

HOBBIES WEEKLY

IN THIS ISSUE

	Page
Efficient Episcopes - - - - -	225
A Portable Rack for Your Tools - -	227
A Storage Rack for Vegetables - -	228
Stamp Collector's Corner - - - -	229
Two Popular Crystal Set Designs -	230
An Easy-to-Make Wall Bracket - -	231
Patterns for Toy Horse and Cart -	232
A Name-Plate for Your House - -	234
Replies of Interest - - - - -	236
Patterns for the Wall Bracket - -	239



JANUARY 12th 1955

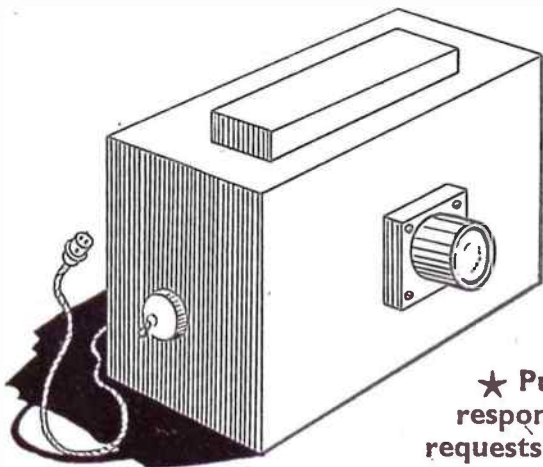
VOL. 119

NUMBER 3089

Full instructions for making an

EFFICIENT EPISCOPE

By F. G. Rayer



★ Published in
response to many
requests from readers

THIS episcopes can give very good results, yet the construction is very simple and straightforward. For those not familiar with this type of projector it may be pointed out that any matter such as photographs, picture post cards, book illustrations and so on, can be thrown enlarged and in natural colours on a screen. Children can make up very good strip cartoons by cutting out the coloured series of pictures which appear in good-class comics, and these are very effective when projected on to a screen.

As the episcopes stands, the projected image is reversed. This is usually of no

importance with pictures alone, but is not satisfactory when printed matter is included. In order to obtain an image the correct way round, the episcopes may be turned so that one side of it faces the screen. A mirror is then placed at 45° before the lens, to reflect the image on to the screen.

A second method, suitable for small screens, is to use a sheet of ground glass, and to view this from the opposite side. This gives a very bright image.

Materials Required

The whole body is of wood, and $\frac{1}{2}$ in. thick material will be necessary if the

pieces are sawn out to the dimensions shown. As the back is shorter than sides and front, a gap is left here, at the bottom, the piece of wood forming the bottom of the lantern being raised lin. This leaves room for the bulb holders and connections, and also allows air to pass in and up through holes near the holders.

The reflectors shown in Fig. 1 consist of 1lb. size polished cocoa tins. The lids are removed, and nearly half the side is cut away. The bottoms are left intact and have holes cut in them for holders and ventilation. The ventilation holes must match up with similar holes in the bottom of the lantern. The tins are held in place by the lampholders. They serve to concentrate the light on the picture, keep light off the lens, and reduce heating of the front and sides of the lantern.

The wooden items can be fixed together with thin panel pins. The lantern top is removable to gain access to the bulbs. This can be arranged by fitting four small strips to the lid inside,

All correspondence should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk

For Modellers, Fretworkers
and Home Craftsmen



1/4 in. from the edges. Directly above the bulbs a number of 1/4 in. holes are drilled to permit the hot air to escape. The light trap (a shallow box with open back) is made up to fit over these holes.

Fig. 2 shows how the holders are connected. Good quality insulated flex should be used. The lampholder covers are threaded on the wires before connections are made, and may then be screwed in place to cover the terminals. A fairly long flexible lead is best, terminating in an adapter or whatever type of mains plug is required. Leads to the switch pass up through the bottom of the projector, and through small holes in the side.

Lamps, Lens and Mount

The brilliance of the projected picture depends primarily on the lens and lamps. If only a small screen is to be used, lamps of quite low wattage will be satisfactory. For example, 40 to 60 watts each, for larger screens, 75 or 100 watt lamps are best. Even more powerful

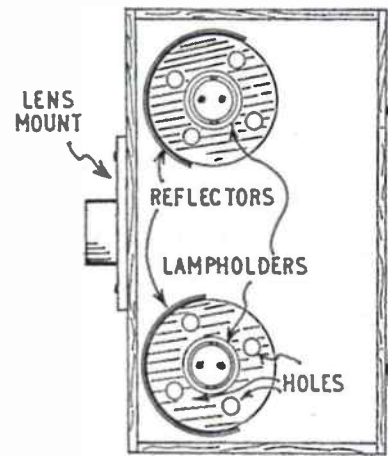


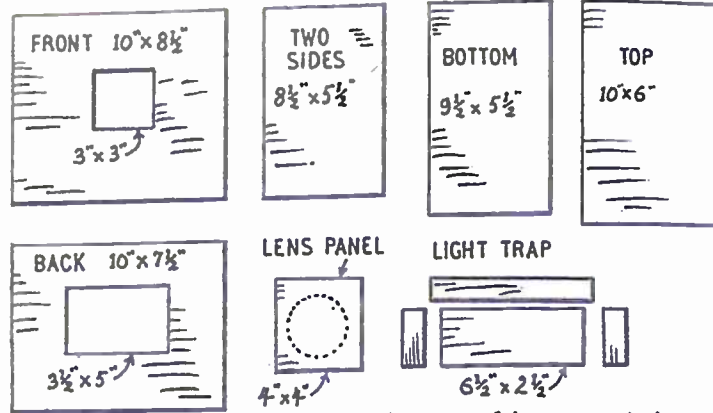
Fig. 1—The episcopa with top removed

lamps may be used, but heating may then be troublesome unless plenty of air circulation is possible. A single lamp may be used, but two are preferable, for more light and even illumination.

The aperture of the lens also considerably influences the brightness of the picture obtained. Very small lenses are not satisfactory, as only very little light can pass. The lens should, if possible, be at least 1/4 in. in diameter. The larger its diameter, the brighter will the picture be.

Correct Distance

The lens must be fitted at the correct distance from the picture in the back of the projector. This may be found by trial, a post card or other object being



The dimensions of the parts required

clipped into place at the back of the lantern. A card tube can then be made to hold the lens, and a hole of suitable size to take the tube can be cut in the lens

also be changed, to secure sharp focus. This can be arranged, if desired, by making a sliding tube. The alternative is to fix the lens and tube rigidly, and move the lantern or screen until the image is sharp.

The focal length of the lens will need to lie between about 5 ins. and 7 ins., though lenses of longer focal length could be used by making up a longer tube. Simple magnifying glass lenses can be used satisfactorily. Better results will be obtained with a binocular objective glass, or achromatic lens, such as can be obtained from optical equipment suppliers. Old camera lenses, if of fairly large aperture and suitable focal length, can also be used. As mentioned, very small lenses are not very suitable, even if of suitable focal length, because they allow so little light to pass.

Definition and brilliance depend largely on the lens, and can equal that of an expensive commercially-made projector, if a good lens is used. Even simple cheap lenses can give very good results, however—the picture will usually be much better than that obtained from small 'toy' projectors and lanterns.

Screen and Subjects

Though a proper screen is best, having maximum light-reflecting power, it is by no means essential. Any white smooth surface, preferably glossy, can be used. White surfaces which absorb much light, such as cloth sheets or dull paper, are best avoided or the picture will be dim. In some cases it may be possible to project straight on to a wall.

Again, subjects with plenty of light-reflecting power will give the most brilliant pictures. Glossy photographs and post cards, and pictures from magazines printed on glossy paper, are very good. But any picture, printed matter, or other flat subject can be projected. So may objects which are fairly flat in character, such as some flowers, coins, leaves, and so on.

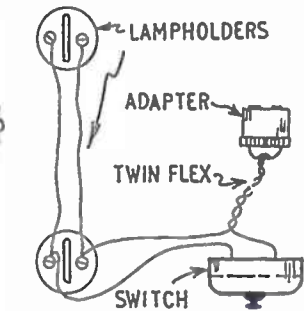


Fig. 2—Wiring to switch and lampholders

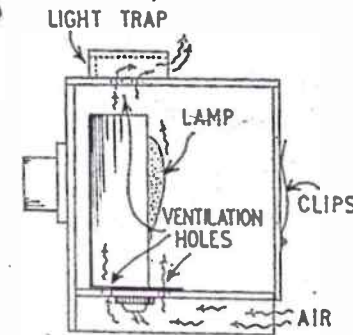


Fig. 3—Side view with side removed

panel. This panel is held in place by four small screws, so that the tube and lens can be removed for alteration, if necessary. The inside of the tube should be coloured black.

If the distance between projector and screen is changed, the distance between lens and the back of the lantern must

USEFUL ARTICLE

A Portable Rack for Your Tools

A TOOL rack, especially one that can be covered up after use to exclude dust, is extremely useful to the woodworker. An interesting and valuable addition to the rack is a degree of portability, as it can then be carried to wherever it may be needed to do a job. Those woodworkers who are kind enough to help their friends and relations in home repairs are likely to welcome such a rack. The rack, opened out to reveal the tools ready for use, is shown in Fig. 1.

For making, deal or pine 1/4 in. thick is

any possibility of untruthness in the frames.

Steady Hand Needed

Let the glue set hard, then gauge round the frame, as shown by dotted lines in Fig. 2, and separate with a handsaw, the shallower portion of the two halves being the lid of the rack. About the best method of doing this part of the work, which needs a steady hand, is to saw across at top and bottom first, then to saw down the sides, the latter being the easiest part of the work,

by pencil lines across, and it would be a good idea to square these lines across the side of the frame, before dividing it with the handsaw; it would ensure greater accuracy.

Now fit up the lid. Across the bottom portion, screw a 2 ins. wide strip of wood as at (A), fastening it to strips of wood glued to the inside of the frame. This forms a narrow tray, suitable to hold such tools as the upper rack could not contain, rule, square, hammer, etc. At about 5 ins. down from the top, nail across a 1 1/2 ins. wide strip of wood (B)

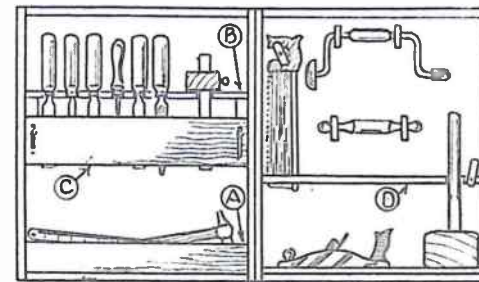


Fig. 1

recommended, with 1/4 in. or 3/8 in. plywood for back and front. As the illustrations show, it is practically a box, not unlike a suitcase with a deep lid to open out. The suggested disposition of the tools is shown in the drawing, but this can, obviously, be amended to suit individual requirements. It may be remarked that no provision has been made for that most important tool—the handsaw. This saw, unfortunately, occupies some length of space, which in the interests of a portable case of relatively small dimensions, would not be desirable. It is suggested, therefore, that the handsaw be wrapped in baize when required on a 'travel' job, and be strapped to the outside of the rack.

Make Sure It's Square

The rack, as it appears when ready for carrying, is illustrated in Fig. 2. Dimensions are shown on this drawing. Make up a frame of timber to the given dimensions, with tongued and grooved corner joints, as at (F) Fig. 3, well glued together. To this, at back and front the plywood is to be glued and pinned. The frame must be truly square, and to better ensure this, it will be necessary to make certain that the plywood panels for the back and front of the rack are themselves cut square, the nailing in position of them thus checking

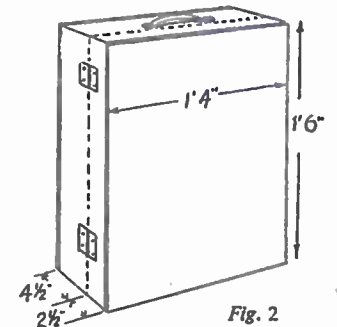


Fig. 2

and in it cut slots for chisel handles and similar handled tools. For easy withdrawal, the slots should be cut to enable the tools to be pulled out, and not withdrawn from above.

They must be prevented, however, from falling out in transit, and this is provided by a 3 ins. wide strip of plywood (C). The method of fitting this in is detailed at (E) in Fig. 3, where it is provided with slots at the ends and round-headed screws, the latter going through the slots into strips of wood behind. When ready for carrying, the plywood strip is pushed up to cover the slots in the shelf, and so prevent the tools falling out of the rack.

Wood Button

In the main part of the rack, a length of beading is glued at the bottom to prevent tools (plane, etc.) from dropping out. At a suitable distance above this, allowing sufficient room for plane, mallet head, and any other tools to be accommodated, a 2 ins. wide strip of wood (D) is nailed across. A slot is cut from this to admit the handle of the mallet, a small wood button being fixed to cover the slot, when necessary, and keep the mallet secure in its place. To

Continued on page 228

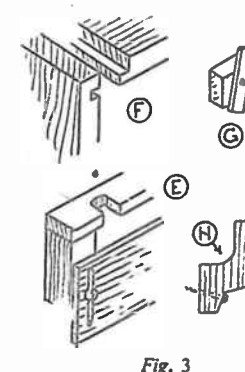


Fig. 3

as the saw blade passes through the cuts already made at top and bottom, which act as a guide to straight cutting. When separated, the two halves are glass-papered on their sawn edges to render them smooth. Be careful here to avoid a rounded edge.

The two halves are now hinged together with a pair of 1 1/2 in. iron or brass hinges. These are not recessed in the edges, as usual, but recessed flat on the face side. Greater strength results from this method, though it may not look so neat. Strength, however, is more essential than neatness in this case. The position of the hinges should be marked

A Storage Rack for Vegetables

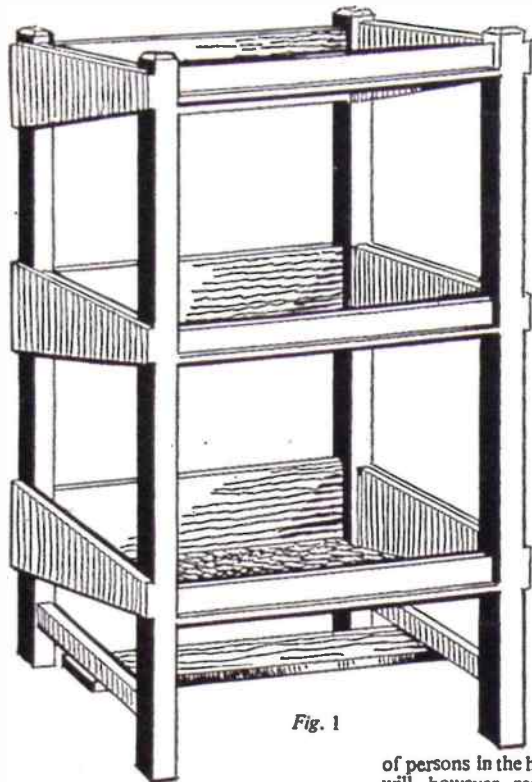


Fig. 1

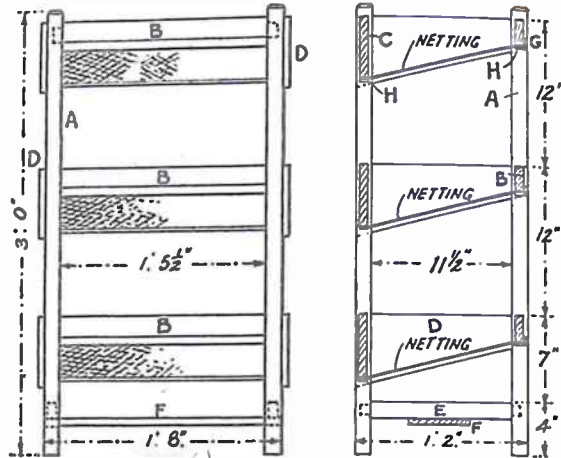


Fig. 2

Fig. 3

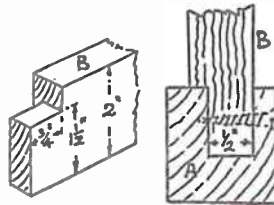


Fig. 5

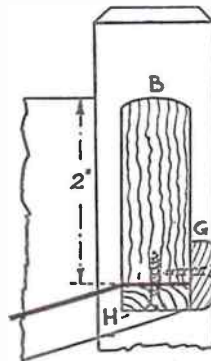


Fig. 4'

THE useful rack shown here in Fig. 1 can be made up in deal, with the uprights, perhaps, being of some harder wood to take the weight of the produce in the racks. The size of the rack may be altered to suit the space available, and according to the number

of persons in the house. The construction will, however, remain the same as that shown.

The uprights (A) are all cut carefully to length, and mortises cut in them for the front rails (B), the back rails (C), and the lower rails (E). The sides of the racks are shaped and screwed to the outside faces of the uprights, thus

Continued from page 227

Portable Tool Rack

hold the tenon saw, a small block of wood is glued to the back of the rack of a size to fit within the handle. A long wood button is screwed to this which can be twisted round to hold the tenon saw securely. This simple arrangement is shown at (G) in Fig. 3. If the saw is fitted in as at Fig. 1, it will be held with greater security, as here a slot is cut out of shelf (D) in which the lower end of the saw can drop.

The holders for brace and spoke-

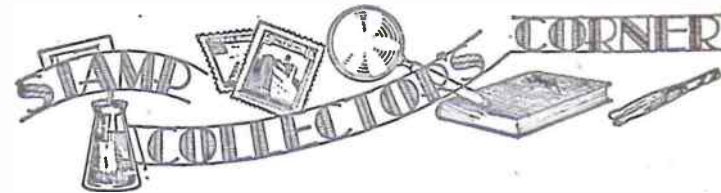
shave can be cut from hardwood to the shape (H), Fig. 3, and glued to the back of the rack. If made deep enough, both tools should be securely held. Fittings for other tools can be similarly made, as there is still quite a lot of room in the rack.

The outside of the rack should be varnished or painted, and a strong catch provided to hold the lid down securely. Fix a carrying handle on top, and the job will be complete. (W.J.E.)

binding all parts well together. The cross-rails (E) are further strengthened by the shelf (F), which may be used for storage purposes.

The floor of the trays may consist of stout plywood, or, preferably, of small-mesh wire netting. In Fig. 2 a front view of the rack is given, with certain useful measurements. Fig. 3 is a cross-section, giving position of all parts with the construction made clear. Fig. 4 is an enlarged diagram through the top front rail (B), showing how the netting may be fixed, and the two splines (G) and (H) which make a neat and safe finish to the edge of the netting. Fig. 5 shows details of how the joints are made between rails (B) and the uprights. Fig. 6 shows the joint at the ends of rails (C).

Continued on page 234



CHARITY STAMPS

IT is a difficult matter to decide which country has issued the greatest number of charity stamps, unless, of course, one consults the catalogue and makes a careful survey. One thing, however, is certain, and that is that Belgium has issued charity stamps for a far greater number of different charities than any other country.

Anti-tuberculosis funds have had more issues than any other, with those for the restoration of Orval Abbey coming second. Of the many anti-tuberculosis stamps, those bearing pictures of cathedrals, belfries and views are the most interesting. For example, the first illustration, one of the 1939 set, shows the famous belfry at Bruges from

set showing beautiful portraits of Mozart, Haydn, Beethoven, Schubert, Bruckner, Strauss and Wolf; so that anyone who wants a miniature gallery of musicians could pick up a set of beautiful engravings on stamps. A rather remarkable thing was that these stamps were sold at no less than ten times their face value. It would appear that the authorities found that they had overcharged, because the next year they issued a set to assist needy artists and the premium went down somewhat—they were sold this time at six times the face value. As these stamps showed some really remarkable views they should have had a great appeal, but the next year another set was brought out—

trying to stem the flow of flood water.

One of the most important charities, so far as postage stamps are concerned, is devoted to the help of children, either for their health or for their sport, and New Zealand and Switzerland have both been very keen on these charities. As they have been mentioned in these pages before, we cannot spare space for them again.

France has used her stamps very much as Belgium and Austria, and some of the premiums have been very high indeed. For example, in 1941, a stamp was issued for the National Seamen's Relief Fund, the postage value being 1 franc, but the premium for the fund was no less than 9 francs. In 1935



Belgium—
Anti-tuberculosis
fund

Dominican Republic—
Hurricane relief stamp

Mexico—
Anti-malarial
fund tax stamp

Norway—
Norwegian Tourist
Association fund

which they used to have quite long tunes every few hours—one could go up the belfry and view the mechanism which was rather like a child's musical box.

One beautiful set of eight stamps was that issued for the fund in aid of the Rubens House Restoration. The highest value of the set, the 5 fr., also bearing a premium of 5 fr., is a reproduction of the famous picture by Rubens 'The Descent from the Cross'—one of the best stamps issued in 1939.

Prisoners of War relief stamps, generally showing war-like scenes, stamps in aid of a memorial fund to Eugene Ysaye—a violinist—showing her portrait with a violin in the background, and flood relief stamps are more examples. Not many countries can show such an imposing display.

Austria has had quite a large issue of charity stamps, starting in 1914 with some stamps bearing a small premium in aid of war charities. In 1921 there were some stamps in aid of flood relief, and the next year there was a set in aid of needy musicians. This was a very fine

also for artists. This time there was a further reduction in the premium to three times face value. These three sets are rather instructive, in so far as they show that it is often inadvisable to charge too much, because then people refuse to buy and the aim is defeated. Thereafter the charity stamps were sold in nearly every issue at double face value, so that it would appear as though they learned their lesson, and invalid children, the sanatoria in Carinthia, juvenile unemployment, ex-servicemen, and winter relief all benefited.

Hurricane Relief Stamps

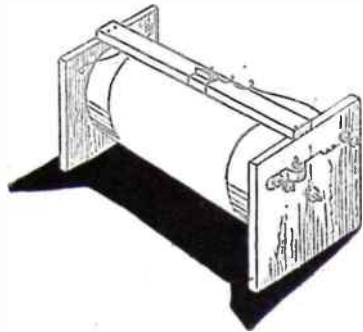
The Dominican Republic, which is to be found in the Caribbean Sea—as part of the island of Haiti—issued four stamps in 1930 as hurricane relief stamps. As can be seen by the illustration, the stamps show some of the riverside wreckage. The next year another set of four stamps was issued for the same purpose. In 1940, Hungary issued three stamps for flood relief; these showed a picture of a man

there were two stamps issued for the Unemployed Intellectuals' Relief Fund. One of them was for 50c. postage, and 10c. for the fund, the other was for 50c. postage, and 2 francs for the fund. Now this was rather a curious set up because few people had the desire to pay 2 francs extra when they could just as easily give 10c. The result, from the philatelic point of view, is that the cheaper stamp is now catalogued at 1/3, while the other is no less than 12/6. This shows very clearly that the more expensive stamp was not bought by so many people.

The Postal Workers' Sports Fund was aided in the summer of 1937 by a premium of 10c. on each of three stamps. Public Health Funds, Military Cadet School Fund, National Musical Festival, Rheims Cathedral Restoration Fund, French Refugees—these all obtained help in the same way. The International Anti-Cancer Fund benefited by a stamp issued in 1938 showing portraits of Pierre and Madame Curie—

Continued on page 236

TWO POPULAR CRYSTAL SET DESIGNS



THE crystal set always seems to remain popular, and is the first kind of receiver many radio constructors build. Its appeal lies in the fact that it requires no mains or battery supplies, and is extremely simple. Of the two crystal set designs given here, the first is of the simplest possible type, while the second uses condenser tuning. Even the simplest crystal set can give good results. Either design, if made up as explained, can give volume equal to that which may be obtained from any crystal set used in the same conditions and locality.

Earth Connection

As a guide to those who have never used a crystal set, some indication of the results to be expected may be appreciated. As a crystal set does not amplify, a good aerial and earth are desirable. Such sets will function with no earth—but volume is very much reduced, and every effort should be made to provide an earth connection. Such a connection may be made to any metal object buried in the ground, or to a metal spike or water pipe. (Gas pipes should not be used; nor should hot water pipes or other pipes which do not go into the earth.)

For the aerial, a long high outdoor wire, suspended on insulators, and well away from walls, etc., is best. However, good volume can be obtained with indoor aerials in many parts of the country. Here, the aerial should be suspended round two walls of the room, near the ceiling. Thin wire is satisfactory. Indoor aerials vary greatly in efficiency. They can be very satisfactory in a bedroom, but are less effective on a ground floor. Where the building has any kind of metal frame or is of reinforced concrete, an outdoor aerial is desirable.

Finally, the phones play quite a large part in the volume obtained. Low-impedance or low-resistance phones are

not satisfactory, as they are not meant for such purposes. Medium or high-resistance phones should be used. (The actual resistance will usually be between about 500 and 4,000 ohms.)

With good aerial, earth, and phones, satisfactory results would normally be obtained up to about 150 miles from a major B.B.C. transmitter. With indoor aerials, range will be less, but good results should be obtained at 75 miles. Actually, some European stations may be heard after dark, but only at low volume. With a poor aerial and earth, volume may be barely sufficient at 25 to 50 miles' range.

this will strengthen it and improve the insulation, but varnish should not be applied after actually winding the coil.

The coil is wound with about 200 turns of enamelled wire. The gauge is not important, though wires thinner than about 34 S.W.G. are rather fragile, while wires thicker than 24 S.W.G. cannot be accommodated. If wire is to be bought, 26 S.W.G. is suggested. The ends may be anchored by passing them through small holes in the former. One end is connected to the earth terminal; the second end is not used.

The ends of the set are 3-ply or ebonite, about 3ins. square. The ends may be fitted in place by cutting discs which are a push fit inside the coil, and screwing these to the square pieces. Or

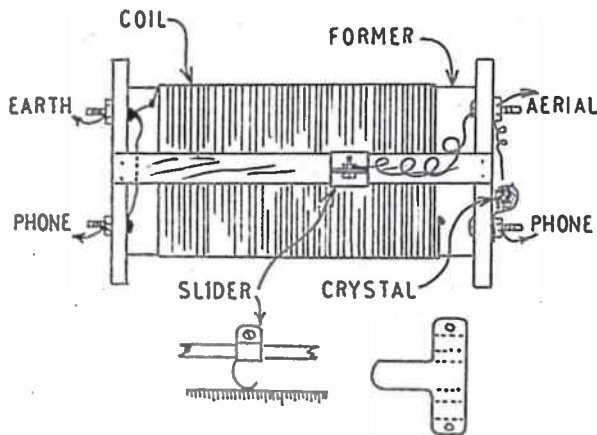


Fig. 1—Details of the slide-coil crystal set

The importance of trying to fix up a good aerial and earth system is, therefore, clear. If no earth is possible, and only a very short indoor aerial, then a valve set should be used.

Slide-Coil Receiver

This is shown in Fig. 1, and tuning is effected by moving the slider along, to change the number of turns in circuit. The slider is bent up from a piece of metal cut as shown, and moves along a strip of wood about 1/4in. by 1/2in. by 4ins. long. A length of flex connects the slider to the aerial terminal.

The coil former is a strong card tube. This can be made by winding glued cardboard round a suitable object, and drying. It should be about 4 1/2ins. long and 2ins. in diameter. If it is varnished,

a long bolt or screwed rod can be passed completely through the coil and both ends, clamping the whole together.

The enamel should be carefully scraped away where the slider passes, so that contact is made with the wire itself.

The Detector

For both receivers, a wide range of detectors may be used. The simplest method is to clamp the crystal under a piece of metal, and arrange a cats-whisker of thin wire (about 32 S.W.G.) so that the point will touch the surface of the crystal, as in Fig. 1.

A crystal about the size of a bean costs 6d. The size of the crystal does not influence results, and a large crystal may be cut into smaller pieces for other sets.

Complete detectors or parts for them, may be purchased, and cost about 1/9 to 2/6. These do not give better volume but are easier to adjust, as it is necessary to move the point of the catswhisker about on the crystal, until a sensitive spot is found.

Finally, there are the so-called 'crystal valves' or diodes. These, again, do not give improved volume, but are permanently set in a sensitive condition, and are thus more convenient. A new one, in good condition, is absolutely essential, or results may be weak.

To use the slide-coil set, aerial, earth and phones are connected, and the slider moved along until the station is at best volume. The point of the catswhisker is then moved to find a sensitive spot for maximum results.

'Tuning Condenser' Set

This employs an improved form of tuning, and is shown in Fig. 2. The condenser should be air-spaced, of .0005 mfd. capacity, and a knob is required for use with it. These items cost about 3/- upwards in all. With some condensers, the terminals may be in different positions, or soldering tags may be fitted. This makes no difference to results.

To tune the medium waveband, less turns will now be required, and 65 turns of 26 S.W.G. enamelled wire, on a 2in. diameter former, will be satisfactory. If a 1 1/2in. diameter former is to hand, 95 turns on this will be suitable. Cotton or silk-covered wires are satis-

factory. Gauges between 22 and 32 S.W.G. can be used. To provide alternative aerial tappings, a loop is made in the coil, when winding, at about 1/3rd and 2/3rds the total number of turns.

The detector can be of any type as explained. With a crystal diode, longer

with a valve receiver. Aerial, earth and phones are connected, and the station tuned in with the condenser. The detector is adjusted if of this type. If the aerial is poor, the lead from the aerial terminal may be taken directly to the terminal on the tuning condenser to which the detector is connected. This

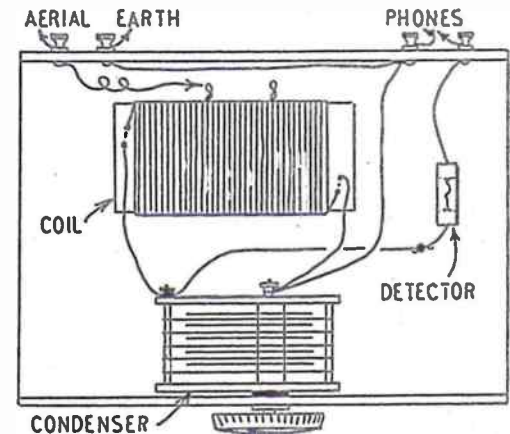


Fig. 2—The 'tuning condenser' set

leads, if required, should be twisted on, or fitted with clips or some method which does not involve soldering. (The heat of soldering may spoil the crystal.)

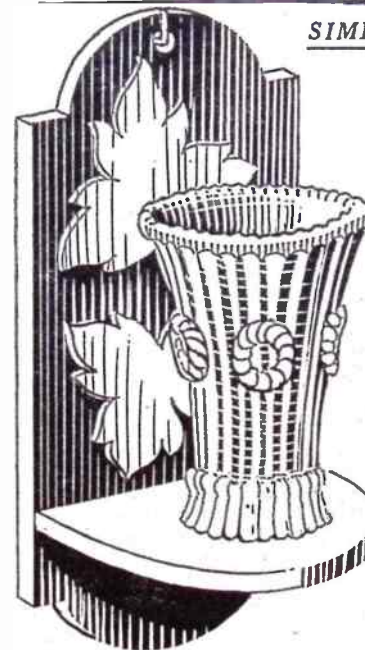
This type of set will tune a little more sharply than the slide-coil set, though all crystal sets tune flatly, compared

will give maximum volume, but minimum selectivity. To sharpen tuning, the aerial lead is taken to one of the tappings, that near the earthed end of the coil giving sharpest tuning of all. As using a tapping reduces volume, a compromise is required, according to conditions.

SIMPLE FRETWORK

An Easy-to-Make Wall Bracket

Full-size patterns are on page 239



WITH small fretwork designs of this type we try to give something that is both useful and attractive, and at the same time not too difficult for the beginner. There are no intricate joints to confuse even the youngest fretworker, nor are there any interior frets in the overlay. In fact, the whole thing is quite straightforward and well within the scope of a boy of 10 or 11 years.

The parts are shown full size on the pattern page and should be traced and transferred to the wood by means of carbon paper. The main back and the shelf are cut from 1/4in. wood and the overlay from 1/8in.

Plain or Carved

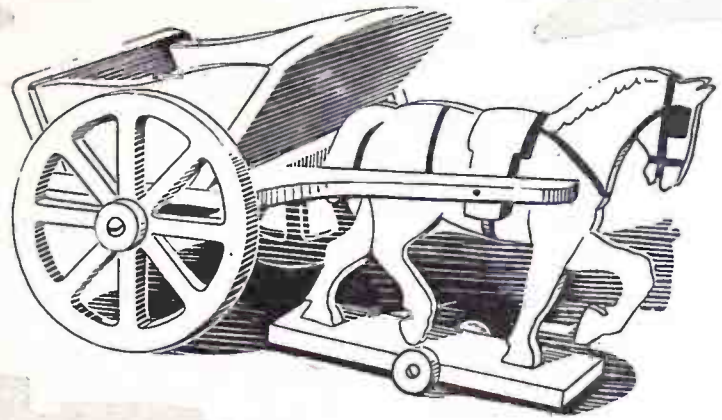
The overlay has been divided into three separate parts so that the grain will run along the stalk in each case. The leaves can be left plain or slightly carved. Glue the bracket in place and add two fretpins from the back.

When the parts have been assembled, clean them up with glasspaper and give two or three coats of plastic enamel paint. The back should be black and the leaves left in the natural wood.

Drill a hole at the top of the back and hang the bracket on a hook. It is just the thing for a miniature vase or small brass ornament. (M.p.)

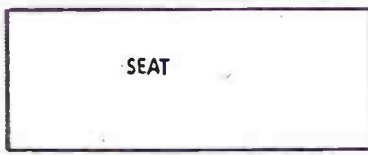
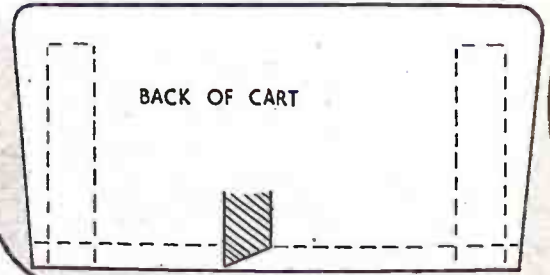
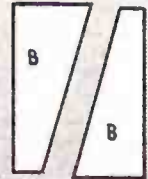
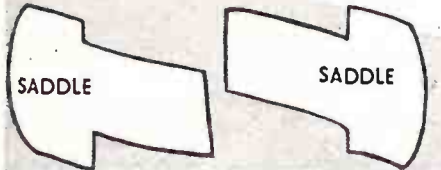
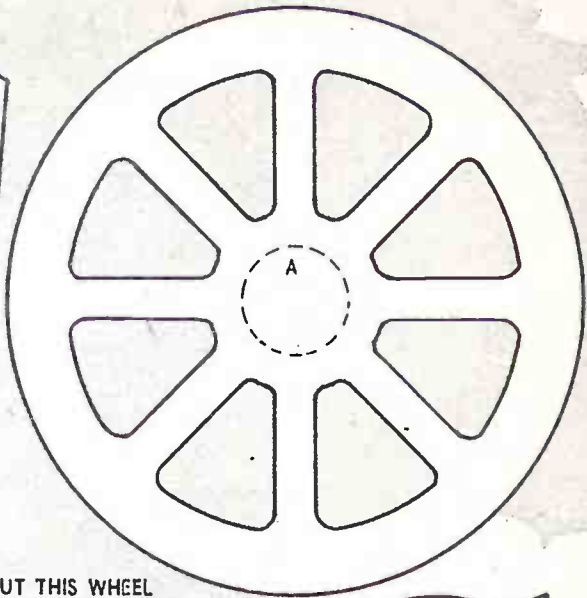
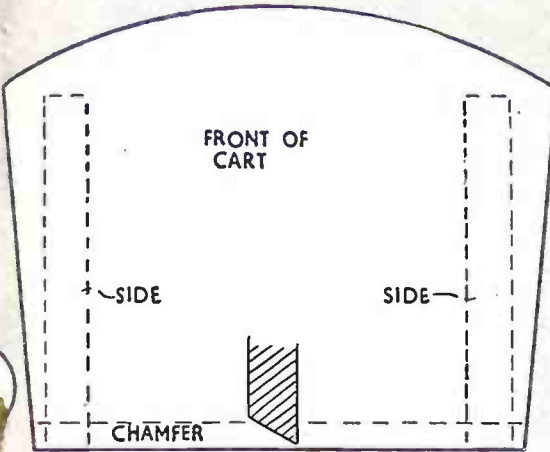
HOBBIES PICTORIAL GUIDE TO MAKING A

Joy HORSE and CART

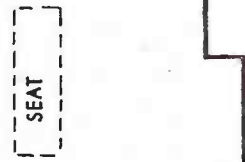
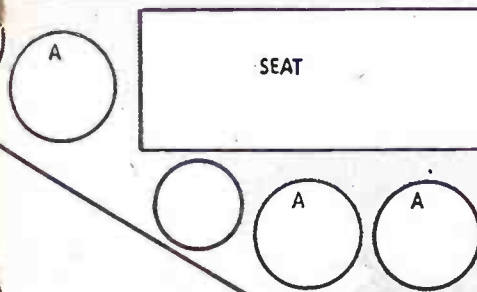
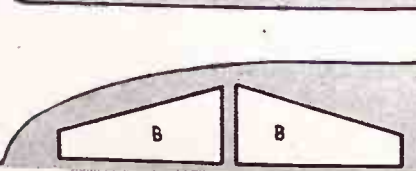
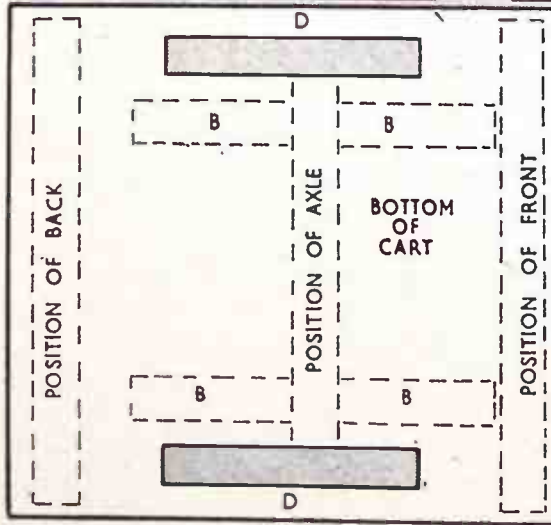


THE STRAPS ETC. ON THE HORSE MAY BE PUT ON WITH PAINT OR CRAYON

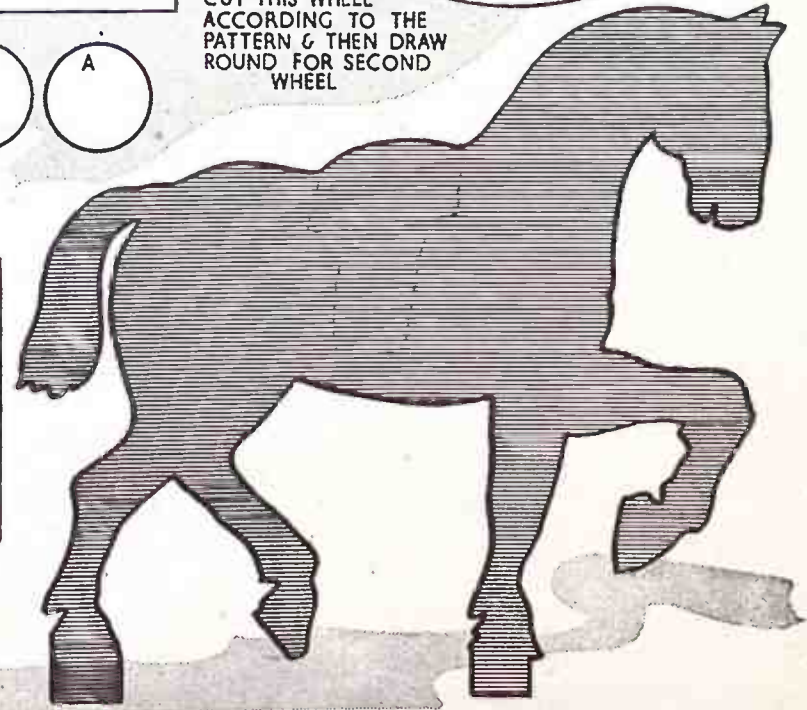
USE 1/4 IN. WOOD THROUGHOUT



CUT THIS WHEEL ACCORDING TO THE PATTERN & THEN DRAW ROUND FOR SECOND WHEEL



SIDE OF CART CUT TWO

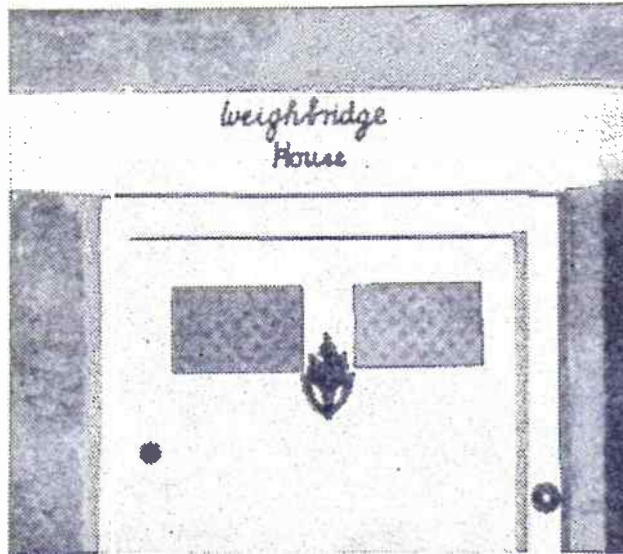


A Name-Plate for Your House

THE variety of projects for which a fretsaw can be used is never-ending. For instance, the writer has used a fretsaw for quite a time for cutting out name-plates for houses. Usually one sees the words cut out as block capitals, each letter being distinct and then nailed at the correct spacing, but rather a distinctive note is obtained by cutting out the name of the house in the householder's own handwriting. It is probably easier than if block capitals are used, as any variation in the letter is put down to the character of the writing.

Marking Out

The method is perfectly simple. The name is written directly on to the board with white chalk, but before cutting this with the fretsaw the letters should be outlined in black pencil. There are two advantages in this. First, the chalk alone might easily be rubbed out by one's sleeve as the work progresses, and it would be very difficult to rewrite half the name in the same style; secondly, the pencil outline enables one to correct any irregularities in the chalk writing, and unless one is very familiar with the use of blackboard chalk the pressure is almost bound to vary, and correction is generally called for before cutting.



The dots for the i's are best put in by using a screw painted the same colour as the letters. If one tries to cut out the small circles they will almost certainly split when the pins are driven in, or very soon after, particularly in the English climate.

Most probably the name-plate will be exposed to all kinds of weather, but properly painted, this need cause no worry. If the painting is hurried and careless, however, the result will be disappointing in a relatively short time. (L.P.V.)

Continued from page 228

Storage Rack for Vegetables

The ends of the rails (E) are simply mortised and tenoned into the uprights, as shown by the dotted lines in Fig. 3. Fig. 7 gives measurements for marking

each measure about 20ins. by 14ins., this width allowing for lapping on to the front and back rails (B) and (C) respectively.

It should be noted that a spline, similar to (H), at the front, should be put along underneath the back rails (C), to hold the netting tightly in this place. The woodwork at completion should

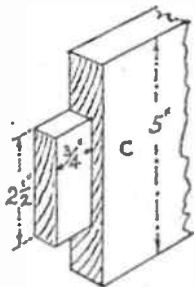


Fig. 6

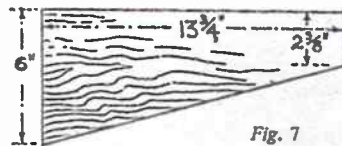


Fig. 7

receive a coating of priming paint and two or three finishing coats of good oil paint. The following cutting list will greatly help the worker when setting out his wood. (S.W.C.)

(A)—4	..	..	3ft. 0ins. x 1 1/2ins. x 1 1/2ins.
(B)—3	..	..	1ft. 7ins. x 2ins. x 1/2in.
(C)—3	..	..	1ft. 7ins. x 5ins. x 1/2in.
(D)—6	..	..	1ft. 2ins. x 6ins. x 1/2in.
(E)—2	..	..	1ft. 1in. x 1 1/2ins. x 1/2in.
(F)—1	..	..	1ft. 8ins. x 5ins. x 1/2in.
(G)—3	..	..	1ft. 5 1/2ins. x 1/2in. x 1/2in.
(H)—6	..	..	1ft. 5 1/2ins. x 1/2in. x 1/2in.

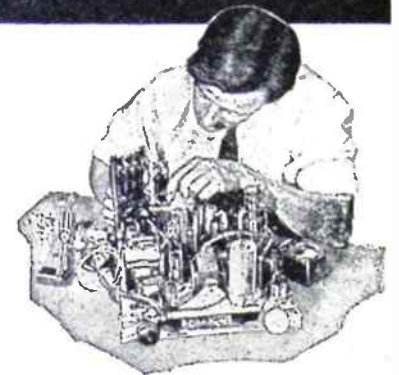
There is still time to enter Hobbies Grand Fretwork Competition for which prizes valued at over £100 are being awarded. For free details, write to the Editor, 'Hobbies Weekly', Dereham, Norfolk.

out and cutting the ends (D) of the racks. The pieces of wire netting should

NEW! EXPERIMENTAL KITS

LEARN THE PRACTICAL WAY

Here is home study of the most effective kind under expert tutors. There is no better way of studying for an examination for a career in Industry or starting a new hobby. Our Practical courses comprise the most modern methods of postal tuition, combined with a practical kit of parts (which is supplied upon enrolment and remains your property).



COURSES FROM 15/- A MONTH

COURSES WITH KITS INCLUDE: Radio, Television, Mechanics, Electricity, Chemistry, Photography, Carpentry; also Draughtsmanship, Commercial Art, Amateur S.W. Radio, Languages, etc.

POST THIS COUPON TODAY

E.M.I. INSTITUTES, Dept. 31X, Grove Park Road, London, W.4. Please send me your free book.

Subject(s) of Interest

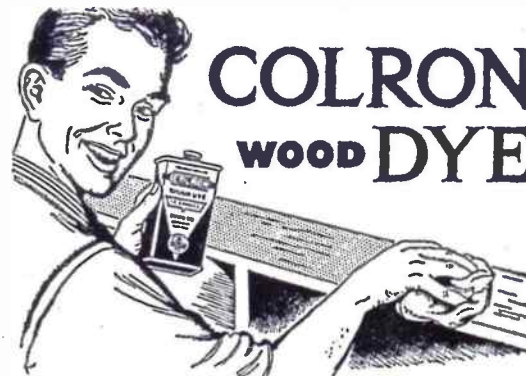
NAME

ADDRESS

12/1/55

EMI INSTITUTES

The only Postal College which is part of a world-wide Industrial Organisation.



COLRON WOOD DYE

the first step
to the perfect finish

Colron Wood Dye is safe, quick and simple to use. Safe, because COLRON enhances the beauty of the wood *without raising the grain*—quick, because you simply wipe on a single coat of any one of the 12 lovely shades which you can mix for any colour effect—and remember, waxing with RONUK gives you the perfect finish.

Colron is available in all sizes from 1/4-pint upwards.

From all good decorators' stockists.

Write for COLRON COLOUR GUIDE

RONUK LTD., PORTSLADE, SUSSEX. Hove 48631

Modelling ALABASTONE

The new modelling medium for
ALL FORMS OF MODELLING CARVING, DECORATIVE WORK, etc.

ALABASTONE is a pale cream powder which when mixed with cold water remains workable for a time and then sets like stone. An ideal medium for sculpture, puppets, relief illustrations, contour maps, model landscapes, finishing 'Solarbo' balsa wood models, etc.

Please write for Free Booklet giving full instructions in the use of modelling Alabastone.

1/6 1-lb. packet 3/6 3-lb. packet



ALABASTONE CO. LTD., ASHMOLE ST., SOUTH LAMBETH, S.W.4



REPLIES OF INTEREST

Copper-Plating

PLEASE give me some details on the best method of copper-plating on a small scale at home. (D.F.—*Timbridge Wells*).

A THIN copper plating can be produced on iron and steel simply by immersing the article in a solution of copper sulphate for a few minutes, followed by rinsing with water, drying and buffing up. The strength of solution is flexible, but 1oz. of copper sulphate dissolved in 10 fluid ounces of water is a good average. For heavier deposits, simple electro-plating should be adopted. To make the plating bath, dissolve copper sulphate in the ratio of four teaspoons to a pint of water. Connect two or three cycle lamp or similar dry batteries in series. Attach the object to be plated to the negative pole by a wire. To a wire leading from the positive pole, attach a thick copper sheet. Hang both in the bath and leave until the plating is thick enough. The time varies, but one hour usually gives a

good deposit. The article to be plated must be absolutely grease-free. De-grease by boiling for a few minutes in a strong washing-soda solution, and wash without touching it with the hands. For a bright finish the article must be polished before de-greasing. After plating, wash in water, dry and buff up. Copper sulphate is poisonous and can be had from most pharmacists.

Will Frost Kill Fish?

I HAVE a fish pond stocked with a few large goldfish. What can I do to stop the water from freezing this winter, and killing the fish, apart from emptying it and taking the fish indoors, or putting in an immersion heater?

Is it possible to cover it with something and the fish still get air? (R.H.—*Workshop*).

AS your pond is of a good depth (3ft. 6ins.), the fish should live quite well in spite of the water freezing.

It is only in very shallow ponds where there is risk of the water freezing nearly solid that it is dangerous to leave them in during very cold weather; it is not necessary to bring the hardy cold-water fish indoors for the winter months unless the pond is very shallow all over. So long as there is some portion at least 18ins. deep to which they can retreat when the pond freezes, they will be quite safe out of doors. The alternative is, if you have a tank large enough to accommodate your fish, to transfer them indoors for the winter, but in your case this should not be necessary.

Removing Dark Stain

I HAVE bought an old solid oak, heavily carved writing-table (pedestal type) which a previous owner has stained almost black. Is there any way in which I can remove the black stain, and have the table re-done a dark brown to match other furniture? (E.H.—*Dawlish*).

YOU might treat the woodwork with a dilute oxalic acid. It is more likely to be successful than ordinary bleaching. To 1qt. of hot water, add gradually 1oz. of the acid, and apply carefully to the wood. Avoid splashes, especially to hands and clothes. When colour is sufficiently reduced, wash over with clean water, and then with common vinegar to kill any further bleaching.



Remember, too . . .

When you want a versatile glue, be sure to get CASCO Grade "A" Casein Glue. It glues almost everything, is mixed and used cold, is heat and moisture resistant, economical in use. Packed in 2½, 7½ & 16-oz. tins (1/6d, 3/6d & 6/- respectively).



SYNTHETIC RESIN AND CASEIN GLUES

Manufactured by: LEICESTER, LOVELL & CO. LTD · NORTH BADDESLEY · SOUTHAMPTON
Main Distributors: Charles Cleeve & Co. Ltd. · 45 Great Peter Street · London. S.W.1

Have YOU tried it yet?

CASCAMITE "One Shot" Resin Glue was first introduced only a little over a year ago, yet it is now being used by literally thousands of handicraft woodworkers and trade users. It's the glue they have been wanting for years. Supplied in powder form, this resin glue is easily mixed in cold water, is used cold and requires no hardener additions; it is gap-filling, non-staining, waterproof, mouldproof and heat-resistant. Ask your local ironmonger or builders' merchant for the free descriptive leaflet illustrated on the right—better still, get a leaflet and 2/6d tin (3½-oz.). Once you've tried CASCAMITE "One Shot", you'll never use anything else for your speciality wood gluing work. Larger sizes available at 4/- (7-oz.) and 7/6d (18-oz.).



Continued from page 229

Stamp Collector's Corner

a most fitting memorial to these great scientists.

So far as premiums are concerned, the highest was for a stamp issued in 1943 for the aid of the Resistance Movement. The postal value of the stamp was 1fr. 50c., but the premium took the price of the stamp up to 100frs. No less than 98frs. 50c. was for the charity. Philatelists have indeed helped the charities of France.

Mexico adopted a rather different method of collecting money. Instead of having a premium on an existing stamp, they had a compulsory tax stamp in aid of the anti-malarial campaign. The stamp showed a rather gruesome picture of a very large mosquito attacking a man. Bolivia used the same method—an obligatory tax stamp—in 1939, in aid of a Workers' Home Building Fund.

We have mentioned a stamp bearing a portrait of Pierre and Madame Curie being issued by France in aid of the anti-cancer fund. Cuba used almost exactly the same design for a stamp for the same purpose; this was in 1938 and it carried a premium of 1c., the postal value being 2c. The next month, Cuba

issued an obligatory tax stamp for anti-tuberculosis funds, and Panama enriched the cancer research funds by surcharging stamps with the word 'cancer', the value 1c. and the date 1947.

Norway is another country that has allowed charities to benefit through her postal service. In 1930 the Norwegian Tourist Funds obtained money from the issue of a stamp showing a picture of the North Cape. This was a pretty stamp and many people bought it because of its beauty.

Special Envelope

Although Great Britain has not issued charity stamps as such, the original idea came from this country, for in 1890 she issued a special envelope to commemorate the jubilee of the penny post. The envelope bore a penny stamp, yet the price was sixpence, the balance being given to a postal officials fund.

It is not intended that this article should constitute a list of all the charity stamps that are available—far from it, and if readers take their albums and look through them, they will be surprised to find how many there are. (L.P.V.)

THE SUPER MODERN

**FLIGHT
LIEUTENANT
HANDLESS WATCH
LADIES OR GENTS
MODEL**

No Glass, No Dial
No Hands

Built for strength, fitted "Aircraft" shock-resisting movement. Lever escapement. Anti-magnetic and recoil click spring prevents overwinding. Handsome chrome case. Expanding bracelet 12/6 extra if req. Time shown by revolving figures. Send 2/6 for insurance, pack., reg., etc. TEST FREE FOR 30 DAYS, then pay 10/- monthly. Guaranteed. Cash price 79/6. Non-luminous night dial 6/6 extra. Ladies "Wraffette" model same price and terms.

**NO
DEPOSIT**

**BRAND B. S. A.
NEW
COMMANDO
BICYCLE**

£4.19.6 Carr. Brit. Isles 5/5. Must be worth £14.14.0. A genuine British Commando cycle. Amazing burst of speed. Strong

and reliable. Specification: Everything B.S.A. except tyres and inner tubes which are heavy duty Dunlop. A genuine Ministry purchase, therefore £4.19.6 buys a £14.14.0 cycle. Absolutely Brand New and unused. Headquarter & General Supplies Ltd. (Dept. HOBW/34), 196-200 Goldharbour Lane, Loughborough Junction, London, S.E.5. Open all Saturday. 1 p.m. Wednesday



10/6! RADIO. With a screwdriver and pliers you can build our 'Economy' Crystal Set in under 2 hours. No soldering—and the price is only 10/6 plus 6d. postage. Send 11/- P.O. and get your set of parts by return post.—Blanchard's (H2/3), 13 Gainford Gardens, Manchester, 10.

BUILD Your own T/V and learn about its operation, maintenance and servicing. Qualified engineer-tutor available whilst you are learning and building. Free Brochure from—E.M.I. Institutes, Dept. HW.58, London, W.4. (Associated with H.M.V.)

PAINTSPRAYING' HANDBOOK (1954 1 Ed.). Covers Car, Industrial & Flock Spraying. 3/6, post free, including catalogue of our Cellulose and Synthetic Paints and all Allied Sundries and Plant Hire.—Leonard Brooks Ltd., 81 Oak Road, Harold Wood, Essex.

STAMPS FREE—Empire Packet including Pictorials and Victorians with approvals.—Robert J. Peck, 7A Kemp Road, Bournemouth.

VIBRO-ARC

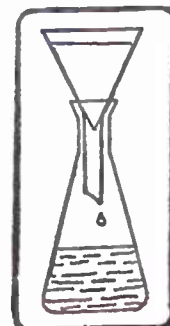
ELECTRIC METAL ENGRAVING TOOL ONLY 10/-

Engraves, etches, marks, writes . . . on

Brass, Copper, Silver, Nickel, Aluminium, Chromium, Hardened Steel

POST FREE Complete with instructions for use. Additional 12 engraving points 2/6, post free. Operates from 4 or 6-volt Battery or Mains Transformer. Suitable for Name Plates, Dog Collars, Cudory, Tools, etc.

TEEBEE MANUFACTURING CO. LTD. Dept. VS, 205 Hook Road, Surbiton, Surrey.



A.D.P. CHEMICALS AND APPARATUS

WE CAN OFFER A WIDE SELECTION OF EQUIPMENT SUITABLE FOR BEGINNERS AND STUDENTS, SEND STAMP FOR LISTS TO:—14, (D/H) SURREY ROAD, BARKING, ESSEX.

SWISS MUSICAL Mechanisms for cigarette boxes, etc., 2/1/- post free. S.A.E. for illustration and list of tunes available.—Dept. HW, Metwood Accessories, Church St., Wolverton, Bucks. (Trade supplied.)

A GRAND BOOK FOR ALL THE FAMILY. The "Kaylee Year Book of Bright Ideas". A really helpful guide to home planning, decoration, Hobbies, toys, etc. Showing famous Kaylee Transfers in brilliant colours, and most effective uses. From "Hobbies" stockists 1/- or direct. KAYLEE TRANSFERS Postage 3d. LTD., (HW) Long Eaton Nottingham.

PLYWOOD—HARDBOARD—at amazing low prices. Send S.A.E. for samples and prices to—N. Gerver, 10 Mare Street, Hackney, London, E.8.

STOP SMOKING!! Quick guaranteed remedy. Free Testing Sample!!—Triumph Remedies (H.2), Exeter.

RUBBER MOULDS for plaster casting. Sample 3/11. Trade supplied. S.A.E.—Burligh Supplies, 13 Burligh Street, Hull.

KUKLOS ANNUAL. Indispensable cyclist's handbook. Tours, resthouses, money-saving hints, 2/10, post free.—Burrow, Publishers, 2 Imperial House, Cheltenham.

NEW AND USED Correspondence Courses for sale. List.—Courses, 28 Dean Road, London, N.W.2.

100 DIFFERENT stamps free. 1d. upwards approvals.—Bush, 939 Christchurch Road, Bournemouth.

HOBBIES BRANCHES

LONDON

78a New Oxford Street, W.C.1 (Phone MUSEUM 2975)
87 Old Broad Street, E.C.2 (LONDON Wall 4375)
81 Streatham Hill, S.W.2 (TULSE Hill 8796)

GLASGOW—326 Argyle Street (Phone CENTRAL 5042)

MANCHESTER—10 Piccadilly (Phone CENTRAL 1787)

BIRMINGHAM—14 Bull Ring

SHEFFIELD—4 St. Paul's Parade (Phone 26071)

LEEDS—10 Queen Victoria Street (Phone 28639)

HULL—10 Paragon Square (Phone 32959)

SOUTHAMPTON—25 Bernard St.

BRISTOL—30 Narrow Wine Street (Phone 23744)

Goldentone PHILISHAVE
 only 10/- down
DOOR CHIMES
 NO ELECTRICITY OR WINDING NEEDED

Welcome your visitors with this delightful two-tone musical chime. Entirely mechanical, no winding, battery or electricity needed, therefore no maintenance. Easily fixed to any standard door. Cream enamelled chimebox. Facelate finished in chrome, 27 1/4. cash. Or 10/- down and 2 monthly payments of 10/- each. Brochure free.

DRILL FASTER
 with a Black & Decker **ELECTRIC DRILL** 12/- DEPOSIT

A first-class tool, the Black & Decker U-1 Portable Electric Drill saves hours on home and workshop jobs. Drills wood, steel, brick, etc. Steel capacity up to 1". Also drives sanding discs, polisher pads, etc. Weight 3 1/2 lb. Fully suppressed. £5, 19, 4, or 12/- deposit and 6 monthly payments of £1. Sent on receipt of the deposit. A.C./D.C. motor, voltages 110 to 250. State voltage required.

For 5/- down

ELECTRIC PAINT SPRAYER
 Including nozzle for ceiling spraying

Paint easily, evenly in- twice as fast with the Burgess Sprayer. Just plug in and spray! Absolutely self-contained. For paint, varnish, etc. For A.C. mains - state voltage. Cash 75/-. Or 5/- deposit and 6 monthly payments of 13 1/6. Fully guaranteed. Leaflet on request.

BARGAIN DISTRIBUTORS
 (DEPT. 124) 14 STUART STREET, LUTON

YOU CAN MAKE YOUR OWN LEADED LIGHTS

In beautiful Galleon, Castle, Bridge and Dutch Boy scenes with the new full scale Landscape Designs 24" x 18" - full instructions 2/- each. Special 1/2" oval Landscape lead now available, 30ft. - 1/9.

Ask your local dealer for details and prices of full range of DECRA-LED Window Leading Products.

LEADED WINDOWS - Trial kit to do 4 panes contains 136ft. strip lead, tube of adhesive cement, 7 designs and full instructions - 12/6 complete.

Obtainable from leading Handicraft and Woodwork Supply Stores, Ironmongers, Decorators, or direct from

T. BROWN & CO. LTD., DEPT. 1, 50 WOOD STREET, ASHTON-UNDER-LYNE, LANCs.

WARDHITTING ACCURATE

Webley AIR PISTOLS
 AIR RIFLES · ACCESSORIES

Write for Catalogue
WEBLEY & BOETT Ltd., 166 WEAVER ST., BIRMINGHAM, ENGLAND

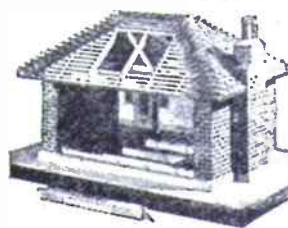
KITS for OLD TIME SHIPS

Hobbies range of Ship Models includes Elizabeth Jones, Cutty Sark, Victory, Mayflower, etc. Complete kits of wood, sail material, guns, pulleys, cord, etc., with full size patterns of parts and planed wood ready to cut out, shape and construct. A fascinating pastime.

Kits for models 7ins. long and upwards.

Ask for free illustrated lists at Hobbies Branches or from Hobbies Limited, Dept. 99, Dereham, Norfolk.

YOU MAKE THE BRICKS TO BUILD THE HOUSE this simple way -



Just a simple wood mould with a tape or paper strip base - and there's your home-made brickworks, ready to supply you with "Pyruma" bricks for building houses, walls, farm buildings, model railway stations, etc. Just one of the ways of modelling in Sankey's "Pyruma" plastic cement explained more fully in the Instruction Book offered below. Other and simpler ways of modelling are also described, showing how to make many useful, permanent stone-hard objects which can be painted in colour, from



Pyruma is ready for use from its airtight tin - to be modelled while plastic. It dries or bakes to stone hardness and, after treatment as instructed, can then be painted or enamelled. Pyruma is ideal for modelling Houses, Railway and Airport Buildings, Farms, Docks, Figures and for making Ashtrays, Bookends, Plaques, Dolls Furniture, Relief Maps, Animals, etc.

Sankey's PYRUMA and TILUMA are inexpensive and obtainable in air-tight tins from Ironmongers, Art Material Dealers, Hobbies Shops, etc.

POST THE COUPON TO-DAY

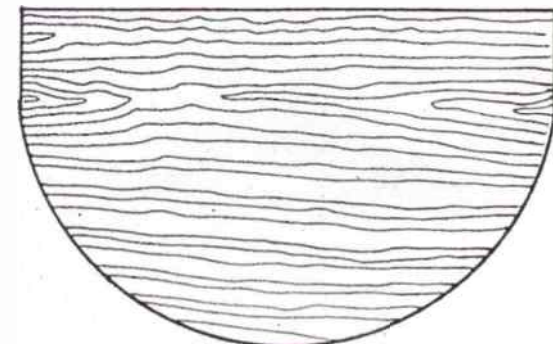
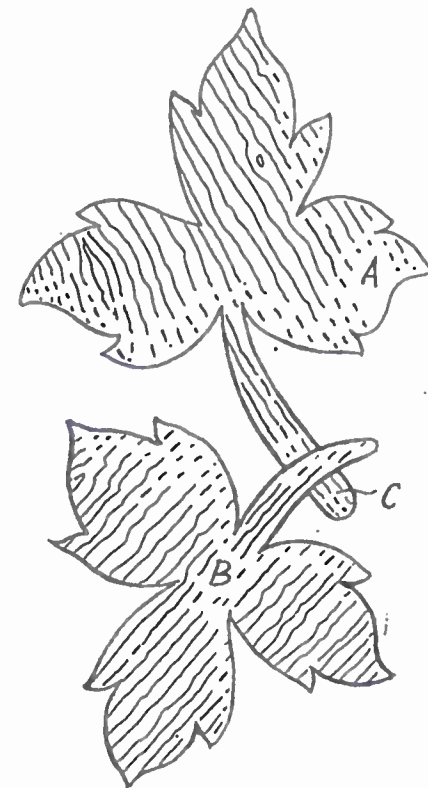
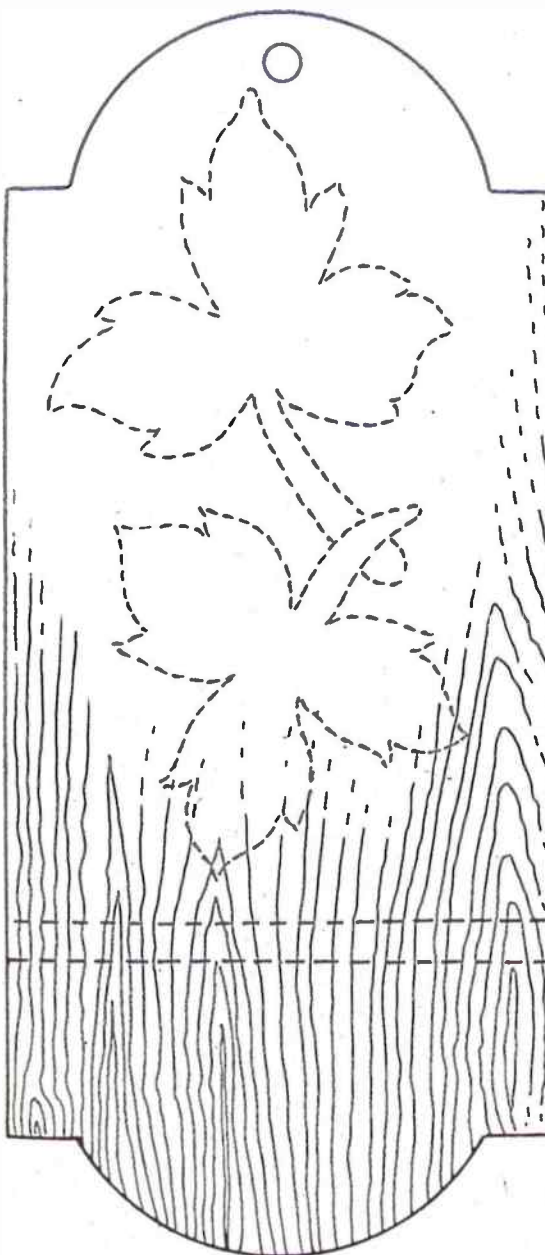


To: **J.H. SANKEY & SON, LTD.**
 Etd. 1857
 Dept. H.W., ILFORD, ESSEX.

Enclosed 4d. in stamps for PYRUMA MODELLING INSTRUCTION BOOK addressed to:
 NAME (Block letters) _____
 ADDRESS _____

SEE PAGE 231

Patterns for the Wall Bracket



FREE! 16 Page Book tells you how to save pounds with the New "Self-Build" Furniture!

Parts fit like magic! No skill needed! ★ SOLID OAK, WALNUT OR MAHOGANY
—LESS THAN HALF USUAL COST



JUST ONE
EXAMPLE

Simple to put together, this lovely Oak Bookcase, 47" x 30" x 10 1/2", sliding glass doors at top, adjustable shelves, sliding oak doors below, would cost £18 in shops, but nothing like that amount when made with Furni-Kit. Everything supplied, including easy to fit plate glass. Also in Walnut or Mahogany.



Think of it! Real quality furniture, so cleverly designed that you can easily put it together yourself and save pounds. No experience or skill needed—no bench or special tools. All the surfaces sand-papered to a satin-smooth finish and ready for instant assembly. Everything tongued, grooved and dove-tailed, so that the parts click together like magic. Quickly, easily, you can build anything from a Needlework Cabinet to a full-size Kitchen Cabinet. ★ We use faced laminates only where it improves the work.

A New Way to Afford The Very Best

It's easy, it's fascinating and you get superb quality furniture at astonishingly low prices. The secret is—Furni-Kit, direct from the manufacturer to you. Why pay for high labour costs when the Furni-Kit makes it possible for you to do the really interesting part yourself? You get so much better quality with Furni-Kit—mainly in solid oak, solid walnut or solid mahogany, and we tell you what every part is made of.

Fascinating—So Easy— And Superb Quality

You can examine every bit of wood yourself. See how free it is from knots and blemishes. Note the wonderful natural grain that gives rich, beautiful results with stain and ordinary wax polish. With Furni-Kit, you really do get something better than you'd expect to find in the shops, yet it costs you far less than ordinary mass-produced furniture. Positively no experience is needed—a child could do it!

This Book Will Tell You Find out about this exciting new idea by sending for illustrated book, "I Made It Myself!" Details of 30 Kits, including ideal gifts like Occasional Tables, Bookcases, Cots, Kitchen Cabinets, Child's Desk and Chair, Tea Trolleys, Nest of Tables, Bathroom Furniture, T.V. Tables, Needlework Cabinets (every woman wants one!), etc., real photos, dimensions, and 100% Satisfaction or No Charge Guarantee. Send for this intriguing book now—FREE and without obligation.



YOU MUST READ THIS BOOK

YES... please send me Free Book and details of Easy Terms (Write if you prefer not to cut page.)

NAME

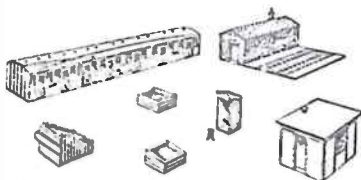
ADDRESS

FURNI-KIT

Dept. HS/2, 29-31 WRIGHT'S LANE, LONDON, W.8

A New idea that is sweeping the country—simple, fascinating and anyone can do it!

Equip your Railway with "Lineside" Kits



TRACKSIDE FEATURES

Comprising, Weigh-bridge, Platelayers' Hut, Fogman's Hut, Buffer Stop, Ballast Bins (two), Disused Coach.

Price 4/4 (inc. P.T.)
Postage 6d.

The Trackside Features Kit illustrated is representative of this beautifully designed series. Each kit contains everything required to make a complete model scaled at 4mm. to 1ft.—Printed Wood, Printed Transparent Windows, Printed Cards, Brick and Tile Papers. Fully detailed Plan and comprehensive Instructions.

KITS IN THIS SERIES INCLUDE

Large Goods Station ... 6/1 1/2	Platforms 3/6
Country Station ... 5/3	Water Towers (two)... 2/7 1/2
Large Signal Cabin ... 4/4 1/2	Footbridge 2/7 1/2
Small Signal Cabin ... 3/6	Locomotive Shed ... 7/10 1/2

Prices include Purchase Tax. Postage 6d. per kit. See them, and the latest additions at your local Model Shop, or write direct to:—

MODEL CRAFT

77(F) GROSVENOR ROAD, LONDON, S.W.1

The Ideal HOBBY for
any age!

SCULPTORCRAFT Moulding and
PAINTING OUTFITS... FASCINATING...
PROFITABLE.



THE 'Sculptorcraft' range of moulding outfits includes over 200 different moulds and an extensive range of complete kits ... the enthusiast can turn this pleasant hobby into a profitable one! Illustrated are 3 models ... Blue Bird Wall Plaques; Traditional Toby Jug and the Rustic Ash Tray—all of which can be painted in glorious colours.



Send 2 1/2d. stamp for Free Catalogue and name and address of your nearest stockist to Dept. H.W.1, Seamer Products, 23-27 Eastbourne St., Hull. Tel. 37011