a ship with three masts.

At the time of the introduction of the three-master, the Northern ships were mainly clincher built and mostly double-ended, both the bow and stern being bluff-shaped. Here we find that while the stem curved up from the keel at its forward end, the stern post had been straightened to form a firm support for the rudder, the space between the planking and the stern post being filled up with deadwood. From the level of the upper wale, the stern planking curved in to meet a horizontal transom. Above this the stern portion of the castle overhung the water.

The castle at this period, as shown in two of Hobbies miniature models, 'The Warwick' (Kit No. 3164) and the 'King's Ship' (Kit No. 3108), was built of straight timbers in the ordinary carpenter's way of building houses. This erection thus sat quite unsuitably above the curve of the upper wale, the resulting spaces having to be filled in with planking that did not form part of the hull proper. This box-like type of structure survived for some considerable time in the 'flutes', a Dutch



15th and 16th century hull shapes, showing stages in development from the carrack (A, B, C, and D) to the early galleon with its galley type beak (E). The hull of an Elizabethan galleon—the true galleon shape—is shown at F.

type of vessel, and in the 'Cats' of the Baltic. The ships of this period did not appear to have a main deck running continuously throughout the length of the ship, but were divided into sections — the bow, the waist and stern — each section being decked at the most convenient height to suit the purpose it had to serve.

King Henry VII gave a great forward movement to the building of ships for Naval purposes and much information is available in his Naval accounts. It was from these accounts, supplemented by information from other authentic sources, that my own information was derived when I built my second model of the 'Great Harry' from Hobbies Kit No. 2262, and was later used when writing my series some time ago on the building of the model in this magazine.

At the beginning of Henry VII's reign we relied mainly upon hired merchant vessels, converted for Naval use, but later he commenced the building of large Naval ships, such as the 'Regent', the 'Holy Ghost', and the 'Sovereign' (not to be confused with later ships of that name).

At the beginning of this century, English ships were still clincher-built, that is with overlapping planks. They had round sterns and what guns were carried were sited in the upper works, the poop and forecastle.

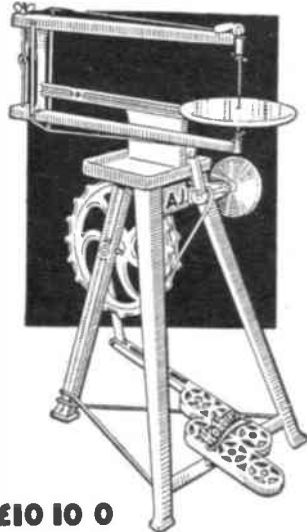
From about 1520 to 1525 A.D. the building was carvel, that is the planks butted against one another edge to edge and the transom at the stern became square. This square stern afterwards had two gun ports cut in low down to accommodate the guns used as 'sternchasers'.

This development of the Navy was carried on under Henry VIII, by the end of whose reign the larger men-of-war carried a continuous line of guns on the lower deck. After the re-building of the 'Great Harry' in 1540, she showed two complete rows of guns below the waist.

In my sketches I have tried to show the development of the hull shape during the period we have been studying, in which the characteristic carrack shape develops into that of the galleon, which reached its peak of popularity during the reign of Elizabeth I, and into the early part of the 17th century.

We now enter the period when much more authentic information is available to us and in considering the vessels of the Elizabethan and Stuart periods I shall be able to draw on early manuscripts and reprints of early works on naval architecture as well as my own notebooks. We shall, therefore, be able to study in greater detail the period which covers most of our Hobbies Old Time Ship Kits. This I feel will be of great interest to our many readers who enjoy working with these kits.

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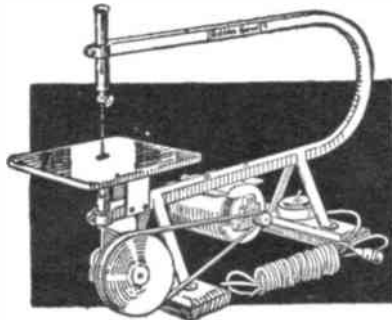
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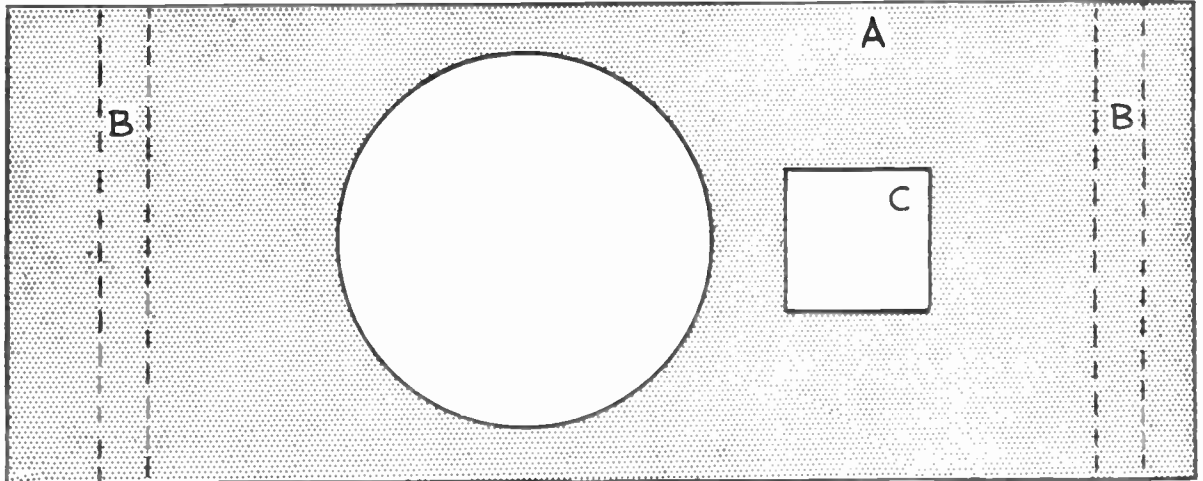
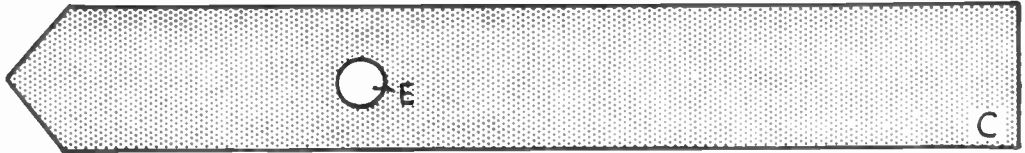
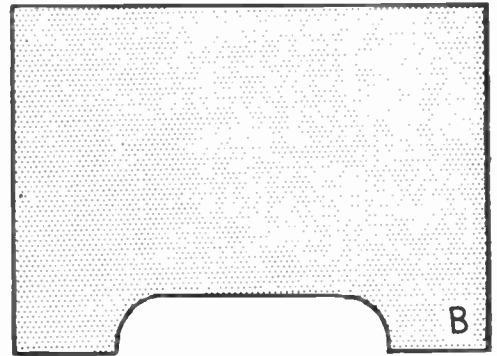
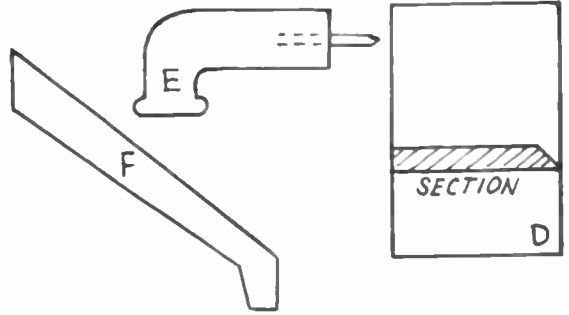
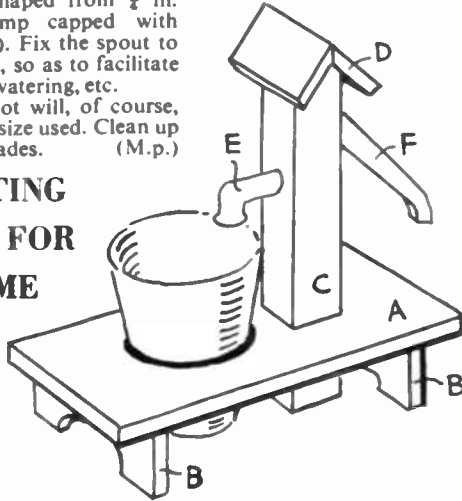
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