

HOBBIES WEEKLY

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FEBRUARY 2nd 1955

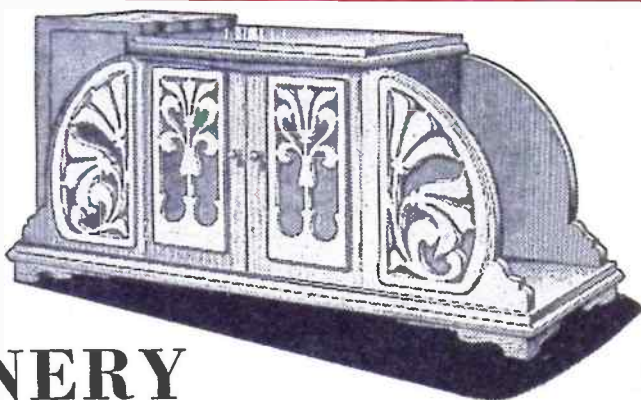
VOL. 119

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Make it from this week's ★FREE DESIGN★

HOW often do you go searching in odd drawers and cubby holes for a piece of writing paper or an envelope? Do you know where you can find a pen when you want one in a hurry, or a stamp, so that you can catch that last post? How convenient to have every writing requirement to hand, all neat and tidy.

The stationery cabinet with book-racks illustrated is just the thing you want—all nicely compact and entirely enclosed



A STATIONERY CABINET WITH BOOK-RACKS

to keep the contents free from dust and dirt. A kit containing all necessary materials, including wood, hinges, door knobs and perpetual calendar set can be obtained from Hobbies Ltd. Should you be making the cabinet and racks from your own materials, the knobs and calendar set can be obtained separately.

To start the job, trace the patterns with carbon paper on to the various thicknesses of wood as shown on the design sheet. The parts are numbered as nearly as possible in the order of assembly. Commence cutting with main base (1).

The mitred base pieces (two each of

2 and 3) are cut from 1in. by ½in. stripwood and glued to the underside of the main base. The assembly can then be put on one side to dry, and later the overlays on the mitred portion can be rounded off.

Overlays for Book-racks

The next pieces to be cut are 4, 5, 6, 7, 8, 9 and 10. There are two pieces 5, four pieces 9 and two pieces 10. Note that these latter two are the overlays for the book-racks. When these overlays have been cut, glue them to two of the pieces 9, place under heavy weights and allow to dry. Make sure, of course, that

you have a left-hand and a right-hand panel as seen in Fig. 1.

Now glue together the pieces 4, the two pieces 5 and the pieces 6, 7 and 8. Note that piece 8 is centred between pieces 6 and 7. The front edge of piece 7 is 2 ½ins. from the front edge of piece 5. When the overlaid sections of the book-racks are dry, glue and pin them in position and then glue the whole assembly to the base. Set aside to harden.

Next cut the tray (11) and the lid to the stamp partition (12). The edges of the lid should be rounded. Now hinge the lid to the tray, using ½in. butt

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

For Modellers, Fretworkers
and Home Craftsmen

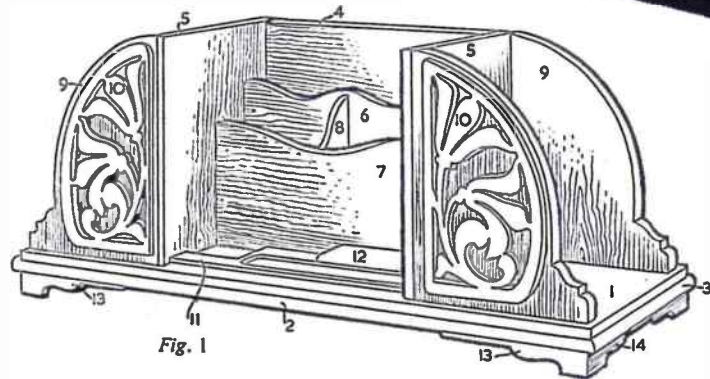
4^D

hinges. Mark the position of the hinges on the underside of the lid and recess them slightly to enable the lid to fit flush. Glue the completed tray in position as shown in Fig. 1.

The feet consist of six separate pieces, four of No. 13 and two of No. 14. When

YOU CAN GET A KIT

For making this stationery cabinet you can obtain a complete kit (No. 3092) including Glass Inkwell, Hinges, Knobs and Perpetual Calendar Set, from any Hobbies Branch, or post free from Hobbies Ltd., Dereham, Norfolk, price 24/6. The knobs (No. 708) price 4d. each, and Calendar Sets, price 1/2 each, can be obtained separately if required.



Inside view of cabinet

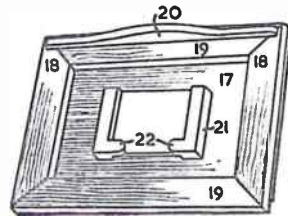
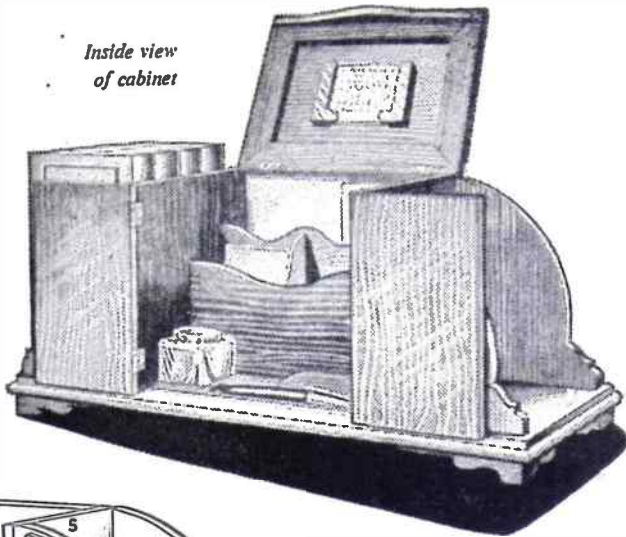


Fig. 2

cut out these are mitred and glued under the base (Fig. 1).

Now cut the two doors (15) and the overlays (16). Glue these latter to the faces of the doors and put aside under weights.

Next turn attention to making the lid. For this, the main piece (17) is cut from 1/4 in. wood and to this are glued the mitred pieces 18 and 19 (two of each), as shown in Fig. 2. These mitred pieces will be found to project 1/4 in. all round the main piece, and they should be rounded.

Calendar Holder

The calendar holder fixed to the underside of the lid consists of four pieces—two of 21 and two of 22. Cut these out and glue them together in pairs as shown in Fig. 2. When dry, glue them to the lid, so that the calendar pad can be slipped in.

The two small knobs should now be screwed into the doors. To avoid splitting the wood, drill small holes to receive the screws before fixing. File off any portion of the screw which protrudes right through the wood. Hang

the doors so that the knuckles of the hinges are on the outside.

The lid is hinged flush with the back edge of piece 4, again with the knuckles of the hinges outside. When the lid is in place, close the doors, lower the lid and mark the position of piece 20 which

serves to keep the doors in the shut position, and glue in place.

To finish the article, clean up well with glasspaper. Then give a light application of spirit stain and finish with wax polish or two or three coats of brush polish or clear lacquer.

Continued from page 280

Home Chemistry

ion method or after two months by the air shaking method, filter off the grey-green solid. This is ellagic acid. To purify it, first let all the liquid run through the filter, then gradually pour through a solution of 0.5 gram of ammonium carbonate in 50 c.c. of water.

Remove it to a beaker and stir it with a solution of 1.7 c.c. of hydrochloric acid in 20 c.c. of water. Filter it off again and run through a solution of 1 c.c. of hydrochloric acid in 100 c.c. of water. The grey powder left in the funnel may then be dried in a coolish oven.

If you use the air shaking method, leave the cork off the bottle between each shaking period, so that the liquid may have a constant supply of new air, for additional air absorption occurs spontaneously at the surface. (L.A.F.)

Tell your friends about the interesting articles in 'Hobbies Weekly'.

USEFUL ARTICLE

A SMALL FOLDING CHAIR

A CHAIR which folds up into a small space and can be carried around is a very useful piece of furniture to possess and can be put to many uses. How often have you wished you had a comfortable seat to sit on by the side of the river when fishing?

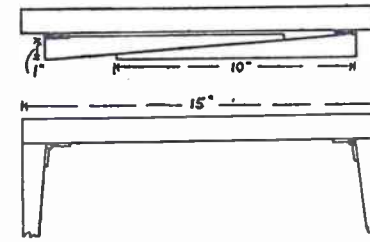
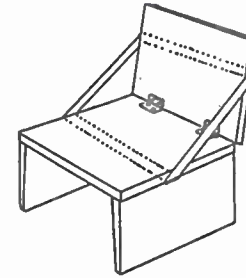
When sketching or painting in the country it is necessary to be seated at some distance above ground level—the composition of the picture is greatly improved in this position. The bird watcher who has to keep still over considerably long periods will welcome a simple folding chair, so also will the person watching some sport such as a cricket match.

It is very handy to have one or two of these chairs in the car ready for a picnic or for use at the seaside, and there are innumerable uses for them in the house and garden.

The folding chair described on this page is very easy to make and will be appreciated by all members of the family. A smaller version would be quite popular in the nursery or for children in the garden.

A hardwood such as oak, walnut or mahogany, is very suitable, although thick plywood may be used. It is a good idea to make the seat and feet of hardwood while a thinner plywood can be used for the back.

For the seat of the chair cut a piece of wood 15 ins. long, 12 ins. wide and 1/4 in. thick. The thickness can, with advantage, be increased to 1 in. if you do not mind a little extra weight to carry about. The



front edge is rounded off and the entire surface well smoothed with glasspaper.

In order that the feet shall be fairly long and that they will at the same time fold up quite flat, they have been designed and cut on the taper. Two pieces of wood 12 ins. long and 10 ins. deep will be needed for the feet. The thickness varies from 1 in., where they

are hinged to the seat board and then taper off gradually to 1/2 in. at ground level.

The hinges are fixed 1 in. in from each side of the seat board, so that when opened out the feet will be flush with the seat. This is seen clearly in the sketches, which show the feet both folded up and opened out ready for use.

Two stout hinges should be fixed to each foot and it is an advantage to use hinges that are rather stiff to open and close. This will make the chair much more rigid than by using hinges that swing easily.

Some people like a chair that slopes backwards somewhat and it is easily done to our chair by cutting the back of the feet about 1 in. shorter than the front part.

The back is the same size as the seat board—15 ins. long and 12 ins. wide, but it need not be so thick, and 1/4 in. to 1/2 in. will be found quite sufficient. A pair of hinges will fix it in position in a similar manner to the feet.

The back is held at the correct angle with a cord or piece of webbing, and instead of tacking it to each end, it is a good idea to pass it right round the back and underneath the seat board.

With a coat of varnish or french polish the chair is ready for use, and will withstand any weather conditions. Painted with an attractive shade of a hard-drying enamel, it would fit in with any furnishing scheme and be a welcome addition to any house.

(A.F.T.)

Making a Six-Inch Reflecting Telescope

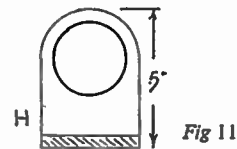
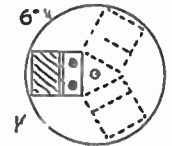
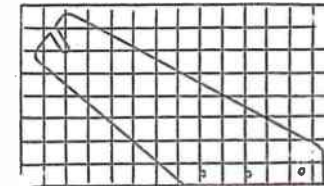
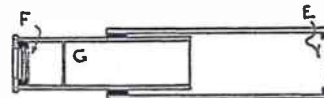


Fig. 11.

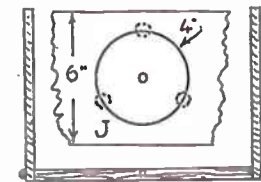


Fig. 12

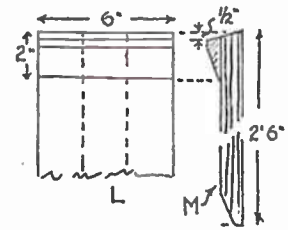


Fig. 13

These diagrams complete the articles on making a six-inch reflecting telescope which appeared in the issues of January 19th and 26th.

A Table for the T.V. Set

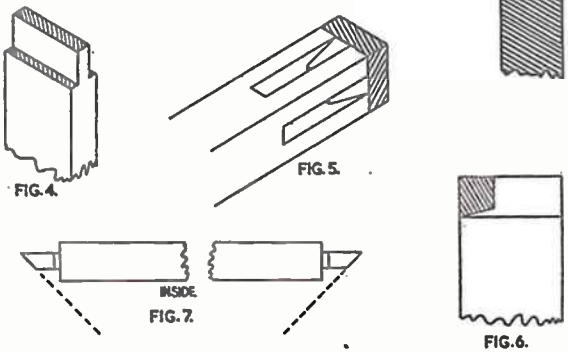
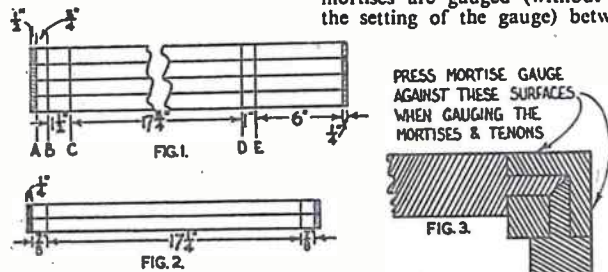
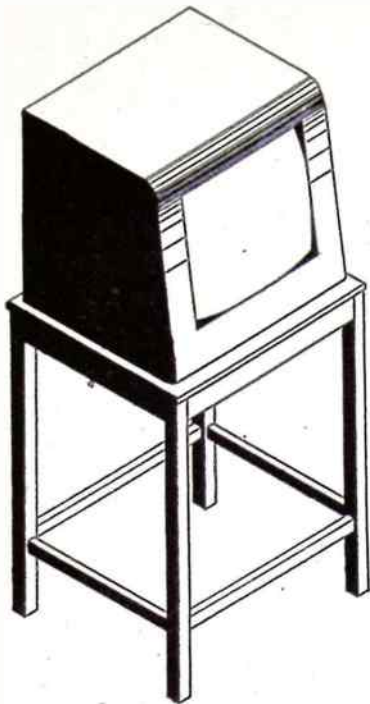
By K. Blackburn

result in the table being thrown out of square. Gauge the width to 1½ ins., and plane down to the line. The thickness is then gauged and planed to the same measurement.

Place the four legs together in the vice, and mark across with a try-square

for the top rails. In order to ensure that the measurements are exactly the same, it is well to place a top rail alongside the corresponding pair of lower rails in the vice: a try-square then transfers the lines across to the unmarked rails.

A mortise gauge is set to the width of a mortise chisel (¾ in.—⅝ in.). The stock of the gauge is set so the two points mark a tenon in the centre of the top rails. After marking all the tenons, the mortises are gauged (without altering the setting of the gauge) between the



SINCE the television table will occupy one of the most prominent positions in the home, it will be well worth-while to go to some expense in buying a really good-quality wood. Even if a high price is paid, the cost will be a great deal less than the retail price of a similar article.

Japanese oak or African mahogany are suitable for the construction. These are suggested because both are in good supply, and both are reasonably consistent in quality.

CUTTING LIST

4 legs	27½ ins. by 1½ ins. by 1½ ins.
2 long upper rails	19 ins. by 2½ ins. by 1½ in.
2 short upper rails	16 ins. by 2½ ins. by 1½ in.
2 long lower rails	19 ins. by 1½ ins. by 1½ in.
2 short lower rails	16 ins. by 1½ ins. by 1½ in.
Top	20½ ins. by 17½ ins. by 1½ in.

The table described here has a top of 20 ins. long and 17 ins. wide. Before starting, make sure that this will be sufficient to support your television. The size of the top can be increased, if necessary, to 21½ ins. by 18½ ins.—an overlap of ½ in. all round. Any further increase in size will necessitate an increase in the length of the rails.

Take the four legs, and plane a face side perfectly flat on each piece. An adjacent side is then planed square with the face side. Any inaccuracy here will

the measurements shown in Fig. 1. Each of these lines is then squared separately round each leg.

The wood for the top rails is now planed to 2½ ins. wide and ¾ in. thick. Mark the two long rails as shown in Fig. 2: the two short rails are marked 3 ins. shorter (i.e., 14½ ins. between shoulder lines). Square each line round when the wood has been removed from the vice.

The lower rails are planed to 1 in. by ¾ in. The marking is exactly the same as

lines (A) and (C) on the legs. These mortises are marked on the face side and face edge of the legs (because these faces have been tested for square). It will be seen that the stock of the gauge must rub against the outer surfaces of the legs and the rails in order that they shall be flush. A glance at the section of the finished joint shown in Fig. 3 will make this clear.

Shade in the wastewood on the tenons, and saw the joints, which will

Continued on page 284



Perpetual Moul

I PURCHASED a cock budgie last April when he was without adult markings. He moulted towards the end of the summer and since then has moulted again at least twice and is now starting another moult. As I have not kept budgies before, perhaps you would kindly tell me whether this continuous moulting is natural or what can be done to prevent it. (A.P.—Wallington).

IT is not unusual for a pet budgerigar to be in a condition of almost perpetual moult. Some seem to be always shedding feathers. This is thought to be due to lack of healthy condition brought about by the deprivation of ample exercise outdoors. Perhaps you are keeping your pet in too warm and confined a room. Give it more fresh air, and some exercise if possible. Also add two or three drops of Parrish's Chemical Food (available from chemists) to the drinker daily.

Use for Old Radio

I HAVE a fine old radio of a small size. Some of the parts which are worn out are not now obtainable. Instead of selling it I would like to use it as an extension from my present set. Could you tell me briefly what parts to use in the construction of this extension, and how to connect it, running the wires from one room to another? (J.M.—Castlebar).

IF the receiver cannot be repaired by substitute components of similar characteristics, the speaker could be used for extension purposes, provided it is a permanent magnet type. Assuming that you have the usual extension sockets on the other receiver, take two leads from these to the speech-coil tags of the speaker in the disused receiver. If no such sockets are available, then take the leads from the speech-coil tags of the speaker in the operating receiver instead.

Trouble with Earwigs

I HAVE tried many well-known makes of insecticide to get rid of earwigs, but without success. Can you tell me of a better method? (B.G.—Bryn Glas).

AS you have found, earwigs are rather resistant to insecticides. Nevertheless, secondary use should be made of a DDT or Gammexane liquid

insecticide. Paint or spray all points of ingress, such as window and door frames. In bedding and soft furnishings, place pieces of paradichlor-benzene. The latter can now be bought in handy packets at Woolworths. The main remedy against these pests is trapping; remove the pith from short lengths of sunflower or hollyhock stems and leave these where the earwigs congregate most. Earwigs will crowd into these. Kill them by shaking the stems over boiling water.

Stain and Polish

I WISH to wax polish the wooden frame of a glass counter. Please advise me on the correct method, also tell me how to make the wax polish. (B.S.—Halstead).

IF the wood is to be stained before polishing, a good stain is desirable—we can recommend Colron wood dye

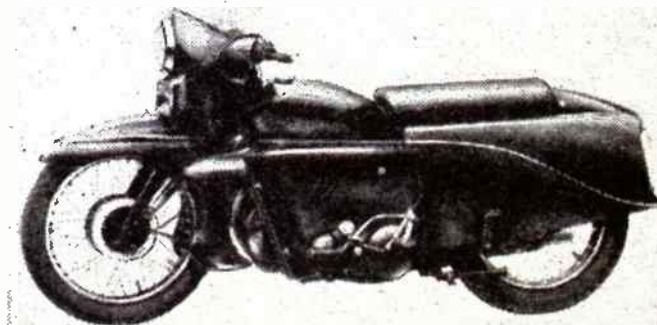
for the purpose. Wax polish is made of beeswax, well shredded, dissolved in turpentine to a thick paste, but really there is nothing to be gained making it oneself; a proprietary brand of hard wax polish, such as Johnson's, is quite as good. Apply on a clean soft fluffless rag, and give further applications at intervals until permanent gloss results.

Battery Query

PLEASE tell me the contents of the solution that is in a Nife battery; also can one make the solution at home, and what is the procedure? Can you tell me the specific gravity of the solution? (G.S.—Stromness).

THE electrolyte for such cells as you mention is normally pure potassium hydroxide; in some cases sodium hydroxide may be used. These chemicals should be available from any large chemist. The specific gravity of the solution for the cells you have is not known. It may be marked on them, or obtainable from the maker, or from the supplier from whom you obtained the cells. Failing this, the dry chemical may be added to distilled water until a sufficient degree of activity is obtained. Such cells require charging, as with the acid type of accumulator.

Streamlined—in Plastic



A 'new look' in motor-cycles—the 998 c.c. Vincent 'Black Prince'. The coachwork was fabricated from glass fibre reinforced plastics by Necolam Ltd., using polyester resins supplied by Bakelite Limited. A neat job, and—happy thought—this new-style bodywork cannot rust.

Choosing the Pictures for Your

Album



Fig. 1—Picture from whole of 2½" square negative

WINTER is the time for making the best possible enlargements of summer snapshots, whether of friends, or home or holiday scenes. The final album print is most important of all, the negative only being a step to this. Usually, the final enlargement can be an *improvement* over the negative.

To begin with, the negative will rarely be perfect—there may have been tilting, due to the camera being held crooked, or quite a lot of useless material may have been included round the edges of the shot. Such defects are eliminated when enlargements are made, if the work is carried out with forethought. In many cases either an 'Upright' or 'View' enlargement can be made, to suit the album or purpose to which the picture will be put. Not infrequently, two or more good pictures can be obtained from a single negative.

Some examples will show just how this can be done, and how various pictures may be selected to best advantage. Fig. 1 is a print made from the whole of a 2½ins. square negative. Though quite interesting, there is so much material in it that the result is confusing, while wide expanses of water and sky waste much space.

Choosing the Area

Most ordinary enlargers will enlarge a 2½ins. square negative up to about 15ins. by 15ins. with ease. If not, then it is usually possible to turn the enlarging head round, so as to project down to the floor, when an even greater degree of enlargement will be obtained. Even a small section of the negative will thus fill a half or whole-plate bromide sheet. The illustrations were of whole-plate size (roughly 6ins. by 8ins.).

With the negative in position and

enlarger switched on, a piece of white paper of the same size as the final print should be moved about on the baseboard to obtain the best possible



Fig. 2—'May we come too'

Fig. 2 shows a vertical print made by concentrating on the boys and children sitting on the steps, who may be imagined as asking the question used for the title. Comparison with Fig. 1 will show that most of the water and sky are omitted, together with some of the boats and nearer part of the steps. The result is a great improvement.

Two View Pictures

If a riverside scene is wanted, with all the boats which show up best, then the steps, sitting figures, and most of the buildings can be omitted, giving a result such as that shown in Fig. 3. Though there are so few figures, the picture is still good, and the standing boy is looking out into the open expanse of water, directing attention that way.

Looking at Fig. 1 shows that the buildings themselves are of interest, and by omitting all the water and boats, a picture of the 'Riverside Lane' upon which they stand is obtained, as shown in Fig. 4. Like the other enlargements, this is so different that at first sight anyone might think it was made from a separate snapshot. Nor is it necessarily the end of the pictures to be obtained from the negative. For example, no enlargement has been given showing all the boats and boys in them, but omitting the sitting figures, houses, sky and near



Fig. 3—'Wide River'

picture. If there is a little detail which cannot be got in, then the enlarger head should be moved down. If, however, it seems that even more enlargement will be better, then the head is moved up until the desired objects totally fill the paper. The effect will be easier to see if the enlarger baseboard is black.

expanse of water. Such a picture would be very satisfactory.

Definition

If a part of a negative is highly enlarged, the result is similar to an examination of the negative by a strong

● Continued on next page

REPAIRING BROKEN CHINAWARE

By E. S. Brown

WHERE china has broken in a clean break and no fragments are missing, probably the easiest and most unnoticeable method of repairing is by means of one of the proprietary makes of cellulose cement. This cement makes a strong, heat and waterproof, joint, and if the repair is properly made it will last a very long time.

If possible, the repair should always be made immediately the damage occurs, as the surfaces are then clean and will enable the cement to strongly adhere and make a perfect joint. Where the broken china has been lying about for some time, a certain amount of grime is bound to form along the broken edges, and before any repair is attempted this must be removed.

Dry Thoroughly

The cleansing can be done by gently scrubbing the fractured parts with an old toothbrush well impregnated with soap and water. Do not scrub too hard otherwise further damage may be done, and after cleansing in this manner, thoroughly remove any soap with clean running water. Due to the absorbent properties of the broken surfaces it is absolutely essential that all moisture should be allowed to dry from same before attempting any repairs. This can best be done by leaving for a few days in a well-ventilated position, or can be accelerated by placing in a warm oven for an hour or so.

With a small soft brush, quickly apply the cement to the broken parts and well rub into the surface with a fingertip, afterwards placing on one side to thoroughly dry off. This will only take a few minutes, when a further application of cement can be made, and when tacky the broken parts are brought together and held under slight pressure until dry.

When repairing the china, be very careful not to touch the fractured parts with the hand, otherwise a slight deposit of natural oil is likely to be deposited on the surfaces and so tend to weaken the cement joint.

For those readers who prefer to make their own cement, the following is a reliable formula. Mix together equal proportions of acetone and amyl acetate—only a small quantity of each is necessary—and place in a clean well-stoppered bottle. Pieces of clear celluloid are then added until half of the mixture volume is displaced, then a few drops of castor oil are added. The latter is necessary to prevent the cement becoming too brittle upon hardening,

coloured chinaware, a little appropriate dry colours should be mixed with the stopping to match up.

Where there are missing broken parts, these can often be successfully built up with a special composition, and if carefully done will only be noticeable upon close inspection. The repair should be made as complete as possible and the spaces left by the missing parts are filled in with a composition composed of equal proportions of kaolin clay and powdered whiting, which are thoroughly mixed to a stiff dough with cellulose cement. Where the broken china is coloured or tinted, a little dry colours should be added to give the composition the necessary colour.

The colouring should be slightly darker than the original, as it lightens a shade or so upon drying. Colour matching is, of course, a fairly difficult

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● Continued from previous page

Pictures for Your Album



Fig. 4—'Riverside Lane'

magnifier. Poor snapshotting technique, such as incorrect focus or camera-shake, will then show up badly.

For these reasons, every negative should be as sharp as possible. Focus should be correct, the camera should be still, and the lens should be stopped down as much as lighting conditions allow. With attention to these points, sharp enlargements can be obtained from negatives taken with any camera other than the very simple type having

single-glass lenses. Poor negatives which seem sharp in contact-print size may be badly lacking in critical definition, and only give 'fuzzy' enlargements. Care is thus necessary at the 'shooting' stage.

The other point mainly governing definition is correct focus of the enlarger. If fine detail visible in the actual negative is not visible in the enlargement, then the enlarger is wrongly focused, or the lens is misty or dirty, or wrongly fitted.

(F.G.R.)

Some Facts about Tannic Acid

WE are all familiar with stewed tea and know that its astringent taste is due to tannin. 'Tannin' is a broad term, for many plants and trees contain tannins.

They are all organic acids. Their chemical nature varies, but identical tannins may be found in different vegetable sources. The tannin of tea, for instance, is quercitanic acid and the same acid is the tannin of oak bark.

When we speak of tannic acid we mean gallotannic acid. As it is obtained from oak galls the origin of its name is easy to see. English galls contain 15 to 20 per cent, Aleppo galls as much as 50 to 70 per cent. Owing to the high tannic acid content of Aleppo galls these are, naturally, used to prepare tannic acid.

Properties in Common

Even though the chemical nature of the tannins varies widely, they all have certain properties in common which characterise them. They taste astringent, give a green or blue-black coloration or precipitate with ferric chloride, and coagulate proteins, such as albumin and gelatine.

Gallotannic acid can be used to demonstrate these properties. Dissolve 5 grams of tannic acid in 100 c.c. of warm water and let the solution cool. If you taste one drop of this solution you will find it so astringent that you will reach for a glass of water to wash the taste away!

Now dissolve 2.5 grams of ferric chloride in 50 c.c. of water and stir it into the tannic acid solution. A blue-black coloration immediately appears. It is due to the formation of ferric gallotannate and this substance is the basis of common blue-black writing inks.

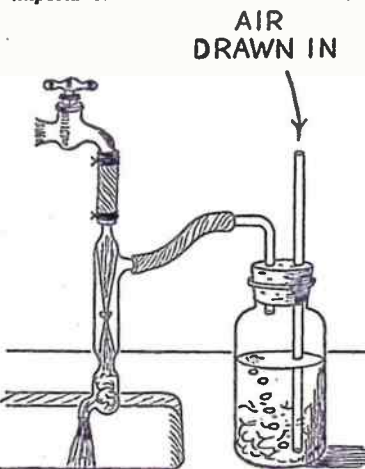
To isolate it, add a solution of 5.6 grams of sodium acetate in 20 c.c. of water. The ferric gallotannate will be precipitated and can then be filtered off. To purify it, wash it with water until one filtrate gives no white precipitate with silver nitrate solution. When you have dried it in the oven you will be left with an odourless, almost black product.

To test its reaction on proteins dissolve 3.5 grams of tannic acid in 50 c.c. of warm water and let the solution cool. Separate the white from an egg and whip it by means of a fork with 200 c.c. of water. The whipping separates the cell membranes and these can be filtered off. The filtrate is a solution of mainly ovalbumin. Stir the tannic acid solution into this.

The liquid becomes an opaque milky buff. If you look at it closely you will

find it is full of suspended insoluble matter. This is ovalbumin tannate and can be isolated by filtration. Filtration is very slow, taking several days. When all liquid has drained through, dry filter paper and residue in a cool oven. The brown and buff product grinds to a buff powder.

This reaction is of tremendous importance in the leather industry.



Preparing ellagic acid

Skins are made up of albuminous substances. The process of ordinary tanning consists essentially of steeping the skins in a solution of a tannin. The albuminous substances are then coagulated in just the same way as egg white, with the production of a similar non-putrefying substance.

Treatment for Burns

Strange to say, the same principle is behind the application of tannic acid to burns. The tendency of burns to 'go the wrong way' and cause blood poisoning is due to the absorption of toxins produced in the burned area. These toxins are proteins, too. Consequently, if the area is treated with tannic acid solution, these protein toxins are coagulated into insoluble substances in a similar way to egg white and hides. Because they are insoluble, they are no longer absorbed and blood poisoning is prevented.

Gallic acid, or, to give it its other and more imposing name, 1:3:5-trihydroxybenzoic acid, can be prepared from tannic acid. Crush an oak apple, wet it thoroughly and leave it in a warm place for a few days, wetting again if it

becomes dry. When it becomes mouldy, place the mass in a solution of 10 grams of tannic acid in 200 c.c. of water.

Leave the liquid in a warm but not hot place; better still, do the experiment in summer. A film of mould forms as time passes. This is just what we want, so do not remove it. Maintain the original level of the liquid by small additions of water, for some evaporation is bound to occur.

Now it has been mentioned that tannic acid coagulates gelatine. Gallic acid does not. The moulding or fermenting of the liquid is converting the tannic acid into gallic acid. Here, then, we have a means of determining when all the tannic acid has been converted into gallic acid, for when a few drops of the liquid give no precipitate with gelatine solution we will know the reaction is at an end.

Test with Gelatine

After three months begin testing the liquid with a dilute solution of gelatine—a few specks to about 2 c.c. of water. When the test is passed, carefully pour off the liquid portion from the solid matter which has been deposited in the fermentation vessel. Boil this solid matter (which is crude gallic acid) with 50 c.c. of water and filter the solution hot. The filtrate deposits minute buff crystals of gallic acid on cooling and standing a few hours. Filter them off and let them dry at room temperature by spreading out the filter paper on a porous brick.

When tannic acid is mixed with a solution of sodium bicarbonate, air will act upon it and produce a further acid—ellagic acid. The action of the air is very slow unless it is helped in some way. The quickest method is to aspirate air through it in a bottle by means of a filter pump, as shown in the diagram, but if you have no running water in your laboratory, the liquid can be kept in a bottle and shaken for a few minutes each day with air. By aspiration the reaction is over in about 48 hours, whereas daily shaking with air needs about two months.

To carry out the experiment, dissolve 5 grams of tannic acid in 100 c.c. of warm water, let the solution cool and add it to a solution of 21 grams of sodium bicarbonate in 400 c.c. of cold water. The tannic acid will be precipitated in a finely divided form. Its buff colour gradually changes to bottle green and then to grey-green as air causes the reaction to proceed.

At the end of 48 hours by the aspira-

● Continued on page 274

A Novel Pincushion

With Animal Cut-out

THE fretsaw makes a cutting job such as this so easy, that you can complete the article in an evening. Only four pieces of wood are required and these are quite small. They can be cut from odd pieces, or from Hobbies standard panels.

The parts shown on the pattern page are all full size and should be traced and transferred to the wood by means of carbon paper. Start off with the bear silhouette and cut the interior portion first. Drill the hole to take the saw and then insert the sawblade in the usual way. Now cut round the outline. The bear, piece (A), is cut from ½ in. wood.

The other pieces are now cut out. Piece (B) is ½ in. thick, but (C) and (D) are ¼ in. Glue the bear into the slot in (B) and glue the circle (C) on to the tenon on the bear's back.

The pincushion is formed round the circle (D). Make a pad of wool and cover it with a piece of material. Fold it

Full-size
patterns
are on
page 287



round underneath and keep it in position with balsa cement. When the glue is dry, the cushion can be glued on top of the circle (C).

To finish off, the bear is painted black

and the rest is polished with wax polish. Rub the wax well in with the finger tips and rub down with fine glasspaper. Do this a few times and then polish briskly with a duster. (M.P.)

● Continued from page 279

Repairing Broken Chinaware

job, but with patience it can be successfully accomplished.

Having prepared the composition, the broken edges are painted with the cement, rubbed well into the pores of the china, and when dry a second application is made. After allowing to become tacky, the composition is pressed firmly into place and placed aside to dry and harden. After allowing twenty-four hours to elapse, the repair is trimmed up with a sharp razor blade, then with No. 400 'Wet and Dry' abrasive paper, using plenty of water, and is finally burnished up with a soft cloth. The resulting gloss is not likely to be very high, and if such a polish is required, a full coat of clear cellulose lacquer should be applied, and placed in a warm place to dry off.

Any lines or patterns on the original china can be continued on the new insert by holding the china piece in one hand and carefully painting in the design with the other with a fine camel-hair brush, using cellulose finishing lacquer of the appropriate colours. Any small mistakes that are made can be quickly removed with cellulose thinners, and after allowing a few moments to dry, the work can be continued.

Where the missing parts of china are

somewhat large, the filling of composition will have to be supported to prevent any sagging or bulging occurring. This support or reinforcement should be done on both sides of the repair immediately after the composition has been moulded into position. The supports can be two pieces of stiff paper or thin cardboard secured into position over the repair with an adhesive tape, such as Selo-tape. When the composition has set and hardened, the supports are then removed.

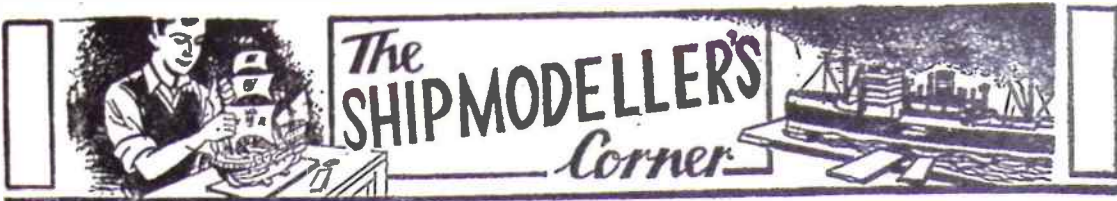
A very good waterproof cement with strong adhesive properties can be made by dissolving a small quantity of bleached seed or flake shellac in methylated spirits. The consistency of the resulting mixture should be fairly viscous and should flow slowly from its bottle. The repair is made by applying the solution to the broken parts, then bringing together when tacky and keeping under pressure until hard. Any residue can be removed with a razor blade and finally cleaned up with a cloth only very slightly moistened with methylated spirits.

For unglazed china and stoneware a very good adhesive to use is tile-fixing cement, such as Tiluma. The cement is applied to the broken surfaces which are then brought together and placed in a warm place to harden. Similarly,

missing broken parts can be built up with fire-cement putty—Pyruma is a good example—by applying tile cement to the broken adjacent edges, then moulding the putty into shape. After drying, it is smoothed and shaped up with fine sandpaper, then painted with either water or oil colours to correspond with the rest of the repair. This method of repair is not, however, impervious to water, and care should be exercised when cleaning or washing becomes necessary.

Another rather unusual but nevertheless effective adhesive for unglazed ware is sweetened condensed milk. The milk should be fairly thick, but not to the stage when it is becoming 'sugary', and is applied to the broken edges with a fingertip or piece of wood. The fragments are then brought together and kept under slight pressure until the milk has become hard.

Where a china handle from a cup or jug, for instance, has been irretrievably damaged, it is possible to mould one to the original pattern and shape from fire cement putty. The new handle when made, should be gently impressed upon the remaining parts on the cup or jug to make a perfect mating surface, then carefully placed aside to dry. It can then be held over a low gas jet to harden still further, and when cool, is affixed with a cellulose cement as previously explained. It can then be painted with lacquer to match up. This type of handle is for decorative purposes only, and as such should not be handled.



IN a previous article we studied the standard rigging of a full-rigged ship. In this article we are concerned with the running rigging.

How much can be included on your model depends upon the scale to which she is built. On a small-scale model any attempt to show all the complex rigging of this type would only result in the model having the appearance of being over-rigged. As a guide, try to obtain a picture of a similar vessel. If possible the picture should be about the same size as your model. If you then include the rigging that can be clearly seen in the painting, you will achieve the right effect, and your model will look correct.

In the case of models made to 1/4 in. scale and upwards, it is possible to include all rigging, dependent upon the skill of the modeller and the choice of rigging materials in scale.

In our sketch the running rigging is as follows:

No. 1 jib-boom guys one each side of

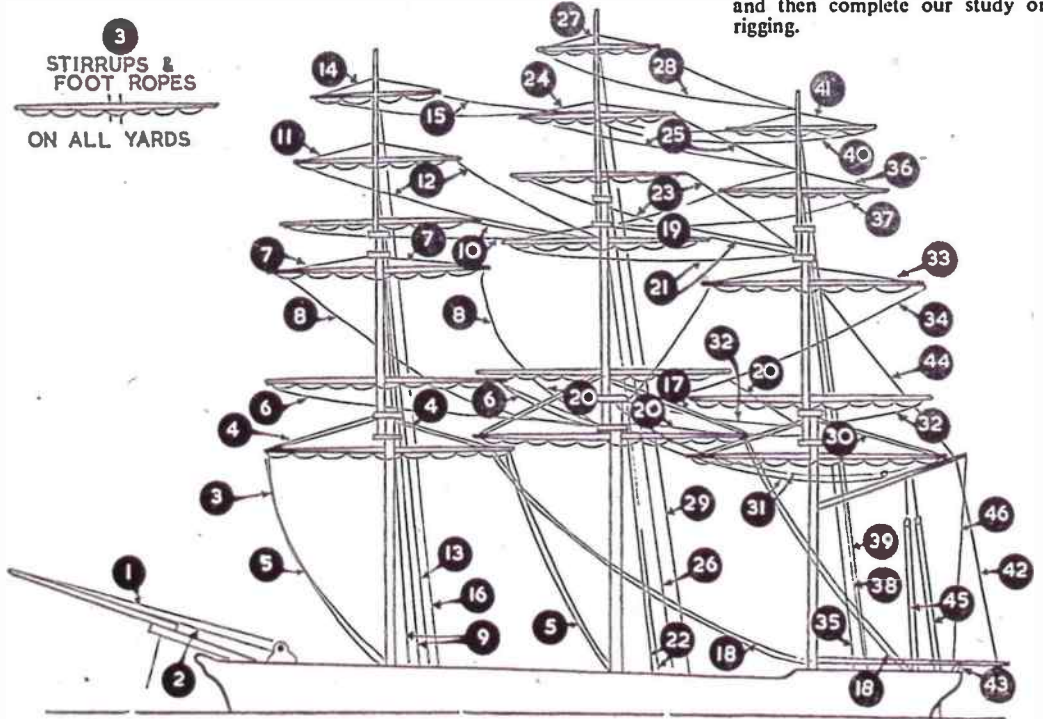
ship, No. 2 whippers also each side of ship, No. 3 stirrups and foot ropes on all yards, No. 4 fore lifts, No. 5 fore braces, No. 6 lower fore-topsail yard braces, No. 7 upper fore-topsail yard lifts, No. 8

**FULL SHIP RIG—
RUNNING
RIGGING**
By 'Whipstaff'

upper fore-topsail yard braces, No. 9 upper fore-topsail yard halyards, No. 10 lower fore-toppallant yard braces, No. 11 upper fore-toppallant lifts, No. 12 upper fore-toppallant braces, No. 13 upper fore-toppallant halyards, No. 14 royal lifts, No. 15 royal braces, No. 16 royal halyards, No. 17 main lifts, No. 18 main braces,

No. 19 upper main-topsail lifts, No. 20 lower main-topsail braces, No. 21 upper main-topsail braces, No. 22 upper main-topsail halyards, No. 23 lower main-topsail halyards, No. 24 upper main-toppallant lifts, No. 25 upper main-toppallant braces, No. 26 upper main-toppallant halyards, No. 27 main royal lifts, No. 28 main royal braces, No. 29 main royal halyards, No. 30 cross jack lifts, No. 31 cross jack braces, No. 32 lower mizzen-topsail braces, No. 33 upper mizzen-topsail lifts, No. 34 upper mizzen-topsail braces, No. 35 upper mizzen-topsail halyards, No. 36 mizzen-toppallant lifts, No. 37 mizzen-toppallant braces, No. 38 mizzen-toppallant halyards, No. 39 mizzen-royal halyards, No. 40 mizzen-royal braces, No. 41 mizzen-royal lifts, No. 42 spanker boom topping lift, No. 43 spanker sheet, No. 44 spanker gaff lift, No. 45 spanker vangs, No. 46 signal halyards.

In a future article we will deal with the actual ropes on the sails themselves and then complete our study on full rigging.



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Some hints on using

HOBBIES' CORNER MOULDING

It is often necessary to find some way of improving the appearance of corners in articles of woodwork. The ideal way, of course, is to make a mitred joint, but the amateur finds it a little too difficult in the early stages of his woodworking experience.

What is needed, of course, is something easy to use and at the same time attractive. In other words, corner mouldings to suit various requirements. They give a professional appearance to even the simplest box.

The moulding illustrated in Fig. 1 will cover a butted joint or a badly made mitred joint. It can be glued in position, or held by small fretpins. The sides are in the following sizes— $\frac{1}{4}$ in., $\frac{1}{2}$ in. and $\frac{3}{4}$ in. to take various thicknesses of wood. This particular moulding is No. 300, $\frac{1}{4}$ in. sides, price 4d. per foot. No. 301, $\frac{1}{2}$ in. sides, is 6d. per foot, and No. 302, $\frac{3}{4}$ in. sides, 9d. per foot.

Where a moulding is to be used in the actual construction of a box or small cabinet, the two shown in Figs. 2 and 3 are suitable. Fig. 2 shows a grooved corner moulding made to take wood $\frac{1}{4}$ in., $\frac{1}{2}$ in. and $\frac{3}{4}$ in. thick. The wood is smeared with glue and inserted into the grooves, making sure that it is pressed right home. The addition of screws and fretpins is unnecessary. The prices are—No. 45, $\frac{1}{4}$ in. groove, 5d. per foot,

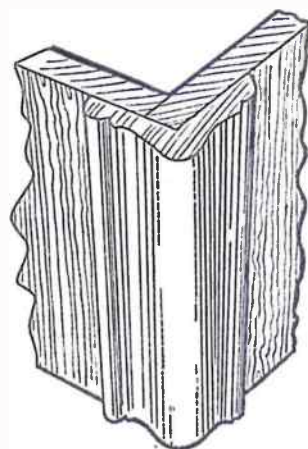


Fig. 1

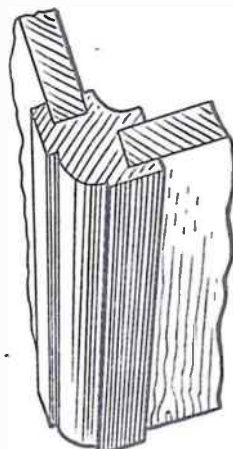


Fig. 2



Fig. 3

No. 46, $\frac{1}{4}$ in. groove, 6d., and No. 47, $\frac{1}{2}$ in. groove, 9d.

The corner moulding shown in Fig. 3 is suitable only for wood $\frac{1}{4}$ in. thick. The wood is fastened by means of glue and fretpins, or screws. This moulding is No. 304 and costs 6 $\frac{1}{2}$ d. per foot.

All these mouldings are supplied in first quality wood which is suitable for staining or painting. It can be stained to

suit most other woods likely to be used.

All the mouldings described here are obtainable from Hobbies Ltd., Dereham, Norfolk, and the prices quoted are post free. Not less than 6ft. total is sent by post and lengths ordered should be as short as possible to avoid breakage. (M.p.)

with a plane. Surplus glue is removed with a wide chisel, taking care not to cut the wood.

The top may have to be made up from two or three pieces. The joining edges are planed straight and square, and glued together in the sash cramps. A thick plywood or laminated top may be used if preferred. Cut to size—overlapping $\frac{1}{4}$ in. all round. Clean up well with glasspaper after planing to a thickness of $\frac{1}{4}$ in.

Fig. 8 shows the method of securing the top: the pockets are cut with a gouge, after which a hole is drilled through from the pocket to the top edge of the rail. The screw is pushed through the hole and screwed into the table top. Three pockets are made in each rail.

If the table is to be stained, it should first be brushed over with clean water in order to raise the grain. When dry, it is rubbed down again with glasspaper, and the stain is applied. A few coats of french polish should follow, rubbing lightly with a piece of flour-grade glasspaper between each coat. A high polish can be obtained, if required, by following this with further coats of polish applied with a rubber.

Continued from page 276

Table for the T.V. Set

then look like the one shown in Fig. 4. The mortises are chopped down between the lines (B) and (C) until they meet one another. Make sure that the corner where they meet is perfectly clean and square. A sloping groove is then cut from line (A) to the mortise, reaching a depth of $\frac{1}{4}$ in. where the mortise is reached. Fig. 5 shows the completed mortises.

Mark out the tenons to fit into these mortises (see Fig. 6), making sure that the same side of the tenon is marked at both ends of the rail. Number corresponding joints, and fit each individually, trimming up where necessary. When each joint fits satisfactorily, saw the mitres on the tenons as shown in Fig. 7. Notice that the line of the mitres, if produced, would meet on the inside of the rail.

The tenons are now gauged on the lower rails. As these rails do not finish flush with the legs, the mortises are

gauged in the centre of the legs between lines (D) and (E). They are marked on the same sides as were the upper ones, i.e., on the face side and face edge. Cut the mitres in the same way as those on the upper rails.

The wastewood is now sawn off the legs, and the table is assembled with sash clamps to see if everything is in order before gluing. Make sure that all corresponding joints are numbered. All inner surfaces (i.e., those which cannot be planed after assembly) must next be cleaned up with a finely-set steel plane followed by glasspaper. Wrap the glasspaper round a block to avoid rounding off the edges.

The table must be glued in two operations. First, the front frame and the back frame are glued and cramped. When the glue is dry on these, they are cramped up with the connecting side rails.

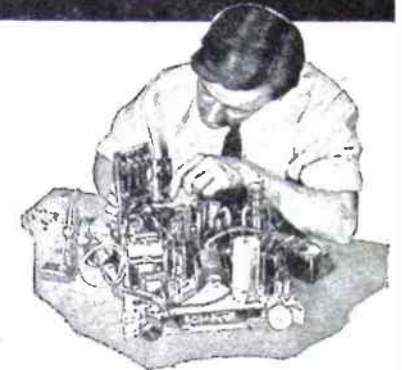
After the glue is dry, clean up the outer surfaces. The top is levelled off

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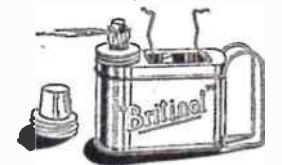
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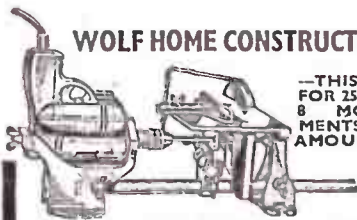
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WOLF HOME CONSTRUCTOR EQUIPMENT

—THIS CAN BE YOURS FOR 25/1 DEPOSIT AND 8 MONTHLY PAYMENTS OF THE SAME AMOUNT.

CASH PRICE
£10.5.0



	Cash price	Deposit of	8 monthly payments of
Wolf 1/2 Electric Drill (built-in T.V. suppressor) ...	£5 19 6	or 14/0	and 14/8
Drill Stand ...	£3 4 6	" 7/11	" 7/11
Sanding and Polishing Kit (including drill)	£7 0 6	17/2	17/2
Lathe Kit (complete with drill and tools)	£10 17 0	" 26/7	26/7
No. 1 Drill Stand Base Set ...	£1 18 6	}	5/6
No. 2 Drill Stand Pillar ...	6		
No. 3 Drilling, Grinding and Buffing Set	£1 5 0	" 3/1	" 3/1
No. 4 Lathe Set ...	£2 17 6	" 9/5	" 9/5
No. 5 Saw Set ...	£2 19 6	" 2/7	" 2/7
No. 6 Sanding and Polishing Set ...	£1 1 0	" 41/3	" 41/3
Wolf Cub Outfit (excluding fretsaw) ...	£3 15 0	" 9/2	" 9/2
No. 8 Fretsaw Set ...	£10 19 6	" 26/10	" 26/10
Fretwork Kit (including drill) ...			
No. 9 Bench Sander Set ...	£1 18 6	" 4/8	" 4/8
No. 10 Bench Planer Set	£3 9 6	" 8/6	" 8/6

If you do not see your requirements listed do not hesitate to write us, we welcome all enquiries, and we supply any item on easy terms.

Desk 123, LAFCO COMPOUNDS LTD
3 CORBETTS PASSAGE, ROTHERHITHE NEW ROAD,
BERMONDSEY, S.E.16 BERMONDSEY 4341

ELECTRIC PAINT STRIPPER

4/-
DEPOSIT
3 monthly payments of 10/-
Cash price 30/-

Old paint peels off like magic with the Horvell electric paint stripper. Easy, even strokes remove paint, varnish, etc. Four-sided blade for angles and corners. A.C./D.C. main-staate voltage.

P.&P. 1/- Send for leaflet

SANDER POLISHER



(ELECTRIC)

The I. & G. Electric Sander Polisher does the job ten times faster than by hand with no effort. Sands wood, furniture, burnishes metal, polishes cars, furniture, silver. A.C. only 220 250v. Cash 75/-. Or send 5/- deposit and 6 monthly payments of 13/6

Send for complete list of Tools

BARGAIN DISTRIBUTORS
(DEPT. 124) 5 SILVER STREET, LUTON

ELECTRIC PAINT SPRAYER

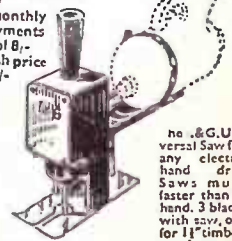


for 5/- deposit
Cash 75/-. Or 5/- deposit and 6 monthly payments of 13/6

Paint easily, evenly, twice as fast with the Burgess Electric Sprayer. Sprays paint, varnish, etc. Complete with sturdy glass container, flex, nozzles for ceiling spraying and extra nozzle discs for different liquids. A.C. mains only - state voltage. Fully guaranteed. Illustrated leaflet free.

UNIVERSAL SAW

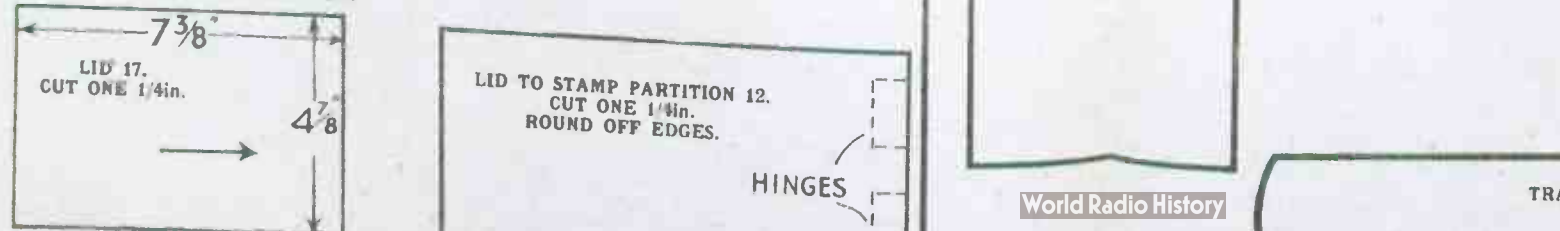
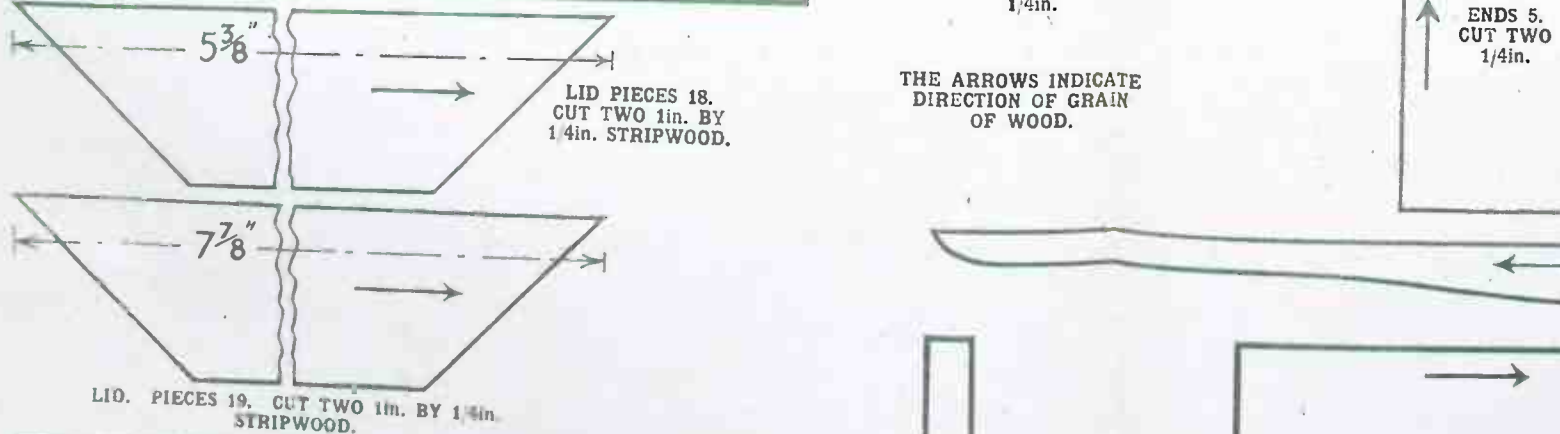
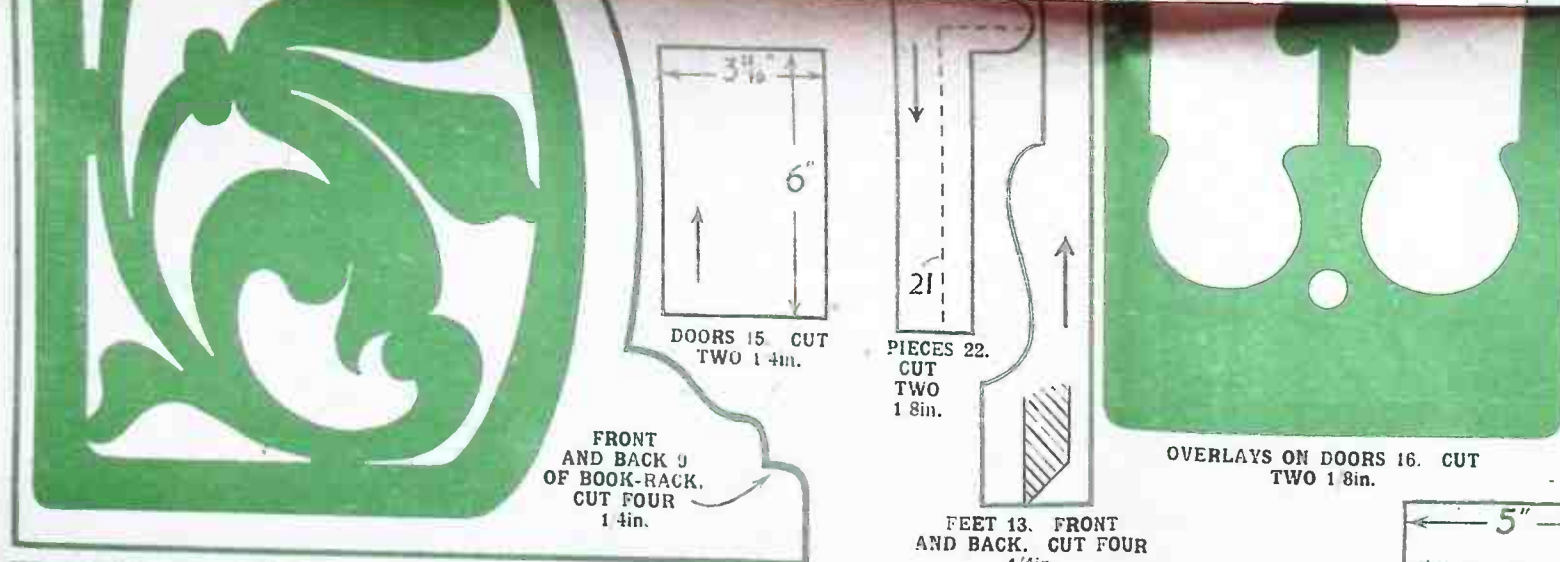
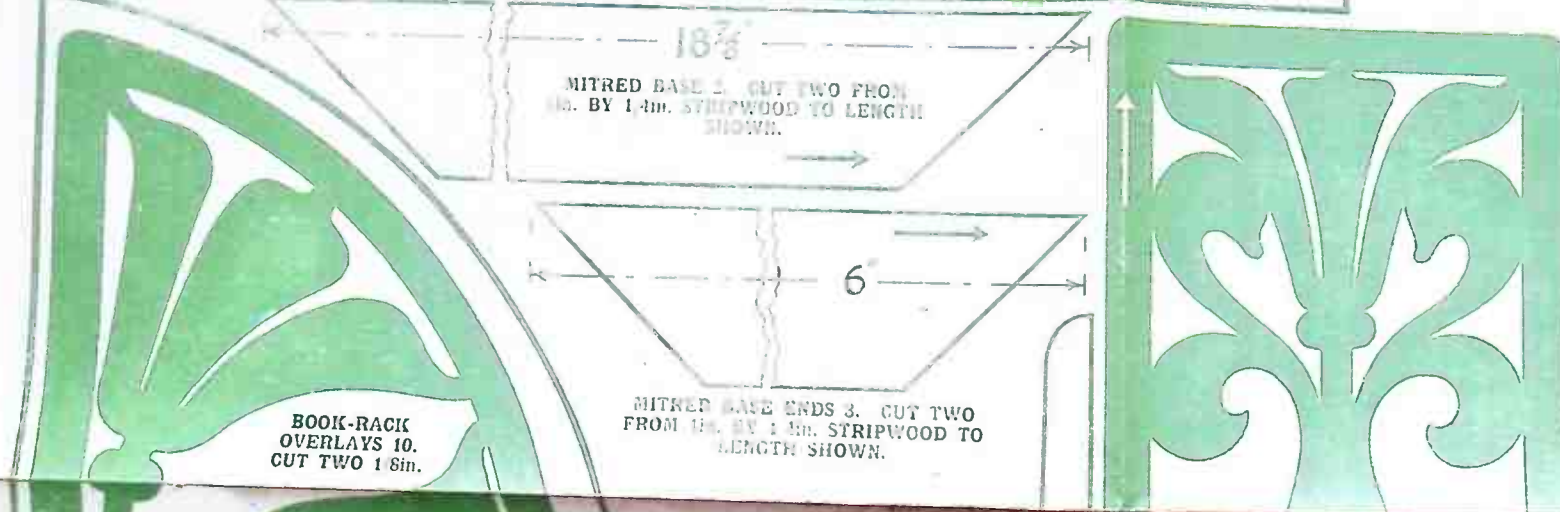
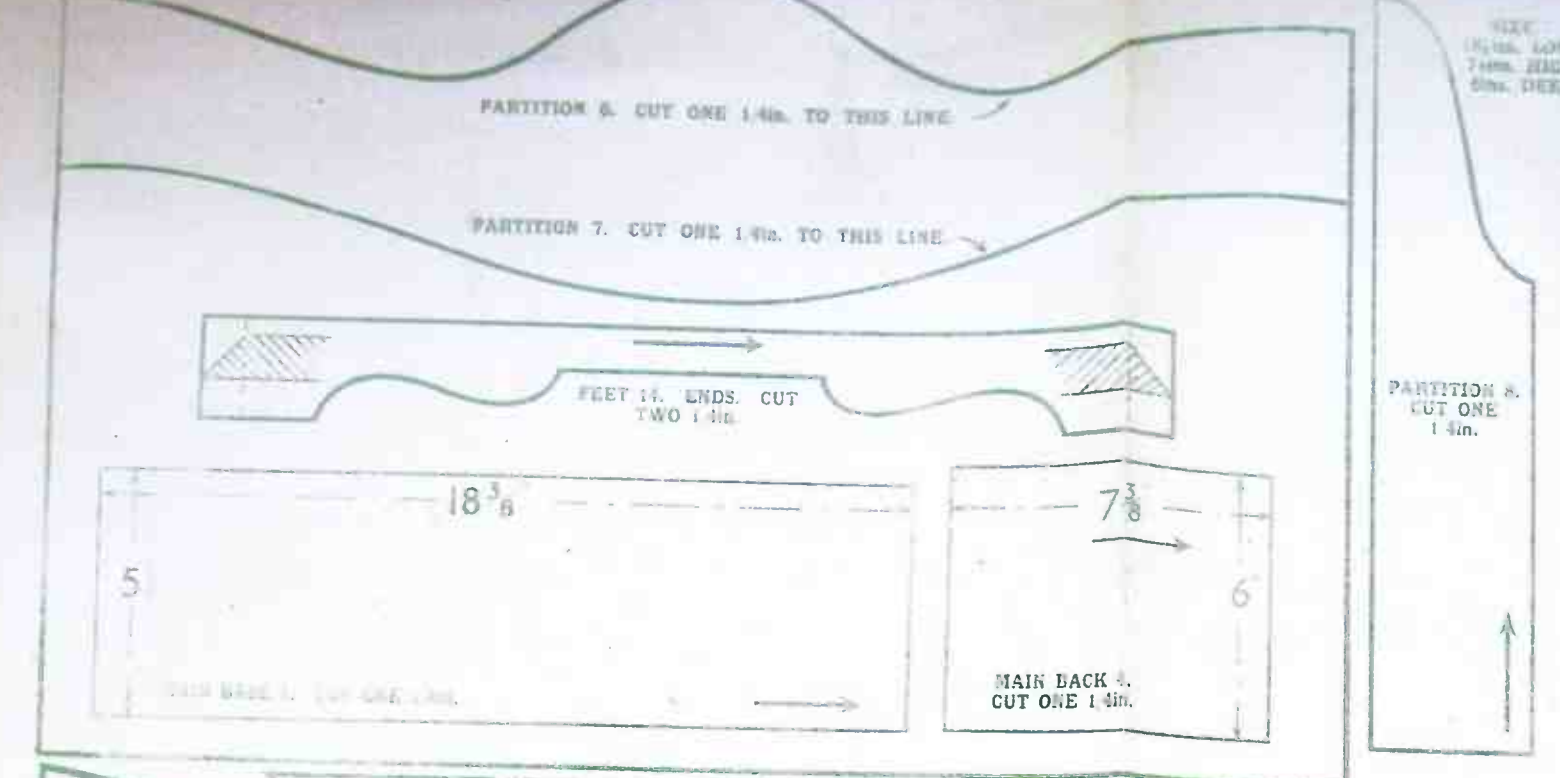
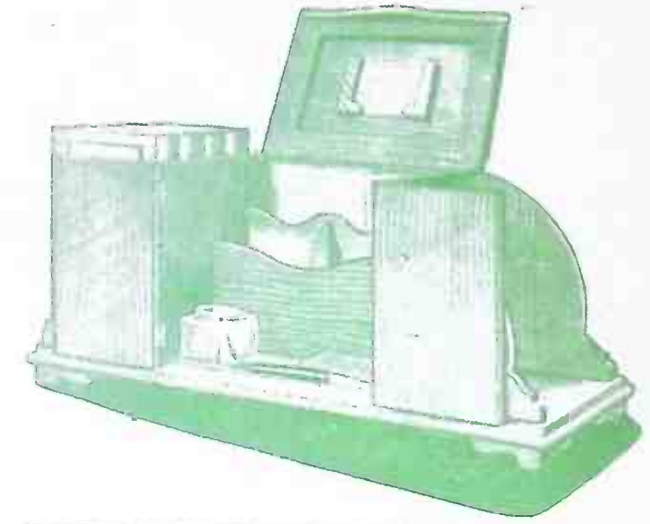
8/- DEPOSIT
6 monthly payments of 8/-
Cash price 49/-



The I. & G. Universal Saw fits any electric hand drill. Saws much faster than by hand. 3 blades with saw, one for 1 1/2" timber, one for metal, one for plastic etc. Simple, robust. Send for leaflet.

SIZE
12 1/2" LONG
7 1/2" DEEP
5 1/2" DEEP

STATIONERY CABINET WITH BOOK-RACK



Materials required for this design

WOOD: Two pieces 20ins. x 2ins. x 1/4in. (Hobbies H4)
 Two pieces 14ins. x 7ins. x 1/4in. (Hobbies H4)
 One piece 14ins. x 7ins. x 1/4in. (Hobbies H2)
 One piece 12ins. x 5 1/2ins. x 1/4in. (Hobbies Q4)

1in. x 1/4in. Two pieces 20ins. long. Two pieces 18ins. long.
 STRIP-WOOD Two pieces 16ins. long
 One 1 1/2in. square inkwell (Hobbies No. 5661),
 Three pairs of 3/4in. brass hinges
 One pair of 3/4in. brass hinges
 Two small 3/4in. knobs (Hobbies No. 708)
 One perpetual calendar set or pad

A complete kit of the above materials can be obtained from
HOBBIES LTD., DEREHAM, NORFOLK

Did You Know

. . . That details of hundreds of designs and kits, chosen from among the best of those produced during the past few years, are given in . . .

HOBBIES Annual HANDBOOK

In addition, there is an extensive editorial section full of "how-to-make" articles, a large FREE Design, and a comprehensive catalogue of tools and materials.

The Handbook is published at the beginning of August each year, and is obtainable from newspapers or Hobbies stockists, or by post from Hobbies Ltd., Dereham, Norfolk.

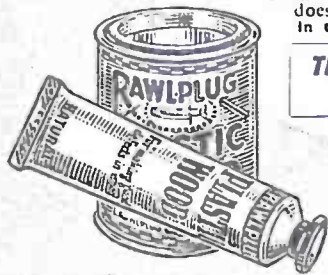


RAWPLUG

PLASTIC WOOD

Whether it's new woodwork or repairs, you'll find Rawplug Plastic Wood of enormous help in getting perfect results. You apply it like putty—it fills cracks or joints and moulds to any shape, however intricate; when dry you can cut, sandpaper, paint or polish, just like wood. It is wood—hard, grainless wood that never cracks or comes away.

Rawplug Plastic Wood is an essential part of your equipment for **MODEL-MAKING • WOODWORK • HOME REPAIRS**. Look for the name Rawplug — your guarantee of finest quality. Rawplug Plastic Wood does not blister, crack or decay. In tubes 1/- Tins 2/3, 3/9 & 5/9



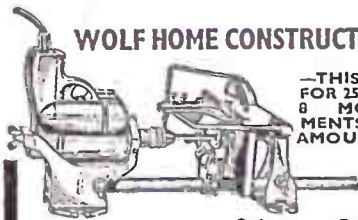
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INVITED**

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Lathe Kit (complete with drill and tools)	£10 17 0	26/7	26/7
No. 1 Drill Stand Base Set ...	£1 18 6	5/6	5/6
No. 2 Drill Stand Filler ...	6 6		
No. 3 Drilling, Grinding and Buffing Set	£1 5 0	3/1	3/1
No. 4 Latho Set ...	£2 17 6	9/5	9/5
No. 5 Saw Set ...	£2 19 6	2/7	2/7
No. 6 Sanding and Polishing Set ...	£1 1 0	41/3	41/3
Wolf Cub Outfit (excluding fretsaw) ...	£3 15 0	9/2	9/2
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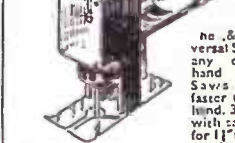
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