HOBBIES WEEKLY

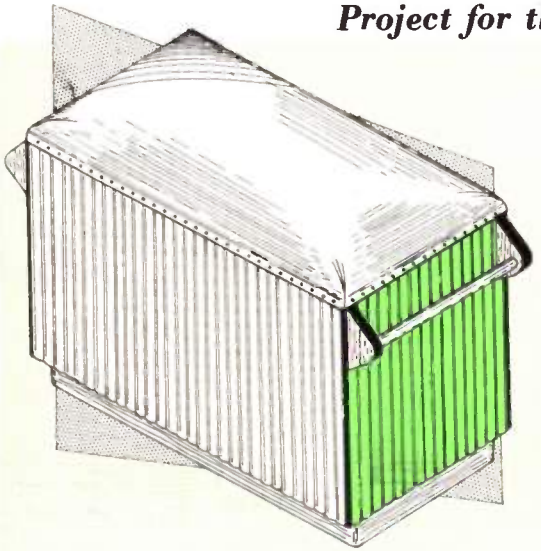
AUGUST 7th 1957 VOL. 124 NUMBER 3223

IN THIS ISSUE

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

Project for the handyman

STOOL CHEST



By Gordon Allen

COLOURFUL AND MODERN

IN addition to being very useful for containing newly laundered sheets and blankets — or even as a soiled linen chest — this unit is designed to provide a colourful modern stool, and will be ideal for a bedroom. Cheap and simple to make, it would provide a very acceptable wedding present.

Use sound, straight-grained wood 1½ins. by ¾in. for the basic framework. Make first the front and rear frames. They are identical and each consists of top and bottom rails, 28½ins. long, two end uprights 18ins. long, and a centre upright 17½ins. long. Cut these members with a tenon saw, recess the top and bottom rails ¾in. in the middle as indicated in the drawing, and glue and screw all the parts together on a flat surface. Check for squareness at frequent intervals with an engineer's square.

When set, prop the frames upright and glue in place the four spacers each of which is 13ins. long. Check again for squareness. Cut the floor of the chest, which measures 30ins. by 16ins. from ¼in. hardboard or plywood and cut out the 1½in. by ¾in. slots in the corners and in the middle of the long sides to accommodate the uprights of the framework. Slide the floor diagonally through the end of the frame and panel pin it in place on the bottom rails and spacers.

The sides of the chest are covered with ¼in. thick reeded or fluted hardboard — a contemporary board ('Castex' is one example) of a highly pleasing nature.

Cut two panels measuring 30ins. by 18ins. and two measuring 18ins. by 16ins. In the top corners of the smaller panels cut slots measuring 5ins. by ¾in. to clear the handle brackets. Use a tenon saw held at a shallow angle, and make sure during measuring that the panels are absolutely true and square.

Fix the panels in place with impact adhesive, such as 'Evo-Stik', in the manner prescribed by the manufacturers. This method is excellent for panel fixing and avoids the otherwise rather tedious task of 'filling in' after panel pinning.

The gaps between the panel edges in the corners of the chest are filled with lengths of ¼in. quarter-round beading which provides a neat 'finished off' appearance. Cut four pieces each 18ins. long and fix them in place with adhesive.

Mark out the shapes of the handle brackets on ¾in. thick hardwood and mark the centres of the dowel handles. Cut and trim them and drill a 1in. diameter blind hole ⅜in. deep in the appropriate positions with a brace and bit. Glue the two handles, each 15½ins. long, in the holes, then immediately glue and screw (from inside the chest) the brackets in place.

The plinth is now fitted. Invert the chest and on the inside edges of the two bottom rails glue and panel pin pieces of ½in. plywood measuring 27ins. by 3ins. Between these pin and glue two pieces of ½in. plywood measuring 12ins. by 3ins., against the inside edges of the bottom spacers. When set, round off the corners of the plinth with chisel and glasspaper.

Similar wood to that used for the structure of the chest is used for the framework of the hinged lid. Cut two pieces 30½ins. long and between them glue three pieces 13½ins. long as shown in the detail. Make sure the frame is absolutely square. Face both sides with pieces of ¼in. plain hardboard measuring 30½ins. by 16½ins., using impact adhesive. Trim the edges smooth and round off the corners of the frame.

As shown in the lid detail, recess the hardboard 3ins. from the ends to accept a flush fit for two 2in. steel hinges. Do this with a chisel and screw the hinges in place. In corresponding positions on one of the top edges of the chest also cut recesses for the other hinge leafs.

The top of the lid can be padded with tailor's wadding and covered with a spare piece of curtain material, held in place with furniture studs or plastic topped drawing-pins pushed through the material into the edge of the lid. Alternatively a piece of foam rubber 1in. or 2ins. thick can be stuck with impact adhesive to one face of the lid and covered with curtain material as before. In either case it is a good idea to run a piece of stiff curtain tape round the edge of the lid over the top of the covering to provide reinforcement when the pins are pushed into place.

When complete, screw the lid in place. The final finish is left to the discretion of the handyman, but the unit looks well in two toning colours of emulsion paint.

CUTTING LIST

Hardwood:
- 26ft. of 1¼ins. by ¾in. (chest framework)
- 10ft. of 1¼ins. by ¾in. (lid framework)
- One piece 12ins. by 6ins. (handle brackets)

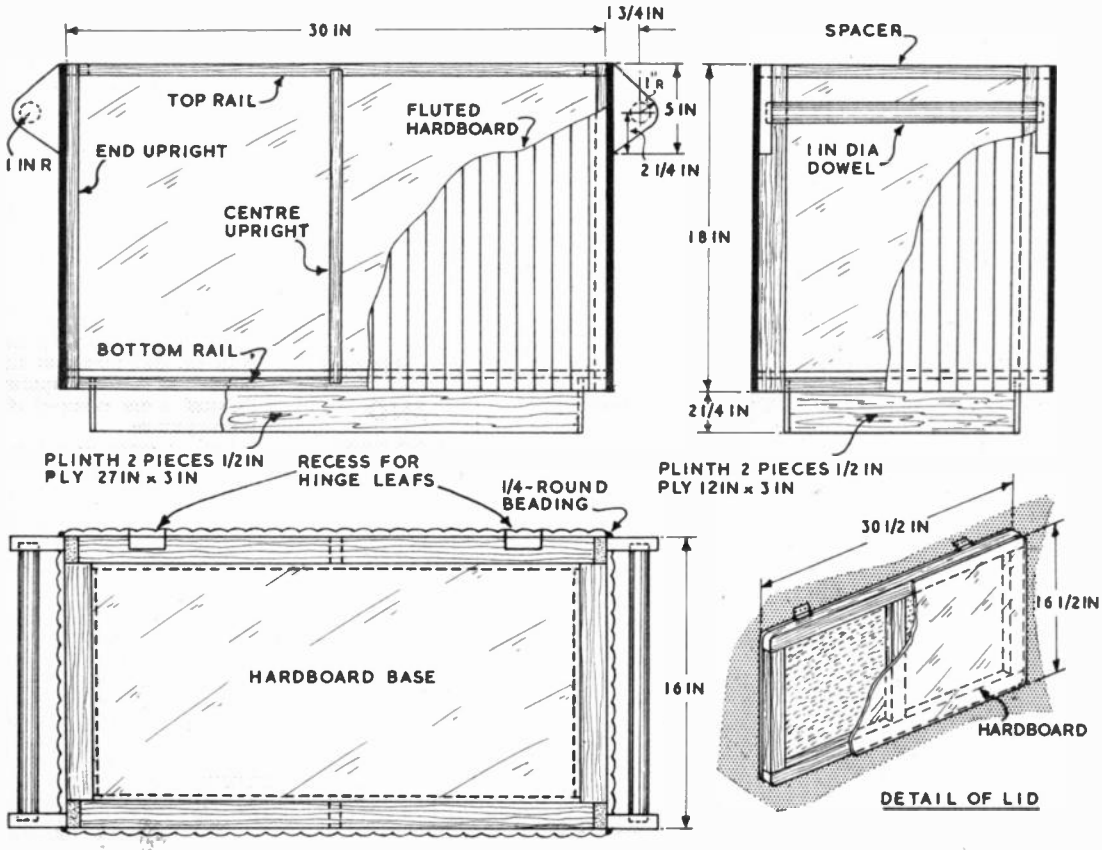
¼in. Hardboard:
- 2 fluted pieces 30ins. by 18ins. (panelling)
- 2 fluted pieces 18ins. by 16ins. (panelling)
- 2 plain pieces 30½ins. by 16½ins. (lid covering)
- 1 plain piece 30ins. by 16ins. (base)

Plywood:
- 2 pieces 27ins. by 3ins. by ½in. (plinth)
- 2 pieces 12ins. by 3ins. by ½in. (plinth)

Dowel:
- 1 length 36ins. by 1in. diameter (handles)

Beading:
- 1 length ¼in. quarter-round by 6ft. (chest corners)

Miscellaneous:
- Foam rubber, hinges, curtain material, screws, impact adhesive, panel pins, paint



A Word in your Ear

From the Editor . . . . . .

WE shall soon be entering that period of the year when the shorter evenings encourage the model maker, handicraft worker and handyman to again take up his tools in earnest and concentrate really hard on his hobby or on jobs which have been left undone during the summer. Many of our readers will, no doubt, be thumbing through back numbers of *Hobbies Weekly* seeking again projects which 'caught their eye' at the time of publication, but which because of other interests failed to get started on.

Next week's free design will be for a charming lamp in which the illumination comes through a glass bowl of flowers — ideal for use as a TV light.

Hobbies Ltd. will be supporting this 'urge to create' by their stands at various London exhibitions during the coming weeks, and here and now a hearty invitation is extended to all to pay us a visit wherever the Hobbies sign is shown. Perhaps you will be visiting the capital on holiday. Come along and bring the wife and children to our stand, and get a really comprehensive look at the wide range offered in the 'Do-it-yourself' field. Bring your queries and problems. An expert staff will be there to give every assistance.

HOBBIES SERVICE

'DO-IT-YOURSELF' has been brought much to the forefront in the national life of British people since the war. Claims have been made that the movement is yet another importation from America — to which we would reply that Hobbies Ltd. have been urging this principle for over 60 years! The articles in *Hobbies Weekly* have for these many years shown Mr. Average Man and Boy how to make good use of his hands, materials and tools (and though a lad may be only as yet a maker of simple models — that surely comes under the heading of 'do-it-yourself' and is a step in the right direction). There must be thousands and thousands of readers who have benefited from the many constructive articles which have been published over this period.

Apart from this there are the many hundreds of designs which have been brought out, thus enabling even the most unskilled worker with his hands to make a success of his work. There is no doubt that a design shown full size, thus enabling a tracing to be made, is much easier to work from than pages and pages of written matter.

And, of course, to help even further, a kit of materials required for each design is also offered. We contend that it is not much use getting out a design for, say, a model or piece of furniture, which looks 'super' on paper, but which entails a long and possibly disappointing search for materials. If we specify $\frac{1}{16}$in., $\frac{1}{8}$in., $\frac{1}{4}$in., $\frac{1}{2}$in., etc., wood for our design projects, then that is the size of wood packed in the kit — ready planed to its correct thickness. We specialise in sawing and cutting up huge trees into thin panels of wood — something which even the most ardent 'do-it-yourself' worker cannot do for himself! And if handles, knobs, screws, etc., are called for — then they will be there, too, in the kit — making it truly a practical proposition, not just a fanciful theory.

LASTING PRIDE

BUT as all our customers know, this kit service by no means cuts out the 'do-it-yourself' angle. These are not merely prefabricated pieces ready to be stuck and screwed together. The quality of the finished article still depends on the care and thought bestowed by the worker in his cutting and finishing, and that is an ideal which we think all will agree is so essential. Any craftsman worthy of the name — if there is any lasting pride to be gained from his work — will wish to retain that individuality.

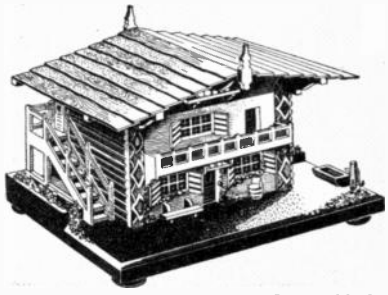
Blowing our own trumpet? Well, why not! I feel that Hobbies provide services which thousands more could and should enjoy. A fine opportunity of gaining more knowledge of this Hobbies service is offered by the publication on August 1st of Hobbies 1958 Annual, the handbook which no modeller, fretworker or handyman can afford to miss. This will supply 'meaty' information for workers throughout the next 12 months, and should be always on hand for constant reference. Catalogued are hundreds of items which can be sent to you by mail order, or obtainable at Hobbies branches and stockists — anything from a packet of fretpins to a machine.

ANOTHER CHALET DESIGN

THERE are 168 pages in the annual, which costs but a modest 2/- from any newsagent, etc. With each copy there is presented free a valuable design to make a super Swiss chalet which can be used as a cigarette box, trinket box or similar container. Provision is made for the incorporation of a musical movement which plays a tune when the roof of the chalet is lifted.

There are also articles on how to make a TV table and other furniture for the home, model aircraft, model railways, marquetry, fretwork, toys, novelties, etc. — in fact, something to interest everyone from the young lad with his first tool set to the centenarian whittling away in his bathchair!

If any difficulty is experienced in obtaining this grand annual from usual sources, send 2/3 to Hobbies Ltd., Dereham, Norfolk, and a copy will be posted. But please apply early or you will be disappointed, as were many thousands of potential readers last year.



Super Chalet

CAR RACING

VISITORS to the Schoolboys' and Girls' Exhibition to be held at Olympia, London, from the 1st to the 15th of August should make a point of visiting Hobbies stand No. 58. On view will be aircraft made from Hobbies model kits, some of the delightful working model ships from Hobbies designs and, of course, colourful galleons also made from Hobbies kits. Fretwork demonstrations will be given daily.

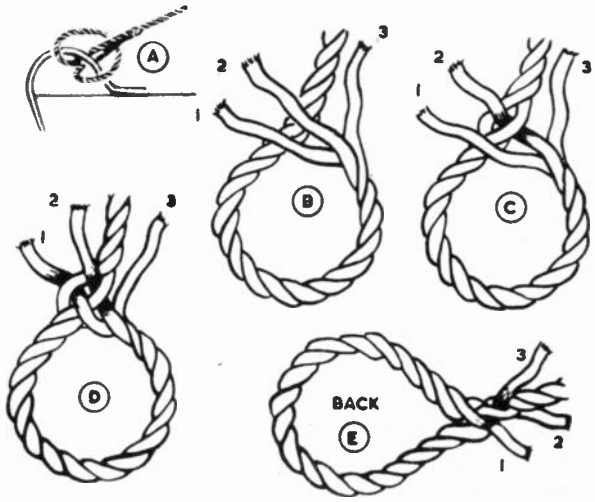
Visitors will also have a chance of winning valuable prizes in a novel car racing competition which will be held each day of the exhibition. This is being run in conjunction with Minimodels, producers of Scalex cars. The competition will be to decide who can make the fastest lap with an electric car round the Scalex track, and each entrant will be able to control his own car.

For efficiency and comfort

CANOE EXTRAS

By P. W. Blandford

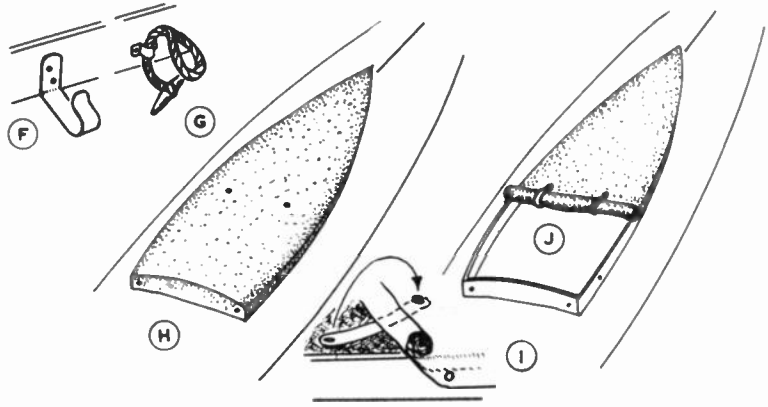
THE proud builder of a canvas-covered canoe will find that there are many little extras he can make to add to his comfort or to improve the efficiency of his craft. Of course, it is as well to be on guard against overdoing it. Any possible addition should be assessed and its value really appreciated before adding, otherwise the canoe may be cluttered up with such things as ventilators, navigation lights and similar things — which may be good fun, but are hardly essentials.



Good rope painters are essential — hemp about ¾in. circumference is fine. They should be really securely fastened to the ends of the canoe and held by hooks on the coaming. For most waters, the bow painter should be rather longer than the canoe, and the stern painter can be quite short, with an eye in it for grasping as you step out to wade down a shallow rapid. If eye splices are used at the ends, the painters can be removable (A). To make an eye splice, open the three strands so that two rest across the main part of the rope and one is behind (B). Tuck the upper front end under one strand of the rope (C). Tuck the lower end under the next strand (D). Turn the splice over and tuck the remaining end under the remaining strand (E), going the same way as the other ends. Even this up, then tuck each end in turn over and under one strand a total of three times.

An 8ft. double paddle can be quite a problem to put down safely when you are afloat, and a paddle bracket at the side of the cockpit is worth having (F). This can be bent up from a strip of springy brass, about 6ins. by ¾in. It is best to rivet or bolt it through the coaming, as ordinary screws may pull out of the thin wood. An alternative is a rope with an eye and toggle (G).

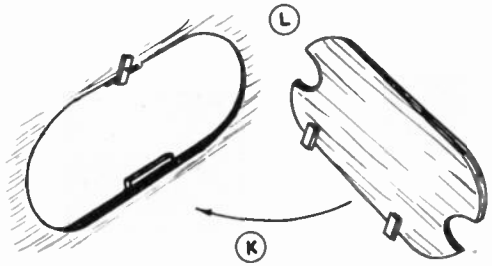
One of the most important additions is a spray cover. This is an apron which fits over the cockpit, protecting you from waves and spray or heavy rain, and sealing the cockpit completely when it is unoccupied.

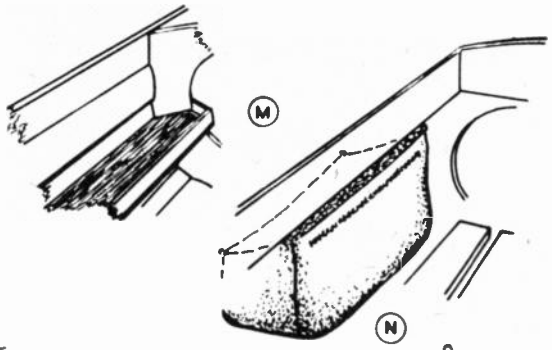


Many ingenious types of spray cover have been devised, but a simple one is quite effective. It is most important that the cover should come away easily in emergency, without any special action on the part of the canoeist. Do not use turn-buttons or any other fastener needing a pull or twist. Ordinary large press studs are satisfactory. They will hold against pressure from outside, but will spring undone when pressed outward. The spray cover may be made from proofed canvas, rubberised material or plastic, strengthened with tape around the edges.

Make the spray cover large enough to lap over the coaming and turn down on to the stern deck (H). Turn in a hem and sew the corners to a box shape. Press studs can be arranged at about 12in. intervals along the coaming, but have one pair opposite where the cover will have to be rolled back (I). Put a pair of tapes with press studs, to hold the rolled part to form a breakwater (J). In a two-seater, make the cover in two parts, with the front portion overlapping the rear one when it is closed.

If you use your canoe for touring, you will soon find the method of kit stowage which suits you. The art in packing camping gear is to have it in many small bags rather than one or two big ones, but this usually results in quite a collection of oddments being deposited just behind the rear seat. They can be retained and protected from loss or pilfering by fitting a door in the frame. By an arrangement of strips and a turn-button, the door can be made removable (K). If a lock is fitted and notches cut in the sides of the door, it is possible to stow two halves of a double paddle with the blades aft through the door, and

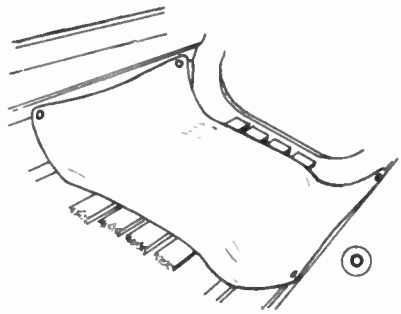


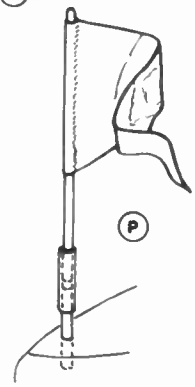


safe from pilfering when the canoe is left (L).

In a rigid canoe shelves can be fitted between frames in the cockpit, making useful stowage places for items needed during the day (M). Canvas bags hung under the side decks will hold waterproof clothing, camera and other things too bulky for the shelves (N). The bags may be sealed with zip fasteners, press studs or rubber draw cords.

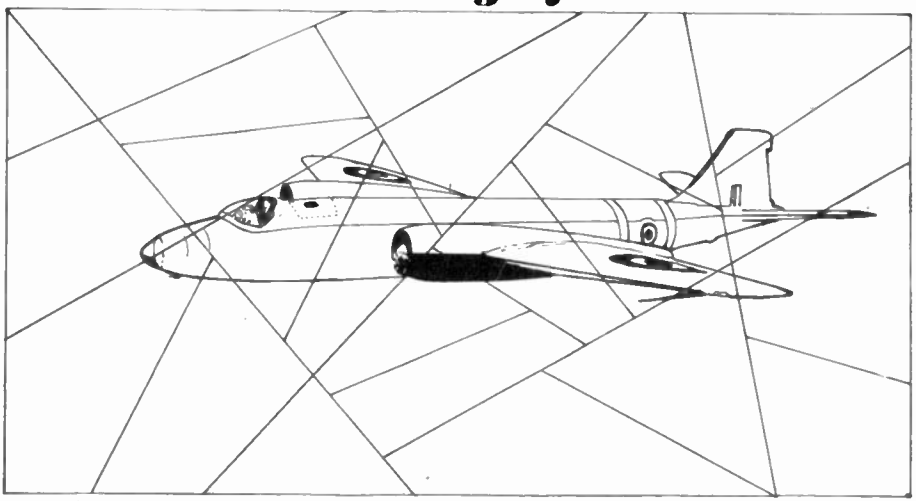
Mud and dirt can be more of a nuisance in a canoe than might be expected. Grit gets between stringers and the skin, causing chafing, and routine cleaning does not completely get rid of the trouble. It is impossible to avoid bringing dirt in on the feet, particularly when getting in quickly in a fast river. Some sort of mat will take care of this. A loose piece of canvas will not stay put, but a piece of rubberised sheeting held by press studs to stringers at each side will keep much of the mud and dirt from getting any further (O).





Most people afloat in any sort of craft like to fly a flag. On a canoe you are entitled to a club or personal pennant forward and a red ensign (not union jack) aft. Fixed staffs soon get bent or broken by overhanging branches or even shrubs in the banks. This can be obviated to a certain extent by including a spring or piece of rubber tubing in the staff (P). Even that may not be the complete answer, and many canoeists abandon staffs and sew their flags to the deck. If you do this, arrange them in the same way as they would be if flying.

Solution to Jig-Quiz No. 1

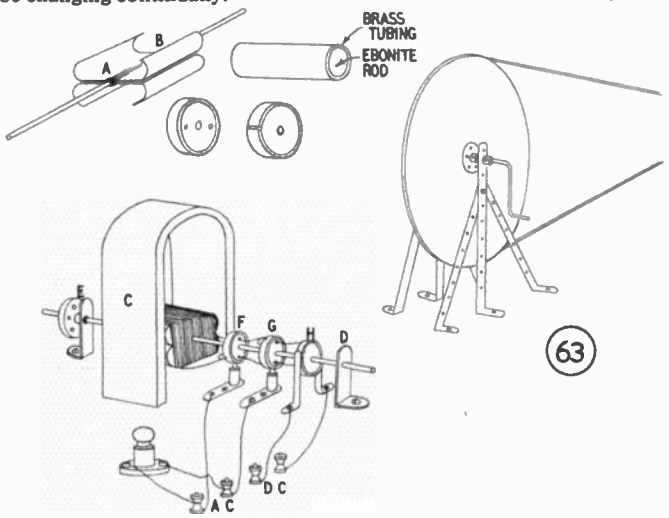


Did you work it out? The illustration shows how the various pieces in last week's problem are fitted together to give a picture of Britain's English Electric Canberra. Other puzzles in this series will follow.

Simple science

A MODEL DYNAMO

IF you have tried out the magnetically induced electricity experiment, you will have realised that electricity is induced in a circuit only while the magnetic conditions near that circuit are changing. To produce a continuous induced current the magnetic field near a coil must be changing continually.



In a dynamo, coils of wire are moved near strong magnetic fields or the magnetic fields are moved near coils to produce continuous induced currents. A method of making a model A.C. and D.C. dynamo is shown here.

Apparatus required: wooden base; permanent horse-shoe magnet; short pieces of strip brass for supports (D) and (E); two Meccano wheels; Meccano axle rod; brass tubing; thin sheet brass; miniature lamp holder; 3·5 volt lamp; four terminals; No. 26 D.C.C. copper wire; insulating tape; ebonite rod or dowelling.

If you exercise reasonable care in making the dynamo, it will produce enough electric power to light a 3·5 volt lamp, and if the armature is rotated slowly you will be able to see the generation of low frequency A.C.

The method of building up the armature from tin plate placed round a brass rod or Meccano axle rod is shown in Fig. 63. The plates are soldered to the axle at (A) and (B), paper or insulating tape being wrapped round the armature plates to prevent sharp edges from cutting through insulation. About 600 turns of No. 26 D.C.C. wire should be wrapped on this armature. Frame (C) is the permanent magnet. If even better results are required a laminated electromagnet of tin plate can be used, but in this case a separate direct current will be required for the magnet. This illustrates the purpose of the D.C. generators fixed to the ends of the alternators at the power station.

The method of mounting the armature will be clear from the illustration. The brackets (D) and (E) should be fairly strong and rigidly fixed to the base board.

The ends of the wire on the armature are connected to the two brass rings (F) and (G) and also to the two halves of the split ring. The wires are soldered to the edges of the brass. The smaller illustrations show the method of making the commutators. A length of brass tubing is hammered into position round a short length of ebonite rod or dowelling of such a diameter that it fits lightly into the brass tube. Three pieces to form the rings are cut off with a hacksaw. Small holes are drilled through the centres, so that the rings fit tightly on the axle rod and small holes are drilled in (F) and (G) to allow the wires to pass through to the split ring.

To make the split ring (H) holes must be drilled and countersunk so that the brass can be fixed with small screws to the ebonite. Small pieces of brass are then removed between the screws with a hacksaw. The gap thus made should be filled with sealing wax.

The current is collected from the split ring by two thin brass brushes which are connected to the two terminals labelled (D) and (C). Brushes of the same type will collect the current from the continuous rings. Another type of brush is also illustrated. It consists of a short piece of carbon rod from an electric cell which is held against the brass ring by a spring inside a length of brass tubing which is soldered to a piece of brass screwed to the base board.

The dynamo may be driven by a large driving wheel made from two plywood discs supported by Meccano strips as shown. The edges of the disc are chamfered, and they are then glued and nailed together. Expanding curtain wire makes an excellent belt.

New Aerosol Packs

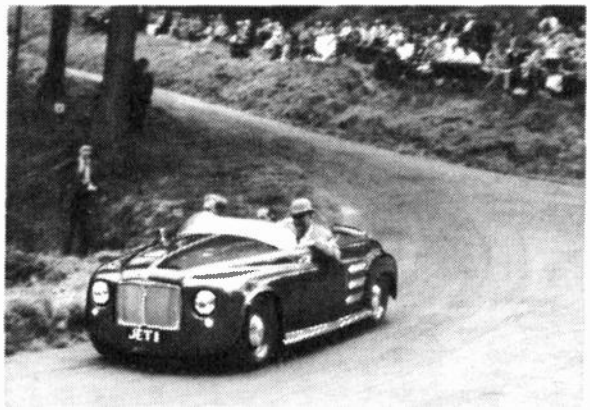
TWO of the latest products to be packed in aerosol containers are 'Aerozene' penetrating oil and spring lubricant, and 'Rusolvent' easing fluid and rust remover. These two 12 oz. packs are the first of a range of products manufactured and marketed by the Pressurised Dispenser Division of Amber Oils Ltd., of 11A Albemarle Street, London, W.1.

'Aerozene' is ejected in a powerful, accurate jet (a 4ins. circle at 7ft.) and produces on the part to be lubricated a highly penetrating graphite foam which has remarkable 'wetting out' or 'creep' properties. It has many applications in the garage, home and workshop.

'Rusolvent' is ejected in the form of a closely controlled spray, and is a fast-acting easing fluid and rust remover, dealing quickly with the worst cases of rust-jammed locks, bolts, hinges, etc. 'Aerozene' and 'Rusolvent' retail at 7/6 each.

A new product designed to give lasting invisible protection for all polished metal surfaces is being marketed by the same company. It is called Blink invisible chrome protector, and is a clear cellulose lacquer packed in a 6 oz. aerosol dispenser retailing at 8/6. When sprayed on polished metal surfaces it forms an invisible protective coating, which remains intact for months.

ENLARGING PRINTS WITH A CAMERA



Turbine car, enlarged from ¾in. × 1in. to half-plate (4¾ins. × 6½ins.) by camera

PHOTOGRAPHERS who do contact printing at home do not always realise that an enlarger is not necessary to produce larger pictures, as the camera with which the shots were taken can be used for this purpose. The enlargements thus produced need not be in any way inferior to those obtained with a proper enlarger, while the saving in expense is very obvious. The 'camera' enlarger can also be quite easy to use, and simple to arrange, so that it becomes a very straightforward matter, indeed, to try one's hand at producing large pictures instead of small contact prints.

Almost any type of camera will prove satisfactory. Best of all are the old plate cameras, because they have adjustable extension, and the back (screen or plate-holder) is easily removed. The popular type of folding camera is also suitable, especially if it has a *f*3·5, *f*4·5 or *f*6·3 lens. Very cheap cameras, with *f*11 lenses, do not give such good definition, and the small aperture makes a long exposure necessary. This also applies to box cameras.

A few cameras of this kind have backs which can easily be removed. When this is not so, the back is folded completely open, so that the negative can be illuminated.

Lamphouse and stand

The easiest arrangement is to use the camera horizontally, as shown in Fig. 1. A large paint tin or other container will form a good lamphouse, but it must be *at least* 6ins. deep, about 5ins. in diameter being suitable. Shallow tins will not prove satisfactory, because the bulb will be too near the negative, so that the centre of the image is more brilliant than the corners.

Fig. 1 illustrates the parts, and their positions, and actual dimensions are of little importance. A square piece of ¼in. ply is bolted to the rim of the lamphouse. This piece (5ins. by 5ins., with a tin 5ins. in diameter) has a central cut-out of the same size as the negatives to be enlarged. This will be about 2⅛ins. by 3⅛ins. for '8-on' shots, or 2⅛ins. by 2⅛ins. for '12-on' negatives. The cut-out should not be larger than the negative, to avoid light scatter.

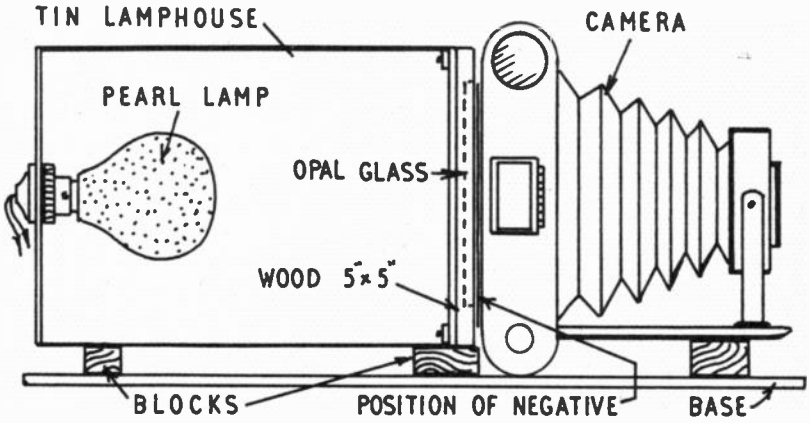


Fig. 1

The simplest method of securing even illumination is to have a piece of flashed opal glass behind the negative, and this can readily be purchased. Round or rectangular glass will do, provided it is large enough to cover the negative area. A recess is cut in the wooden piece mentioned, so that the glass lies flush, as in Fig. 1.

An ordinary domestic lamp will be satisfactory, of 45 to 100 W. type. An opal or pearl lamp will help to secure even lighting. Very small lamps will make a very long exposure necessary, while very large lamps will cause too much heating. If stronger illumination is wanted, a high intensity lamp of the kind made for enlargers may be substituted. A pear or lead-through switch is included in one lead to control exposures.

It is now necessary to place lamphouse and camera upon a baseboard in such a manner that the centre of each falls in line, as indicated. Small cameras will require packing up. The blocks can be screwed in position, and all will then be ready for use.

Enlarging

The negative has to be placed between camera and lamphouse, as shown, with the emulsion side towards the camera. If films are developed at home it is possible to keep them in a strip, and wind across exactly as when a film is being exposed. A few inches of old backing paper are attached to one end of the film, by adhesive tape, to thread the take-up spool.

If negatives are cut, they can best be held separately by means of two sheets of clean, flawless glass, as shown in Fig. 2. Such a carrier holds the negative flat, and is very easy to make and use.

When the negative has been positioned correctly behind the camera, and in front of the illuminated aperture in the lamphouse, the camera lens is set open, at maximum aperture. An image of the negative will then be projected, its size depending upon the distance between camera and bromide paper.

So that the paper may be held vertically, a small easel is required. Assuming that prints larger than whole-plate are not required, the easel may be 7ins. by 9ins., and a small base is fitted so that it stands vertically. The bromide paper is held in place upon it by clips or long elastic bands.

If the camera has plenty of focusing movement, it will be possible to focus the image at any desired size. But with the modern type of camera with front-cell focusing insufficient distance will be available between negative and lens to make *small* enlargements. This can easily be overcome by moving the camera a little away from the lamphouse and negative. To prevent light escaping, a dark cloth may be placed over the gap. Alternatively, a piece of wood about 6ins. by 6ins. and 1in. thick may have an aperture cut in it to match the camera back. This piece is then placed between negative carrier and camera, thereby increasing the distance between lens and negative. It is also possible to use a weak close-up lens on the camera, if available, to secure a similar result.

If the projected image is too large, the easel is moved nearer the camera, and the latter again focused to produce a sharp picture. A person accustomed to making contact prints should not overlook that it is now possible to omit unnecessary material near the edges of the negative. When matters have been so adjusted that the desired part of the negative fills the picture area, the lamp is switched off, and the sheet of bromide paper is fitted to the easel.

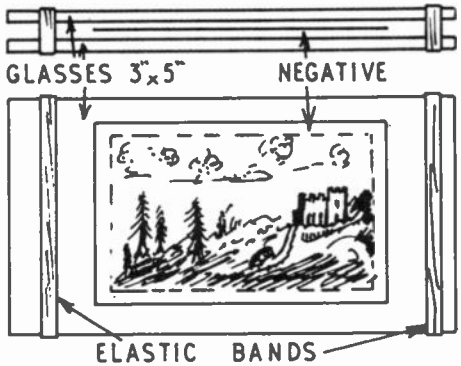


Fig. 2—Glass negative carrier

The best exposure depends upon several factors, notably lens aperture, degree of enlargement, lamp power, and type of negative. A test strip should thus be made. This gives several exposures on one sheet of bromide paper, and is made by holding an opaque card between camera and easel, near the latter. Exposures of 15, 30, 45 and 60 seconds will do initially. A watch or clock is required for timing. After 15 seconds exposure, the card is brought into position to obscure about one-quarter of the bromide paper. After a further 15 seconds, the card is advanced to cover a further quarter of the paper, and so on, the final one-quarter receiving the full 60 seconds. The print is then developed. Weak sections have had insufficient exposure. Over-exposure is shown by a very black image. When an idea of probable exposures has been gained, the test strips can be made at 10 second intervals, and only covering such a period as may be expected to yield a satisfactory print. For example, if nothing less than 30 seconds is likely to be satisfactory, test exposures of 30, 40, 50, 60, 70 and 80 seconds can be made, in six strips. Many photographers advocate moving the card to secure exposures of such a length that each is twice that previously obtained: 5, 10, 20, 40, and 80 seconds, for example. This covers a longer possible range of exposures, but is a little confusing to time.

If the projected image is sharp one side only, this shows that negative, camera and easel are not all parallel, and should be corrected. (F.G.R.)

BRUSH WORK WITH CELLULOSE ENAMELS

CELLULOSE enamels are entirely different from oil and other kinds of paints and possess qualities which have to be respected, if a good finish is desired.

When first developed they were only suitable for application by spray because of their very rapid drying properties, but the latest cellulose finishes do not dry so quickly and, therefore, can also be applied by brush, adopting the following technique.

Use a rubber set brush with soft bristles. The enamel should be well stirred, working from the bottom of the container.

Loading the brush with the liquid it should be applied to the previously cleaned and prepared surface in an even distribution.

Recharge the brush a second time and apply it to an area some little distance away from the first application, laying the material off towards the previously painted area. By finishing the stroke with the tip of the brush in a wet portion, brush marks and 'drags' will be avoided.

The material should not be brushed out in the manner usually adopted when using an oil paint, but only sufficiently to give a complete and even cover. Only a small area at a time should be covered, and when the whole surface has received the first coat, it should be left a minimum of two hours before the second coat is applied.

Any desired colour can be obtained by mixing any particular shade with another. They mix completely and uniformly without trouble.

Clean surface essential

Cellulose enamel can be applied with a brush on almost any type of surface, but perfect cleanliness and dryness is essential. All traces of polish, wax, grease and oil must be removed with turpentine or some other reliable solvent. Rusty surfaces should be very carefully cleaned up with glasspaper or emery cloth, and then the metal finally cleaned with petrol, the latter by reason of its rapid evaporation ensures the surface being perfectly dry.

On bare wood, plaster or wall board, a specially made undercoat is necessary, as this helps in building up to a good finish. These undercoats usually have an oil base. The undercoat should be left on at least eight hours to enable the surface to harden before the finishing cellulose enamel coat is applied.

Before applying finishing enamels to already finished surfaces they should be glasspapered smooth, paying particular attention to all rough places and parts where the old paint film is broken. In the latter case the edges should be 'feathered' down. All traces of varnish must be removed.

Cellulose enamels must not be brushed over a surface which has recently been painted with varnish or enamel of the ordinary household type, or lifting may occur and the work spoiled. It is worth while noting that when cellulose is applied to a surface carrying old paint, the life of the finish will be only that of the paint underneath.

A few words of caution to users may not be out of place. The solvents in cellulose finish enamel are usually inflammable, so open fires and naked flames present a real danger. (A.E.H.)

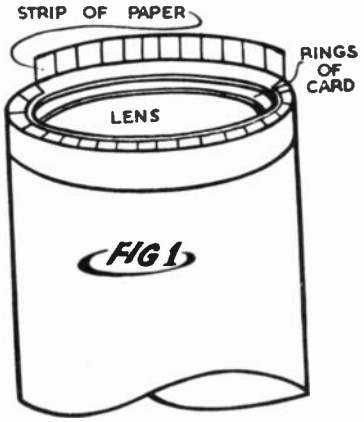
For a heavenly view

MAKE A TELESCOPE

By H. Tipper

WITH the interest aroused by the advent of the Comet Arend-Roland, which was recently seen in the North West sky, many people, and particularly those who have at any time read a book on astronomy, no doubt said, 'Oh, if only I had a telescope'. Well, why not? A telescope is quite easy to make.

Let us consider how to set about it. The most important item is the lens. If you have it made to your requirements, it could be a very expensive item. The best plan, therefore, is to get our lenses first, and build the telescope to suit them. If you go round to your local optician and ask him, he will most probably have an odd lens of sufficient focal length. You will want a lens of about 24ins. to 36ins. focal length. This length is not too important, providing it is not too short. The diameter of the lens is more important than the length, as you will want one as large as you can get.



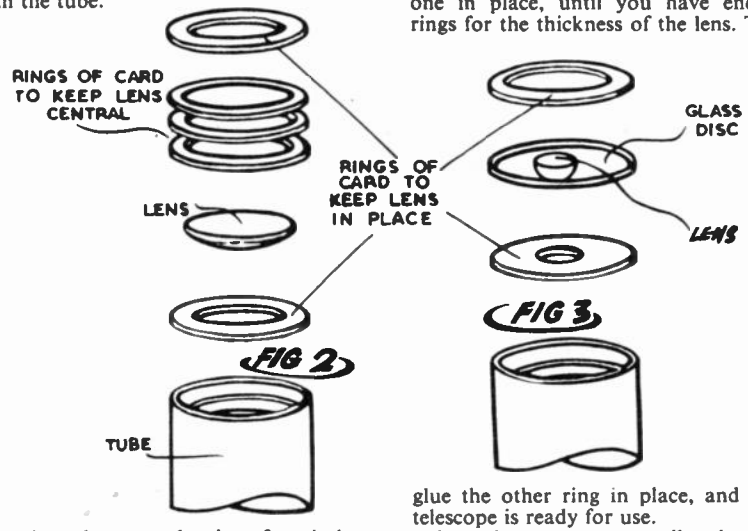
You will also require another lens, for your eyepiece, with the focal length as short as you can possibly get it. The diameter is not important here. It is the focal length that is most important, as the magnification of your telescope will depend on this.

If your optician does not know the focal length of the lens and is too busy to find it for you, you can easily do this yourself. Hold the lens against a wall opposite a window of the room. Now move the lens away from the wall until you have on the wall a clear picture of the window. Measure the distance from the wall to the lens, and that is the focal length of the lens.

Having obtained your lenses you can now make the tube.

You will need to make this a little larger than the diameter of your large, or object lens, with the length of the tube 3ins. shorter than the focal length. You can easily make this by bending some stout card round a rod of suitable size, say, a rolling pin or a milk bottle, and fixing it with glue.

Before you bend the card, paint the side which will be inside with lamp black, to prevent the reflection of light in the tube.



Now glue several strips of card about ⅛in. from one end to form a shelf on which your lens is to rest (see Fig. 1). Next, cut a ring of card, the outside diameter of which is the same size as the tube, and the inside diameter a little smaller than the size of the lens. This is to keep your lens in place. Fasten it by gluing a strip of paper round the end of the tube, nicking it in a number of places, and bending it over the end of the tube on to the ring of card.

At the other end of the tube, glue fairly wide strips of card on the inside, until the diameter of the hole is about 1in.

Now you can make the eyepiece. This will need to be about 6ins. long. Blacken the inside as for the large tube, and bend it so that you make the tube, when finished, a nice fit in the large tube, and it will not move about when your telescope is being used.

Next, glue a strip of card inside one end of the tube for the lens to rest on. (See Fig. 2). Cut two rings of card, the outside diameter of which is such that they will just fit inside the tube, and the inside diameter just a little smaller than the diameter of your lens. You will now require some more rings of card, the outside diameter being the same as the others, but the inside diameter being just a little larger than that of the lens.

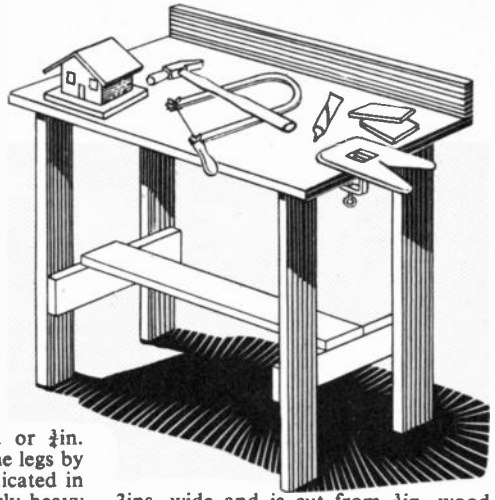
Now glue your first wide ring in the tube to the shelf of card you have already glued inside. Place your lens in the centre of the ring, and slip the narrow rings over the lens, gluing each one in place, until you have enough rings for the thickness of the lens. Then glue the other ring in place, and your telescope is ready for use.

Some lenses are too small to be dealt with as above. The best plan, in that case, is to get a small bottle of Canada Balsam, and cement the lens to the centre of a thin circle of glass or perspex, of a diameter just large enough to fit inside the tube. (See Fig. 3). Then proceed as for the object lens in the large tube. This will not make any difference to the lens, as the lenses usually obtainable, and the glass or perspex, have the same refractive index.

Now give the tubes a coat of paint on the outside. When dry, assemble them and adjust until you get a good clear picture.

To find out the magnifying power of your telescope, divide the focal length of your object lens by the focal length of your eyepiece lens, the result being the magnifying power of the telescope.

A WORKBENCH FOR JUNIOR



To help him in his jobs with the fretsaw

THE young fretworker or handyman should be encouraged by giving him a small but useful bench. He will be delighted to have bench space of his own, and can work side by side with father. The educational value of this method of working is obvious.

The bench need not be too large or heavy. The measurements given in Fig. 1 show the approximate size required. The bench top should be about 30ins. by 15ins., and the height about 25ins. or 26ins.

Make the legs (A) from 2½ins. by 1in. wood and secure them with cross-pieces (B) cut from the same material. These pieces should be about 8ins. from the bottom.

The top is made from ½in. or ¾in. plywood, which is secured to the legs by means of angle brackets as indicated in Fig. 2. These should be of fairly heavy gauge metal and are fixed by means of countersunk screws. The legs may be further strengthened by means of countersunk screws through the top. These should be filled with plastic wood and rubbed down flush with glasspaper.

After the legs have been fitted, the cross-rail (C) is screwed in place as shown in Fig. 1. This rail measures 3ins. wide and is cut from ¾in. wood. The backboard (E) is also cut from 3in. by ¾in. wood and is screwed and glued along the back of the top (D).

Clean up the bench when construction is complete and give two coats of brush polish. This will seal the grain and prevent the bench from becoming dirty.

To further improve the usefulness of the bench a tool rack can be fitted at the back and a box for tools fixed to the rail (C). (M.h.)

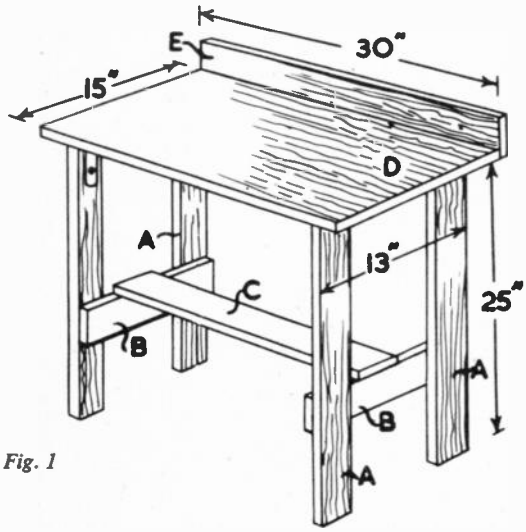


Fig. 1

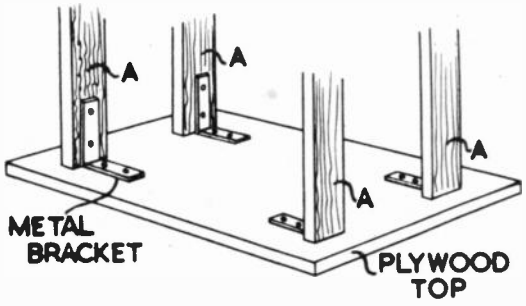


Fig. 2

PATTERNS on p.287

FISHING HOOK TIDY

KEEP your spare fishing hooks in a neat box with the nylon stretched straight. You will have no trouble with curling gut and nylon when making up a fresh cast.

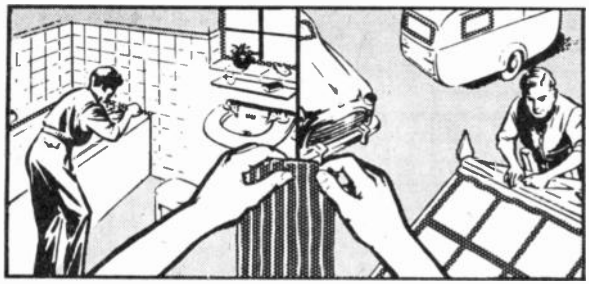
Make the box from one piece (A) (bottom) two pieces (B) (sides) and two pieces (C) (ends). Glue these together with waterproof glue and hinge the lid (D) in place. The lid is hinged to the side and can be secured by means of a small catch or a rubber band. All these pieces are cut from ¼in. wood.

Inside the box glue two lengths of ⅜in. square section balsa wood. Make slits in one piece as indicated in the small diagram on the pattern page. The hooks are simply pushed into the balsa wood at one end and the gut or nylon pressed into the slit at the other end.

The appearance of the box is greatly improved by the addition of the dolphin overlay (E) which is cut from ¼in. wood and glued to the lid. Finish off by painting in bright colours.

(M.p.)

SEAL QUICKLY AND PERMANENTLY WITH

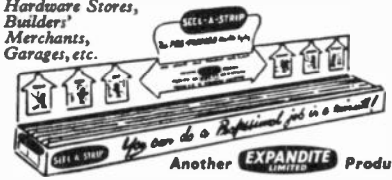


For the Home Handyman

SEEL-A-STRIP

This sealer in strip form provides the home handyman with the most convenient method for extensive sealing against damp, moisture, dust and draughts, in the home, greenhouse, car, caravan and boat, etc. **You tear off a section and press it home, it's as easy as that** *"SEEL-A-STRIP" adheres strongly, use inside or out for it will not crack or fall away.*

SEEL-A-STRIP is available in black or cream from all Ironmongers Hardware Stores, Builders' Merchants, Garages, etc.



2'6 PER STRIP

Another EXPANDITE LIMITED Product

EXPANDITE LTD, London, N.W.10 *Tel. ELG 4321 (10 lines)*

Associates and Distributors throughout the world

PRINT YOUR OWN HOLIDAY SNAPS!

It's easy enough, and if you use the Johnson JUNIOR PRINTING PACK it's certainly not expensive.

This first-rate beginner's outfit contains everything you need for making prints from your own negatives at home. You can use it in any dimly lit room, and you get results within minutes!

A 16-page booklet on printing photographs is enclosed with every pack, and by following the simple instructions you can make first-class prints right from the start.

Equipment provided includes a Johnson plastic printing frame, two 5×4 in. dishes, two print forceps, a set of masks, 25 sheets of contact printing paper and two packets each of Developing and Fixing chemicals.

Go and ask your local photo-dealer to show you one of these super kits.

PRICE **13/3**

Remember — it's called the

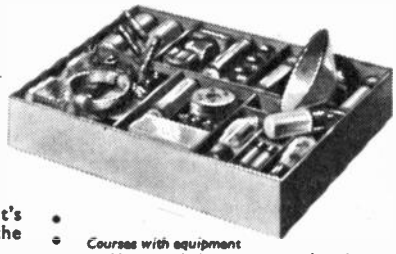
JOHNSON JUNIOR PRINTING PACK

NEW!

THE PRACTICAL WAY

of learning RADIO · TELEVISION · ELECTRONICS

AMATEUR S.W. RADIO · MECHANICS
PHOTOGRAPHY · CARPENTRY, etc., etc.



COMPLETE EXPERIMENTAL COURSES IN SCIENCE AND TECHNOLOGY

NEW—Completely up-to-date method of giving instruction in a wide range of technical subjects specially designed and arranged for self study at home under the skilled guidance of our teachers.

NEW—Experimental outfits and lesson manuals sent on enrolment remain the student's property. Tutor allotted to each student for personal and individual tuition throughout the course.

In radio and television courses, specially prepared components are supplied which teach the basic electronic circuits (amplifiers, oscillators, detectors, etc.) and lead, by easy stages, to the complete design and servicing of modern radio and T/V equipment.

If you are studying for an examination, wanting a new hobby, commencing a career in industry or running your own part-time business, these practical courses are ideal and may be yours for moderate cost.

Fill in the coupon to-day for a free Brochure. There is no obligation whatsoever.

COURSES FROM 15/- PER MONTH

- *Courses with equipment enable you to design, construct and service.*
- **2-stage radio equipment**
- **3-stage T.R.F. circuits**
- **Television equipment**
- **Workshop Test Panel**
- **Oscilloscope**
- **5 valve 3-waveband superhet circuit**

SUBJECTS INCLUDE:—

Radio · Electronics · Television Equipment · Mechanics Chemistry · Photography · Electricity · Woodwork · Electrical Wiring · Draughtsmanship · Art · Short Wave Radio · Oscilloscope

also many other Home Study Courses without equipment.

EMI INSTITUTES

The only Home Study College run by a World-wide industrial organisation.

POST THIS TODAY

FREE

E.M.I. INSTITUTES, Dept. 31X, London, W.4

NAME ..... AGE *(if under 21)*

ADDRESS .....

I am interested in the following subject(s) with/without equipment

.....

(We shall not worry you with personal visits). 7/8/57

BLOCK CAPS PLEASE ICBS

—Part of "His Master's Voice", Marconiphone, etc. etc.

RUSSIAN MATCH LABELS

ABOUT 20,000 different Russian match labels have been issued to date, and some 5,000 are in current use, many of which are specially designed for export.

I find the best plan with Russian labels is to deal with two or three brands at a time and collect in sets, 'Criterions' for example, in boxes containing fifty matches. There are eighteen labels in the present series — all pictorials. Boxes of forty-seven and forty-five contents — each containing sets of eighteen to twenty different covers — are also available in this brand.

By R. L. Cantwell

Check for heavy and light print variations. Some novel shades have resulted here; errors in spelling like 'Fopeign Made' for Foreign Made, and a recent find 'Made Foreign' instead of Foreign Made.

Two other brands are worth mentioning — Paramount, which resembles Criterion in size and contents, and Dominator, available in forty-three contents and in two different sizes.

Thematic enthusiasts will find Soviet issues of exceptional interest. But always check for errors. I have found a cover on which 'Spichka' (Russian for Matches) has been omitted.

The hobby is very popular in Russia. Dr. Vasily Fedotov of Yalta, in the Crimea, who has a valuable collection of over 80,000 labels of the world, is a leading authority on the subject.

Boot and Shoe Care

THE soles of new boots should be warmed and rubbed with tallow or other animal grease until the leather will absorb no more. In this way the pores become clogged with the grease and waterproof. Goose grease is excellent for softening the uppers.

If your boots or shoes get wet, do not put them near the fire, it will crack the leather. Leave them in a warm place until thoroughly dry, then apply goose grease or macassar oil, massaging this well into the soles and uppers. This treatment will soften and waterproof the leather and will not affect the subsequent polish.

When your boots are caked with mud, do not use a knife to scrape it off; wash off the worst of it, then allow the boots to dry slowly, and clean off the remainder with a hard brush.

Do your boots or shoes squeak? The sound is produced by the sole leather rubbing against an upper layer in the same way that a cork will squeak when turned in the neck of a bottle. Gently prise up the leather and remove a few rivets. Insert powdered chalk or graphite between the layers, or slips of thin felt dusted with these substances, and then rivet up again.

Boot and shoe polishes, black or brown, should be of the greasy kind. If the polish piles up on the leather and makes it look uneven or patchy, wash the polish off with warm water, dry thoroughly and repolish. A soft polishing pad with an outer covering of old velvet makes a far better shine than a brush.

CHOPPING TIP

TO make a safe chopping block for wood, cut a slot about 6ins. deep and triangular in section the full length of the block.

To cut wood, stand the block on end, put one side of the wood to be split in the slot to hold it upright and firm. Then cut as usual. This does away with the dangerous practice of holding it with the hand.

To clean white enamelled wood: well wash with warm soapy water. When dry rub well with flannel dipped in whiting. Wipe off with a soft leather. (R.L.C.)

Musical Novelties in Kits

No.3152 **KIT 6/11**

THE SWISS CHALET CIGARETTE BOX

Lift the roof to offer a cigarette — and it plays a tune of your choice. Kit No. 3152 includes wood, wire, hinges and full instructions to make the chalet and costs only 6/11.

MOVEMENTS 18/10

Fit them with these Musical Movements, 18/10.

Choose from this list:—

A. Auld Lang Syne. B. Limelight. C. Swedish Rhapsody. D. Silent Night. E. Brahms' Lullaby. F. Harry Lime Theme. G. Blue Danube. H. Parade of the Wooden Soldiers. J. Bells of St. Mary's. K. Moulin Rouge. L. Vienna, City of my Dreams. M. Jingle Bells. N. Home Sweet Home. O. Some Enchanted Evening. P. Greensleeves. Q. O My Papa.

by Hobbies

From branches, stockists or direct.

To Hobbies Ltd., Dept. 99 , Dereham, Norfolk.
Please send name of nearest stockist and items marked thus X (all post free).

- ☐ Kit 3152, Swiss Chalet 6/11
- ☐ Kit 3179, T.V. Roundabout 5/-
- ☐ Musical Movement 18/10 (A. B. C., etc.)

Name .....

Address .....

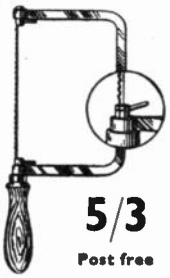
.....

No. 3179 **KIT 5/-**

CHILDREN'S HOUR T.V. ROUNDABOUT
Delightfully authentic reproduction of the B.B.C. Roundabout which thrills millions of children each evening. Goes round to the music. Kit 3179 contains all wood and full instructions for making and the Roundabout costs only 5/-.

Is This Saw in Your Kit?

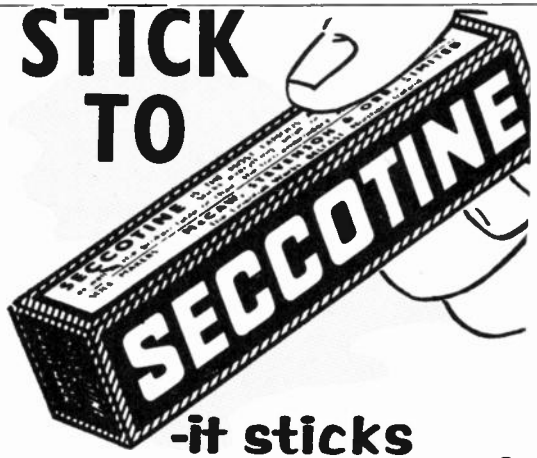
You can cut almost anything in wood with this Coping Saw. The blade is 6½ins. long and can be turned to cut at any angle. No tool-kit is complete without one. Get yours NOW.



5/3 Post free

Buy from any Hobbies Branch or post free from Hobbies Ltd., Dept. 99, Dereham, Norfolk

STICK TO SECCOTINE



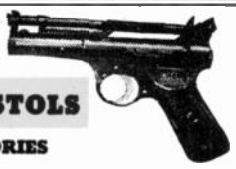
-it sticks everything!

1/- PER TUBE

Keep a tube in the home

Sole Manufacturers :
McCaw, Stevenson & Orr Ltd., Belfast

HARDHITTING *ACCURATE*



Webley AIR PISTOLS

AIR RIFLES · ACCESSORIES

Write for Catalogue

WEBLEY & SCOTT Ltd., 166 WEAMAN ST., BIRMINGHAM, ENGLAND

KITS for OLD TIME SHIPS

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

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

BEGINNER seeks Mail-order or Money-at-Home ideas. Would donate £2 for suggestion acted on. — Box No. 29, Hobbies Ltd., Dereham, Norfolk.

MAKE YOUR OWN MUSICAL BOX. Send s.a.e. for price and tune list or 9d. P.O. for 16 page fully illustrated catalogue (returnable with first order) or 1/6 P.O. for catalogue and plans to make your own musical box to Dept. H.W., Metwood Accessories, 65 Church St., Wolverton, Bucks.

GENUINE Swiss Musical Movements. The best and largest selection of tunes in the country; lowest prices 16/3 each. Genuine Thorens Movements, 22/9 each. All guaranteed. P & P. 9d. extra on all orders. — Richardson & Forder, HW, 5 Chapel Place, White Hart Lane, London, N.17.

STOP SMOKING in 3 days or money back. Safe, pleasant, permanent. The only scientific way. No Will Power necessary. 'Conquered the habit in 2½ days'.—F.C. 'Within 2 days I was free from the tobacco habit'.—W.G. 'Was a smoker for 2 years and broke the habit in 2 days'.—F.N. 'I used to smoke 20 a day . . . now I have no desire to smoke'.—J.M. Recommended by 'Health and Efficiency Magazine'. Complete course 6/6 (or $1.00 bill). Details 2d. stamp. Sent under plain cover. **NATURE REMEDIES, 28 (H/170) Dean Road, London, N.W.2.** Established 1928

Craze of Century. They'll crowd round when you strum. **ELVIS PRESLEY**, great U.S.A. Rock 'n' Roll Star, has his name on every one. Easy to play, simple Tutor supplied free, including carrying box. Fitted Nylon strings give good old Rock 'n' Roll and Calypso effect. Made of Styrene for strength. Send 24/6, plus 2/6 post.

ELVIS PRESLEY UKETTE, self-playing apparatus incorporated. 10/11, Post etc. 2/-.

Complete transmitting and Receiving apparatus for two persons. From a few yards to a mile. Normal telephone strength. No batteries or electricity — it just works! Send 12/11, post 2/1. Ready for use in 5 mins.

Lists, Binoculars, Watches, Tents, Terms.

Headquarter & General Supplies Ltd. (HOBW/71) 196-200 Coldharbour Lane Loughboro Junc., London, S.E.5 Open Sat.

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

Classified advertisements are accepted at a cost of 6d. per word prepaid. Send P.O. with advertisement to Advertisement Dept., Hobbies Weekly, Dereham, Norfolk

'PAINTSPRAYING' HANDBOOK. Covers Car, Industrial & Flock Spraying. 3/6, post 4d. Catalogue of our Cellulose and Paints and all Allied Sundries 2½d. — Leonard Brooks Ltd., 81 Oak Road, Harold Wood, Essex.

100 DIFFERENT stamps free! Request ½d. upwards discount approvals. — Bush, 53 Newlyn Way, Parkstone, Dorset.

SWISS MUSICAL MOVEMENTS from 12/9. Easiest of all to assemble kits from 7/5. Send for free illustrated brochure. 2d. stamp please. — The Swisscross Co., Dept. B, 116 Winifred Road, Coulsdon, Surrey.

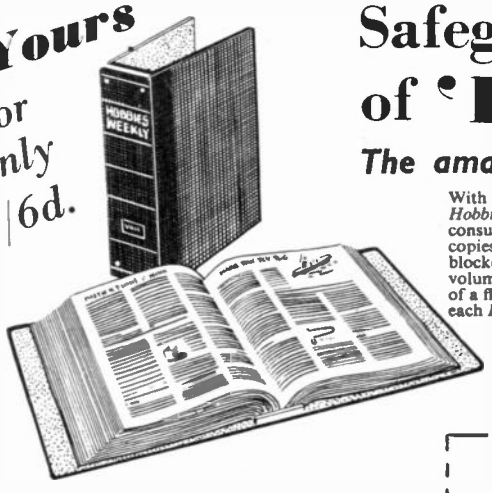
EVERY CAR THAT PASSES—YOU WILL FIND THE INDEX MARK ALPHABETICALLY ARRANGED IN

WHERE'S THAT CAR FROM?

Price 9d.

from all Booksellers or from the Publishers (2d. postage)

RALEIGH PRESS, EXMOUTH



Yours for only 8/6d.

Safeguard your copies of 'HOBBIES WEEKLY'

The amazing 'EASIBINDER' (Pat.) makes it simple

With the new *EASIBINDER*, specially prepared for Hobbies, you can bind each copy of *Hobbies Weekly* as you get it, turning your favourite magazine into a permanent, easily-consulted library of immense value, and avoiding the delay and despair occasioned when copies are accidentally mislaid or destroyed. Carefully finished in black leather-cloth and gold-blocked on the spine, each binder is strong, serviceable and neat. It will hold two complete volumes (52 copies) and costs only 8/6. Each copy of the magazine is quickly inserted by means of a flexible steel wire, and can easily be removed if necessary. Easy-to-follow instructions with each *EASIBINDER*. Get one today and take care of your copies of *Hobbies Weekly*.

NOTE *From the issue April 10th, 1957, there is a slight difference in the size of the magazine, and two sizes of Easibinders are available. Type A is for binding issues published before April 10th and Type B is for those printed subsequently. To avoid confusion, when ordering, please indicate clearly the type of Easibinder required. Indices for each completed volume 1/- each post free.*

☆ One 'EASIBINDER' holds two volumes (52 copies)

☆ Easy to use

Post today

To: HOBBIES LTD., Dept. 99, Dereham, Norfolk.

PLEASE SUPPLY ..... EASIBINDERS (Type .....) at 8/6 each.

NAME.....

ADDRESS .....

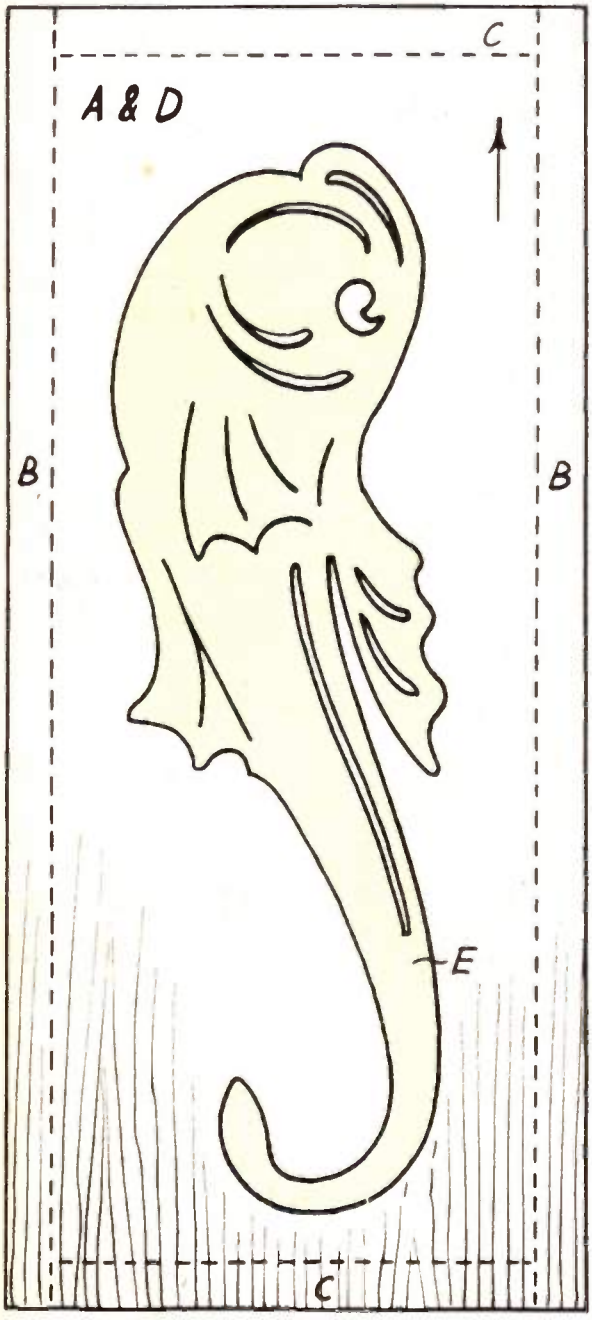
P.O. for .....

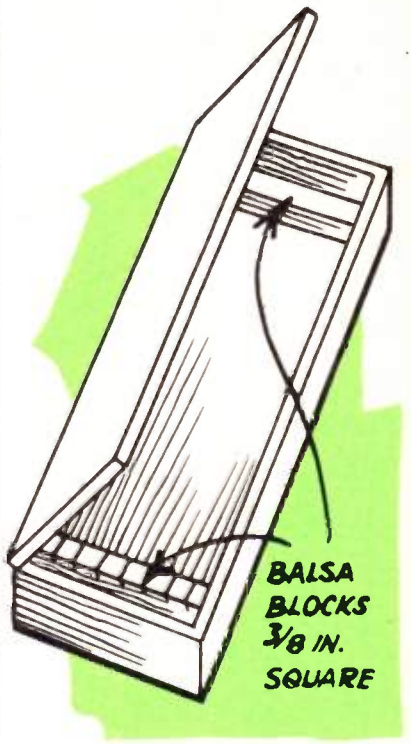
....

enclosed .....

See page 282

FISHING HOOK TIDY



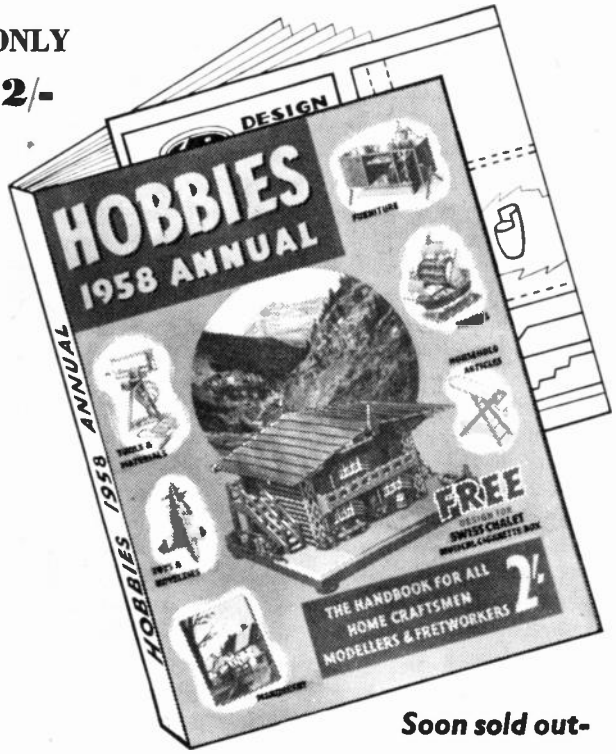


Printed by BALDING & MANSELL, LTD., London and Wisbech, and Published for the Proprietors, HOBBIES LTD., by HORACE MARSHALL & SON, LTD., Temple House Tallis Street E.C.4. Sole Agents for Australia and New Zealand: Gordon & Gotch (A'sia) Ltd. For South Africa: Central News Agency Ltd. Registered for transmission by Canadian Magazine Post.

DON'T MISS IT!

ONLY

2/-



Full instructions for making

Spanish Guitar

★ ★

TV Table

★ ★

Contemporary Lamp

★ ★

Marquetry Picture

★ ★

Transparency Viewer

★ ★

Articles in Hardboard

★ ★

Gatepost Signs

★ ★

Toys, Novelties, Models

Soon sold out-
get yours now

HOBBIES 1958 ANNUAL

FREE! Design for making a charming musical Swiss Chalet Cigarette Box with each copy. 168 pages packed with interest for modellers and handymen. On sale now from branches, newsagents, etc., or direct (2/3 post free).

To Hobbies Ltd., Dept. 99, Dereham, Norfolk

Please send copy of Hobbies 1958 Annual (P.O. 2/3)

NAME .....

ADDRESS .....

.....

GET YOUR COPY NOW!