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THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

INSTRUCTIONS FOR MAKING . . .

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A TABLE

COLLECTORS' CLUB

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FISH FOR A
GARDEN POOL

GUMMED STRIP
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NOVELTY AND
HOME PROJECTS

ETC. ETC.



REALISTIC
ACTION TOY
FOR THE
CHILDREN

THE CLIMBING MONKEY

Up-to-the-minute ideas

Practical designs

Pleasant and profitable things to make

WorldRadioHistory



5^D

MEADOPHOLOGISTS who need German beer, wine and spirit labels should contact SAC Pomeroy, F. C., (4176727), A.S.F. Tech. Wing, R.A.F. (A.P.S.) Sylt, 2nd T.A.F. Germany, who is a regular reader of *Hobbies Weekly* and has many duplicates for exchange.

Neil Bonham Smith writes, 'I live at 'Meon House', Nr Titchfield, Fareham, Hants. I am interested in beer labels, photography and travel. I have been to Spain, France, Belgium, Germany, Austria, Italy and Jugoslavia. My age is 14.'



Neil Bonham Smith

J. Thornhill Kent of 33 Lakeside Avenue, W. Kensington, London, W.14, has a large collection of beer labels and mats which he has picked up on his travels around Europe. 'It must be about fifty years since I bought my first copy of *Hobbies* and it has been half a century of pleasant pastimes', he says.

'I have made many musical boxes and this helps in another of my hobbies, which is travel', continues Mr Kent. 'This started in the first world war when



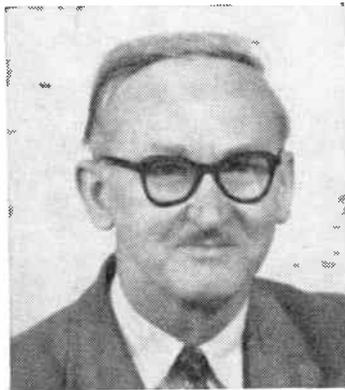
I went to France and Belgium. Since then I have covered many countries.'

His other hobbies include marquetry, painting, embroidery, plaster casting and coins. He is now making a model of the Taj Mahal.

Alan C. Stokes of 13 Borella Road, West Derby, Liverpool 13, seeks pen friends from any country.

And now some more facts for your album.

In the Egypt of the Pharaohs, 3,000 B.C., it is known that four types of beer were in common use. The peasants, recompensed by the King, were given



J. Thornhill Kent



Alan C. Stokes

four loaves of bread and two jugs of beer daily, and it was usual for mothers to take beer to their sons at school.

Beer played an important part in the religious life of Egypt, and to Isis, Goddess of Nature, was attributed the introduction of brewing. Rameses the Third (1,200 B.C.) proudly announced, in his temple inscriptions, that he had consecrated to the deities 466,303 jugs of beer.

In those days — and indeed for centuries to follow — baking and brewing went hand in hand. Which came first, beer or leavened bread, is anyone's guess. The day's brewing gave the people yeast for baking on the morrow and the yeast-laden beer was enjoyed by men, women and children. For the brewing of their primitive beer, underbaked bread, made from coarse-ground germinated barley, was cut into small pieces and soaked in water in a large jug and left to ferment for about a day, airborne yeasts starting the fermentation.

The mass was then forced through a woven sieve, the white foaming liquid being then ready for consumption. It was, however, frequently spiced with herbs and sweetened with dates or honey.

If you need an Egyptian pen friend write to: Abdallah Youssef Abdallah, P.O. Box 1686, Cairo, Egypt.



GUMMED STRIP MODELLING

GUMMED strip is a generic term given to a very strong brown paper or kraft material, sold in various widths for a few pence. It is made in several colours, wound up in roll or coil form. This strong tape with its tenacious grip is coated with animal glue so that it possesses first class adhesive or sticking properties.

Handicraft workers have long realized its value for all kinds of repair and reinforcement work in the home, but in

By F. T. Day

recent years it has found a new and useful application for all kinds of moulded work, modelling and other practical handicrafts.

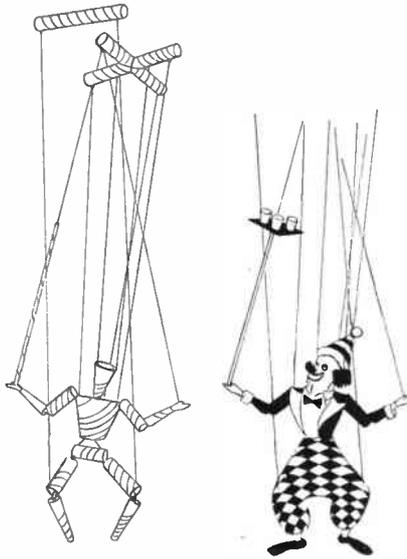
Modelling with gummed strip involves the application of moistened tape in layers of three or more thicknesses, when it becomes, after drying out, almost indestructible. All kinds of models may be made up by using a base former, shaped or fashioned from wood in style or dimensions of the finished job.

Ideas for bases

There are many ready-to-hand objects in the home that may be used as former bases and such items as round rulers, dowel sticks, tins, boxes and similar articles may be used as a base upon which to obtain a moulded subject. To prevent the moistened gummed strip from sticking to the former or shape, the base is covered with tissue or, in some cases, powdered with french chalk.

An ordinary flower pot or child's sea-side bucket, for instance, may serve as a former, when protected with tissue, to produce a decorative flower bowl, vase or similar vessel. The tape is wound round the 'former' in a graduated style which is quite simple to carry out, and several flower pot holders or vases may be made up from a single coil of tape, the finished work being painted, varnished or otherwise treated, a hole being made at the base if growing plants are to be placed in the vessel. With a handle of some artistic kind added, made up from tape, various kinds of ornamental jugs may be made.

Other adjuncts such as thick cardboard or plywood may be used for bases to other objects. Ordinary jam jars and circular tins may be used to produce such items as a money box, the tape



Puppets made up from gummed strip, using wooden dowel stick for formers.

being wound round in several thicknesses, two circular pieces of cardboard being cut for the top and bottom, and the necessary slit being made to take the cash. The base will be made removable, so that the box may be emptied when required. A good deal will depend upon the finish and decoration of such work.

In the case of masks and heads, the tape is torn into small pieces of, say, 1 in. in length and the first applications of tape are placed to serve as a build-up for the final application of neatly applied tape in strip form. Base application of tape stuck in criss-cross form gives strength to the finished work.

Even a balloon!

A blown-up toy balloon may be used as a former base for making such articles as spheres or the globe. Working carefully with the inflated balloon, dusted with chalk, strips of moistened tape are wound, overlapped in both directions, thus forming a strong base for the final neatly placed layers of tape. Leaving a slit in the work, the balloon is deflated (if desired, it may be left inside and completely sealed in) and withdrawn, the final touches being given to the job which, in the case of the globe, will include piercing a hole through from one end to another through which to insert the wire frame or stand for the model.

Many handicraft workers are making

up their own colourful puppets with gummed strip. The telescopic possibilities of the tape assist in the formation of body, legs and arms, and, having prepared the basic formers, it is a very simple job to produce first-class puppets made up in component form as outlined in the illustration.

Using formers for repetition

The various individual component parts should be made up or prepared from wood, clay or some plastic material. Wooden dowel sticks will come in for the cross bar handle supports, the fore and upper arms and the legs. Loosely wound tape will give a graduated effect and diameter may be slightly increased to allow for shapely legs and arms, etc. All basic formers, shapes or moulds used should be dusted with talcum powder or chalk to ensure that the moistened tape will not stick. Where several puppets are being made up, formers will be used for repetition work. The cut tape should be applied in short lengths.

The face will need a little extra attention, the base mould being quite a simple shape of wood or clay, but the applied tape will have to allow for suitable recesses for the eyes and the nose. These will be neatly trimmed to their final form at the end of the job.

In every case where moulds or formers are used, the applied tape, when absolutely dried out, is removed from its former by slitting down one side with a razor blade, when it may be neatly stripped off. The cut is quickly sealed with another piece of tape.

Different characters may be made up from one mould if facial details are slightly varied, and different expressions are obtained by varying the cuts of the eyes, the mouth or the shape of the ears, which are all finally added to the moulded face.

The method of component part jointing is by thin white string, or thick black thread, so as to be invisible. The supporting tubes used for working the puppets by hand are, of course, made from ordinary wound gummed strip tubes, or the wooden dowels, where used, may be left inside for increased strength.

To complete the puppet, some coloured paint will be necessary, but for really good finish, some suitable clothes should be made by enlisting the help of the ladies. Puppets may be made up from quite small sizes to large models for amateur stage purposes. They will prove effective in use and very durable and pliable, bending in all joints with perfect ease.

Ideal children's toy

MAKE THE CLIMBING MONKEY

By pulling and releasing the cord on the 'island' base the animated chimp is made to climb the palm tree until it reaches the coconuts at the top. This realistic action may be repeated again and again to the amusement of all youngsters, for whom it makes an ideal toy.

Cut the island base piece B, from $\frac{1}{4}$ in. wood to the proportions given in Fig. 1. Drill a hole 2 in. from one end to take a $\frac{5}{8}$ in. diameter dowel rod. Bore two small holes halfway through the base to take the wire G at position shown. Bend a $2\frac{3}{4}$ in. length of stout wire to the shape of G (Fig. 4) and hammer the ends into the holes, allowing clearance for a string to pass under. Fix a screw-eye near the end of the base.

Cut a suitable length of $\frac{5}{8}$ in. diameter round rod and make a slot to a depth of about $\frac{1}{2}$ in. in the top. Next, 2 in. from this end, mark off 1 in. divisions. Hold the rod against a mitre block and cut around these dimensions a series of $\frac{1}{4}$ in. deep slots, using a fine tenon saw. Rotate the rod whilst cutting. Now carve downwards towards each slot with a sharp knife to form the notches along the rod as detailed at Fig. 3. Glue the bottom end of the round rod securely into the base hole.

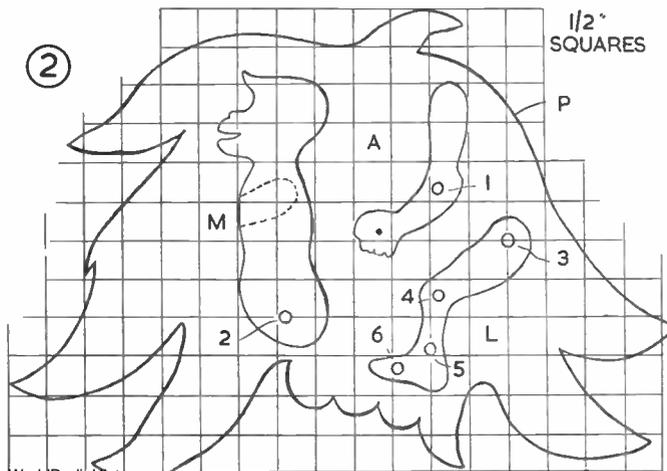
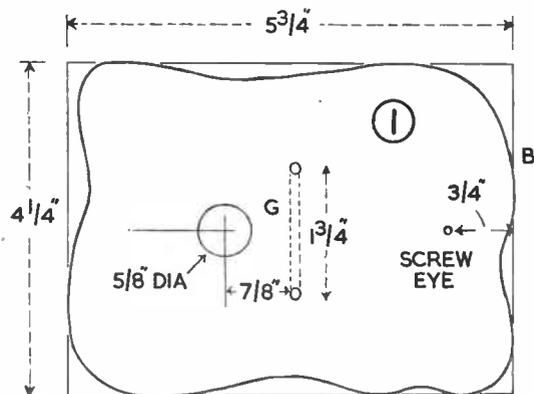
Copy the tree foliage to the full size following the outline of P on to paper ruled off in $\frac{1}{2}$ in. squares (Fig. 2). Transfer to thin ply or stiff cardboard and cut out. Glue and tack this shape to the top of T at position X (Fig. 3) with the end slot behind it.

Described
by
T. S.
Richmond



The body, leg and arm patterns for the figure (Fig. 2) are also copied over enlarged squares on to paper. Transfer M to $\frac{3}{8}$ in. plywood and two each of A and L on to $\frac{1}{8}$ in. plywood. Prick positions of holes 1 to 6 and bore $\frac{1}{8}$ in. holes at these points before cutting out, to avoid risk of breaking intricate shapes. Clean up cut-outs with fine glasspaper and assemble.

Fig. 5 shows how $\frac{3}{8}$ in. long pieces of $\frac{1}{8}$ in. rod are glued between arms and legs. Do not forget to add the small rubber band between pegs 1 and 4 (Fig. 3). The pivot rod, glued in hole 3 of L, should turn freely within hole 2 of M. Arms are glued securely to body at dotted outline position on pattern M. Glasspaper assembled figure smooth, including any protruding ends of pins.



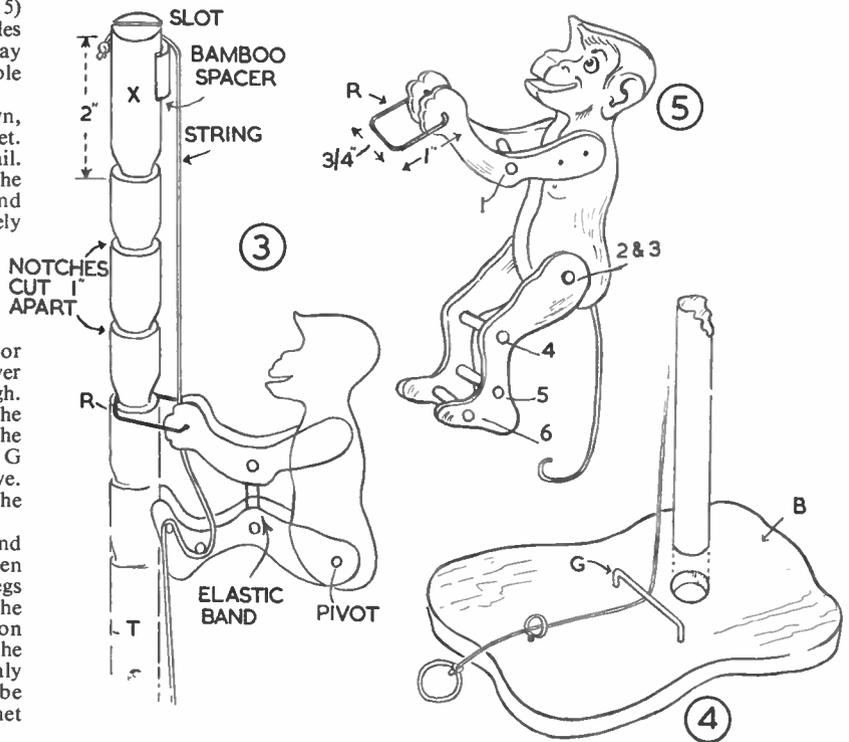
Bend ratchet piece R to shape (Fig. 5) from stiff wire, and insert through holes bored in monkey's hands so it may swivel and also fit freely over the pole along which it is intended to slide.

Paint the monkey in shades of brown, adding details to face, hands and feet. Attach a length of string for the tail. Paint the island a golden yellow and the tree trunk light brown. The palms and bunches of coconuts should be effectively painted in greens and browns.

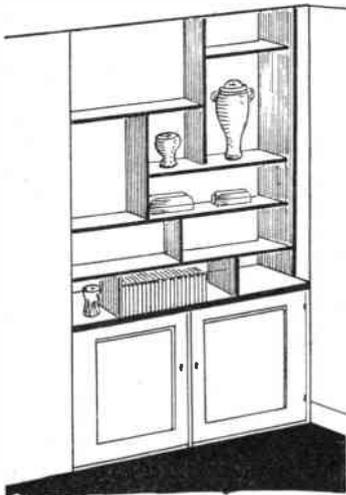
When painting is completed and dried, the toy can be assembled. Glue a piece of bamboo cane just under the slot at top of tree trunk and anchor a length of strong cord or string into the slot. Slide the ratchet over the pole and thread the string through. Fig. 3 clearly shows the passage of the string around pegs 5 and 6 (between the legs). It then passes down and under G at the base, then through the screw-eye. Fasten a brass ring for a handle to the end of the cord for operating.

Place the monkey on the island and pull the cord. The ratchet should then engage with the bottom notch, the legs automatically being drawn up to the arms by the rubber band when tension on the cord is released. By repeating the action, the monkey will climb realistically up the tree. The notches may have to be opened out a little further if the ratchet inclines to slip downwards.

Bring the monkey back to starting position by guiding the ratchet clear of the notches as it is lowered down the tree trunk.



Making full use of an alcove



WE can often make full use of the alcove or recess over an existing cupboard by using

sections of floor-board and beadings. If this fitment is well planned, and a practical design drawn up first, this can become quite an individual part of the room.

Books, ornaments and other items can be set off well, as shown, if the plan is balanced and the books are kept to the base of the layout.

Floor-board is mostly 6ins. wide and 1in. thick and costs approximately 6d. a foot in the cut length. The first thing is to get the side panels correct and these should be made to stand firmly and be quite a tight fit. Arrange the main full cross pieces first and these should, when fitted, hold it quite rigid to start off with.

The two lower sections are divided as shown, which will then give you a good idea of the space you still have available. There is no need for the design to be regimented, because the careful balancing of the varied items will allow plenty of scope for imagination.

The short sections can then be fitted and the use of 2in. flat nails will be best as they do not split the wood.

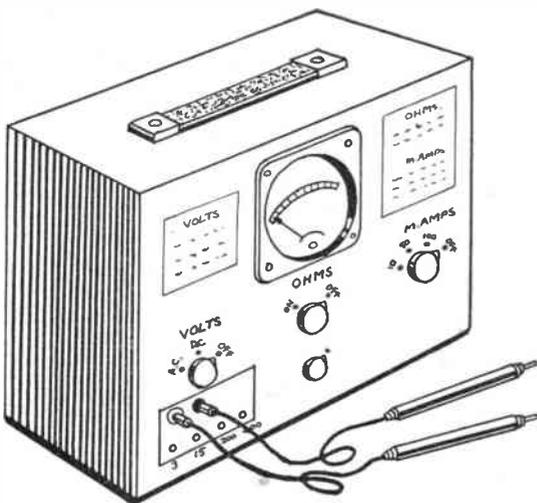
When fitted, clean thoroughly with medium glasspaper. If the style suits it, one can re-paper the back with a stout paper of the textured type in fawn. This will tone in very well with the articles shown and not be noticed too much in connection with the existing shade of the wallpaper in the rest of the room.

The use of 1in. half-round beading will give a well-finished appearance to the edges. A coat of flat paint in dove grey is a very suitable medium to start off with. As a colour it is good and on this you can also get a good finish with any enamel paint. (V.S.)

A model Toy Farm will be the subject of next week's free design - an ideal project for a child's "stocking" at Christmas

MAKE SURE OF YOUR COPY

SCALING THE MULTIMETER



A.C. voltage, then turn to 'A.C.' See that the black prod lead is in the black socket. Plug the red test lead into the voltage socket higher than the voltage one expects to measure. If the voltage is unknown, then plug into the 400 volt socket first always. The point of the red test prod should go to the high potential end of the tested part and the black prod to the low potential end, when measuring D.C. voltage. On A.C., the prods are used either way round.

To measure up to 1 milliamp keep the

A FEW words now about the meter scale. The particular meter used is scaled from 0 to 1, and there is no room to print in a voltage and ohm scale, or the milliamp ranges. The simple solu-

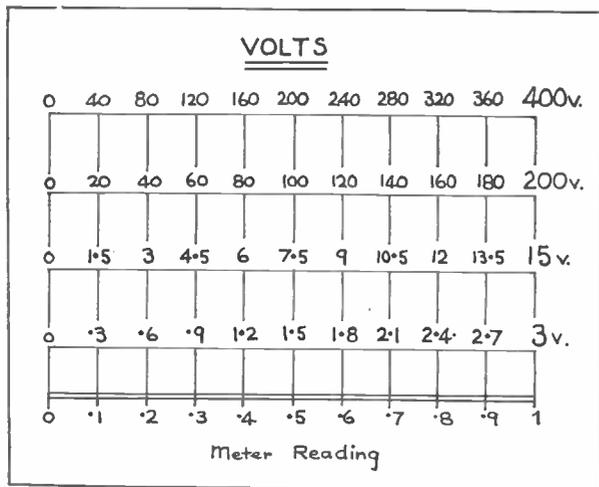


Fig. 8

tion to this is to re-draw the meter scale (it need not be curved — a straight scale will be better), on some paper, and add the new ranges. This can then be pasted on to the front of the test meter. The ohms and milliamp scales can be put on the right-hand side of the meter and the voltage scale on the left. Figs. 8 and 9 show how to set up the scales. Once this is done, it is simple to read any value on the new ranges by reference to the meter scale.

For the panel indicators, before fixing on the knobs, paste on paper, on which to print the 'ON', 'OFF', etc. Pointer

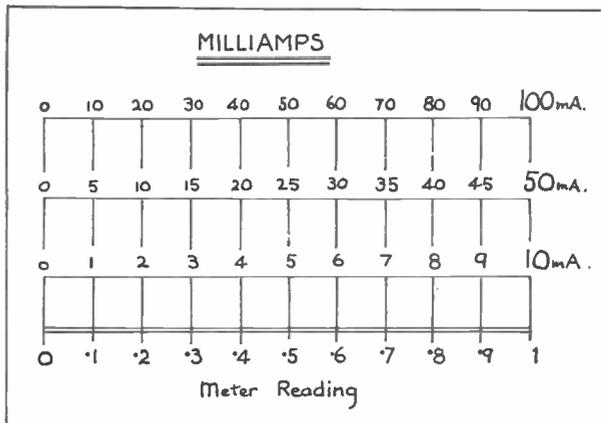
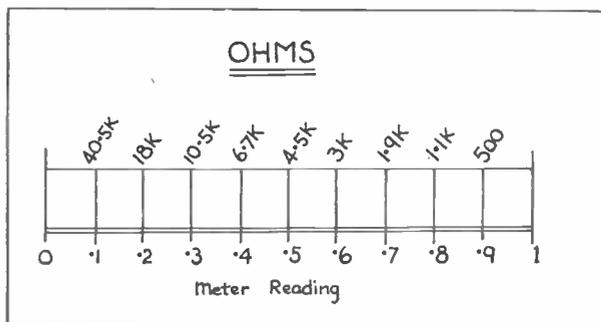


Fig. 9

knobs will be needed for the switches especially. Fig. 1 shows how the front panel indicators are set out.

To use the test meter for voltage measurement, first see that the ohms and milliamp knobs are turned to 'OFF'. If it is D.C. voltage that is to be measured, then turn the voltage switch to 'D.C.' If

milliamp and ohms switches to 'OFF', turn the volts switch to 'D.C.' and plug in the red test plug to the red socket. The reading will be as on the meter itself.

To measure above one milliamp, turn the voltage switch to 'OFF', the ohms

● Continued on page 59

Jack-in-the-Box Card Trick

YOU may have seen this effective trick performed on some occasion or other, but, if not, we will first describe the method of presentation. The performer takes a full pack of cards from the packet, dividing into two halves and offering a choice to someone from the audience. One half of the pack selected by this person is taken and shuffled by him and two or three cards selected and noted, although some other member of the audience may take part in this. The other half of the pack is now taken up by the performer and held firmly in one hand while the selected cards are replaced at random. The two halves are now joined together and the whole replaced in the packet.

This is where the big effect is produced. The performer takes the packet in his right hand, waves a few upward and

the genuine half happens to be selected allow this to be shuffled but if the fake half is selected you should pick it up, telling the 'victim' to take the other.

The three cards are now genuinely removed from the half pack after shuffling and returned to the other half one by one as stated. This half — which is the faked part — is then dropped on to the others and the complete pack taken up and held face upwards. Note that the card covering the aperture is now at the bottom from whence it can be openly transferred and inserted in the genuine part of the pack. This is most important

it will contact one of the selected cards. By straightening the finger and applying a little upward pressure the card will start to rise, and ultimately it can be removed by the left hand. A similar procedure is adopted for the other cards.

We may mention that an alternative method of producing this effect is for the left hand to grip the right wrist while the index finger of the latter lifts the cards. The left hand can then be removed to

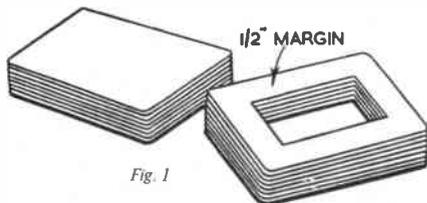


Fig. 1

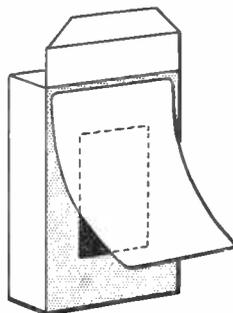
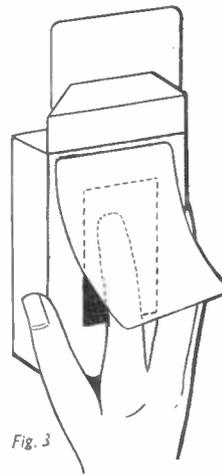


Fig. 2



magic passes of encouragement above the cards and lo and behold a selected card starts rising from the box. This is allowed to rise until the value is clearly visible for all to see and then taken away by the left hand. A similar operation follows for the other cards. How is it done?

Actually, a faked pack is used for this trick but you can make one yourself quite easily. Divide a full pack into two halves, cutting out an oblong aperture from 25 of one half. This is shown in Fig. 1, the oblong being arranged centrally with a half-inch margin all around the sides. You will be able to cut out several cards at the same time by using a sharp knife. The other remaining card of the 26 is used as a cover card and placed on top of the faked ones to hide the apertures. It is also necessary to cut out a similar sized aperture from the back of the packet as shown in Fig. 2. This should be done after careful, partial removal of the sample card stuck on the packet and to do this a thin, sharp knife should be inserted underneath the edge of the card, working the latter loose.

Returning to the performance, when the full pack is removed from the packet be careful that you take the prepared top half intact. And here we observe what is termed the conjuror's choice, that is, if

and you will appreciate this more fully in a moment.

Without disclosing the backs of the cards — this would now reveal the whole secret — the cards are returned to the container and held in the right hand as shown in Fig. 3. The first finger is inserted in the hole in a bent position when

take out the card, but use the method you prefer. It will be agreed that the magic passes look very good. This trick is really effective since the audience have actually been allowed to handle the cards and are aware that there are no strings or threads attached — but they little suspect the aperture in the faked half.

● Continued from page 58

Scaling the Multimeter

switch to 'OFF', keep the red plug in the red socket, and turn the milliamp switch to the required range (10 mA, 50 mA or 100 mA).

To measure ohms, keep the red plug in the red socket, switch the volts and milliamp switches to 'OFF', and turn the 'meter set' knob to 'ON', and the ohms switch to 'ON'. Then adjust the 'meter set' knob until the pointer turns to '1' (end of the scale). In order to do this, the test prods points must be held in contact with each other. When the pointer is adjusted, the test leads are separated and

applied to the resistance under test, when the pointer will turn to the appropriate point on the scale.

After use, before putting the meter away, be sure to turn all the switch knobs back to 'OFF'. Before using the meter, always check to see that the various knobs are in their correct positions as detailed previously.

Some 1 mA meters have a resistance below 100 ohms. In this case, the reader should make the resistance up to 100 ohms, by adding a resistor of the necessary value in series with the meter. (A.F.)

RIGGING AND FLYING THE HOBBY SOARER

NOW that all the components for the glider have been made it is necessary to assemble them and to balance the model.

The fin and tailplane assembly is clipped to the platform at the rear of the fuselage with two tough elastic bands, which are stretched over the tailplane and platform, one at each side of the fin.

To fix the wing, loop a large ($\frac{1}{8}$ in. wide) tough elastic band over one side of the wing platform, twist the band once, and stretch the other loop of the band over the opposite side of the platform (Fig. 1). Open wide the crossed-over band above the platform and slide the wing, tip first, underneath it. The balsa sheeting over the centre three wing ribs prevents the band from damaging the

By
Gordon
Allen

must be added to the aperture in the nose so that the model will take up a slightly 'nose-down' position. Empty cement tubes, melted down in a tin lid over a gas jet and formed into pieces about $\frac{1}{8}$ in. thick by pouring the metal into a 'mould' formed with strip obechi, make excellent ballast. When the model is correctly balanced fix the lead ballast with cement, fill in the aperture at the top of the fuselage with a thin strip of

hand-launch flight in a smooth skimming movement over the grass. If it tends to land nose-down clip a strip of $\frac{1}{32}$ in. sheet 'packing' underneath the trailing edge of the tailplane and try again. Keep adding packing ($\frac{1}{32}$ in. at a time) until a good flat glide results. If, on the other hand, the model starts a flat glide and then tends to lift its nose in a series of gentle undulating movements (mild stalling), clip packing under the *leading*

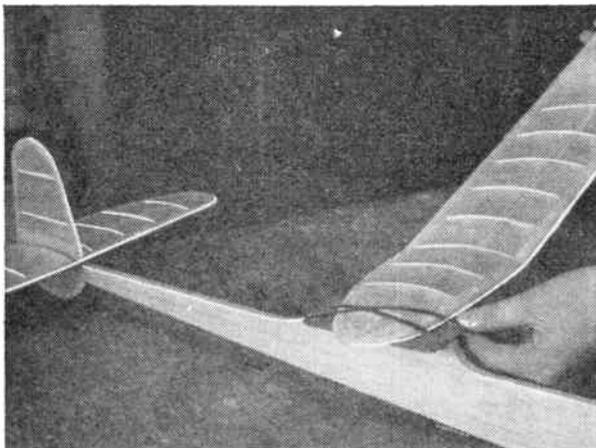
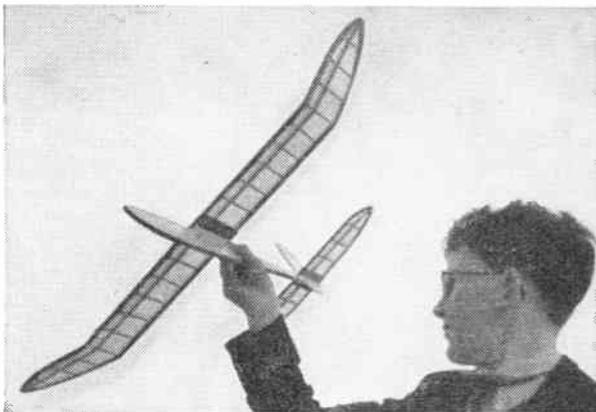


Fig. 1—The crossed-over rubber band on the wing platform is ready to accept the wing.

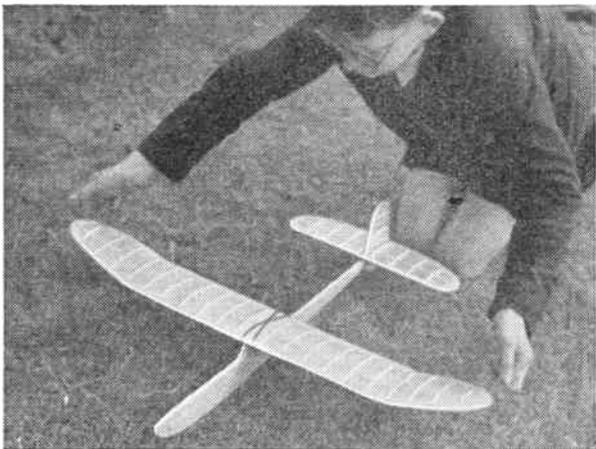


Fig. 2—One way to check the balance of the glider.

tissue covering. Check the model for correct alignment by viewing it from the nose. The centre panel of the wing must be parallel with the tailplane. Correct any discrepancy by cementing a thin strip of $\frac{1}{32}$ in. balsa along the top edge of wing or tailplane platform, according to which surface is not level.

Now support the model by placing the tips of your middle fingers under the wing at the main spar (Fig. 2) position, one at each side of the wing about 6 in. from the fuselage. The model will assume a 'tail down' position and weight

balsa, glasspaper flush and apply two coats of banana oil.

The model is now ready for testing, but wait for a very calm day to do this. The evening hour just before dusk is often suitable. Hand-launch the glider from shoulder height, holding the fuselage under the wing and using a strong but slow follow-through movement of the arm, with the nose of the glider pointing slightly downwards. *Do not jerk the launch and do not throw the model.*

Hobby Soarer is capable of an extremely flat glide and should finish its

edge of the tailplane until the required glide results.

Nylon fishing line or stout thread can be used as a towline for the model. At least 100 feet is necessary, attached to the end of which must be a metal ring, made from 20 s.w.g. piano wire or from a paper clip, which engages with one or other of the towhooks under the fuselage.

In calm weather use the rear towhook but if there is a strong breeze use the forward hook. In the former case it may be necessary to run with the model to obtain sufficient initial flying speed, but

do not overdo this. The line should not be allowed to tighten too much, which is often a sign that the model is climbing too steeply, because this could result in a bad stall when the model releases itself, and a consequent unsatisfactory flight.

Should the model veer to one side during the climb, immediately release the tension on the line until the glider assumes a normal climbing attitude. It is possible to 'jockey' the glider until it is almost overhead, when either it will release itself or can be released by relaxing all tension on the line. It is always a good idea to tie a pennant or streamer of brightly-coloured silk or even tissue paper to the line close to the towing ring to assist you in the location of the end of the line when a tow-launch has been made.

The same technique is used in breezy conditions except that it may be found

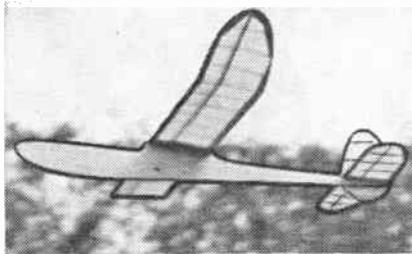


Fig. 3—Coming in to land

unnecessary to run with the line.

If you use a winch to launch your model — which consists of a simple wooden or metal spool round which the line is wound and which is fixed to the spindle of a small geared-up mechanism

such as that employed on a small grindstone — you will certainly not need to run.

Most gliders have what is called an 'inherent' turn. That is, in flight they tend to turn and circle in one direction due to various small inconsistencies 'built into' the model. This will probably be the case with your own *Hobby Soarer* but should the turn be too wide or in the unlikely event of the model flying straight, a trim-tab of $\frac{1}{32}$ in. sheet balsa about $1\frac{1}{2}$ in. by $\frac{3}{4}$ in., cemented to the trailing edge of the fin, can be used as a 'rudder' to control the turn. Make sure that the grain of the 'tab' runs the long way.

In the next article we shall be moving on to the design, construction and flying of a simple 'endurance' type rubber-driven model.

DON THE DIVER

A WORKING model of a deep sea diver which will perform in a tank of water makes an exciting toy for any child, and will provide an interesting example of Archimedes Principle. The toy is easily made in an hour from an old ping pong ball, a cork, some 4 in. nails and a 3 ft. length of the thinnest rubber or plastic tubing obtainable. You will also need a heavy screw and a quantity of lead shot to act as ballast, and some paint with which to protect the metal parts from rusting.

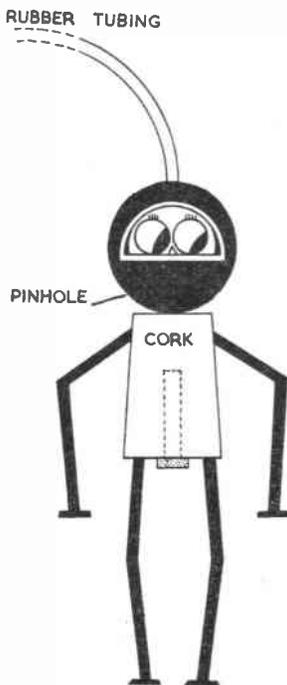
By A. E. Ward

Make a neat hole in the ping pong ball, into which the tubing can be tightly inserted. Do this carefully, using a darning needle to begin with, and finishing off with a large knitting needle or sharp nail, otherwise the ball will begin to split. Remember to make the diameter of the hole slightly less than that of the tubing. Bore two pin holes, 1 in. apart, in the opposite side of the ball to the large hole.

Prepare four nails to resemble arms and legs by bending them slightly to form elbow and knee joints. Press the 'arms' and 'legs' into the cork, which will serve as a body. Now secure the head to the body, using a quick-setting balsa cement. Place the head so that the large hole is at the top and the pin holes point towards the 'shoulders'.

Test your diver by floating the figure in a deep bowl of water. It should float with less than half of its head above the

surface. If your diver is too light, make the figure heavier by dropping balls of lead shot through the hole in the top of its head. When you are satisfied that the



weight is adequate, remove the diver from the water and fix the tubing into the large hole. Do not push the tubing in too far.

Replace the diver in the water and make it sink by sucking gently through the tube. Water will enter the head via the pinholes and the figure will dive as it becomes heavier. To make the diver lighter so that it comes up again, blow into the tube and drive the water out of the head. As the diver breaks surface, continue blowing, and streams of air bubbles will rush out of the pinholes.

When you have made any adjustments that may be necessary to the weight of your diver, complete the toy by painting.

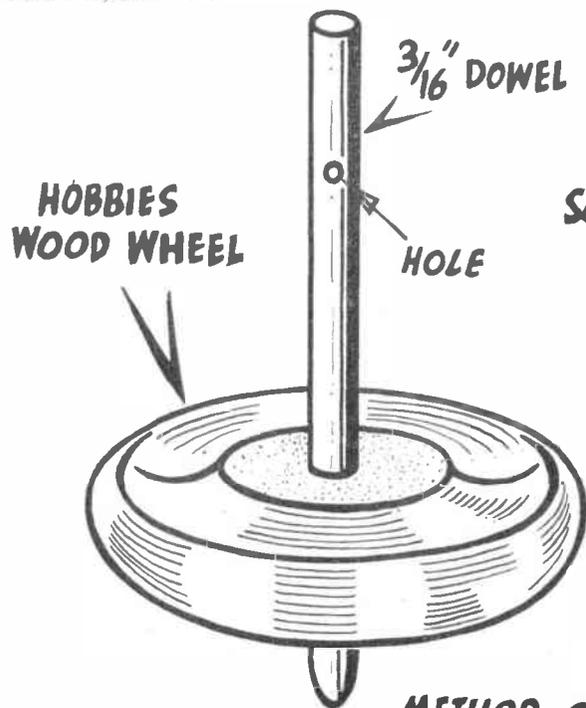
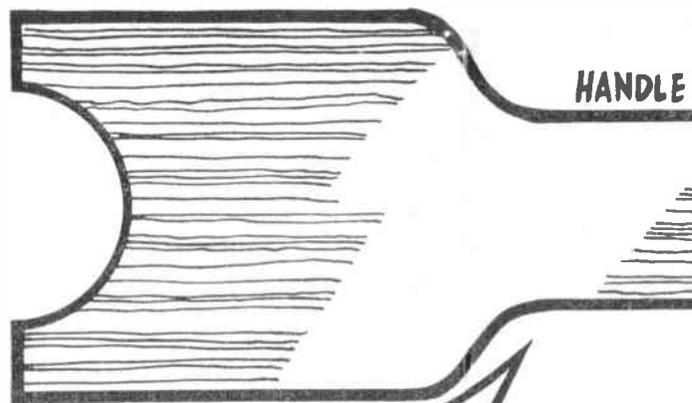
Can We Help?

AN instance of the success of appeals for old designs which have been made in these columns comes from Mr P. I. Woolley of 16 Bond St., Marton, New Zealand, whose request for a design to assist in the building of a model of H.M.S. *Hood* was printed in our issue of May 20th.

Mr Woolley writes that help was forthcoming from a reader who did not enclose his name and address. The envelope, however, was postmarked 'Burnley & Nelson, Lancs.', and if this note catches the eye of the person responsible, he can be assured that Mr Woolley was indeed thankful for his assistance, and would gratefully return the design if the unknown reader would again communicate with him.

Mr M. Etherington of 59 Seaforth Gardens, Ewell, Epsom, Surrey, has a collection of about 90 *Hobbies Weekly* design sheets between Nos. 2760 and 2850. If any reader is interested in any of these designs, he should contact Mr Etherington.

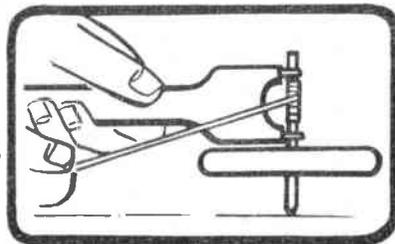
SPINNING



SCREW EYES



METHOD OF OPERATION

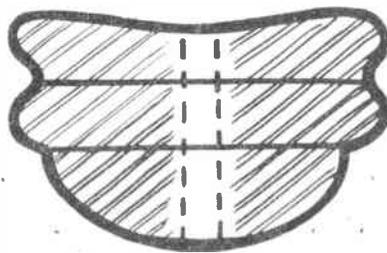
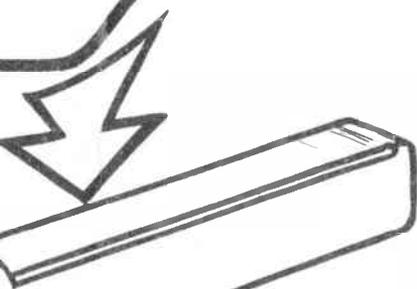
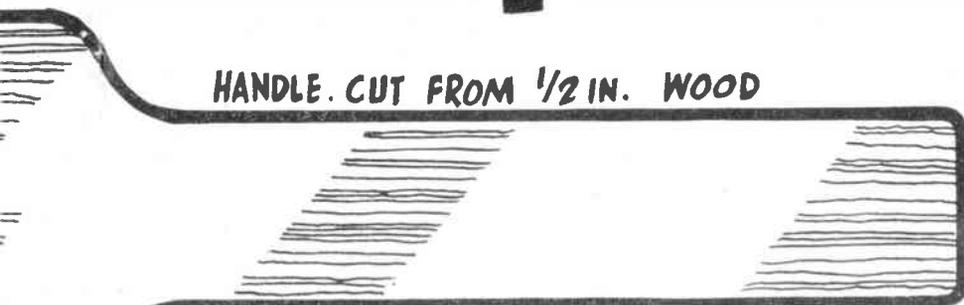


1. PLACE SCREW EYES OVER TOP SHAFT
2. THREAD CORD THRO' EYE
3. WIND CORD ROUND. 4. PULL CORD SHARP
5. LIFT OFF HANDLE W/ SPINNING

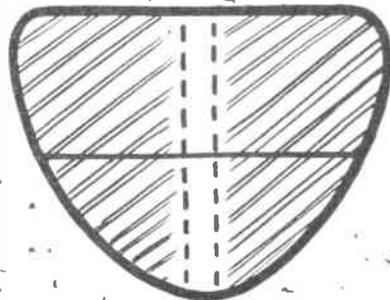
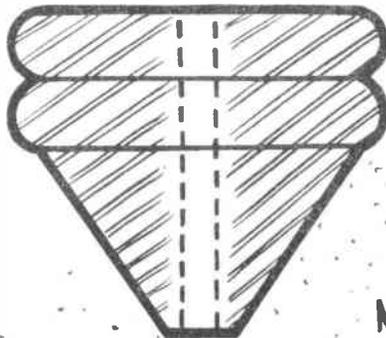
ING TOPS



HANDLE. CUT FROM 1/2 IN. WOOD



1. PLACE SCREW EYES OVER TOP SHAFT
2. THREAD CORD THRO' EYE IN SHAFT
3. WIND ROUND.
4. GIVE CORD SHARP PULL
5. LIFT OFF HANDLE WHEN SPINNING.



MADE FROM WOODEN CIRCLES.
CUT WITH A FRESAW *

CONSTRUCTING A TABLE

WHEN the home craftsman has acquired the basic tools and mastered their use he usually looks around for something worthwhile to make. Today there are plenty of improvisations and short cuts possible, but the man who wants to learn his chosen craft properly is best advised to tackle something using traditional methods of construction, and a very good choice which should also please the lady of the house is a small table.

This may be any size, but the one

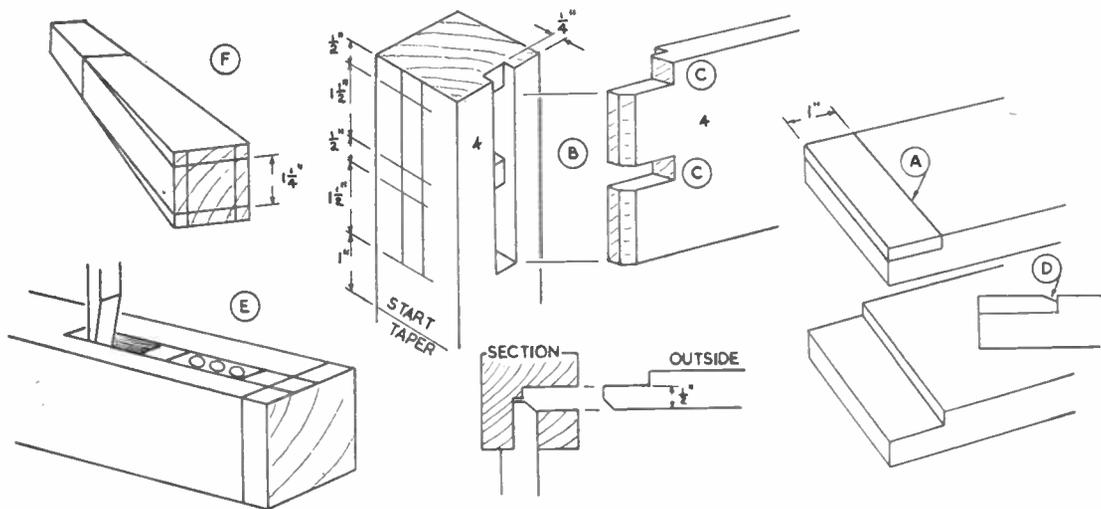
legs. Set an ordinary marking gauge to the same width and mark the widths of the tenons. To avoid cutting out too much wood and weakening the leg, the

By John Lane

tenons are shouldered at the top and notched in the middle C. Mark out these cuts on the plain side.

To get a clean shoulder, mark it with a

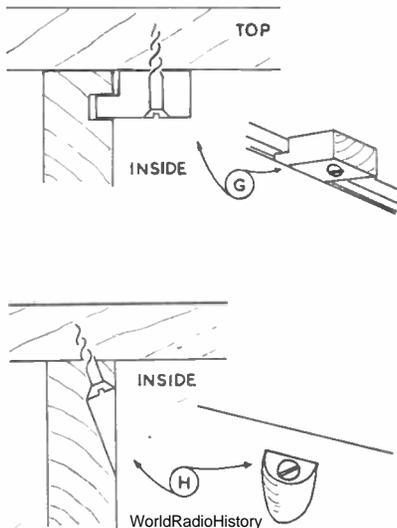
deep knife cut, then pare across with a chisel D. Start the tenon saw in the groove formed. With the wood on edge in the vice cut down the side of the tenon, working a little from each end. If necessary trim up the cut with a plane or chisel, but the craftsman aims to make this accurate from the saw. Saw and chop out the notch and shoulder. Where the tenons meet in the leg they should be mitred to avoid interference, but do not try to make this a close joint, otherwise shoulders may not cramp up tight.



described here is of the type usually described as 'occasional' and suitable as a side table or for the hall. Oak is a good wood for the project, unless there is a particular need for something else to match existing furniture.

It is best to start with the legs. Choose wood with a reasonably straight grain, otherwise there is a risk of warping. Even if the wood is bought machine-planed, true up face side and edge and square up properly. Prepare the other parts of the framing in the same way.

The corner joints are bare-faced (i.e. one-sided) mortise and tenons. With only a shoulder to cut on one side there is less risk of finishing the job with gaping joints. Mark out the parts to length, but do not cut the legs yet. Mark the positions of the shoulders with knife cuts A. Use the actual wood to mark the positions on the legs and number each one B. Set a mortise gauge first to the width of the chisel that will be used for chopping out. Do this rather than work to a rule. Gauge the widths of the mortises on the



Some of the waste may be drilled out of the mortises, then the balance chopped out. Cut the full-depth mortises before the shallow ones E. They may be sawn from the end and pared out. Do not be tempted to try tenons in mortises too frequently. This will soon loosen a joint. A skilled craftsman does not make any trial assembly, but if any trial is needed, do not force the joints tight.

For some places it may be satisfactory to leave the legs parallel, but the appearance of the table will be lightened considerably if they are tapered. Cut the bottoms of the legs to length, then mark out two opposite sides and plane the tapers F. Mark the same tapers the other way, then plane them. Give the bottom a slight bevel all round so that there is no rough edge to damage floor coverings.

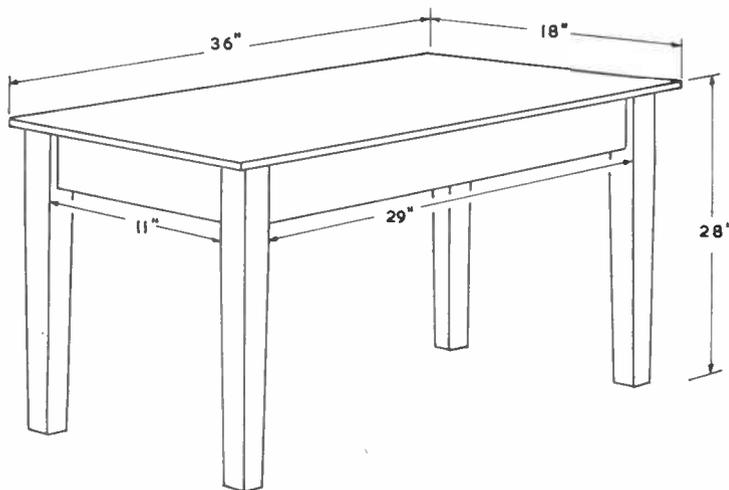
If the top is to be built up from solid wood strips glued together, provision has to be made for expansion and contraction in the wood. This is done by fixing with screwed buttons G, and the

framing should be prepared for them by ploughing a groove before assembly. If the top is to be blockboard or plywood, there is no need for this and the top can be fixed by screwing directly — the method being called 'pocket screwing' H. Prepare the parts for this before assembly.

Assemble in three stages

It is wisest to assemble in three stages, letting the glue set between each. How the work is done depends on the availability of sash cramps. Work on a flat surface — there are two things to guard against: lack of squareness and twist. Make up one side and pull the joints tight with one or two sash cramps. If there are no cramps, fix blocks to the table and use folding wedges I. A large try square is useful for checking squareness, but this is more positively checked by using a strip of wood to compare diagonals J. Make up the opposite side in the same way and check it on top of the first, letting the mortises face each other, so that the legs will be in the same relation to each other as they will be in the finished table.

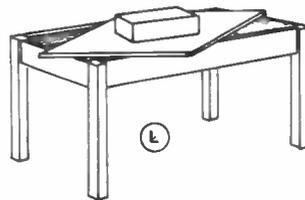
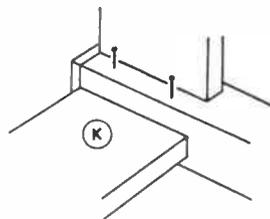
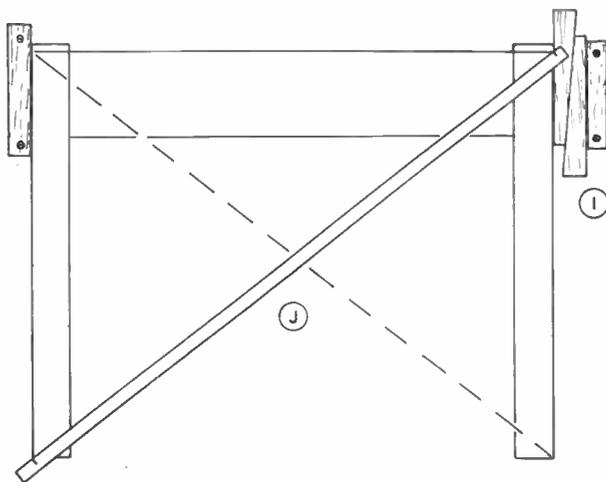
If there is any tendency to twist, use weights to hold down the legs. If there is only one cramp and it has to be removed, fix the joints with panel pins before relaxing the pressure K. When the glue



the underside and paint it black M. With a nicely veneered top this gives a modern appearance, but its acceptance is probably a concession to mass-production. The more traditionally-sound way of dealing with the unattractive edge is to edge it with solid wood.

A direct glued joint on the edge is not very safe, due to the differences in grain. It is better to use a tongue and groove N.

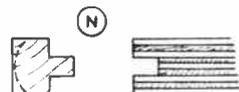
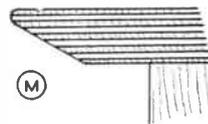
It is usual to depend only on screws for fixing the top, but glue may also be used if desired. The finish may be as preferred, but the traditional finish for oak is wax, after staining, if the colour is to be changed.



has set, clean out any hard lumps which might interfere with the other tenons entering, then assemble the other way. This time check diagonals first in the new direction, then from leg to leg, and leave the structure standing on the legs, preferably under weights L. Cut the tops of the legs flush after the glue has set.

A solid wood top may have its edges rounded or moulded. A variety of finishes are possible with blockboard or plywood. A favourite commercial finish is to bevel

The groove may be made with a plough plane. To provide something to hold in the vice, the edging is best made on the side of a wide board, slightly thicker than the top. Cut the tongue by working each side with a fillister or rebate plane, or by passing over a small circular saw. Cut off the piece after the tongue is completed. Mitre the strips at the corners and glue them in place. Plane the strips to match the top and round or mould their outer edges.



Photographic gadget

A SPECIAL FILTER HOLDER

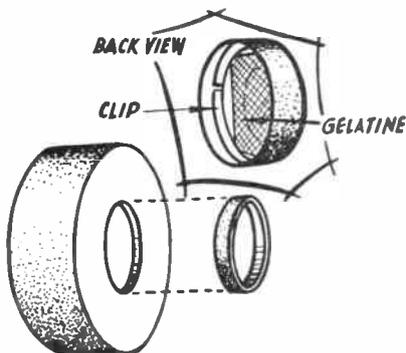
SOMETIMES a photographer wishes to take a special picture for which the very finest filter must be used, for example, when particular details of a multi-coloured object have to be very much enlarged and rendered conspicuous in the finished black and white print.

By C. O. Herd

No better filter can be obtained than a piece of photographic gelatine costing about 2/-, although the same kind of gelatine cemented between optical glasses and mounted for a lens holder would certainly cost several pounds.

The difficulty with sheet gelatine is that it is a very thin film, buckles easily and is very troublesome to keep flat and parallel to the camera lens. The ordinary filter holder is unsuitable for it.

This simple filter holder combined with lens hood enables the photographer to use sheet gelatine successfully. It is made from two round cardboard boxes, the larger about 2 in. in diameter and



about 1 in. deep; the smaller, just large enough to fit the lens mount of the camera. (A shallow pill box was found satisfactory.)

In the centre of the bottom of the larger box make a hole, the diameter of which is about $\frac{1}{16}$ in. smaller than the lens mount. Remove the bottom of the smaller box, and stick with glue the re-

maining cardboard ring on the outside of the bottom of the larger box, so as to form a flange or rim around the hole.

Gelatine filters are usually made in squares measuring 2 in. by 2 in. They are sold in packets, and protected by white folded paper and card. The four corners of the gelatine may be rounded with a pair of scissors (without taking it from its paper protector), so that it will fit loosely into the larger box. A strip of thin wood cut from a cheese or confectionery box of the round variety makes an admirable clip for holding the gelatine flat at the bottom of the box. The lids of both boxes may be used to protect the gelatine whilst the holder is not actually on the camera or in use.

When finished, the holder should be stained matt black to prevent reflected light passing through the lens.

After a photograph has been taken, the gelatine should be removed from the holder as soon as possible, replaced between folds of spotlessly clean paper, and, for preference, stored between the leaves of a book until needed again. With care it may be used repeatedly.

Rubber Band Pistol

FOR playing a game of cowboys and Indians, or for just plain target practice, a rubber band pistol is ideal for a youngster. Furthermore, the little weapon is quite safe, as only thin rubber bands are used as ammunition. Form the handle of the gun from a waste piece of $1\frac{1}{2}$ in. by $\frac{3}{4}$ in. timber. Use a saw to trim a 4 in. length of the wood to resemble the shape of the handle shown in the drawing. Make the rough edges smooth with glasspaper.

The 'barrel' is made from a 9 in. length of $\frac{3}{8}$ in. diameter dowel. Make a $\frac{3}{4}$ in. long slot right through the barrel, beginning 7 in. from the front end. This can easily be done by boring a series of small holes and, using a penknife and a strip of emery cloth, extend them to make a straight slot $\frac{1}{10}$ in. wide. The slot will serve as the trigger mount. Bore a $\frac{1}{8}$ in. diameter hole in the dowel, horizontally across the middle of the slot, into which a small paper fastener can be inserted. In the front edge of the handle, near the top, bore a $\frac{3}{4}$ in. deep hole, slightly less in diameter than the barrel. Insert the barrel securely into the handle.

Cut out the trigger, as illustrated, from

a strip of metal, and mount it upon the barrel, using a paper fastener as a pivot. At this stage, file a slight horizontal groove in the end of the barrel, in order to provide a hitching point for the rubber band missiles.

Obtain a short strong rubber band and use it to hold the lower part of the trigger in a forward pointing position as follows:

Catch the short band in the notch of the trigger and fix the band to the dowel, in front, using a drawing pin. It is important that considerable tension be

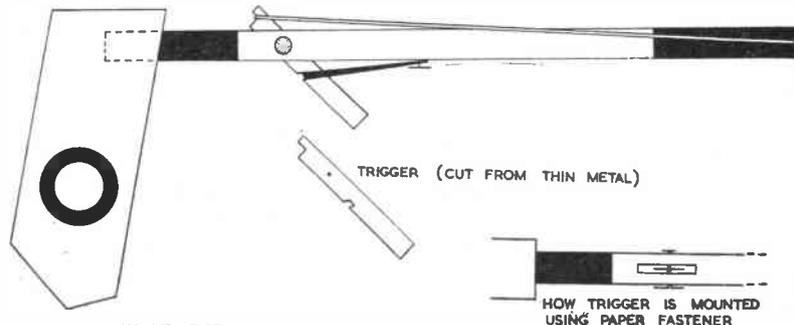
maintained on the lower part of the trigger.

Load the pistol by hitching a thin rubber band between the top of the

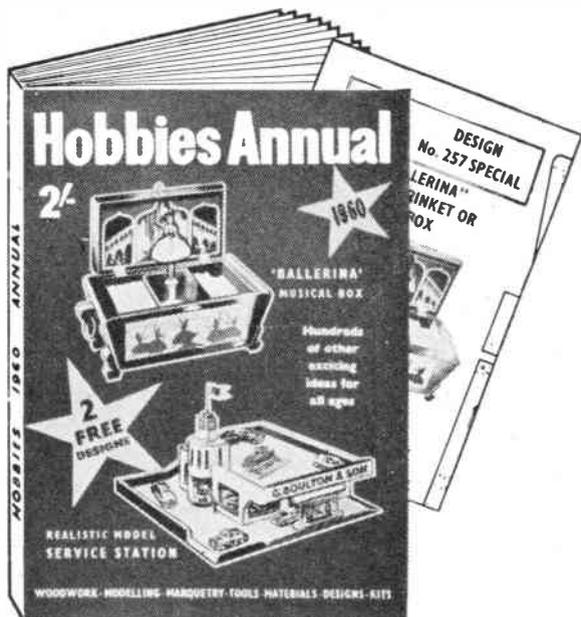
By A. E. Ward

trigger and the notch in the end of the barrel. Aim at a point across the room and pull the trigger. The missile will travel, with surprising accuracy, towards its target.

If the pistol is painted in bright colours its attractiveness is greatly increased.



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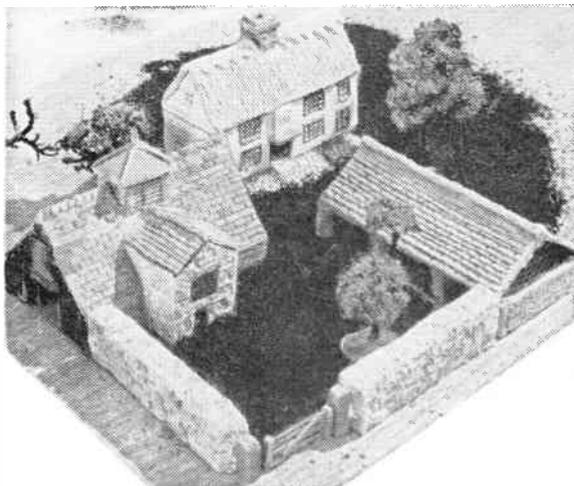
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By K. Finlay

WHEN the housewife is hanging out her washing she always likes to have her clothes pegs kept clean in a suitable receptacle and also near at hand.

The peg holder illustrated is just ideal for this purpose. It is provided with a carrying handle and is designed to hook on to the washing line so that both hands are kept free when hanging out or collecting the clothes.

The construction is very simple. Start by cutting out the two shaped ends from $\frac{1}{2}$ in. plywood. The best way to do this is to make two paper patterns and paste these to the plywood. Use a fretsaw to cut the ends to the required shape shown in Fig. 1. Smooth off the edges with glasspaper.

The carrying handle is made from $\frac{3}{8}$ in. diameter dowelling rod $9\frac{1}{2}$ in. long. The handle should be sunk halfway into the two ends so that the total length is 10 in.

Cover with slats

If desired, the outer cladding to the holder may be made from thin plywood but a better and more effective way is to use 1 in. wide slats made from $\frac{3}{8}$ in. thick timber. To obtain a more pleasing finish, the joints between the slats should be finished off in one of the ways illustrated in Fig. 2. When fitting these slats make sure that they fit accurately against

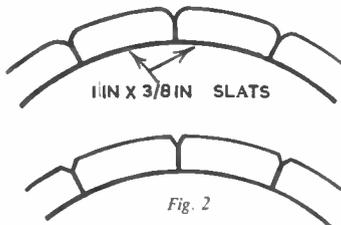


Fig. 2

one another, which means that their edges must be bevelled off a little. Assemble with a strong synthetic glue and panel pins and apply a coat of hard wearing enamel.

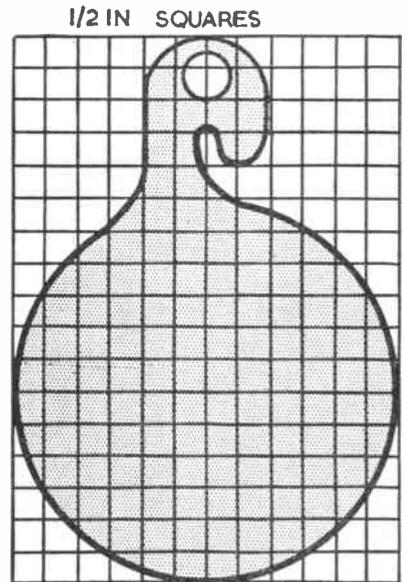
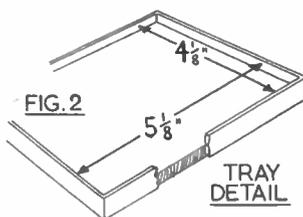
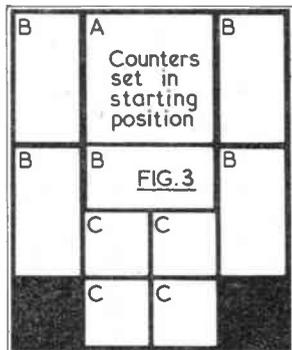


Fig. 1

Moving the Large Square

A		Cutting counters from 2" strip
B	B	
B	B	
B	FIG. 1	
B	B	
C	C	C
C	C	



THIS puzzle can be done. You may think otherwise after fifteen minutes struggle with it. On the other hand, if you like a challenge — here is one.

Keep a record of the number of moves you make in completing the puzzle. You may better the 95 moves which at present has been found to be the minimum.

Constructing the puzzle is simplicity itself. It consists of rectangular and square shaped counters cut from 3-ply wood or thick cardboard and a playing tray of $\frac{3}{8}$ in. plywood with retaining side strips made of cardboard.

There are three sizes of counter, viz: (A) one of 2 ins. by 2 ins.; (B) 5 of 2 ins. by 1 in. As shown in Fig. 1, they can all be made from an off-cut of three-ply wood, 2 ins. wide by $9\frac{1}{2}$ ins. long.

The playing tray has a base of $\frac{3}{8}$ in. thick plywood, cut $5\frac{1}{8}$ ins. by $4\frac{1}{8}$ ins. The sides are surrounded with cardboard, $\frac{3}{8}$ in. wide and glued in place as shown in Fig. 2.

The counters are placed in the tray in the starting position shown in Fig. 3. Note that there are two blank spaces, one on each side of the lower (C) squares.

The game is to endeavour to move the large square counter (A) down to the square occupied by the four small squares (C).

The counters (B) must not be twisted round, but they should be kept in their original position, that is to say, four in an upright position and one in a horizontal position.

This puzzle, made carefully, the counters gaily covered and the whole packed in a gift box would make a very acceptable present for a friend.

(E.C.)

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ADDING LIVESTOCK



difficult to resist the temptation. Let any feeding be limited to no more than one pinch of dried shrimp or dried daphnia per day. Alternate with a pinch of Bemax about twice a week. If offered at the same spot and time of day, or a small bell rung, the fish will soon get to know what is expected of them. Training fish in this way to take an occasional small earth worm from the fingers is one of the pond-owner's legitimate pleasures, but he should take care not to overdo it. Overfeeding, more than underfeeding, kills fish, and left to their own devices, it is almost impossible for fish to starve to death.

Much natural food comes to fish in the way of insects which appear in the pool as if by magic within a very short time of the pool being completed. Only two of them are offensive, the tiny black wriggling larvae that hangs at the surface undisturbed, and will eventually hatch out into gnats and mosquitos.

Other insects, which are almost certain to appear are water beetles, drone flies, dragonflies and the fragile looking, $\frac{1}{2}$ in. Pond Measurer, which sculls about on top of the water, snapping up microscopic insects and food particles. With one exception, these creatures are completely harmless both to fish and humans. The exception is the very large ($1\frac{1}{2}$ in.) black water beetle, which is capable of killing fish, and should be removed immediately.

A humble, but very necessary inhabitant of the pool is the water snail, provided it is the right sort. The large type with the long pointed shell is a voracious brute with a taste for water

plants, and he should be removed. The Ramshorn Snail, *planorbis corneus*, which has a flat, coiled shell is, by contrast, a creature that no pond should be without. It is not interested in healthy plants, but obligingly disposes of any decaying matter, animal or vegetable, that comes its way, and thus helps to prevent any unpleasantness developing in the water. One or two dozen of these pleasant scavengers should be on the strength of every garden pool.

The freshwater Mussel (*anodonta*) is another useful mollusc that helps to keep the pool hygienic, but it is happy only where it has a soil layer of several inches in which to burrow.

Summer visitors may include frogs and newts who must resort to water during their breeding season. They are harmless enough and indeed, do much useful work in disposing of slugs, flies and similar undesirables surrounding the pool. Their tadpoles are even more useful, as they live on the green surface growth of algae, and will consume quantities of this just when suppression is needed. No fear need be entertained of a plague of frogs — once out of the pool they disperse and vanish. The fish gradually dispose of the tadpoles.

All these aquatic creatures simply happen, except the fish, mussels and desirable snails which must, of course, be introduced. The molluscs can go in with the plants, but it is best to wait a month, or even a season, before adding the fish, so that the plants have a fair chance to become established.

Fish will breed every year, usually in late May, but the proportion of small fry that will survive being eaten by adult fish is very small. However, if you have a small sheet of galvanized metal ready and watch for when a shoal of small fry head for a corner of the pool, trap them by placing the galvanized sheet across the corner. You will then, perhaps, save a couple of dozen. They will live on the algae floating on the surface, and when about $\frac{1}{2}$ in. long, can be released to live quite safely with the larger fish.

THERE seems to be doubt in the minds of many pond owners as to whether they can, or should keep fish and whether their water plants will suffer if they do. They need have no fears. Fish are not only permissible but desirable members of the pool community and for the sake of their beauty and grace of movement they can be forgiven an occasional pull at the oxygenating plants.

Visible attractiveness is the most desirable quality of pond fish, apart, of course, from hardiness and healthy constitution. The common goldfish certainly has the virtue of colour but it is, however, inclined to laziness, and like all members of the carp family, is much given to poking about on the bottom and stirring up the mud. This is the main cause of cloudiness in pond water.

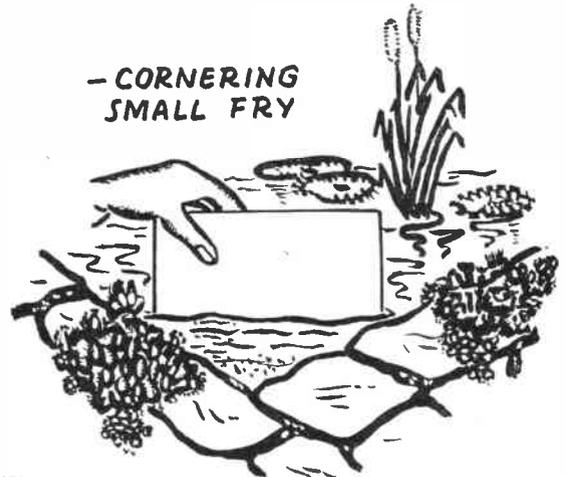
Because of this, the Golden Orfe is a much more desirable pond fish. It is a colourful creature with a gleaming bright orange back and yellowish gold undersides. It is more slender than the goldfish and much more active. It is a surface, more than a bottom, feeder and loves to dart around in shoals among the aquatic plants.

Forget the idea of stocking with any of our native fish. More often than not they will be invisible and often they are unhealthy.

The number of fish required is difficult to specify. It is best to commence with a modest half dozen in a small pool or twelve in a large pool. Overcrowding, which leads to disease, will then be avoided, and the fish given plenty of space to develop on the food they will find in abundance in any pool adequately stocked with plants.

It is quite unnecessary to feed fish in these conditions, but it is, of course,

-CORNERING SMALL FRY



TEAPOT STAND WITH STAG'S HEAD

CUT the shape from $\frac{1}{4}$ in. plywood, using a fine-grade fretsaw blade, and clean up with glasspaper. Give one or two coats of heat resisting varnish and cover the back with a piece of material. (M.p.)



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