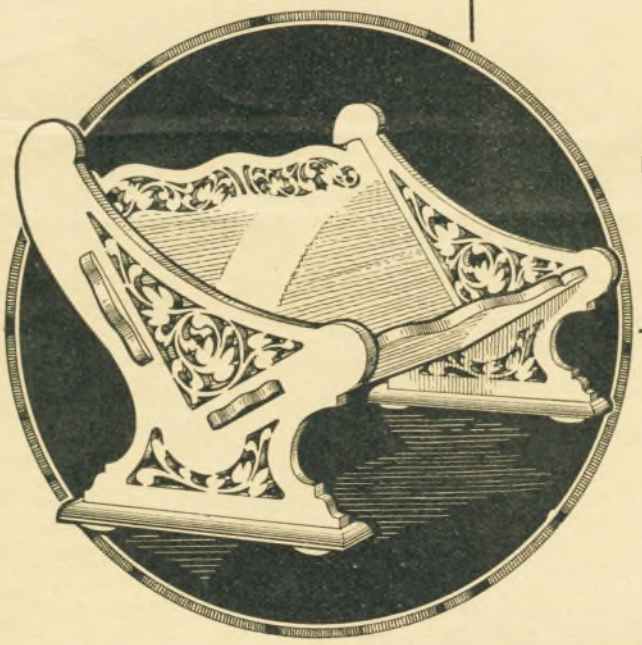
Hobbies WEEKLY



Large Design Sheet for making this

BOOK TROUGH

free inside

Also
Gardening
Photography
Crossword
Fretwork, etc.

June 4th. 1938

2D

Vol. 86. No. 2224

THE FRETWORKER'S AND HOME CRAFTSMAN'S JOURNAL

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The Choice of Boys Everywhere

Hobbies WEEKLY
June 4th. 1938 Vol. 86. No. 2224

BOOK TROUGH

A BOOK Trough with its popular books standing therein, forms a pleasing addition to any side table, and provides as well a handy receptacle for the book lover. Here is one you can make in wood quite simply.

All you need is a few pieces of wood and the usual fretwork tools. With these at hand you can have an enjoyable hour or so as a craftsman, and then have completed a practical piece of woodwork.

The finished trough in oak, and given a dull polish, will be a dignified piece of work as well. But if you prefer to have it with highly polished finish, Hobbies Lightning Polish will provide the means for so doing. There is not a large amount of fretwork, and there is certainly not a large amount of other cutting.

Simplified Work

One of the usual bugbears of ordinary carpentry is the amount of measuring up, drawing out, fitting and testing concerned. By providing the patterns, the size required, however, we overcome all that. All you have to do is paste these patterns to the wood, and cut them out with the fret-saw.

The pieces in the present instance are only ⅜in. thick, and this is not beyond the cutting ability of the average worker. Moreover, we have recommended the use of Spanish Chestnut in the construction of this trough for two reasons.

One is that when completed in this wood, the average person would not know but that it is in oak. The other reason is that although similar to oak in appearance, it is much easier to cut. And finally, the cost of Spanish Chestnut is less than oak, although it has the two previous advantages.

The Book Rest is just over 1ft. long and stands 9ins. high. It is not intended to accommodate large sized books, but more the smaller type measuring about 6½ins. by 4ins. Obviously, if you put two or three large books in an article of this sort it will appear to be overcrowded, whereas by using it for a number of books with thinner binding, you have the whole thing in keeping.

Transferring Patterns

Before beginning actual work of cutting, notice that in two cases it has only been possible to show half the pattern. In both instances, however, a centre line is given, and it is a simple matter to transfer a tracing or duplicate of the half provided, to the opposite side of this centre line.

It can be done by transparent paper laid down over the printed pattern drawn out then turned over and retraced on the wood. In the case of the back, however, there is an additional amount of drawing to be done in the tracery which forms the fretwork.

To save you the trouble of copying this all off, a portion of the design pattern is printed giving this actual fretwork. You can, therefore, cut out this paper piece and paste it to the left-hand side of the centre line to provide the correct outline to be cut.

One point should be particularly noticed in tracing off these other halves. Do see that the ends are straight lines, and that the projecting mortises are opposite each other from end to end. If, say, the piece A has dropped slightly, it will be impossible to

make a good fit when you come to put it into the fretted ends of the book trough.

Which reminds us that the construction of the trough is entirely carried out by means of these mortise and tenon joints, and if cut properly and finally glued, then a perfectly strong and rigid Book Rest will be the result. There are only three of these joints—at A, B, and C.

In two cases the tenon projects right through to provide strength and at the same time be ornamental. In the case of the tenons which fit into the cross feet they are the same length as the thickness of the wood and fit in the ordinary way.

Cutting a Mortise and Tenon

The main point in cutting mortises and tenon joints is to see that they fit. There is no stronger hold than these if made up correctly. But unless they are done so, the parts have a tendency to wobble and the whole thing becomes loose fitted.

Not only, too, should the tenon pass securely into the mortise, but the long edge of the wood should lie flat on the board and so also provide a suitable surface for gluing.

It is wrong, too, to cut actually on the cutting line of the mortise, because the thickness of the saw when doubled on each side may make the slot just too large to form a good joint when the other portion is put in place. This slot should be exactly the width of the thickness of the adjoining piece. It is a good plan, indeed, to stand the piece in place which is going to fit, and notice exactly where the cutting line should be made.

Good Cornering

Another little point in this, too, is the corners must be dead true in the mortise, or the tenon will not fit properly. Get the sawblade to make the right angle corner if you can, then if you have not done so, clean it up afterwards to ensure its accuracy.

All these little points may seem very trivial, but they are all details which will save you trouble in the long run. If you cut the parts well and truly, it is a simple matter to fit them together to complete the work.

If you have cut them hurriedly without testing or care, you will probably have to spend quite a lot of extra time fitting them up in their disappointing and unsatisfactory way.

Remember, too, that these joints should never be driven home with a mallet or hammer. Hand pressure should be sufficient to press the two pieces together. If you get them too loose the joint is impossible, but if you get them too tight and endeavour to force the pieces together you will get one of them to split across the narrow margin of wood.

The Fretwork Portion

Of the fretwork there is little need to say anything. The patterns are pasted to the wood, the drill holes made, and the various frets cut out in the usual way. Curves and angles should be exactly according to pattern. Remember in cutting that the wood is fairly thick, and do not try and press the sawblade too hard. If you do, it is apt to tear the wood or else to break the sawblade.

MATERIAL SUPPLIED

Fretwood—For making this Book Rest we supply a parcel of Spanish Chestnut, 3/-, post free 3/6.

Remember also, both sides of the wood will be seen in the case of the ends, so the saw must be cutting upright all the time in order to ensure the pattern is the same on both sides. When the actual cutting is done, the parts are all cleaned up thoroughly with glasspaper, a fine grade being finally used to prevent the surface of the wood being scratched.

Simple Construction

The construction is straightforward. The two ends are fitted on to the back by the tenon A, then the base or shelf portion is fitted in at B. Notice that unless the bottom edge of the back is cut true, you will not be able to get the shelf portion to fit up under it closely as it should.

All these pieces can be glued in place. If any of the glue has been pushed through the mortise and tenon joint, wipe it off before the glue has set. The cross feet are added to each end by means of the joint at C.

In connection with this, notice that the top edge of these cross feet should be rounded off. If they are left square they will look more awkward and unsightly. You can easily run a plane along the edges first at an angle of about 45 degrees, then gradually shape this sharp angle down by means of fairly coarse glasspaper, finishing off with a fine grade and maintaining correct curve the whole length. The section drawing at the end of the pattern shows the exact shape of the part when finished.

To raise these feet and the whole book trough also, four little circular discs are glued to form toes. They are plain circles cut from $\frac{3}{8}$in. wood and are glued $\frac{3}{8}$in. inwards from each end as shown by the dotted lines on the pattern.

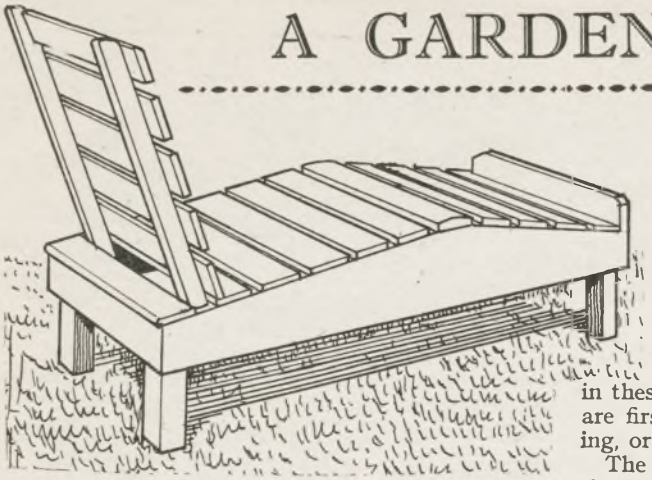
Wood can be left in natural state, or treated with raw linseed oil.

CONTENTS

GIFT DESIGN—Book Trough

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

A GARDEN LOUNGE



HERE is the kind of seat to make if you want a really comfortable rest in the garden. A warm, sunny, afternoon, an interesting book, and what more can you wish for when time permits ?

It is strongly made of wood and not expensive to construct, also, it will not harm if left out, though at the same time it will last all the longer, naturally, if taken under shelter in really bad weather.

Those who wish for a softer seat, can add a couple of chair cushions from the house, but these, however, should not be left out or domestic relations may become strained !

The Framework

Best quality red deal will do for making, and if bought ready planed, should be ordered planed to the thicknesses given. Fig. 1 shows a side elevation and Fig. 2 an end elevation, with dimensions.

Cut the sides from a 6in. wide board and refer to Fig. 3, a longitudinal section, for how to shape them. Quite simple. Measure off the given distances and bevel off to the ends, as shown.

Cut the end pieces and joint to the sides with a tongued and slotted joint. The front end piece extends above the frame and forms a foot board, the simple form of joint here required is shown at Fig. 4. Saw off the upper corners of this board.

Take the pieces of wood for the legs and reduce to 2½ins. sq. for a depth of 3ins., as in Fig. 5, the shoulders so formed fitting under the side and end pieces. Fix the legs with nails or screws.

Set a bevel to an angle of 70 degs. and mark off on the inside of the sides the lines for a groove for the back rest, as in Fig. 3. Cut the grooves 1½ins. wide and ¼in. deep, and note that they touch the rear legs so that the latter help to support the back rest.

The side pieces of the rest are inserted in these grooves and there nailed. All the joints are first coated thickly with paint before nailing, or screwing, to seal them against damp.

The sides of the back rest are kept together at the top by a crossbar, A. This is a piece of 1in. by 3in. wood, rebated at the back ¼in. deep, as in inset, and nailed across. Round off the top edge of this piece.

At B a piece of similar wood is nailed across the sides. This is bevelled off each side to reduce the edge thickness to ¾in. and then nicely round off.

The seat slats are now nailed across the sides and back, being spaced 1in. apart, and one slat is nailed across at the rear of the back rest to complete the work of construction.

Give the whole a good glasspapering, then a coat of priming colour. Finish off with two coats of best quality paint. If the lounge is repainted every season and taken reasonable care of, it should last and give good service for years.

CUTTING LIST

	No.	Length.	Width.	Thickness.
Sides	2	3ft. 8ins.	6ins.	1in.
Ends	1	1ft. 8ins.	3ins.	1in.
Ends	1	1ft. 8ins.	6ins.	1in.
Legs	4	0ft. 9ins.	3ins.	3ins.
Back rest sides ..	2	1ft. 9½ins.	1½ins.	1in.
Slats A and B ..	2	1ft. 8ins.	3ins.	1in.
Remainder ..	13	1ft. 8ins.	3ins.	¾in.

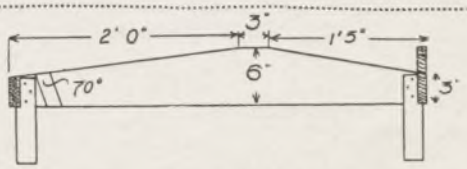


Fig. 3—A long section of the bed frame

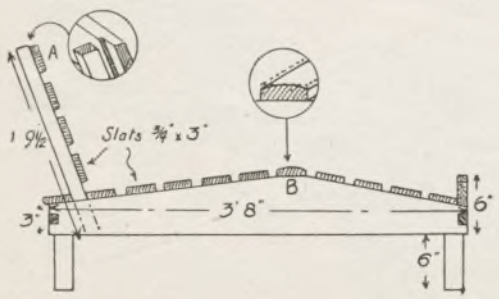


Fig. 1—A side elevation with dimensions

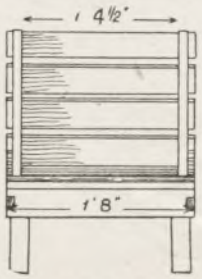


Fig. 2—An end elevation

Fig. 4—The foot board joint

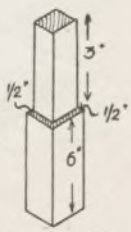
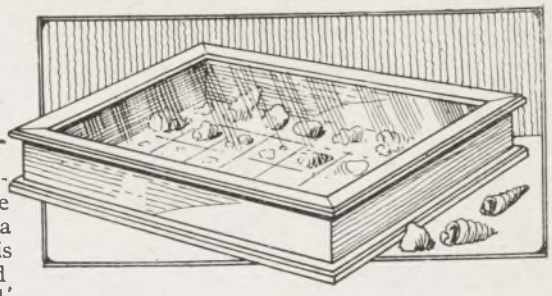


Fig. 5—The legs

A SPECIMEN SHOWCASE



WE are giving this week details and instructions for making a very useful showcase which would be suitable for exhibiting sea shells or butterflies. The size of the case overall is 16ins. by 11ins., but should a larger one be needed the general widths and thicknesses of the wood given would suffice for a case measuring up to 20ins. by 14ins.

The sketch of the case gives a good idea of its finished appearance and proportions, and in making it up there are three distinct sections to handle, viz.: the base, the case itself and the glass top or lid.

It must be explained that the case is of the flat type, and is permanently fixed to the base, while the lid fits down over the sides making it dust-proof and at the same time easily removable for getting at the inside. The fretsaw here enters largely into the cutting and preparation of the various pieces of wood, and a little care is needed in marking out the sizes and the mitres of the top frame.

The Framework

Commencing with the base, there are two long rails (A) and two end rails (B) butted together as shown in Fig. 1. They are held by gluing angle blocks in the four inside angles. This makes a sufficiently strong frame until the covering of plywood is screwed on when a perfectly firm base results.

Take care in marking out the sheet of plywood to see an even margin is left all round the edge of the frame, and also that the plywood is cut scant with the fretsaw. That is, the cuts must be made on the insides of the drawn lines, because the sides of the case will eventually fit close against the edges of the plywood as seen in the enlarged detail Fig. 4.

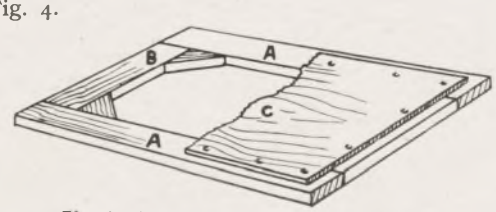


Fig. 1—A cut-away view of base framework

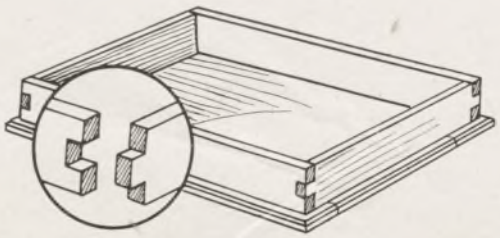


Fig. 2—The sides fitted, with detail of corner

In Fig. 1 a portion of the plywood is purposely shown cut away to show clearly the frame and angle blocks. The screws for the fixing of the plywood are also shown spaced out round the edges.

The Case

The case consists of a strongly made frame of wide stuff with each of its sides lapped together at the corners as shown in the circled diagram in Fig. 2. In gluing up these joints, check the inside angles to get perfect right-angles. Test with the try square or set square, which must be done, of course, before the glue has set.

The safest check, however, for squareness would be to place the frame over the plywood on the base. In fact, the frame might as well be screwed direct to the base, the holes being previously bored and countersunk on the underside.

The top edges of the base all round should be just planed away, this work should preferably be done before the case is fixed to it.

The Glass Top

The glass top or frame calls for care and attention to detail in the marking out of the various pieces which go to make it up.

The main frame consists of four mitred rails, two measuring 16ins. long, and two 11ins. long. Cut the mitres with the fretsaw or a fine-toothed tenon saw, and after gluing them together, screw on four brass angle plates as shown in Fig. 3.

Corner Plates

These plates (No. 107) are obtainable from Hobbies and are exceptionally useful for jobs such as this, as they make any mitred corners perfectly strong and rigid.

Where possible these plates should be let into the wood flush to make the neater job, although this is not absolutely necessary in the present instance.

To the underside of the frame, that is, the same

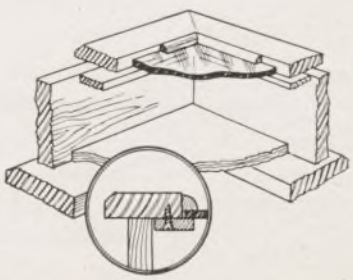


Fig. 4—Cut-away view with section of lid

Fig. 3—How the corner plates are fitted

side to which corner plates are fixed, is next glued and screwed four mitred strips of 3/16in. plywood $\frac{5}{8}$in. wide, and so fixed that they project 3/16in. beyond the inner edges of the frame to form a rebate for the glass.

To make a really satisfactory job, 3/16in. strips of thin washleather should be cut off and glued to these strips to form a bedding for the glass which, after being dropped into place on the leather strips is secured by nailing round four pieces of $\frac{1}{4}$in. quarter-round beading (Hobbies No. 34).

Measure off carefully the lengths for this beading and cut the mitres with the fretsaw. Bore the holes, too, with a very fine drill point for the fret pins which will hold the beads in place.

In ascertaining the size of the glass-measure direct from the opening of the frame allowing say 1/16in. for fitting.

When completed, the lid frame should fit comfortably round the edges of the case, without an undue amount of freedom. The large detail Fig. 4 shows a sectional view of the case and lid with all parts clearly defined, while the circled diagram gives a plain section through the lid.

The actual finish of the floor and around the sides of the case can be left to the worker, but we should suggest the sides be coated with Hobbies Ebonising solution (small bottles price 1/-) as well as the wood on the underside of the lid frame.

The floor will not really need a finish of any kind. A sheet of stout white card with squares marked off perhaps in indian ink would be most suitable.

The finish to the outside of the case depends largely upon the variety of wood used. If oak has been used then varnish would do.

CUTTING LIST

Base—
Cut two pieces (A) 16ins. by 2ins. by $\frac{1}{2}$in. (or $\frac{3}{4}$in.)
Cut two pieces (B) 7ins. by 2ins. by $\frac{1}{2}$in. (or $\frac{3}{4}$in.)
Cut one piece 8ins. by 2ins. by $\frac{1}{2}$in. (or $\frac{3}{4}$in.)
Cut one piece plywood (C) 14$\frac{1}{2}$ins. by 9$\frac{1}{2}$ins. by 3/16in.
Case—
Cut two pieces 15$\frac{1}{2}$ins. by 2$\frac{1}{2}$ins. by $\frac{3}{4}$in.
Cut two pieces 10$\frac{1}{2}$ins. by 2$\frac{1}{2}$ins. by $\frac{3}{4}$in.
Frame—
Cut two pieces 16ins. by 1$\frac{1}{2}$ins. by $\frac{3}{4}$in.
Cut two pieces 11ins. by 1$\frac{1}{2}$ins. by $\frac{3}{4}$in.
Cut two pieces 9$\frac{1}{2}$ins. by $\frac{3}{4}$in. by 3/16in. plywood.
Cut two pieces 14$\frac{1}{2}$ins. by $\frac{3}{4}$in. by 3/16in. plywood.
Beading—
Cut two pieces 13$\frac{1}{2}$ins. long, $\frac{1}{4}$in. quarter round.
Cut two pieces 8$\frac{1}{2}$ins. long, $\frac{1}{4}$in. quarter round.

Make the "Sparks Fly" in solving this

ELECTRICAL CROSSWORD !

ARE you interested in Electricity ? Even if you don't know an "ampere" from an "ohm" you are sure to be able to solve this simple crossword. There are no big difficulties and alternatives—just a plain square for your individual amusement for the next half hour or so.

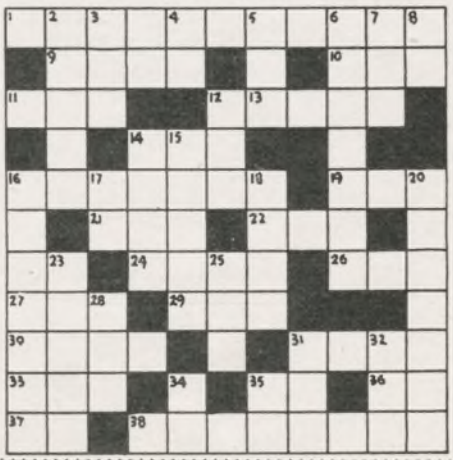
And naturally, there are no *prizes. We must stress this each time because new readers may be apt to take too much for granted and send in a claim for a prize for getting an all-correct solution. So, no claims, please! Just keep the puzzle intact in the Weekly and check up on the solution which will appear in next week's issue.*

CLUES DOWN

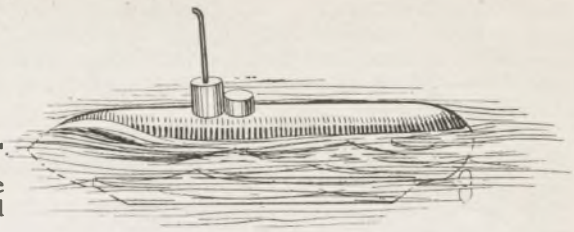
2. We can pick up many stations on an expensive one.
3. Curtail "amen."
4. Screw steamer (abbr.)
5. The unit of electrical resistance.
6. There are usually permanent ones on model electric motors.
7. Before.
8. Roman Catholic (abbr.)
12. "Hilt" beheaded.
14. Pertaining to the ear.
15. These must be connected properly as in a circuit diagram.
16. The strength of a battery, etc.
17. Locus Sigilli (abbr.)
18. The large South American ones can give you an electric shock.
20. These generate electricity.
23. Clear, easily understood.
25. The strength of a battery is this if the light is dim.
28. Very large.
31. A South African antelope.
32. Water congealed by cold.
34. "Ore" without the last letter.
35. Same as 35 across.

CLUES ACROSS

1. This gadget enables you to run your models from the mains.
9. Short for "amperes."
10. Name of electrical lamp using carbons for the illuminant.
11. A northern European fish of the carp family.
12. The visible representation of a person or thing.
14. It hoots at night.
16. An insulating material for electric wires.
19. The last of anything.
21. A term of courteous or formal address to a man.
22. To corrode.
24. A division of a galvanic battery.
26. A male child of parents.
27. A small cask.
29. The distress signal.
30. This is mixed with distilled water in accumulators.
31. Slang word for a light.
33. A fish-spear.
35. To keep the light burning.
36. First half of "coil."
37. Abbreviation of "edition."
38. We find carbon ones in microphones.



A DIVING SUBMARINE



THIS model submarine will carry out all the movements of the real under-water craft and you can make it to almost any size you like. A tiny model for the bath-room or a real big fellow for the pond or river can easily be constructed. The instructions are for a ship of medium size but you can easily alter the dimensions to suit your own requirements. Do, however, keep everything to the same proportions.

First of all you will need a 12in. length of round wooden rod about 2ins. in diameter; a length sawn from an old curtain pole of suitable size would answer admirably. Taper one end neatly to a sharp point to form the bows, and round the other over for the stern end. Take care to work from the exact centre so the weight of the hull is equally distributed.

The Hull

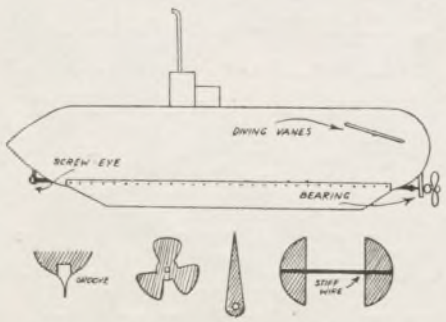
Now decide which point of the rod is to be the bottom and run a groove along its length, beginning and ending at the commencement of the taper at either end. This groove should be about ½in. deep and the same in width and is to house the rubber strip which drives the model.

The conning tower, made from short pieces of dowel rod, is secured to the upper side of the hull, fixing them first and then carving them to a suitable shape. The safest way of fixing them—for glue will soften and come adrift in the water—is to bore holes of suitable size into the hull, drive the dowel rod in and fix it securely by driving a couple of panel pins in from the sides.

Before going any further with the fitting, it is best to give the craft a coat or two of good paint; battleship grey or sea green being most suitable.

A Keel Strip

To make the keel get a strip of thin brass or copper—tin will do, but is apt to rust through quickly—about 9ins. long and 2ins. wide, and having marked the middle along the length, double it together along the centre. Open the edges out again and bend them to fit the contour of the hull neatly. File the ends so they align with the tapers and secure it to the hull with short brass brads. When fitting, make sure that it is equally placed over the groove.



Section of keel *The 1½in. dia. propeller and shaft* *Diving vanes*

The Propeller

Cut a propeller from a piece of brass to the size and shape shown and bend the blades to an angle of about 60 degrees, in order to give them a grip in the water. Drill a hole in the centre and into this solder a short length of 1/16 stiff brass wire.

Now cut a strip of fairly stiff brass to the shape shown, drill a hole through the wide end through which the brass wire will pass easily, and after drilling a starting hole in the hull, drive the strip firmly into the hull so the hole registers along the centre of the groove. This forms the propeller-shaft bearing.

At the bow end of the groove, screw in a small screw-eye to which one end of the rubber strip is secured. This screw-eye centre must also register along the centre of the groove.

Elastic Drive

To fit the propeller, slip a glass bead over the shaft—this is much better than a metal washer—pass the shaft through the bearing and then with a pair of pliers, turn the end of the wire to a neat hook, cutting off any surplus wire.

From four to eight feet of 1/8 rubber aeroplane strip will 'engine' the submarine sufficiently to give her a good turn of speed. The longer the strip, the longer and faster she will cruise. Thread the strip through the groove, through the screw-eye, then back again and around the propeller hook until the whole length has been used.

Do not draw the strip tightly when placing it, but rather let it be a little on the loose side, for it will last much longer if you do this.

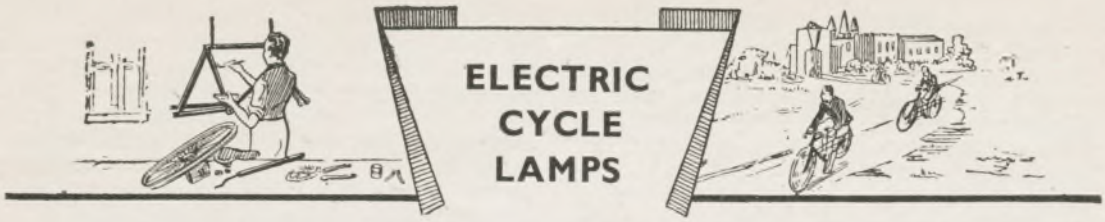
The Diving Vanes

Last, but not least, you must fit the diving vanes which control the movement of the craft as she slips through the water. Cut them from strip copper, or brass, by striking a 2in. circle on it with the dividers and cutting around the outline.

Now cut the disc obtained accurately in half, and cut a further ½in. wide strip from the straight side. Solder a 3in. length of stiff brass wire across one vane, as shown, and drill a hole right through the hull so that the wire will pass through it.

Place a bead over the wire, pass it through the hole, another bead, and then solder the other vane on to that end of the wire. Adjust the vanes to

(*Continued on page 230*)



FOR cleanliness and convenience, the electric lamp scores heavily over the other two types of illumination (oil and acetylene) for bicycles. Whether you obtain the best results, however, is open to question. For good service, an electric bicycle lamp must be chosen carefully. Not every rider realises this.

First then, a few words about the choice of one of these accessories. At the outset, the question lies between (a) battery lamps and (b) dynamo lamps.

A battery lamp of course, requires periodic battery replacements; a dynamo lamp supplies its own current, and no refills are required at any time.

There are other aspects of the problem to be borne in mind, however. While it is true that the first cost of a dynamo lamp is the only cost, the rider who must necessarily choose the cheaper, battery pattern can save expense in several small ways.

Hints on Choosing a Lamp

First, it is wise to choose a lamp with a dimmer switch. By using this switch in the proper way, much current and some expense can be saved. It is rarely necessary to use other than the dimmed light in town and city thoroughfares. This in itself will save a fair amount of current.

Further, it should be remembered that an electric battery always lasts longer if it is used intermittently over short periods, rather for a long time at a stretch. A battery capable of producing a light continuously for 30 hours will usually serve for 20 two-hour periods, or 40 hours in all.

Do not overlook, either, that there are batteries *and* batteries! Apart entirely from the question of cost, no battery retains its full capacity indefinitely, even if it is stored unused.

When purchasing a refill for an electric lamp, it is therefore wise to insist that the goods be properly tested. A proper test does not mean merely to show that the battery will light a flashlamp bulb or ring a bell. A voltage test should also be given.

Look to the Contacts

In fitting the battery and looking after the lamp, the first essential is clean contacts. Cyclists who know that "wet" accumulators are liable to sulphate and cause bad contacts are often unaware that dry batteries are liable to the same action, though to a lesser degree.

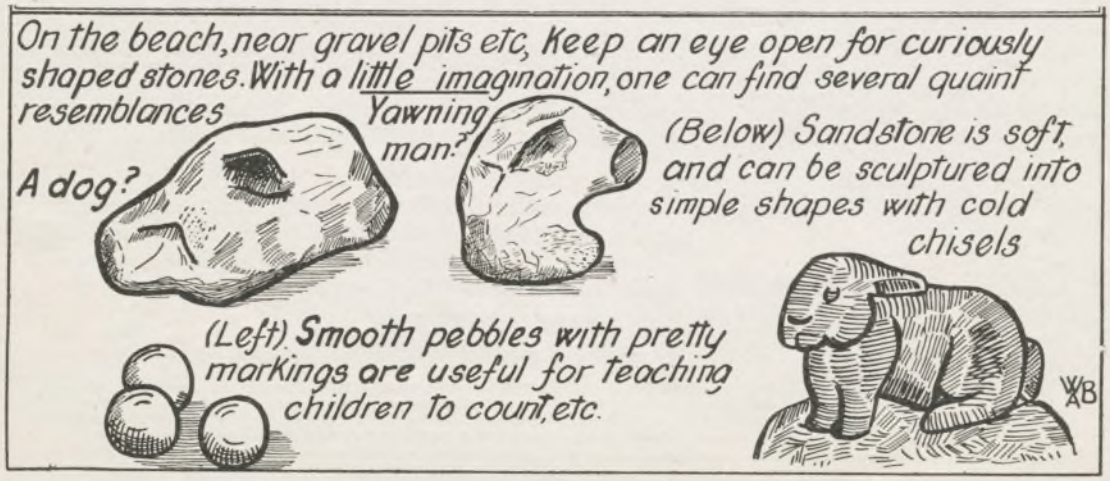
Therefore, before fitting a new battery to a cycle lamp, scrape the contacts inside the lamp. See also that the metal prongs have not become bent; if they have, gently bend them back to their original position, thus ensuring that strong contact with the battery is made.

Economy in Batteries

Battery lamps with dimming switches require two batteries, and it should not be overlooked that, whereas both batteries come into operation when the full beam is used, only one battery is employed for the dimmed light.

The rate of discharge from the batteries is thus uneven, and economy, can be effected by changing over battery A with battery B from time to time.

The cyclist seeking economical lighting should strive to keep the two batteries in approximately the same condition, because a poor battery tends to deteriorate a good one. Above all, on no account should a battery be deliberately short-



circuited to produce sparks. This reduces the life of the article very considerably.

Damp is also an enemy of the electric cycle lamp. It is in this direction, indeed, that the cheap patterns usually fail. They are not completely weatherproof.

Keep Batteries Dry

In any case, no matter what the cost of an electric battery lamp, it is advisable to dry it after a run in wet weather. This rule also applies to the interior, and not only to the outside. The batteries should be removed and the interior of the lamp carefully wiped. If the batteries are not replaced until the lamp has to be used again, they will last longer.

Even the most carefully constructed lamp allows slight leakage of current, and this can be avoided only by removing the battery when the lamp is not in use.

The Reflector

The condition of the reflector is important in obtaining the most economical service. If the reflector is kept brightly polished, you will often find that the " dim " light gives sufficient illumination, when otherwise the full light would be needed.

Care must be taken not to scratch the highly plated surface, however. A good cleaning medium is finely powdered chalk and methylated spirit.

Correct fitting and clean contacts are the essentials of long and satisfactory service, in the case of dynamo lamps. Nowadays, certain makes of bicycle have dynamo lighting as a permanent accessory, and in these cases the articles can be regarded as properly fitted.

When a dynamo is fitted to an existing machine, and is not built-in, however, care must be taken that it is attached in such a way that the pulley will make correct contact with the tyre. It is best to fit the dynamo *in front* of the frame forks. Then, if the clips should by any mischance work loose, there is less risk of the dynamo becoming jammed between the wheel and the forks.

Good Earth Contact

The most important point of all is to see that a good earth contact is provided. Unless this is done, a good light cannot be expected, for the current will have difficulty in completing the electrical circuit.

When the driving pulley of a dynamo begins to slip, the trouble can usually be traced to the fact that the clip holding the dynamo to the forks has loosened.

Some riders, however, will find that, if the fault does not arise in the way just mentioned, the fittings of a thick rubber band (obtainable from a screw-top bottle) will help matters. It will also reduce the noise made by the accessory.

The Right Bulb

Burned-out bulbs are usually a result of fitting the wrong type. Remember that each pattern of dynamo requires a bulb to suit. It is unwise to experiment and when replacements are necessary the same type of bulb should be specified.

Given a suitable bulb failure is more likely to occur from excessive vibration than from any other cause, and such failures are infrequent. If the correct bulb is fitted, it is nearly impossible for it to be " blown " by the current which the dynamo will supply, even when high cycling speeds are achieved.

TWO SMALL PHOTO STANDS

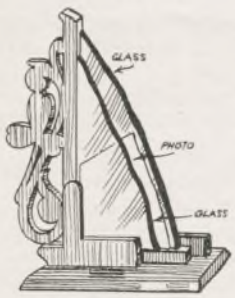
Full size patterns on page 239

BEGINNERS and expert users of the fretsaw alike, will welcome the opportunity to make up the little novel picture frames illustrated here. Patterns for them are given complete on page 239 and the work of cutting is quite straightforward.

The completed article stands only 4ins. high and as can be seen, is quite a novelty. It is just the type to have a ready sale at bazaars, exhibitions, as well as amongst your own friends for Christmas or birthday presents.

Small Pieces of Wood

The cost is quite small because very few pieces of wood are required. As can be seen, the picture —a photograph or even a print from a magazine— is cut out round its edge in paper, then placed between two pieces of glass. These in turn are held in an upright support, and the whole thing is fitted to a solid base.



Cut-away view of the parts

A cut-away view of the whole thing is given here, where its construction is clearly seen. The main parts are in 3/16in. wood with the overlays in ⅛in. By an economical arrangement of the patterns, quite small pieces of board can be utilised.

Paste the pattern down to the wood with the grain running in the longest direction, and of thicknesses shown with each pattern.

The base is a 3/16in. piece, in the centre of this is cut a little slot to take the tenons A.A. in the main uprights. The dotted lines on the pattern of the base, by the way, show where the two overlays stand.

Glass Supplied

To overcome the difficulty of the glass we can supply two suitable pieces 3½ins. by 2¼ins. They stand exactly in the aperture provided and are supplied by Hobbies at a cost of 3d. with 1½d. extra for postage.

Test them before cutting the wood in order to make sure they fit into the three-sided opening of the main upright, and when the picture is put between they should fill up the total thickness of the wood.

The glass is prevented from falling backwards, or forwards by the little overlay uprights which are glued on back and front. These are in ⅛in. wood and must be cut carefully so that the narrow rims do not become broken.

Clean up all the parts before finally gluing together, and test out the tenon A in the main upright to see it fits snugly in the one in the base.

Assembling the Parts

A satisfactory joint having been obtained, glue the main upright in position, then strengthen the whole thing up by gluing on the front and back overlays. There should be an equal overlap all round as shown by the dotted line on the pattern. Get these overlays to stand solidly on the base, further to help to make the whole thing solid.

One of the main points, too, is to see that the glue is holding quite strongly. Do not put on too much, but rub it well into the wood then press the parts together and weight them down until the glue has set. If any of the adhesive happens to squeeze out, wipe it away immediately before it dries.

How to Finish

The finished article can be stained and polished quite easily. Both are applied with a brush, and if the first coat of polish sinks into the wood after a day or two, put on another until you obtain a bright and glossy surface.

If you prefer, you can paint the whole thing with bright enamel colours, but remember not to fit the glass in until these have dried, or you will get it stuck.

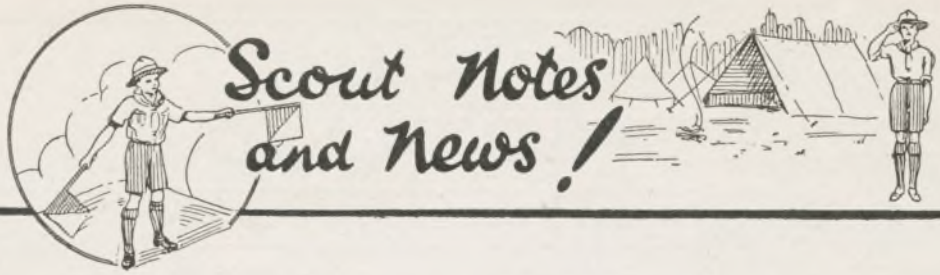
If there is any tendency for the completed article to be top heavy, a good plan is to add another base. This can be made a little larger than the one shown on the pattern, and glued beneath.

Weighting the Base

Now turn the whole thing over and cut a groove with a gouge or chisel on the underside of this base and fill up with a strip of lead taken from an electric wiring cable, or even some molten lead poured into the space provided.

The hole can be covered in again with plastic wood, or by gluing on a piece of baize or similar cloth to prevent the article scratching the table on which it stands.

Another of our Doll's Kitchen Models next week



Smart Parades

ONCE before I wrote on the subject of smartness on parade and make no apologies for doing so again. A Scouter who attended a big parade recently told me that the smartness in his opinion was somewhat marred by the multicolouredness of the uniforms.

This has always been a particular grouse of mine and I feel that Patrol Leaders can help a good deal in this matter by insisting that members of the patrol who are buying new or replacing parts of their uniforms attend the same shop and get colours to match the rest of the Patrol.

This will obviate the Patrol looking like a patchwork quilt and if all the Patrols do the same, will tend at least to make a Troop appear smarter on parade. Many Scouts will be replacing parts of their uniforms in readiness for the coming camping season, so I hope Patrol Leaders will bear this is mind and use their influence for the benefit of the Patrol and ultimately the Troop and the Movement.

Cleaning Your Uniform

"PLEASE Sir, Mother is washing my uniform." How often we Scouters have heard that tale on Troop night when Tommy turns up minus his uniform! Well, assuming that he is speaking the truth, let us make sure that it is being washed correctly.

Never rub soap directly into khaki clothing as this injures the material. The cloth should be washed in lukewarm water using a soap which does not contain much alkaline matter.

Rinse first in warm water, then in cold to which two or three cups of coffee grounds have been added. This will help to maintain the appearance and we shall see less of the almost white "khaki" shirts which spoil the appearance of so many troops on parade. Use a cloth over the material before ironing.

What to look for

FLAMING June or the Merry Month of Hay. To the farmer it is the month of the first of his reaping seasons and Hazel will be commenced all over the country, although the crop this year will be a very poor one owing to the lack of rain in the early months of the year.

Hay and corn cutting provide many jobs that can be undertaken by Scouts in return for the loan of camp sites, so do not forget to offer your services for one day.

Fruit trees will be showing medium size fruit now. They are certainly not fit to eat at this stage and Scouts should also remember that they have a rightful owner. The countryside will be a mass of flowers and stag beetles will be seen and heard droning through the evening air. Grasshoppers start their choruses and many birds will be starting their second broods.

An observant Scout may catch a glimpse of sheep shearing and he will often startle a brood of pheasants and partridges on his rambles down the country lanes.

Patrol Animal Competition

HERE is a simple competition which should draw a vast number of entries for its very simplicity. State on a postcard what you consider the most popular Patrol Signs, using the list given in Scouting for Boys. Give six signs in their order of popularity and send them in by Saturday, June 11th, addressed to Scout Competition, Hobbies Weekly, Dereham, Norfolk.

The results will be interesting to all and will be published. There are consolation prizes in addition to the usual 10/- worth of goods, so I hope we shall have a record entry. In the case of a tie neatness will count.

There is no need to draw the signs, just name them as follows: (1) Bulldog, (2) Kingfisher, (3) Squirrel, etc.

A Camp Fireplace

ONE of the chief difficulties at camp is how to keep the food hot when one lot is cooked sooner than the rest and I would advise Patrol Leaders to try out the cross-shaped fireplace with this end in view.

As its name implies the fireplace is shaped like a cross and is of the trench type. The food is

cooked in the main trench and the art of the thing is that in stoking the fire the hot ashes are pushed into the side arms of the trench and it is over these that dixies can be placed to keep things hot for dinner. Your fuel consumption may be a trifle more, but it is worth it to have a steaming hot dinner instead of a half cold one.

The illustration gives you an idea of what I mean; try it out at your next camp and see the improvement.

The Skipper

The Vegetable Plot

NEVER let weeds run to seed or they will make very much more work in the future. The best time for hoeing is on the morning of a warm sunny day so that the weeds wilt and die within an hour or two of being rooted up.

It is not always possible to wait for such weather, however, and it is better to do the hoeing in dull showery weather than to leave this undone until the weeds get big and take much more hard work to get them out of the ground.

A few minutes now and again with the hoe when weeds are less than an inch high, will do more to keep the plots clean than will hours of hard work when the weeds have grown to any size.

Kale is a useful winter vegetable which should be planted out during this month, the plants should be set out in rows two feet six inches apart with two feet between the plants. Like all greens this vegetable will succeed best on land which has been well manured.

Keeping Kale

In order to have kales in good condition for as long as possible throughout the winter, it is a good plan to make two or three plantings at intervals. The last is made in as northerly and cold a situation as can be found. These plants will then make slower progress and will not run to seed, so they will be in good condition for the table when there are few if any other vegetables to be obtained.

Cauliflower and broccoli may both be planted out still. Asparagus cutting should finish by the middle of the month to allow the plants to make growth for the production of a healthy crop next season.

Make a Mushroom Bed

This is a good month for making a start with mushroom beds. To do this a quantity of horse manure will be needed. If this cannot be obtained it is better not to attempt to grow this crop. The horse manure is placed in a long heap and it should be turned over two or three times at intervals of two or three days taking care to bring the middle of the heap to the outside at each turning.

Mix the manure with good loam in the proportion of four parts manure to one part loam. Make a ridge shaped bed from two and a half to four feet across at the base and about the same height pressing the layers down very firmly and finishing off neatly. Remember that a bed which is not solid and well made will not produce mushrooms.

The best spawn should be divided in pieces about walnut size and inserted about nine inches apart in the bed about an inch or so beneath the surface and the bed covered with a thin layer of fine soil, finally clean straw is spread over the whole. When autumn begins a fine crop of mushrooms should begin to grow.

A picture of how the bed is made is given on the next page.

Among the Flowers

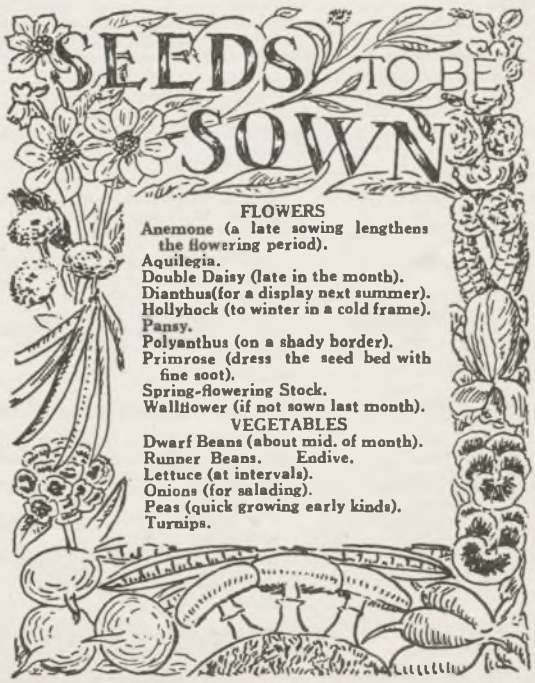
PLANTS in the herbaceous border will be growing strongly and it is as well to take a look at the stakes round the larger growing kinds to see that these are doing their work. It is time to plant out dahlias now.

Although this is sometimes done earlier, in many parts of the country there is danger of a late frost destroying the plants if these are planted out before the beginning of June.

For bedding purposes these are best if they have been grown from cuttings and rooted in pots. When planting take care to turn the plants out of the pots with the ball of soil unbroken and bury this two inches beneath the surface of the bed, then tread the soil carefully and firmly round the plants.

Dahlias

Dahlias should be staked and tied as soon as planted if they are the vigorous kinds. Stakes for this purpose should be neat.



June is one of the best months for pruning many flowering shrubs, although these do not need a great deal of attention overcrowding branches should be removed to allow light and air to penetrate.

It is a good idea to notice on what part of the tree flowers are produced, whether it is on new wood or on older branches and to encourage the growth of this wood so that a first-class show of flowers is produced.

It is possible to encourage some shrubs which fail to flower year after year to begin to do so by bark ringing in the same way that fruit trees are dealt with. The writer was once successful in throwing into flower by this means, a lilac shrub, which had not produced any bloom for very many years.

The ball of soil round a dahlia root is placed 2ins. below the surface as at A

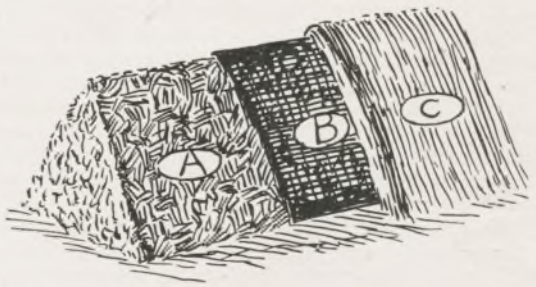
Fruit

FRUIT should be forming nicely now. It is not likely that as much injury has been done by frosts of which there were several during the blossoming period, in gardens as in orchards.

Fruit trees and bushes in gardens are usually sheltered and so escape the worst effects of frost.

If choice dessert varieties of apples and pears are rather heavily loaded with fruit, it is a good plan to thin out the apples and pears in the cluster to some extent. So those that remain are able to grow perfectly. This is especially important if the fruit is wanted for exhibiting at your local fruit and flower show.

If the weather is very dry, it is a good plan to water the strawberry bed well at intervals. In dry weather the leaves of the strawberries not only take all the moisture from the soil without passing any on to the fruit, but if there has been rain which has helped to swell the fruit before the dry weather sets in, the leaves and leaf stems will actually absorb the moisture which the fruit already contains.



A mushroom bed made of manure (A) thin layer of soil after spawning (B) and straw (C) covering after soil

In this way, unless watered, strawberries which are plump and look like making fat juicy fruit at the beginning of hot dry weather, may in a few days turn out to be wrinkled and dry.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

NAME	ADDRESS	WANTS FRIENDS	INTERESTS, Etc.
J. E. Grimshaw	467 Inkster Blvd., Winnipeg, Man., Canada.	Anywhere except Canada and U.S.A.	Stamps.
J. U. B. Okwodu.	c/o T. S. Okeke, Govt. School, Awka Dist., Onitsha Prov., Nigeria, W. Africa.	Anywhere.	Anything.
A. A. Ezerioha.	Orsu Alamiri, Native Court, Orlu District, Okigwi Division, Nigeria.	Anywhere.	Anything.
H. Lorentz.	17 Juliet St., Kirkdale, Liverpool 20, Lancs.	U.S.A. and Brit. Empire. 14-16.	Wireless, Hiking, Cycling and Engineering.
J. O. Moore.	Government School, Ajalli, Awka Division, Onitsha Prov., Nigeria, W. Africa.	Anywhere.	Anything.
C. Ramsamy.	131 Lady Selborne, P.O. Daspoort, Pretoria, S. Africa.	India, Anywhere except England. Age 17.	Fretwork, Collecting Photos and Antiques.
Ng. Yik Beng.	57 Jalan Jenang, Batu Pahat, Johore.	Anywhere.	Photography, Fretwork and Carpentry.
H. J. Mugford.	"Calgary Farm," Chudleigh Knighton, Newton Abbot, S. Devon.	New Zealand.	Anything.
Miss E. Maskell.	23 Acacia Rd., Beckenham, Kent.	Anywhere. Age 22.	Music, Snaps, Art and Stamps.
M. Agu.	c/o Niger Coy. Ltd., U.A.C. Enugu, Nigeria.	Anywhere.	Anything.
G. Ezekwesily.	c/o Nigerian Railway, Loco Running Shed, Enugu, Nigeria.	Anywhere.	Anything.
Master D. White.	26 Sundown, Hatters Lane, High Wycombe, Bucks.	British Colonies only.	Stamps.
A. Oxley.	14 Roger Lane, Ashenhurst, Huddersfield, Yorkshire.	Members of St. John Ambulance Brigade, anywhere except England.	Anything.
T. W. Apps.	No. 1 Flat, Strada Maggazzeni, Floriana, Malta.	Anywhere except England. Over 21 years.	Fretwork, Stamp Collecting and Sports.
Bruce Guthrie.	117 Langley Ave., Toronto, Canada.	British Possessions.	Stamps.
Lau Zat Sun.	21 Perak Road, Kuala Lumpur, F.M.S.	Anywhere outside Malaya.	Anything.

FORMING A CAMERA CIRCLE

MANY readers of Hobbies Weekly would perhaps be glad of the opportunity of introducing or forming a camera circle. If you are not a member of a Hobbies Club it is still possible for you to get a few of your friends together and by co-operating, form a circle whereby you can all help each other in the work and at the same time accumulate some useful pieces of apparatus at a minimum cost.

The idea which we are giving you is one which was put into practice a few years ago by a small group of fellows each of whom possessed a camera, but owing to lack of funds were not in a position to use them very much.

The Beginning

One evening they got talking and with the help of a friend the following scheme was put into operation. And as it happened to be in the Spring of the year they were soon able to make good use of it.

They were asked by the friend how much they could each put into a common fund, there were only five youngsters and the total cash amongst them made a sum of 12s. 6d. Which was not much with which to achieve their purpose, but the friend was a good sport and made himself one of the party by becoming a chief benefactor at the start and putting into the common fund sufficient to make up the amount required to get the thing started.

Counting the Cost

What they were most anxious to do was to take more photographs at less expense. There is only one way to do it and that is to do all the work of developing and printing yourself. It is surprising what a difference it will make, not only in the number but also in the quality of the work.

The boys made a list of the essential things which they would require and this consisted of the following.

	Price. £	s.	d.
One Film Developing Tank	1	5	0
Two ¼pl. porcelain dishes	0	2	8
One ¼pl. printing frame	0	1	3
One 3oz. bottle of Azol Developer ..	0	2	0
One carton of M-Q packets	0	1	6
One ½lb. tin Acid Fixing	0	0	10
Total ..	£1	13	3

The total meant that at least another 20/- was wanted before operations could be commenced and this was promised by their friend on condition that each member would agree to certain rules which he helped them to form.

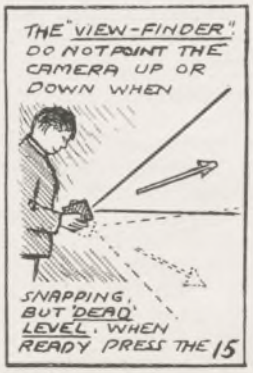
Simple Rules

Though simple, they have proved all that was necessary to make the little club a success.

(1) Each member to contribute 3d. per week to the fund for paying back the 20/-.
(2) Each member to pay for whatever chemicals he used, the rate to be the actual cost.
(3) One of the members to keep the stock and collect the cash for buying new stock.
(4) No member to keep any of the apparatus for longer than two weeks at a time, but if it was not required by another member he could borrow it for a further period.

The day arrived when the articles were bought and paid for and needless to say there was great interest shown in the tank for none had had any experience in developing. So it was agreed that with their first week's contributions they would purchase a spool and go out together on the Saturday afternoon. Then by using the best

Our Photographic Feature . . . . *(Continued)*



camera in the party each should make one or two exposures and complete the film.

This was an excellent move, because they were able to have little discussions as to the suitability of subject and position. Also as to what exposure to give, and there is no doubt that they each learned a lot. On their return they consulted the directions as to the use of the tank and the method of developing by time and temperature. These only took a few moments, because they are so very clear, but the boys realised that they had not got a darkroom lamp and that they needed a thermometer.

A Thermometer

The latter, however, was soon found in the form of an ordinary bathroom one which showed them that the temperature of the water supply was the right one, namely 65°. After very carefully studying how to insert the roll-film into the tank it was decided to try doing it in the dark.

When the top was fixed on the tank the light was turned up and they proceeded to make up the solutions. The tank held about 18 ounces of solution and, as economy had to be the keynote of all their work, they decided to make up a solution of one part to 100 parts of water. This meant taking a ¼ ounce and diluting it with 25 ounces of water, because they did not want to measure out drops.

Simple Measures

This found another 'snag,' because they had not got a measure, but after a little discussion one of the party remembered that he had read somewhere that an ordinary teaspoon was supposed to hold exactly ⅛th of an ounce, some of the fellows very much doubted this and in the end a simple experiment was made. They all knew that the standard tumbler glass holds about half-a-pint (10 ounces) so they got some water, a tumbler, a tablespoon and a teaspoon.

By filling the teaspoon 8 times and pouring each one into the tablespoon they should get one ounce and by filling the tablespoon ten times and pouring these into the glass should fill it and thus give them the proof they wanted.

Satisfied their friend was right, they proceeded to fill the teaspoon twice with the Azol, poured this into the tumbler and filled this with water and poured it into a jug. Then they again filled the tumbler and put this water with the contents of the jug and finally by taking two tumblers of the same pattern filling one with water and pouring half of it into the other they were able to get at the balance of five ounces and so were satisfied that they had a correct solution.

Developing

The next item they had to make sure about was how long to develop the film, but on looking at the directions they were soon able to see that. Carefully pouring the solution from the jug into the tank and taking note of the time, they then got busy making the fixing solution.

One of them was told off to occasionally turn the knob of the tank in order to agitate the solution from time to time—on referring to the directions on the tin of acid-fixing it was seen that 4 ounces of the powder was required to make 30 ounces of fixing for films. On opening the tin it was seen that the lid was in the form of a measure and held two ounces so, after washing out the jug, they placed three tumblersful of water in it and then dissolved the four ounces of powder in this.

Washing

At the end of the 45 minutes the solution was run off from the tank down the drain and water from the tap was allowed to run into the tank for a short washing of the film.

After it was emptied again the fixing solution was poured in. This part of the process was through in about a ¼ hour and the tank was opened. The fixing was poured into a bottle for future use and to the great joy of them all they found that they had successfully developed their first spool and at a ridiculously small cost.

This circle has been a great success in every way. Other fellows joined it, the tank was nearly always in demand. Incidentally, some of the members have been successful competitors in the competitions which are so popular nowadays and have won cash prizes which have enabled them to buy better cameras.

The scheme has been put to several clubs and has caught on. It is certainly one which should appeal to all Hobbies readers and if you are interested in forming a circle and want any information regarding any details put your query through to your Editor who will welcome it and will be pleased to help you.

A Submarine—(*Continued from page 222*)

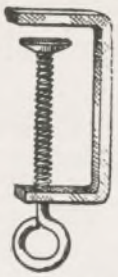
the hull so they turn fairly tightly and, at the same time, make sure that they lie on exactly the same plane, or diving will be faulty.

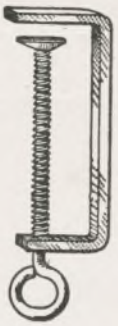
The submarine is now completed, except for a finishing touch-up with paint and the fitting of a periscope. A length of brass wire bent over at one end and pushed into a tiny hole in the conning tower, will give this last realistic extra.

Now try the craft in the water. She should float just awash; that is, with the tower just showing above the water. Any adjustment in order to correct the position should be made to the keel, either by driving in a few more tacks to add weight, or filing away a little at the ends to reduce it. In either case very little will be needed.

Set the diving vanes slightly sloping upward towards the bows, wind the rubber by turning the propeller, and set the craft off on her first journey. She will drive along the surface for several feet, then dive suddenly, to as suddenly reappear and cruise again, repeating the movements until the rubber strip is unwound.

She will cruise only in a straight line, but it is a simple matter to fit a rudder of brass strip at the stern so that she will cruise in a circle and so return to her starting point.





There are 101 uses for these cramps.

ALL-STEEL CRAMPS

Get three or four of each size. You'll say they're the handiest little tools you've ever bought. Amazingly strong for their size.

2 in. opening	**5d.**	3½ in. opening	**7d.**
2½ in. „	**6d.**	4½ in. „	**8d.**

Postage 2½d.

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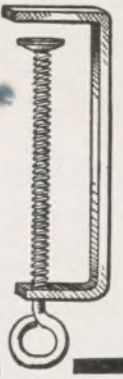
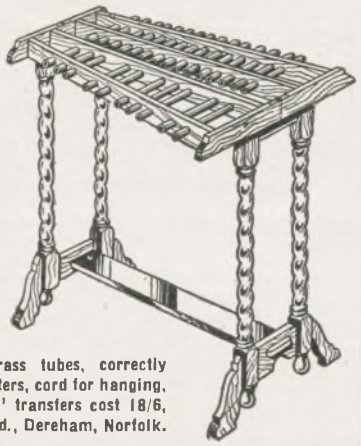


Great FUN Playing this TUBE-o-PHONE

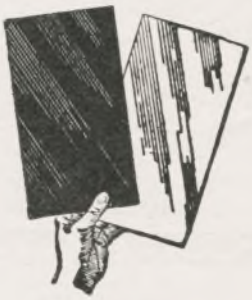
...and You can make it Yourself

from Hobbies Design and materials. Stands 2ft. 9ins. high when completed. Played like a Xylophone. The Design (No. 183 special) costs **6d.** The parcel of Oak, with four Oak legs **11/6** carriage forward.



The Set of 25 brass tubes, correctly tuned, with two beaters, cord for hanging, hinges and "note" transfers cost 18/6, post 6d., Hobbies Ltd., Dereham, Norfolk.

Ivorine & Xylonite



This material is particularly suitable for fine work in miniature, for overlays, monograms, etc. It is a composition with a beautiful flat glossy surface, easily cut with the fretsaw, being only about $\frac{1}{32}$-in. thick.

In Sheets 12ins. by 6ins.
IVORINE (White) 1/6 per Sheet
XYLONITE (Black) 1/3 „ „
Postage **2d.** *extra*

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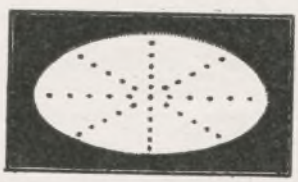
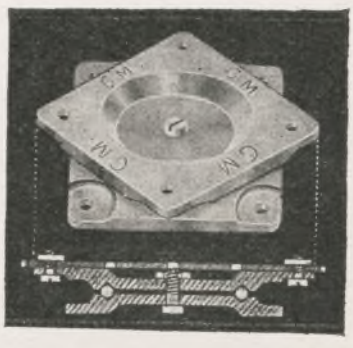
No longer need you pay a high price for a ball-race turntable. This one is engineer-made and costs only eighteen pence! A heavier model (for revolving display stands in shop windows) costs only 9/6. Gear wheels are also supplied as shown. Ask to see a Turntable at any Hobbies Branch.

GEAR WHEELS

3½ins. dia. to fit small turntable. 17 holes. Made from hard brass. $\frac{1}{16}$in. thick. Machine cut teeth. **Price 1/-, Postage 2d.** Gear wheel to fit large turntable 5½ins. dia. 41 holes. **Price 3/6. Postage 3d.**





Smooth in action. 45 hardened steel balls. 2½ins. square. 5-hole size. To carry 56lbs. **Price 1/6. Postage 3d.**
HEAVIER MODEL. 5¾ins. diameter 11-hole size. 80 steel balls. Guaranteed to carry 112lbs. **Price 9/6. Postage 6d.**

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The AMATEUR WOODWORKER

TYPES OF DOVETAIL JOINTS

IN the last article, we explained the making of a simple dovetail joint. This week we go further and learn how to make a number of dovetails—a form known as box dovetails.

If you are making a box for your tools, or a smaller one for ties or handkerchiefs, the strongest and best joints you can use are dovetails. These hold the sides firmly together and prevent warpage.

For convenience sake, we shall say that the box we are making has finished measurements of 12ins. by 7ins. by 5ins. This means that four pieces of wood are required, two pieces 12ins. by 5ins. and two pieces 7ins. by 5ins. Plane these true to width and an even thickness of $\frac{5}{8}$in. and shoot the ends true and square on a shooting board.

Marking Out

The success of a joint depends largely on the accuracy of marking out. Figs. 1 and 2 show the joint assembled and apart. Four joints such as this have to be made in this box and you must remember that the dovetails are invariably cut on the longer piece of wood.

Square a pencil line round the end of "A" (that is the longer side) which is the thickness of the wood in from the end. Do this also to the shorter piece "B."

The dovetails have to be marked out on piece "A" and in this particular case with wood 5ins. wide, an arrangement as suggested in Fig. 3 is a good one.

Of course, the number of dovetails differ with the width and thickness of the wood. You must bear this in mind but nevertheless the method of division holds good.

Mark the given measurements along the edge as in Fig. 4 and prepare your bevel for marking out the slope.

Using a Bevel Square

For the benefit of those who have not used a bevel before, it is a form of adjustable try-square. The only difference is that a try-square is set permanently at 90° and a bevel can be fixed (by tightening a screw) at any angle you wish.

We have now to get our bevel set at a convenient slope considered best for dovetail joints. The slope should vary with the wood in use but for our purpose 1 : 7 is quite satisfactory.

To set the bevel, square a line across a piece of waste wood, and mark seven units along this line. Then mark one unit along the edge of the wood and join these two points with a line.

Now loosen the screw on the bevel and adjust the blade to the slope of the line. Tighten the screw and the bevel is ready for use (see Fig. 5).

Place the bevel along the end of your wood, and from the marks already made, draw cut lines down to the pencil line. When you have completed this on one side, from the previously marked points, square cut lines across the end and with the bevel mark out on the other side.

You should now have four dovetails with cut lines round them as illustrated in Fig. 6. Before proceeding any further with marking out, it is necessary to cut the dovetails. To do this fix your wood in the vice, so the cut lines marking the dovetails are in a vertical position.

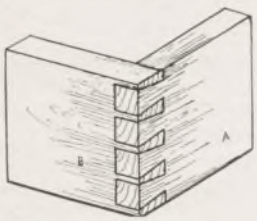


Fig. 1—The joint completed

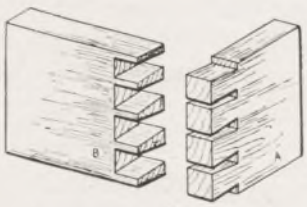


Fig. 2—The pieces apart

Fig. 4—Mark round the end

Fig. 3—An end view

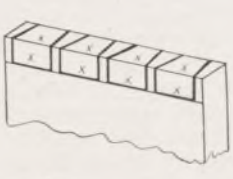


Fig. 6—Partly cut

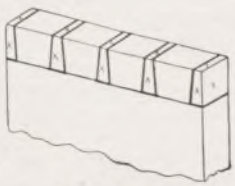


Fig. 8—The second portion

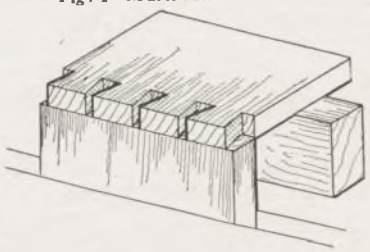


Fig. 7—Marking the cuts

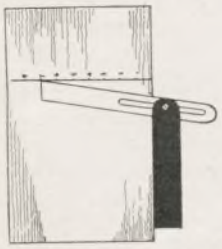


Fig. 5
Setting a bevel square

Then saw down, turn the wood and saw the other side of the dovetails and then fix the wood horizontally in the vice, saw across the side and remove the waste wood.

We have now to remove the waste wood between the dovetails. Most of this can be done by cutting across with a bow saw. Then place the wood flat on a chiselling board and chisel down to the line. Now that the dovetails are cut, their size and position can be marked on the other piece of wood.

This is best done by fixing " B " upright in the vice supporting " A " on a piece of waste wood and allowing it to rest on " B " as in Fig. 7. Then, with a sharp knife, mark round the dovetails and produce the lines down—with a try-square—to the pencil line.

In order to have a cut line round the wood to be cut away, it is necessary for you to cut in part of the pencil line. Fig. 8 shows " B " as it should be marked out prior to cutting (the heavier lines are cut lines). Mark a X on the wood to be cut away.

Next, fix the wood upright in your vice and saw down—on the waste wood side. Then cut most of the waste wood away with the bowsaw and follow this by vertical chiselling on the cutting board cut down to the line. Use a chisel a little smaller than the narrow end.

Assembly

When assembling the joint, " A " should slide into " B " under hand pressure. If the fit is a tight one, do not attempt to hammer it too hard as there is a fear the wood will split.

Make this joint at all four corners of the box lettering each corner A, A ; B, B ; etc. Make four sets of dovetails, then mark out and cut the pins ; do not complete each joint in turn.

As can be seen from Figs. 9 and 10 in this type of joint, the dovetail is not shown on one piece of wood, hence it is most suitable for the construction of drawers. The marking out of this joint is only slightly different from that already explained.

Stopped or Drawer Dovetail

As it is usual when making a drawer to have the front thicker than the sides, plane one piece of wood 6ins. by 4ins. by ¾in., and another 6ins. by 4ins. by ½in., see that they are true and the ends shot square. Set your gauge to ½in. and mark a line round the end of the thinner piece (Fig. 11) and across the end of the other (Fig. 12).

Now, on the thinner piece, mark out dovetails as you have previously done. Cut these and transfer then onto the thicker wood as shown in Fig. 13. Produce these lines down on the side as you previously did and mark in with a cut line those parts to be cut away.

Care in Cutting

Skill is required when cutting out the waste wood on this piece. Fix the wood vertically in the vice and saw down as shown in Fig. 14, then cramp the wood flat on your bench and chisel out as shown in Fig. 15.

When doing this, take great care not to cut past the line and also see that you have cut fairly deeply across the grain before you attempt to cut with it. A slip in this direction may split your wood and ruin the joint.

When assembling the joint, do not force the dovetails in. If they do not fit easily, look carefully and find the fault and chisel waste away.

If a dovetail joint fits under strong hand pressure, or with a light hammer tap, it is considered a good fit. If it is unduly forced, many things are likely to happen to spoil the joint.

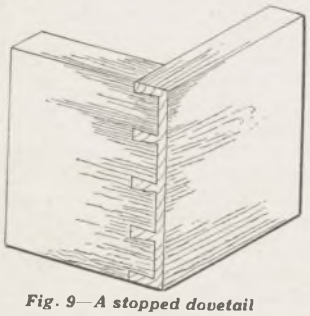


Fig. 9—A stopped dovetail

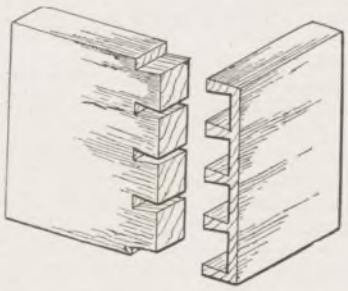


Fig. 10—The two parts

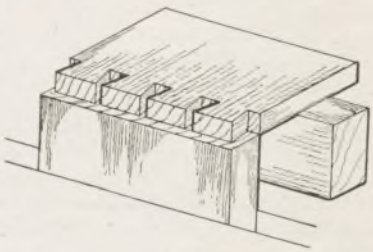


Fig. 13—Marking the cuts

Fig. 11—Mark round the wood

Fig. 12—The end marking

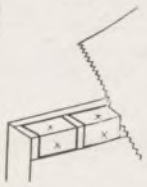


Fig. 14—Sawing

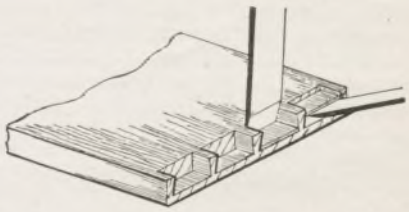


Fig. 15—Cutting out the waste

MARBLING ON PAPER

THE process of producing a marbled effect on the edges of fly leaves of books has been practised for many centuries past and is now a specialised craft done by men who are experts at the job. Below is set out a simplified method for amateurs, which in principle is the same as that followed by the professional marbler.

The articles necessary are a shallow bowl or tray about 24ins. long, 18ins. wide and 2ins. deep; an ordinary fat tray from a gas oven is convenient. This must be watertight and clean. We also need a knitting and sewing needle, a comb, three or four tins of enamel or good paint, some turpentine, a few brushes, some hot glue and drawing paper of various colours.

The Paper to Use

Hard paper with a highly glossed surface is not the best for this work. Get a more absorbent and softer paper like cartridge paper.

It is first necessary to ¾ fill the tray with cold water and drop two or three teaspoonfuls of hot glue into it. Stir this up until the glue is dissolved. Satisfactory results are obtained without adding the glue, but by so doing the ' gum,' as the liquid is called, is thickened and remains steady when the paint is added to it.

Colours

The colours are prepared by mixing paint and turps until it runs freely from the brush. These colours should be bright and in vivid contrast to each other.

A pattern of colour is formed by sprinkling the paint from a brush on to the surface of the water. This is best done by holding the brush over the tray and above the spot where the colour is required. Then tap it lightly against the other hand and the colour falls and floats in small drops on the surface of the gum.

Taking a copy from the " gum "

Do not drop too much colour and avoid getting ' blobs.' There is no reason, however, why you should keep to one colour. Try an arrangement of two or three; with a little care you can drop one colour into the centre of another.

In this way work up a pattern that can either be symmetrical or haphazard just as you wish.

The colours are now mixed by working either the needles or the comb about in the liquid, mixing the colours and so forming the final pattern.

What shape is made rests with the individual, but in every case try to remember where you dropped each colour and the path made by the needle, because it is necessary to repeat the same operation if identical sheets are required.

Mixing the colours with a needle does not allow them to run together and form a new colour, it gives the desired effect of veining.

An excellent and brilliant result

After mixing you will observe a variety of colours taking up the most complicated shapes are floating on the surface. A print is obtained by laying carefully a piece of paper on the surface of the gum. See that this touches all over, else a ' blank ' will appear. When you are satisfied that it does, peel it off carefully as illustrated and hang it up to dry.

Taking Copies

One marble sheet is now complete. Draw a piece of paper across the ' gum ' to clean it and repeat the process an unlimited number of times.

Marbled papers serve many purposes, if you bind books, use them for covers and end papers, or if you are skilful, marble the edges. Fancy boxes and china cabinets can be lined with them. Or if you are industrious, marble a number of sheets, cut them 6ins. square, and paper the bathroom to give a tiled effect!

Be sure to enter our new Photographic Competition
Full particulars will be found on page 224

FUN AND PUZZLE

THE TROUBLE

A man said he did not mind going to work and he did not mind coming away, it was the spot in between that was his trouble.

SAME, BUT DIFFERENT

"Hello, I haven't seen you recently."

"No, been in bed a month."

"Bad luck. 'Flu I suppose."

"Yes—and crashed."

WORK THIS OUT !

A man went into a grocer's shop and asked the proprietor for nine and a half pounds of treacle. "Sorry," said the grocer, "but I only have four weights and I can't weight nine and a half pounds with them." "What are your four weights ?" asked the man. He was shown them and after a moment or two said, "Why with them you could weight out any number of pounds and half pounds up to twenty." They were not the usual weights seen in shops; what were they ? Solution in Col. 3.

MONEY'S WORTH

During a visit the country cousins saw displayed in the window of a restaurant a bill of fare headed: "Luncheon. 12 to 3. 2/-." "My," said the rustic, "yon's good. Three solid 'oors' eatin' for two bob. Let's go in."

* * *

Why is a horse like the letter G ?

Because Gee (G) makes it go.

What letter in the alphabet is most useful to a deaf woman ?

A, because it makes her hear.

Which is the most ancient tree ?

The elder tree.

What is the difference between a hen and an idle musician ?

One lays at leisure, the other plays at leisure.

Why is a false report like a tottering house ?

Because it has weak foundations.

What does a stone become in the water ?

Wet.

WHAT PRICE ?

The shopkeeper felt generous and turned to his assistants and said, "You see those oranges. In future they are to be sold at a penny a dozen less than the price now. That will mean that customers will get one more for a penny." The puzzle consists in finding out the old price and the new price of the oranges. Not so complicated as it sounds really, but in case you are "stuck" the answer is in column 3.

A HOWLER

There are two zones, masculine and feminine. The masculine is divided into the temperate and intemperate, and the feminine into the frigid and the torrid.

* * *

Why is the flight of an aeroplane a bad thing to see ?

Because it's a high soar (eye sore).

Why is a dog's tail a curiosity ?

It has never been seen before.

Why does the summer pass quickly ?

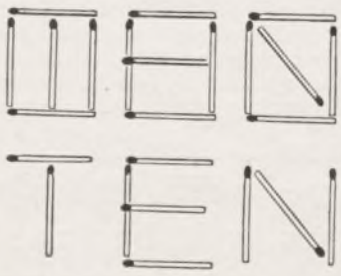
There is often an evening mist (missed).

NEITHER END

An absent-minded professor went into a shop to buy a jar. Seeing that one was upside-down, he exclaimed: "How absurd!" The jar has no mouth!" Turning it over, he was once more astonished. "Why, the bottom's gone, too!"

A MATCH TRICK

Simple match tricks always interest and amuse, and here is one worth remembering. Hand to anyone present fifteen matches, and ask him, or her, so to arrange them that by taking away six, ten remain. When he, or she, "gives it up" you arrange the matches as in the first picture, and take away six matches to leave the word "ten" as shown.



Why is a miner like a boatman ?

Because he handles the ore (oar).

Why is a man's hand like a hardware store ?

Because it has nails.

How can you get a new set of teeth inserted free ?

Kick a bulldog.

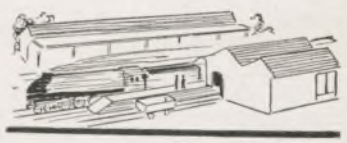
Why is the letter W like scandal ?

Because it makes ill will.

* * *

OH YEAH !

At the station of a small town an American was boring a porter with tall talk of "God's own country," where everything was done better than here, when the "Silver Jubilee" flashed by at about eighty miles an hour. "What's that ?" said the American. "Oh," said the fed-up porter, "That's only old George doin' a bit of shuntin'."



TELLING A NUMBER

A startling method of telling any number thought of is the following:— Ask your victim to kindly multiply the number thought of (or his or her age, for that matter) by 3, and to add 1 and again multiply by 3, and then to add the number thought of. Ask the result, and when told mentally knock off the final figure (which will be a 3) and the remaining figures will be the number thought of. As an example:—

The number thought of	**41**
Multiplied by 3	**123**
Add 1	**124**
Multiply by 3	**372**
Add number thought of	**413**

Strike off the final figure and you have the number first thought of, i.e., 41.

ORANGE PRICES

The answer to the price of oranges is that the old price was three a penny and the new price four a penny.

WEIGHTS.

The four weights the grocer had were ½lb., 1½lbs., 4½lbs., and 13½lbs.

The EDITOR'S NOTES

IN connection with my Note last week about Exhibitions, I see that the one held at Warrington recently is to be repeated next year because of the success of the first one. It may seem a long way off, but it is not too soon to prepare a suitable piece of work—drawing, woodwork, fretwork, photography, etc. Exhibition pieces must, of course, be outstanding in order to win a prize, so it is as well to get ahead with the work rather than have to rush it at the last minute. Have something novel, or likely to appeal—and have it done really well. If it is a photograph give it a "catchy" name and have it nicely mounted. If it is a model, finish it off nicely with proper colours of enamel or paint. If you enter a piece of fretwork stain and polish it, or have it thoroughly clean back and front.

* * *

MENTION was made last week of making early application for details of exhibitions and writing now to the local secretary. Another method, of course, is to keep a note book andwrite in it the dates of forthcoming exhibitions. Have its pages ruled off in months from now onwards for a whole year. Then you can easily enter in them particulars of likely exhibitions and thus see about it as you approach their date.

* * *

THE Maidstone Hobbies Exhibition ran to three days recently and was the largest yet organised by the club. Large crowds visited it at the Hollingworth Hall, from all over Kent and some amazing and realistic models were seen.

* * *

YET another Exhibition has been held last month by the Carshalton (Surrey) Juvenile Organisations Committee and as usual it was a great success. There were about 450 exhibits and in the appropriate section a very large number of our model galleons were on view. When you get a "fleet" together like this they make a very fine and effective display.

* * *

MENTION of "fleet" reminds me of a card I had from a Singapore reader who apparently specializes in naval ships. He tells me he has made about 20 vessels including battleships, cruisers, aircraft carriers, destroyers and submarines. He is still adding to this interesting armada, and has made some of the models from small designs which have appeared in Hobbies.

* * *

WE are apt sometimes to forget the usefulness of the fretsaw beyond cutting the usual fretwood. Other directions in which it can be useful on are cutting leather soles for shoes, or fancy leather for craft work ; in cutting metal and composition of all kinds for small ornaments, and even in cutting decorative pieces in slate. I wonder if any reader has tried other unusual materials ?

* * *

HERE is a note in a letter from Cullinan in South Africa which contains an idea of use to others. The reader writes "I have just completed the Australia's 150th Anniversary Design, and instead of making the overlay of wood I cut it out of 1/16in. aluminium sheet and it looks fine. In fact I have been offered 15/- for it by an ardent Australian. At an exhibition of work last week the Modern Doll's House and Country Inn were a centre of attraction all day."

* * *

A READER, who has L.S.S. for initials asks me particulars for making a yacht 3ft. 7ins. long and 4ft. overall, but as he omitted an address beyond "Staffs." I shall have to give the particulars here. An average weight for a model yacht hull 3ft. long, 7in. beam would be about 2½lbs., but this figure would be varied somewhat by the kind of wood used, the amount hollowed out, and the actual shape of the hull. A lead keel suitable for such a hull would be about 3 to 4 lbs. in weight, but actually is conditioned by the design of the hull, the total displacement and so forth. The figures given are however a fair average. I hope those details are satisfactory L.S.S.

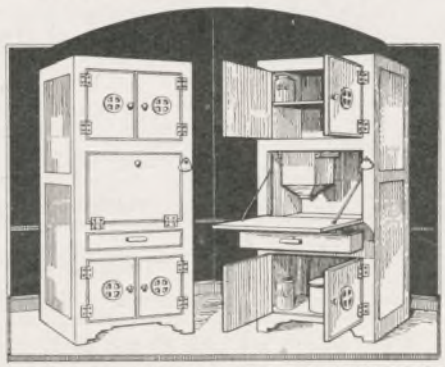
* * *

OUR Scout Competition last month was won by P. T. Tyler of 92 Broadmoor Rd., Crowthorne, Berks, for a neat entry, with sketches showing various uses of the Scout stave.

The Editor

DOLL'S KITCHEN MODEL CABINET

Design in next week's issue



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

100 STAMPS, all different, free to approval applicants sending 2d. postage.—**Errington Macquire (O), 51 Atkins Road, London, S.W.12.**

IVORINE (white) about 1/32in. thick. Just the stuff for fretwork overlays. In sheets 12 by 6ins. 1/6; post 2d. Also Xylonite (black) 1/3.—Hobbies Ltd., Dereham.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

DO YOU KNOW WOOD? Eight specimen pieces each about 3ins. square, marked for reference, 8d. post free.—Hobbies Ltd., Dereham.

LONELY? Then write Secy., U.C.C., 16BB. Cambridge St., London, S.W.1. Genuine. Established 1905.

DOLL'S HOUSE Papers, Fittings. Bathroom set, fireside set, door knocker, etc. Write for list.—Hobbies Ltd., Dereham.

WANTED original poems, songs, for immediate consideration. Send poems to Columbian Music Publishers, Ltd., Dept. 280, Toronto, Canada.

MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.

50 STAMPS FREE. Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

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GLUE. Hobbies glue is as good as 25 years' experience can make it. Sticks wood, china, leather, etc. In tubes 6d. and 2d.—Hobbies Ltd., Dereham.

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WHY NOT TREAT YOURSELF to a fretmachine? It will double your output in half the time. Prices from 30/- cash or easy payments.—Hobbies Ltd., Dereham.

HAIR CREAM. Make yourself, for own use or selling to friends, local shops, etc. IMMENSE BUSINESS POSSIBILITIES. Cost 2d. large bottle. Ingredients and instructions, 1/- P.O. plus stamped addressed envelope—Chemist, Dept. H, 13 Warwick Road, S.W.5.

STAMP BARGAINS and Approvals—R. Mason, 149 Church Road, Birmingham, 24.

FILE PAD FOR FRETWORK, complete with six files, only 1/9; post 2d.—Hobbies Ltd., Dereham.

The OUTFIT contains
A large bottle of polish, a rubber, a supply of crystals for staining whitewood down to mahogany, oak, or walnut; a piece of glasspaper of suitable grade, a tin of woodfiller and a leaflet of full instructions. **2/3** *Post 6d.*

Single bottles of polish and rubber with full instructions for use .. .. **10d.** *Post 4d.*

Anybody can use HOBBIES LIGHTNING POLISH

The polish can be applied quickly and easily by any amateur. The first rubbing brings up a brilliant polish and there is not the trouble or patience involved in the use of ordinary french polish. No experience is required, and woodwork of all kinds can be easily and beautifully finished in a very short while.

Obtainable from all Ironmongers or agents, or from Hobbies branches in London, Manchester, Glasgow, Birmingham, Sheffield, Leeds, Southampton and Hull.

HOBBIES LTD. — DEREHAM — NORFOLK

NOVEL PHOTO STANDS
in Fretwood

Design No. S.D. 22

For full instructions see page 225

FRONT & BACK OVERLAYS CUT ONE OF EACH 1/8 IN. AND GLUE TO MAIN UPRIGHT

TWO PIECES OF GLASS No. 5842 3½" x 2¼" ARE REQUIRED FOR EACH FRAME

MAIN UPRIGHT CUT ONE 3/16 IN.

A

FRONT & BACK OVERLAYS. CUT ONE OF EACH 1/8 IN. AND GLUE TO MAIN UPRIGHT

BASE 3/16 IN. CUT ONE FOR EACH FRAME. CHAMFER ALL FOUR SIDES TO SECTION

OVERLAY

OVERLAY

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MAIN UPRIGHT CUT ONE 3/16 IN.

A

Fretwork Outfits worth having!

There is something special about every Hobbies set of tools to make them superior to any others. They are thoroughly reliable and sold under a guarantee so you get them replaced should there be any trouble. Every tool is British and each outfit has a leaflet or booklet of instructions for the beginner. There are sets from 1/6 to 21/- to suit all pockets.

The Ensign set of Fretwork Tools, design and instructions. Useful range, with wood complete.
4/6
Post 6d.

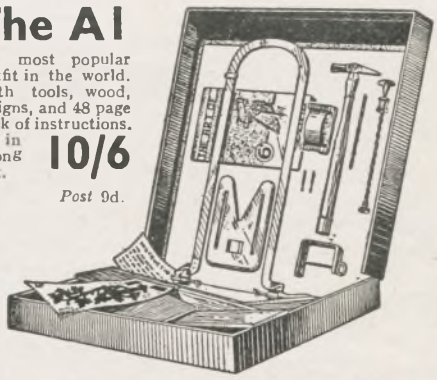
Illustrated list FREE from Hobbies Ltd., Dereham, or any of their official branches. Send for the nearest address.

HOBBIES Ltd.,
DEREHAM NORFOLK
Branches in London, Glasgow, Manchester, Birmingham, Leeds, Sheffield, Hull and Southampton, Agencies everywhere.

Two cheap cards of fretwork tools. The H1, as illustrated, is **1/6** and the H2, **2/6**. Postage 6d. extra on either. Hurry for these.

The A1

The most popular Outfit in the world. With tools, wood, designs, and 48 page book of instructions. All in strong box. **10/6**
Post 9d.



CARPENTRY SETS

The No. 1 Carpentry Outfit contains eight tools with an instruction handbook. An ideal set for the young beginner. Price 10/- post 7d.

Be wary of the carpentry set with a lot of tools offered at a low price. There's a catch in it somewhere, and somebody is going to be disappointed.

You can trust Hobbies carpentry outfits. Each one contains a selection of tools which you can use—REAL tools. Whichever set you choose from the Hobbies range you may be sure that you are buying good value in good tools.

Don't judge value by what you pay. It's what you get for price alone that counts.

The No. 2 Carpentry Outfit. A popular Outfit at a popular price. Eleven tools of clever design and built to last. The handsaw is 16ins. Price 17/6 post 10d.

No. 3 Carpentry Outfit. An 18in. Handsaw, smoothing plane with double iron, chisel, gauge and nine other tools make up this practical kit of tools. A 64-page handbook of things to make is also included, in attractive wooden box 30/-, postage 1/-.

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Branches in London, Glasgow, Manchester, Birmingham, Sheffield, Leeds, Southampton, and Hull.

HOBBIES

BRANCHES AND AGENCIES. LTD.

Below are the addresses where Hobbies goods can be purchased. In addition, all leading stores and ironmongers stock or can obtain your requirements in fretwork and woodwork, designs, wood, turned legs, moulding, polish, etc.

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LONDON – – – 16 NEW OXFORD STREET, W.C.I.
LONDON – – – – – 147 BISHOPSGATE, E.C.
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HEAD OFFICE AND WORKS:

DEREHAM, NORFOLK

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EDITORIAL.

All Editorial matter should be sent to The Editor, Hobbies Weekly Dereham, Norfolk. If enclosed with orders or other matter for Hobbies Ltd., it should be written on a separate sheet of paper. Any matter requiring an answer must have a stamped addressed envelope enclosed.

DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 4½d., post free, or 10d. in the case of double size sheets.

ADVERTISEMENTS.

All orders and letters respecting advertisements should be addressed either to the Advertisement Manager, Hobbies Weekly, Dereham Norfolk, or to 30/32, Ludgate Hill, London, E.C.4.

INDEXES AND BINDING CASES.

An Index for any volume is obtainable for 4½d. post free, and Binding Cases to take a complete set of 26 issues (making the volume) are supplied for 1/6, or sent post free for 1/8. The Cases are in red linen with gold blocked name on the front. The Azabook Binder, to hold 24 copies which you can fix in yourself is 3/3 (3/6 post free) including two dozen fastening staples.

BACK COPIES.

Back copies are obtainable from the Editorial address given above or from the Publisher, price 2d. a copy, plus postage.

CONTRIBUTIONS.

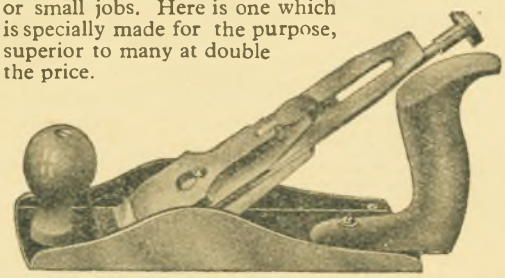
The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

SUBSCRIPTION.

Hobbies will be forwarded by post to any part of the world at the following prepaid rates. Twelve months 13/-, six months 6/6, three months, 3/3. Registered for transmission by Canadian Magazine Post

Specially made for the handyman

The amateur carpenter and handyman wants a plane suitable to all occasions. It should be strong, sharp, easily adjusted, and give service for large or small jobs. Here is one which is specially made for the purpose, superior to many at double the price.



HOBBIES HANDYMAN'S PLANE

PRICE **11/6**

Postage 7d. extra.

This plane is a workmanlike tool—9ins. long with a 2in. blade. Comfortable handles are fitted, and the blade adjusted quite simply by turning the round knob seen. The blade itself is sharp and of the best quality steel. Made in our own works.

Ask to see Hobbies Planes at any ironmongers. Or from Hobbies own Branches and direct from Hobbies, Ltd., Dereham, Norfolk.

SPECIAL SALE GIFT VOUCHER

for Overseas Readers only

Everyone who spends 10/- and over in the Hobbies Sale will receive a special extra gift according to the amount of his purchase. All you have to do is to sign this Voucher and then send it by post to Hobbies Ltd., Dereham, Norfolk. Valuable and practical gifts will be made according to the value of goods you buy. This special offer applies only to overseas customers who are allowed to send in orders up to July 30th, 1938.

P/O. No..... *Value.....*

Name .....

Gifts! Gifts! Gifts!

REPLY COUPON

One of these small Coupons and a stamp for 1½d. must be attached to your letter to the Editor, if you are enquiring about anything which demands an answer. Cut the Coupon out and put it in with your letter which should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

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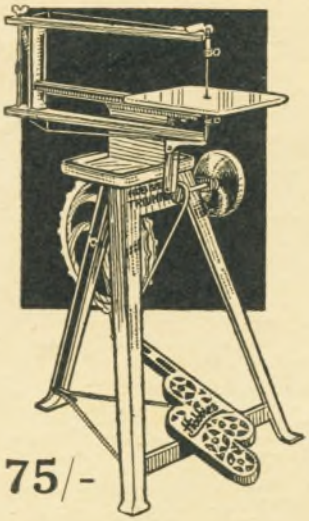
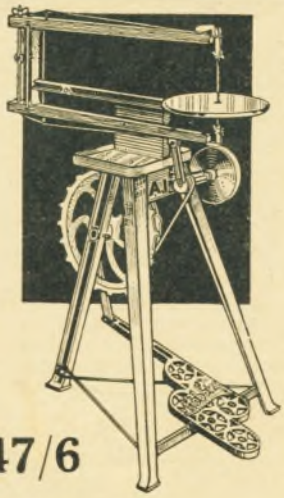
Do you know that a Hobbies Machine will cut wood ¾-in. or even 1in. thick and cut it either on the bevel or straight as required? It does all this easily and quickly. When treadling, you are hardly conscious of any effort—yet the saw is cutting its way through wood at about 800 strokes per minute.



75/-

This is the "Triumph." It runs on ball-bearings and is a heavily-built machine to stand up to long periods of service. It runs as "smooth as silk" and has a clearance of 19ins. behind the saw.



47/6

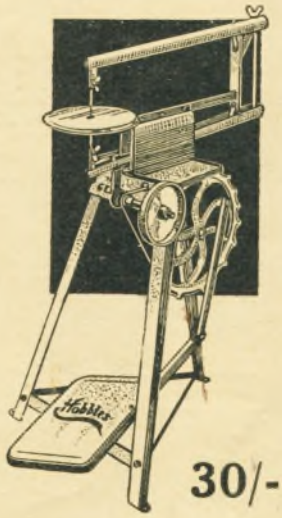
The ever-popular "A1" machine. The trusted friend of woodworkers everywhere. A sturdy sweet-running machine with all the usual features. It has a clearance of 19ins. behind the saw.

Each machine is sent in a crate in complete working order ready to use. Carriage forward.

95/-

The "Companion" Lathe and Fretsaw is the ideal woodworker's machine. As can be seen it is a useful lathe 14ins. between centres with a fretsaw attachment mounted on top. This attachment can be taken off and put on again merely by unscrewing one nut. The large driving wheel has two grooves to give a change of speed.

FREE Write for an illustrated list of Hobbies Machines with details of Easy Payment Terms. No obligation, of course.



30/-

The "Gem," our lowest-priced machine. Made almost entirely of steel. It has a clearance of 18ins. behind the saw. The table does not tilt for bevel cutting.

65/-

The "A1" with Drill. All the features of our popular A1 machine plus a treadle drilling attachment. A real time saver and wonderful value.

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