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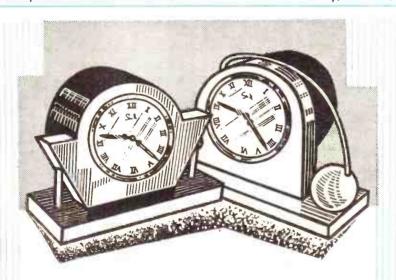
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All correspondence should be addressed to the Editor, Hobbies Weekly, Dereham, Norfolk

VOL. 126



Any handyman can make these

MODERN CASES FOR CLOCKS

369

THE cases illustrated here are of truly modern design and will appeal to those who like contemporary furnishings. From these designs it should not be difficult to choose one which will suit your own home, whether it is contemporary or traditional.

****** DIAGRAMS TO HELP YOU ARE GIVEN ON NEXT PAGE ******

Mention must be made, too, of the important point of cost. The 30 hour movement, which can be obtained from Hobbies Ltd., Dereham, Norfolk, costs only 31/-. Made by famous English clock manufacturer, this dual purpose movement incorporates an alarm - if needed - and has a polished brass bezel with convex glass. It fits an aperture of 4ins. diameter by 13ins. deep.

All the cases described here are cut from in. wood which can be cut quite easily with a fretsaw. Cutting is straightforward and there are no difficult joints or shaping to deter you. For each case one piece (E) must be rubbed down with glasspaper to bring the total depth down to 13 ins.

Fig. 1 shows the three shapes (A), (B) and (C), the backing piece (E) and the base (D) marked on to squares. The squares should be enlarged to zin. and the shapes drawn in. Pieces (E) and (D)

are the same for each design. Mortises and tenons will each measure lin.

FOR ALL HOME CRAFTSMEN Over 60 years of 'Do-it-Yourself'

The construction of design (A) is shown in Fig. 2, glue (A) into the base (D), and two pieces (E) behind (A). A 2in. diameter wood ball is rubbed flat at the base and is glued in position as indicated. The wire, which may be copper brass or galvanized, is pushed into holes drilled in the piece (A) and in the ball. 2in. diameter wood balls may be obtained from Hobbies Ltd, price 7½d. (postage 6d).

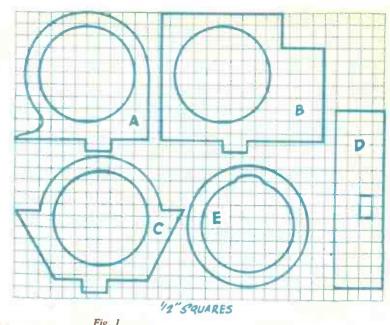
Design (B) is glued together as shown in Fig. 3. The decoration on the front consists of two pieces of ½in. half round

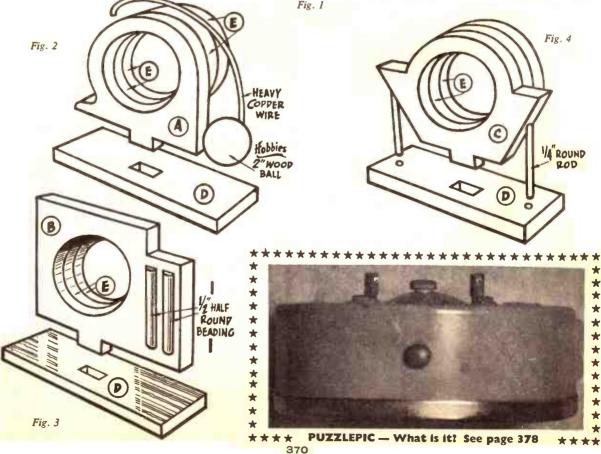
beading glued in position.

A small thermometer, Hobbies No. 5016 (price 1/6, postage 3d.) could be substituted for the beading, if the clock is not to stand over a fireplace.

The third design (C) is shown in Fig. 4. Drill \$\frac{1}{2}\$ in. diameter holes in the base and piece (C), and insert pieces of \$\frac{1}{2}\$ in. diameter round rod. Copper or brass rod may be used if desired.

The cases may be finished by staining and polishing, varnishing or by painting.

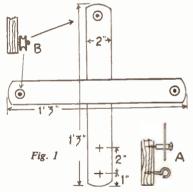




HOUGH not, perhaps, quite so fast in action as a barometer, the weather indicator, which is the subject of this article, is quite a good forecaster of outdoor conditions. Quite simple to make, it is an interesting instrument to show whether a raincoat is advisable or not, the pointer indicating any trend towards dry or wet weather conditions.

It is well known that tent guy ropes tighten up in wet weather and for that reason have to be slackened before the possibility of rain or heavy dew, and, on the same principle, the string of this indicator will tighten up under moist atmospheric conditions, pulling the pointer towards the scale terminal marked W (or wet), the tension being released allowing the pointer to move towards D (or dry) as the humidity

Fig. 1 is a plan of the wooden framework on which the moving parts are to be assembled. It consists of two pieces of in. by 2in. hardwood, halved together at their centres to form a cross.



Make a close fit of the joint and glue together. The ends are cut to a slight curve as a finish. At the top and sides, fix small metal pulley wheels, as seen in detail (B). If you have not any to hand, the wheels from curtain runners, which can be bought from most ironmongers or drapers for a trifle, will be quite suitable. Use round-headed screws as pivots and take care that the wheels can rotate freely. They should be fitted at about 1in. or a little less, in from the ends of the frame.

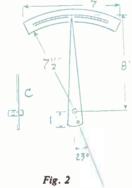
At the bottom of the vertical member of the frame make two small holes with a bradawl, at the distances apart given in the diagram. In the lower of these holes drive partly in a screweye, to which one end of the string, operating

Weather Indicator

the instrument, can be tied. In the upper hole, a thin screw, or nail, will subsequently be driven for the pointer to swing on.

The pointer, with its accompanying dial, is shown in Fig. 2. Mark it out on paper as follows. Draw a long rectangle, lin. wide and 9ins. in length. Centre down the middle of its length and at lin. from what will be the lower end of the pointer, bore a hole just large enough to slip over a lin. length of brass tubing about 1 in. or less diameter. The bore should admit as an easy fit a thin roundheaded screw, or perhaps a nail of suitable gauge would serve.

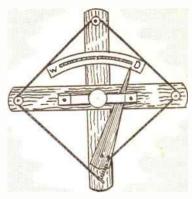
From the centre of this hole and at 23 degrees from the centre line on the pointer, make a second hole about 1 in. distant from the pivot hole. Now draw



tapering lines from the bottom of the pointer, to meet at the top, stick the paper to a piece of thinish brass sheet or stout tinplate and cut out. Soak the paper off and dry.

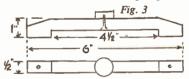
Slip the pointer on to the metal tube and at in. down from the top end of the tube solder the pointer to it (as at detail (C)). Now drive in the screw or nail for the pointer to swing on (as in detail (A), in Fig. 1).

A bridge piece, shown in Fig. 3, is now to be made. A piece of wood, of in. by lin. section, is required. A side view of this is given in Fig. 3, with a plan view below it. Saw out a groove, the depth of which should be §in. or possibly a little more if the pointer tends to scrape against it as it swings. Its purpose is to limit the swing of the pointer and also to provide some protection for it. At the centre screw on a lin. disc of fretwood. This is for a tapping stud. A tap or two on it should always be made before reading the setting as when reading a barometer. Fix the bridge across the



centre of the frame.

The best string to use is the thickish, unglazed quality usually employed by the butcher and your tradesman will most likely oblige you with a couple of vards of it. Make a small hook from a piece of suitable wire. A hook made from a large safety pin would be excellent. To this tie one end of the string, and slip the hook into the small hole at the bottom end of the pointer. Into this hole also hook in a short piece of helical spring, the opposite end of the spring being attached to the screweye below. A substitute for the spring could



be a small elastic band. The spring would, of course, last longer, but elastic bands are cheap anyway, and easy to replace.

Pass the string over the pulley wheels wind once or twice round the shank of the screweye, and then tie it to the eye itself. Adjustment of the pointer can then be managed by giving the screweye a partial or complete turn as may be necessary.

For the dial, strike the arc shown in Fig. 2 and strike a second arc with a radius lin. longer. Mark off the length given. The double line arc, on which the divisions are to be shown, can be struck about the middle and divided into equal spaces as indicated. Glue this dial to a piece of thin fretwood and saw out. Fix in the correct place with two or three small nails.

Hang the weather indicator in the hall for preference. Let it hang for a day or so to season, then twist screweye for the pointer to indicate the weather conditions. Reference to a barometer would be helpful here. Finish the woodwork to taste and black or red enamel the (W.J.E.) pointer.

MAGIC BY REMOTE CONTROL

THERE is distinct novelty in performing card tricks through the medium of someone at a distance, someone who has no visible but merely an audible connection with you — a friend behind a screen, for instance, or a member of the party in another room. This is indeed magic by remote control, and if you can persuade someone to go into the next room, taking a pack of cards with him, leaving the intercommunicating door open so that you both remain within earshot, you will undoubtedly puzzle him and baffle any observers with the following tricks.

To perform the first trick call out to your unseen medium in the next room and ask him to lay out on the table two rows of cards containing an equal number of cards in each row. He is not to tell you how many cards each row

contains.

In the diagram two rows of five cards have been laid out. One is discarded on the bottom row as marked by a single oblique line through the card. We then learn that, say, four cards are to be taken from the top row, indicated by the double oblique lines, leaving a solitary card.

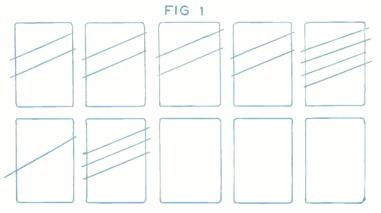
By S. Longbottom

Since only one remained, that is the number to be removed from the bottom row — indicated by three oblique lines — and when the only card on the top row (four oblique lines) is removed we have three remaining. The secret is so very simple. The solution is that you subtract 1 from the number your friend chooses to remove from the top row. In this instance four were removed, and

out the value and suit as he does so.

While he is reading out the cards you are jotting down the information on the prepared list, as shown in Fig. 2, do not hesitate, to ask for a repeat if necessary, but do not give any clue as to what you are doing. When he has called out all the cards he holds inform him that you are going to make him sort out the correct card.

He is now asked to pick up the pack again with the cards face downwards. Before you is the list and from which you will see how many he holds. Suppose he has 21. Subtract a key number of 16, leaving a balance of 5. Double this and you have 10. Look at your list for the 10th card called and you will find it is, say, the Queen of Spades. Your friend is now asked to deal off one card from the top of the pack to the table, then one from the top to the bottom of the pack



Now ask that one card only be taken from the bottom row and laid aside. Ask one more question and that is, the number he would like to remove from the top row.

When he has told you the number and has taken them away from the top row tell your friend to remove from the bottom row as many as remain at the top, again laying aside. Finally, he is told to remove the remainder of the top row, however many may be left, and here comes the amazing feature — you can tell him how many cards remain in the bottom row!

Remember, you have not seen the cards laid out, you only instructed one to be removed from the bottom row and asked how many were to be taken from the top row. How do we know that our answer will be correct? Let us examine the trick with the aid of Fig. 1.

sure enough, three is correct. Practise this for yourself with different numbers of cards, but remember, the two rows must have an equal number in each.

For the next trick you will require a sheet of paper prepared so that you can quickly write down the cards called out by your friend in the next room. Mark the sheet with a margin, numbering from 1 to 30 on the left hand edge, and you will find it is possible to make a list by a kind of shorthand. Ten of clubs is written as 10C; four of hearts as 4H; ace of spades as AS and so on.

Ask him to shuffie the pack carefully, cutting into two parts and laying aside one half. You must tell him that you are now concentrating on a card and that you think it is in the half pack he holds in his hand. To make perfectly sure you tell him you want him to deal the cards, one at a time, on to the table, reading

1	10 C
2	4 H
3	AS
.4	6 D
5	QC
6	
7	
8	,
9	
10	
	FIG 2

he holds, another from the top to the table another, continuing with the same routine until only one card remains and this will prove to be the Queen of spades which you can announce.

It should be explained that there are 5 basic key numbers we can work with, i.e. 2, 4, 8, 16 and 32 but it will be realised that when the pack is cut in two we need not use the lower numbers. In this instance we use the key number 16 since it is lower than and the nearest key to 21, the number involved.



This log sawing stand described by our contributor folds flat for easy portability and has proved a big help in dealing with tree lengths.

OG sawing is an all-the-year-round occupation. Most householders who indulge in this activity will find it far pleasanter to build up a winter's supply during the summer than to saw logs when the occasion demands during the cold weather.

To help my family in their log sawing activities I designed and built the stand here described. It folds flat, and in spite of its exceptional strength it is quite easy to carry about.

MAKING A LOG SAWING STAND

To build this stand I used six lengths of timber 3ins. by 3ins. by 4ft., four lengths 3ins. by lin. by 3ft., and two lengths 3ins. by lin. by 3ft. 6ins., plus three 6½in. bolts. I creosoted the timber all over and left it to dry.

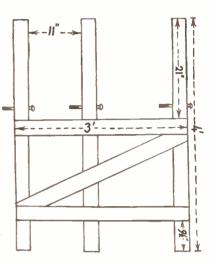
Taking the 3in. by 3in. pieces, at

By G. Gompers

18ins. from the top, and just half-way across, I bored a ½in. hole through each piece to take the bolts.

Using 2in. nails, I then built two frames, using the same measurements, and bolted them together.

My stand was now finished except for fixing the base ropes to keep the legs in position.



Gauge for setting out Dovetails

CORRECTLY designed gauge can be of the utmost value to the craftsman. It can save a considerable amount of time besides providing a greater degree of accuracy.

Here, then, is a very simple yet extremely efficient gauge for setting out dovetails, and the cabinet maker who does much of this type of work should have at least one, or, better still, a set in his tool kit.

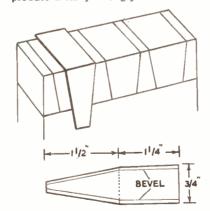
Nothing looks worse than a badly setout dovetail, or one with ugly gaps which are often filled in with putty. By using this gauge, however, there is no reason why you should not turn out an

accurate joint every time.

The gauge should be made from a piece of sheet metal sufficiently rigid to avoid any distortion. Brass is probably the best choice although there are other kinds which are quite suitable. Tinplate, for instance, can be used, but it should be a fairly substantial grade. A piece 2½ ins. by ½ in. is required for most general purposes, and the measurements are clearly shown in the sketch.

The angle of the gauge can be altered to suit your particular requirements, but

80° will be found most suitable and will produce a fairly strong joint. Some of



the old craftsmen did much excellent work with a very slender dovetail of about 85° but this needs careful cutting and fitting in order to produce a good job. It is a good idea to make a set of three or four gauges each cut to a different angle. When marking out the gauge be careful to get the same angle on both sides, and it is also very important to get the rightangle bend perfectly true. This is best done by screwing the metal in a vice with the widest part uppermost, upright it with the aid of a set square, then bend over and hammer to a true right angle.

After bending the gauge the inside angle may be slightly rounded instead of being a sharp rightangle, especially if a stout piece of metal is used. It is advisable in such a case to file it down to a neat sharp angle so that it will lie flat on the work being marked out.

It is also an advantage to bevel off the outside edges to ensure greater accuracy when marking out a job. (A.F.T.)

Next week's free design will be for an attractive magazine rack. Make sure of your copy.

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HE rigid control and the considerable amount of equipment necessary in electro-plating usually discourage the amateur. This is especially the case where only occasional plating is desired.

Fortunately, there are methods which, while not giving such thick layers as the conventional industrial methods, can yield satisfactory finishes. They are cheap, easy to employ and need no unusual equipment.

Preparing the surface

As with electro-methods, the chemical methods call for a clean, well prepared surface. This is a three stage process consisting of polishing, degreasing and finally pickling. If a high lustre is desired, the metal must be polished with steel wool, jeweller's rouge, and finally buffed to mirror brightness.

Degreasing can be done with a simple solution. Dissolve 5½ ounces of washing soda in a quart of warm water and turn the articles about in the liquid. Lift and rinse without touching with the bare hands.

For the pickling bath stir 5 volumes of strong commercial hydrochloric acid ('spirit of salt') into 32 volumes of water. Immerse the articles. If the article is bright, a few moments immersion is enough. Longer treatment will be needed if a slight patina can be seen. Lift, rinse well and allow to dry.

Nickel plating

Nickel plating can be done by rubbing with a special powder or by immersion. The powder can be used on brass and copper with excellent results. To make it, mix thoroughly 20 parts of powdered nickel ammonium sulphate, I part of magnesium powder and 10 parts of precipitated chalk, all parts by weight. This powder is affected by damp air and should therefore be stored in a well closed jar. To plate the object, put a little of the powder on a non-metallic surface, dip into it a damp rag and rub the object evenly, recharging the rag frequently. The grey deposit of nickel may then be rinsed and buffed with a soft cloth.

By the immersion method ferrous metals such as wrought and cast iron and steel as well as zinc, copper and brass may be plated. The one probable drawback for the general reader is that a copper vessel is needed. If this be available, quite thick deposits of nickel can be built up.

First dissolve zinc chloride in about its own volume of water, dilute the resulting solution with twice its volume of water and boil the liquid in the copper vessel. If any cloudiness appears, stir in hydrochloric acid drop by drop until it clears. Now add a pinch of zinc dust. The copper takes on a coating of metallic zinc. The next step is to dissolve in the solution enough nickel sulphate to produce a distinct green colour. The articles may now be entered and should be kept in the boiling liquid for fifteen minutes. This will give a good coating. For thicker ones repeat the process.

Tin plating

Tin plating on copper and brass may be done by dissolving 3 ounces of sodium hydroxide (caustic soda), 1 ounce of stannous chloride and ½ ounce of sodium chloride (common salt) in 1 quart of water in an iron vessel. Heat the solution to boiling and drop in enough granulated tin to cover the bottom of the vessel. Hang the article to be plated in the boiling solution by means of brass wire or strip and let it remain until the work is well covered with tin. Lift rinse and dry, and then buff bright.

To tin plate iron or zinc, dissolve in 1,000 c.c. of water 0.5 gram of previously fused stannous chloride and 15 grams of aluminium ammonium sulphate (ammonia alum). Heat the solution to boiling, enter the work and lift when well covered. Rinse, dry and buff up.

Zinc plating

To plate copper and brass with zinc, first prepare a strong solution of ammonium chloride (sal ammoniac) by stirring the salt little by little with hot water until no more will dissolve. Let the



PLATING WITHOUT ELECTRICITY Part 1

solution cool and pour off from the surplus salt which crystallises out (it may be allowed to dry for future use). Heat the decanted solution to boiling and add a little zinc dust. The work is now entered. An essential feature of the process is that the work must be in contact with metallic zinc. This can be ensured either by hanging the work from a strip of stout zinc, or by letting a zinc rod touch it in the bath throughout the plating process. Rinse and buff the the work in the usual way.

Copper plating

Copper plating on steel and iron is easily effected by dipping the work in a solution of copper sulphate. The strength of the solution may vary within fairly wide limits. A convenient strength is 1 ounce of the sulphate in 1 pint of water.

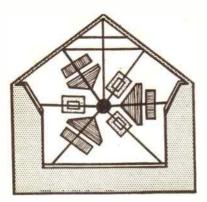
Though this method is good, improved results will be obtained by using a bath composed of 3 volumes of water and 1 volume of strong hydrochloric acid and enough copper sulphate solution to give it a medium blue colour. Immerse the work, rub it with a rag under the surface of the solution, remove it and continue rubbing a few moments. Then re-immerse and repeat the operations, adding more copper sulphate if the bath becomes very pale.

Thicker deposits can be achieved on cast iron and steel by immersion in a bath composed of $2\frac{1}{2}$ pints of water, $7\frac{1}{2}$ ounces of potassium sodium tartrate (Rochelle salt), 4 ounces of soda lime and $1\frac{3}{4}$ ounces of copper sulphate. The work must be in contact with zinc or lead. Suspension in the bath by zinc wire or strip is convenient. Up to a point, the longer the immersion the thicker the deposit. The time may range from 3 to 72 hours. The plating is very durable and, in fact, has been extensively used for copper plating cast iron lamp posts and fountains on the Continent.

Aluminium can be plated with copper by immersion in a bath made by dissolving 1½ ounces of potassium hydrogen tartrate and 1½ ounces of sodium carbonate (washing soda) in 1 pint of water and adding to this a solution of 1½ ounces of copper sulphate in 1½ pints of water. The aluminium must be especially well cleaned.

Further plating methods will be given

in a subsequent article.



By H. Ridgway

ITH this easily made kaleidoscope an endless variety of beautiful designs are formed from scraps of coloured cardboard, beads or other small objects.

To make it you will need a triangular base (A) cut from $\frac{1}{16}$ in. plywood measuring $4\frac{1}{2}$ in. by $3\frac{1}{2}$ ins. (perpendicular). The top of this is covered with white paper. A piece of stout cardboard, $8\frac{1}{2}$ ins. long by $3\frac{2}{16}$ ins. wide is used to form the sides (B). This is scored down the centre with a knife, and glued to the base.

Two mirrors are required, each 4ins. by 3ins. Failing these, pieces of tin will serve. A good reflecting surface is obtained by rubbing the tin sides with metal polish, and polishing with a clean dry cloth. Apply glue to the back of one of the mirrors or tin panels and to one of the sides, and fix in position. Set aside for a while to allow the glue to harden. Attach the other mirror or tin panel in the same way. One side overlaps the other where they meet (as in C).

The front piece (D) of stout cardboard,

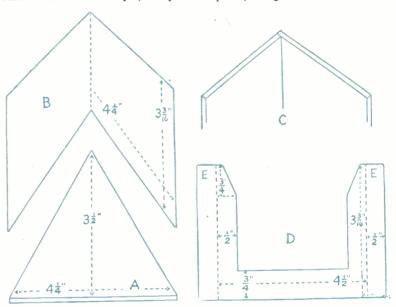
Beauty in design

A KALEIDOSCOPE YOU CAN MAKE

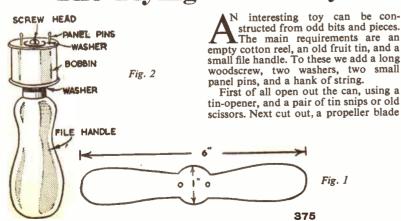
measures 5½ ins. by 3½ ins., and is cut to the shape indicated. The two flaps (E), are scored with a knife, where shown by the dotted lines, bent over and secured to the sides with glue. Cover the kaleidoscope with brightly coloured glazed paper or paint or enamel in gay contrasting colours.

Take some pieces of cardboard of different colours and shapes, and place

them on the base. Hold the kaleidoscope with the front tilted slightly upwards, so that a good light falls on the mirrors. Shake the instrument gently, and by looking into the mirrors, beautiful and continually changing patterns will be seen. The patterns will be most pleasing if the pieces of cardboard are cut into regular shapes, such as circles, rings, squares, triangles and ovals.



The Flying Blade Toy



as shown in Fig. 1. Punch two small holes in the hub of the blade, which will correspond with the two panel pins which are fixed in the top of the cotton bobbin (Fig. 2).

The cotton bobbin is now attached to the file handle - a washer fitted either side of the bobbin, on the woodscrew --which is screwed into the handle, so the bobbin will rotate freely. A length of string — about twelve inches — is wound onto the bobbin, in a clockwise direction. The propeller blade, with its blades twisted, is placed on top of the bobbin, the two panel pins fitting into the two holes. The file handle is then held in the left hand, with the arm fully extended. A sharp tug on the string will cause the bobbin to rotate. The blade leaves the bobbin at high speed and will (S.G.W.) rise spinning into the air.

World Radio History

MAKING MINIATURE PLANTS

INIATURE plants, trees and shrubs for home decoration, are easily made from a few prepared materials readily obtainable at any arts and crafts shop. Reference to Fig. 2 will reveal the principal materials in the form of stamens, petals, leaves, pots and crepe paper. The latter should be a dull green, and you will also require some fine wire, cotton thread and a tube of glue. Since all these are quite inexpensive you can perhaps make a profitable hobby from the craft. You will find a variety of prepared stamens and petals in the shops and when buying these it is essential that the two should blend together. Moreover, one can often buy tiny buds which are useful for modifying the little plants.

The stamens etc., are supplied in bundles, and made so that both ends of a short wire hold a stamen or petal, so we shall first deal with the construction

of a single flower with stalk.

Take one, two or three pairs of stamens, dependent on the size, fold in two and cut with scissors, giving a number of stamens with short stalks about one inch long. Now cut a fine wire—and this should be fine—about 3½ ins. long, placing exactly in the middle of the bunch of stamens. The whole are held together by binding with cotton thread, either in a matching colour or white.

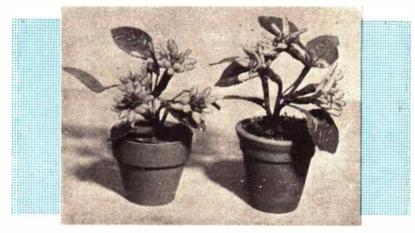


Fig. 1-An idea of the type of work which can be undertaken

time, fastening by a twist of the cotton thread.

At this stage it is not important that the flowers should be nicely arranged for this is done in the final stage, and all that is now required is the covering of the short wires of the flowers and wire with the green crepe paper. The latter is cut into a long strip, approximately half an inch wide and wrapping starts at the halfway down the stalk, and this leaf should be attached before the central fine wire has been completely wrapped with the crepe paper. Reference to the illustration will show that a leaf has been added to each flower, but you may add two if necessary, or make separate, leafy sprays which make a nice effect near the base of the miniature plant.

When four or five flowers of the same variety have been completed, they are

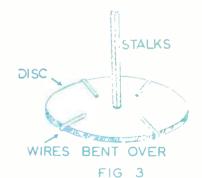


Fig. 2—On the left are bundles of petals, in the centre, stamens and on the right, the crepe paper

To add the petals, a similar operation takes place by folding in half and cutting, but the exact number is a matter of personal choice to some extent. You may add four, five or six petals as may be desired, aiming at a nicely balanced bloom, and in order to space them evenly around the central stamens some workers prefer to add the petals one at a

neck of the petals so that all the cotton thread is covered. By holding the paper at an angle it becomes quite easy to roll the wire between the fingers completing the covering. If you apply a little glue to the extreme end of the paper the wrapping will hold firm.

It is advisable to include an occasional leaf, either below the flower or about



ready for 'planting' into the miniature plant pots. The latter are made of earthenware and about l½ins. high. They may be obtained very cheaply from both arts and crafts shops or horticultural shops. It is essential to counteract any tendency for the plant to overbalance and since the pots are quite light we must add some kind of ballast. The best way to achieve this balance is to pack the inside of the pots with torn pieces of newspaper, pressed in quite firmly with

a piece of wood, or the end of a pencil. This material should fill about two

thirds of the pot at least.

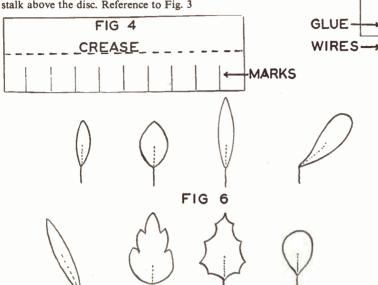
We now require a disc of good quality cardboard of such diameter that it will fit on top of the newspaper packing and be below the rim of the pot. Make a hole in the centre of this disc just large enough to pass the stalks of the flower sprays and any leaf sprays you need to include, leaving a little plain stalk above the disc. Reference to Fig. 3

3in. lengths of wire. Open out the paper after creasing, drawing vertical lines ½in. long and ½in. apart as shown in Figs. 4 and 5. Now apply a coating of white paste — and for this you are recommended to use a paste and not a glue — to the lower half of the paper where the

with several other wires, and the top half of the paper is pasted, folded over and firmly pressed with clean blotting paper so that there will be perfect adhesion.

After allowing to dry, the leaves may be cut out to any desired shape and

FIG 5



markings have been made. Take a 3in. wire, push into the nozzle of the glue tube, then lay it on one of the prepared lines. A similar procedure is followed

Fig. 6 shows a few examples. If you have any rounded nail scissors you will find them most convenient for cutting out the leaves. Longer leaves, like those of daffodils, should have a longer, central wire which also provides the vein. This method is also useful when it is desired to make modifications in the colouring of the leaves for special effects. When making miniature plants of this type it is not always essential that we should use only green for our stalks and leaves, and this is one of the main advantages of knowing how to prepare them. Of course, careful blending of flowers and leaves are matters for the particular worker, but observation of living plants and pictures will be a helpful guide. It should be remembered that it is always better to make experiments with colours before embarking on such a project, but with a little practice you will be able to create some artistic little miniatures. (S.H.L.)

will show how the flower stalks have been pushed through the hole in the disc and then curled over the edge, and bent over to the upper side. When the disc is forced into the pot the plant will stand quite rigid, but you must not make the central hole too large.

The top of the disc is covered with imitation moss, again bought at the crafts shop, or with shredded, crepe paper. Apply a little glue to the disc before adding the moss. Alternatively, you may cover the disc with glue and then add a little sand which will give a very realistic appearance. All that now remains to finish the work is the straightening of the individual flowers and stamens, and the bending of the stalks and leaves into a nicely balanced arrangement.

Although you may buy leaves for this work you may like to prepare your own for there are several advantages as will be seen, and this is done by means of crepe paper and fine covered wire. Note that in this instance we use covered wire.

Take a strip of crepe paper 2½ ins. wide, folding centrally across the grain. You will also need a small quantity of

A strong wheel mounting

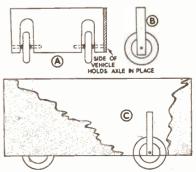
ANY a well made toy is later marred by the falling off or loosening of the wheels. If the following housing is used it will not only be found to be most effective, but quite simple and inexpensive to construct.

In principle it is a well grained piece of wood (A) cut with two 'arches' each of sufficient width to take the wheel hub and two washers. Axle holes are drilled either side straight through the arches. The wheel is then put in place and short axle pieces inserted. The end of the axle must be flush with the outside edge, as shown.

(B) shows the appearance from the side. The sides of the vehicle are fixed on to the housing edges, which serves the double purpose of holding the axles in place. (C) shows cut away sides of a vehicle demonstrating the placing of the

housings.

Mounted in this way the wheels are so sturdily set in and protected that they are virtually indestructible. (W.J.S.)



SOME BOOKS TO READ

Shellcraft

by Anthony Parker THE author of this book is quite correct in his assertion that most of us collect, or have at some time collected, sea shells from the beach merely to throw them away, sooner or later, after the holiday. His object in this volume is to show what a waste this discarding amounts to when such a creative hobby as shellcraft is available. This he proceeds to do in easily understood text embellished by numerous quite attractive two-colour line drawings, and any reader previously but faintly interested in the art of shell design cannot fail to be aroused to the hitherto unsuspected possibilities of this form of craftsmanship, not to be confused, for instance, with the uninspiring shell picture frames of Victorian times. Published by Stanley Paul & Company, 178-202 Great Portland Street, London,

Things for Boys and Girls to Make and Grow

by A. J. King

THIS is an excellent little book to place in the hands of any young girl or boy. Its easy to follow text, supported by numerous line drawings, cannot fail to fire the imagination of any youngster with the urge to make countless things for himself, or maybe, to produce a miniature garden or grow some of the many unusual indoor plants and trees suggested by the author.

Here is a veritable treasure house of ideas for the wet days or the long dark

evenings.

W.1-Price 8/6.

An Elliot Right Way Book, published by Andrew G. Elliot, Kingswood Building, Kingswood, Surrey—Price 7/6.

> Enameling on Metal by Oppi Untracht

A RAPIDLY increasing interest in enamelling, or the art of fusing glass on metal, has been evinced in the United States and Europe during the past few years, and this work on a craft with nearly two thousand years of tradition behind it is written by the instructor in enamelling at the Brooklyn Museum Art School.

It is a most comprehensive and lavishly illustrated work, covering not only the traditional techniques but some of the newly developed and even experi-

mental processes.

Despite its contemporary treatment, with an accent on experimental approach, this is a book for the beginner as

well as the expert. In such a craft with its immense, as yet almost untouched, possibilities there is growing space for both.

Published by Sir Isaac Pitman & Sons Ltd., Parker Street, Kingsway, London, W.C.2—Price 35/-.

Scooters and Moneds

by I. R. Hingston

THIS new work on what is fast becoming the most popular form of two-wheeled transport will prove of general interest to many readers and should particularly appeal to keen riders anxious to obtain the maximum enjoyment from their machines.

It is fully illustrated with diagrams and photographs, is written in simple non-technical language which the veriest novice of either sex can follow and its trouble-tracing charts are a unique and

valuable feature.

Published by Iliffe and Sons Limited, Dorset House, Stamford Street, London, S.E.1 — price 7/6.

> Building your own Boat by Graham Bell

AS its title implies, this book is intended for the yachting enthusiast who is prepared to tackle the job of building his own craft at home, but it does not set out to take the place of designers' plans and instructions. The author's aim is to act as a guide to the home constructor, to expose the snags in this somewhat specialized form of do-it-yourself, and, what is more important, to safely steer the beginner clear of the shoals and rocks which will beset his course.

This he proceeds to do with the help of over a hundred illustrations and very lucid text. A wide range of projects is covered, from prams and sailing dinghies

to 26ft. motor cruisers.

Published by Methuen and Co. Ltd., 16 Essex Street, London, W.C.2 — price 36/-.

Coppercraft and Silver made at Home

THE outstanding feature of this work is its simplicity of approach to a subject which is generally regarded as difficult in design, complex in process and, therefore, a hobby for the specialist. The authors, however, with years of practical experience and success behind them, show how it is possible to possess a cheap but adequate workshop in the

kitchen and with simple inexpensive equipment follow this creative hobby with the maximum chance of success, even in the case of the young beginner.

Handsomely produced, lavishly illustrated, this book is a tempting inducement to anyone with limited spare time and a desire to indulge in a fascinating worthwhile hobby.

Published by Sir Isaac Pitman and Sons Ltd., London — price 30/-.

Careers Encyclopaedia

Edited by G. H. Chaffe & P. J. Edmonds

THE recast second edition of 'Careers Encyclopaedia', unlike many works of reference, has a direct appeal to both ends of the human scale. It will be read with great interest by all parents concerned with the immediate or near future of their children and it will be diligently consulted by the scholars themselves.

This book is as unique as it is authoritative — it embraces some 240 occupations and most of the information concerning prospects, salary levels and examinations has been vetted by the

official bodies concerned.

A most sensible 'signpost' feature is included for the guidance of school leavers with only vague aspirations or aptitude — how familiar most of us are with this ill-defined phase — and reference here will help to bring things firmly into focus for the enquiring student.

Published by Clever-Hume Press Ltd., 31 Wright's Lane, Kensington, London, W.8—Price 15/-.

Fun with Metalwork

by J. W. Bollinger

THIS is a most illuminating work which, whilst supplying the beginner with basic information on metal-work procedure, more than amplifies the author's belief that working with metal is fun, especially when making silhouettes.

Numerous working drawings, illustrations and photographs enliven a stimulating text and this satisfying book fully lives up to its refreshing title.

Published by The Bruce Publishing Company of Milwaukee and distributed in Great Britain by B. T. Batsford Ltd. of 4 Fitzhardinge Street, Portman Square, London, W.1 — price 38/-.

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SAFETY PRECAUTIONS

LARGE number of home handymen are injured each year resulting from accidents in their workshops. Many of these accidents could have been prevented if only a little extra care had been taken. Remember, it is always easy to be wise afterwards. If you want to minimise the risk of causing injury to yourself or damage to your equipment then here are a few points of advice well worth observing.

Don't attempt to work if you are not feeling too well or are over-tired. These are the times when accidents are most likely to happen. Besides, you will find that you will have more enthusiasm for your work when you are feeling well and fresh.

Make sure that your workshop is well lit and that you are able to see your work properly. If you work in the evenings then an electric light should be installed. If this is not possible then work in the daylight only. Don't try and work by the light of candles or torches: this can be dangerous. Your workbench should be placed in front of a suitably sized window so that the light is cast on your work in front of you. Never have the window at your back otherwise you will always be working in your own shadow. Furthermore, your workshop should be large enough to enable you to work with ease.

It is best not to smoke in your workshop if there are a lot of wood shavings about. If this is asking too much then be careful with your cigarette ends; they may start a fire long after you have gone.

Always work with good quality tools and keep them in a sharp and good

working condition at all times. The majority of mishaps, and also frayed nerves, are often attributed to the use of blunt and unserviceable tools. Don't work with a hammer with a loose head. A new steel wedge will make it serviceable again. Also, if you are in the habit of storing your saws by hanging them up on a wall in your workshop then cover the teeth with wooden guards. Many a handyman has had a nasty gash when his hand has accidentally struck the unguarded teeth of a hanging saw.

Tools should not be stored carelessly in a drawer or box because sharp edges may injure someone when looking for a particular tool. Furthermore, don't store any tools on shelves or racks above head level. Nearby vibration could easily cause them to roll or fall and drop on someone's head

Never leave wood with protruding nails lying carelessly about, especially on the floor. The nails are often unnoticed and if they are trod upon they can cause a very nasty wound in the foot.

Oily rags are commonly used in the home workshop for cleaning purposes. When these are not in use don't store them away in unventilated places because in many cases they could ignite by spontaneous combustion. Always keep the rags in an airy position away from any inflammable or highly combustible materials. Blowlamps are also bad offenders for starting fires in workshops so use them with extreme care.

When grinding down metals on a power driven grindstone always wear a pair of goggles to protect your eyes from flying pieces of metal.

Many handymen have power tools in their workshops nowadays to make their work easier. Power tools are excellent things to have but they must be used very carefully. Accidents from power tools are usually more serious than those from ordinary hand tools as might well be expected.

Make sure that each power tool is properly wired and earthed; three pin plugs should be used, not two pin. When you wish to clean or repair the inside of a power tool always disconnect the power first by removing the plug from the socket. Don't rely on switching off the current — this does not guarantee the maximum amount of safety.

Like all other tools, power tools should be well oiled but don't overdo this. Don't allow excess oil to get into the electrical parts because this could cause trouble.

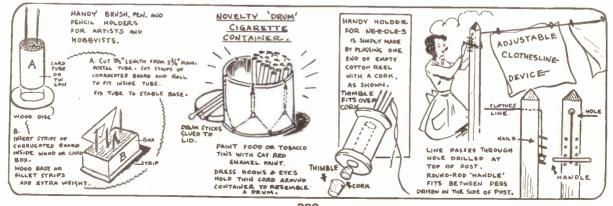
When using a circular saw don't take chances by placing your fingers too near to the saw when feeding the timber through. If you are cutting small sections then use a scrap of wood to push the timber through the saw during the last inch or so.

Finally, keep all loose parts of clothing such as ties, shirt cuffs, etc., away from the moving parts of saws and drills because they are liable to get entangled with the moving parts.

The above point are by no means exhaustive and no doubt there are numerous other sources of danger which could apply to your workshop. If, however, a little common sense is shown with your work then there is no reason why you shouldn't keep clear of accidents.(F.K.)

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381 World Radio History ollectors of Circusana will find that many interesting items pertaining to the circus have appeared on match labels. For example: India has issued many labels depicting elephants.

Indian elephants have been known to live more than a hundred years. Born in the great forest jungles, they are often caught young, usually by being decoyed into an enormous pound.

Elephants – By R.L.C.

The wild elephant when caught is given over to two tame ones, who begin his education, chastising him with their trunks if necessary. Before long he learns to be harmless and obedient, and we all know stories showing how fond of his keeper he becomes, and how faithful he is in the many tasks to which he is set.

Elephants are used as beasts of burden for hunting tigers through the jungle, and for show. Indian princes and great



men keep them as part of their state, for processions and public ceremonies.

Docile and affectionate as elephants are, they often have fits of bad temper, and sometimes go mad outright. A 'rogue' elephant is one that has broken away to wander by himself about the woods, a terrible enemy to all he meets. It is not easy to kill an elephant, and a bullet must be well aimed to pierce his thick hide at the right spot.

A few herds of elephants still wander through the jungles of South Africa. But they are being killed off, wherever ivory hunters can track them out to make spoil of their fine tusks. This ornament is an unfortunate one for the poor elephants, slain, on its account, by tens of thousands every year. Ivory used to be one of the chief exports of South Africa; but now, even in the wild lands of Rhodesia, it is difficult to find an elephant.

In Siam the white elephant is a sacred animal and is treated with great respect.

The Arabs are fond of elephant's flesh, which is generally fat and juicy, though it is coarse and has a strong smell. The trunk and feet are the best parts for eating. To cook one of the feet, a hole nearly a yard wide is dug in the ground, and filled full of wood, which is kept burning until the sides of the hole are very hot. When the fire has ceased to blaze, the foot is laid upon the coals, and the hole is then covered over with green wood and wet grass, plastered with mud, and stamped down tight. Earth is then piled over it, so that all the heat will be kept in, and it is left for about 24 hours.



The Dorchester

ANY London hotels issue several different luggage labels, post-cards and souvenir covers. For example, the Dorchester has a large and small luggage label, a coloured house label, two visitors' postcards; one in colour, and a number of souvenir cards, all of which depict the hotel.

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Hotel labels are best collected by cities. An album containing one label from each hotel in London would comprise about 500 items, and quite as many pages of interesting notes.



PEN AND PENCIL RACK

HE pieces which go to make the pen rack are all shown full size and are cut from in. wood. You will, of course, need two of the side piece (B). Trace the parts and transfer them to the wood by means of carbon paper. Cut them out with a fretsaw, after drilling the interior pieces in the sides.

Clean up the parts with fine grade glasspaper and commence assembly. Pieces (B) (the sides) are glued to the

back (A) and then pieces (B) and (A) are glued to the base (C). The dotted lines on pieces (B) and (C) show the positions of pieces (B). Wipe off excess glue before it has time to dry.

Finish off by staining and varnishing or by painting. Use high-gloss enamel for good effect and give about three coats. Rub down the first and second coats when dry and be careful to ensure that the enamel does not run. (M.p.)

An interesting piece of work for all fretworkers

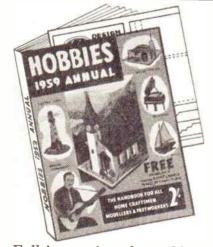
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