

Hobbies

WEEKLY

VOL. 114

NUMBER 2950

Design Sheet for
a Grand
Pull-along Toy
FREE INSIDE

Protect your seed beds with this

MECHANICAL BIRD SCARER

SEED sowing began in earnest in April, and will continue throughout the summer until the last sowings of lettuces and annual flowers for standing the winter. This is usually in August or early September. Birds are often troublesome at these times, especially in towns, where sparrows seem to delight in destroying young seedlings. Crocus, polyanthus, garden peas, lettuces, chrysanthemums and all kinds of fruit suffer from their ravages.

If you are troubled in this way perhaps you would like to make a bird scarer of the type shown in our illustration. Whilst the noise effectively scares away the birds, it has a novel mechanical movement consisting of a much perturbed motorist cranking up his ancient car. The car acts as a wind-vane, swinging the revolving sails dead into the wind. The faster the sails revolve the harder the little man works.

General Measurements

Much will depend upon the material available, but we have indicated main measurements in the sketches and also in detail in the diagrams of the revolving sails. It is not strictly necessary to stick to these measurements shown if you bear in mind the working principle of the scarer.

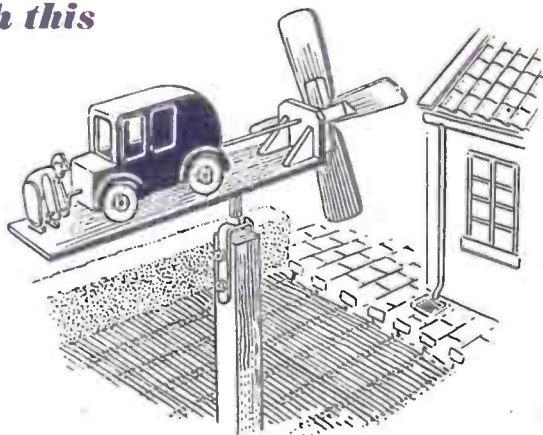
The sketch in Fig. 1 shows a side

—You'll get a lot of amusement, too, watching the unfortunate 'motorist' at work!

view with the sails omitted. The platform on which the car rests should be about 6½ ins. to 8 ins. wide and ½ in. to 1 in. thick. It has two mortises cut at one end to take the little man. These will measure 1½ ins. long and their width and distance apart will depend upon the thickness of material used for the man. The end piece is of similar thickness and is strengthened by two triangular pieces as shown. These should be screwed both to the end piece and the platform.

The Car

Any shape will do for this, so if you cannot reproduce our drawing exactly, you need not worry. The only thing that matters is that the holes for the spindle must be in line. The hole in the back upright can be enlarged so that the spindle does not touch.



Fill in the contour of the back of the car with a piece of tin or stout cardboard pinned in place. The sides, floor, etc., are all cut from ½ in. wood or plywood. If plywood is used it should be well painted both inside and out, or the weather will cause the veneers to part.

The Wheels

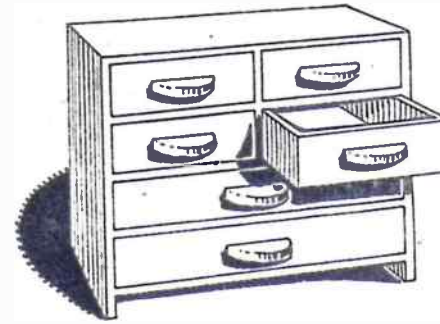
The wheels which are 4 ins. in diameter are cut from ½ in. thick wood and are screwed firmly to two ½ in. square axles. Alternatively two wire nails could be used to hold each wheel. Do not allow them to revolve or you will experience difficulty in fixing them to the platform. The mudguards are marked out at the same time as the wheels and are cut from the same material and pinned in place after the wheels have been fixed. Before fixing to the platform be sure that the wire

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

4^D

THE MAGAZINE FOR MODELLERS,
HANDYMEN AND HOME CRAFTSMEN

You can make A Useful Cabinet for Nails and Screws



are 4½ ins. wide, the full width of the top, and that the back goes in between the sides.

When marking out the sides, set out also the position of the four shelves as indicated in Fig. 1. Draw the lines of these shelves ½ in. apart, then drill holes centrally between the lines for the screws used for fastening. Fix the top to the sides by glue and screws, and then fit and glue in the back.

The Shelves

Next cut the shelves, making sure that they are true to size so that they fit snugly between the sides. Put some fretpins or screws through the back of the cabinet and into the shelves. The two cross partitions are then cut and

CUTTING LIST	
Side (2)	—7½ ins. by 4½ ins.
Top (1)	—9 ins. by 4½ ins.
Back (1)	—8 ins. by 7½ ins.
Shelves (4)	—8 ins. by 4½ ins.
Cross Partitions (2)	—4½ ins. by 1½ ins.
Small Drawers	
Sides (8)	—4½ ins. by 1½ ins.
Front and Back (8)	—3½ ins. by 1½ ins.
Floor (4)	—4½ ins. by 4½ ins.
Main Front (4)	—4½ ins. by 1½ ins.
Large Drawers	
Sides (4)	—4½ ins. by 1½ ins.
Front and Back (4)	—8 ins. by 1½ ins.
Floor (2)	—8 ins. by 4½ ins.
Main Front (2)	—8 ins. by 1½ ins.
Handles (6)	—1½ ins. by 1 in.
Note:—Sizes of pieces forming drawers allow for cleaning off and fitting.	

is cut to the exact size of the openings in the cabinet front. Glue the main front to the inner one and put in two screws from the back to make all secure.

It may be found that the drawers will not

SHOWN on this page is a useful type of cabinet for keeping nails and screws. It is made in the form of a miniature chest of drawers, there being four small drawers for the finer kinds of fretnails and tiny screws, and two larger ones for wire nails of various sizes and the coarser kinds of screws.

As Fig. 1 shows, the length of the cabinet is 9 ins. and its height 7½ ins., while the depth from front to back is 4½ ins., which gives ample space for well stocked drawers. Wood ½ in. thick is suggested for the sides, top and back,

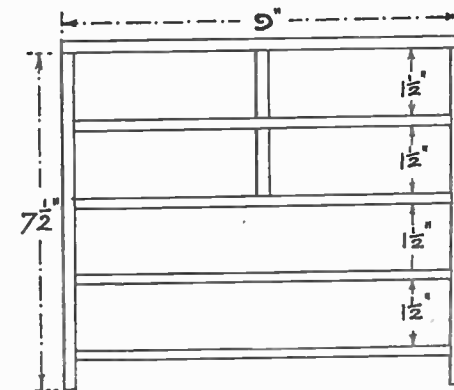


Fig. 1—Details of the dimensions

the shelves and two cross partitions, being of ½ in. wood.

The drawers themselves are of ½ in. wood and very strongly made to take the weighty contents. As it is necessary to have the several parts cut accurately, a try square should be used where possible, both for drawing out the parts on to the wood and for checking during assembly.

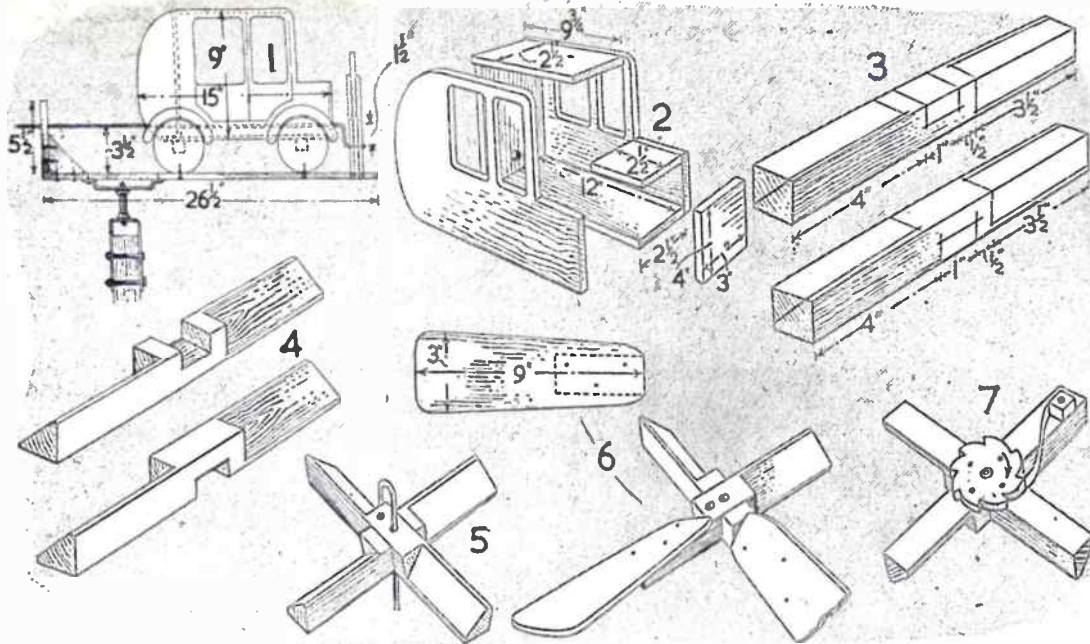
Handy List

The cutting list included will be found useful, and the worker should follow this carefully, cutting out all the pieces ready for assembly. Start by cutting the ends of the cabinet, then the top and the back. Note that the ends

glued into place, care being taken to get them centrally between the ends of the cabinet.

The four top drawers are now made. Cut all the pieces for them and glue and pin them firmly together in the form shown in Fig. 3. Note that the sides run the whole width of the floor and that the joint between the inner front is finally hidden by the main front which

If you enjoy Hobbies Weekly, so would your friends. Pass on the good news.



spindle will revolve quite freely in the holes provided. Once you are satisfied that the spindle will work properly you can screw the wheels firmly to the platform. The position of these screws is shown in the sketch Fig. 1.

The Sails

The main difficulty with these is to mark them out properly so that the blades have the proper twist. To help you in this we have shown them in detail. Procure two pieces of 1 in. square wood 9 ins. long and mark them out as shown in Fig. 3. These are identical except for the pieces which are cut out at the centre where they are halved together. Fig. 4 shows clearly the wood that has been cut away. The waste wood is removed by first cutting with a tenon saw and then paring away with a broad chisel.

There are two holes, shown slightly enlarged, the centre one to take the spindle and the other to take the end of the spindle after it has been bent round. This is indicated in the diagram Fig. 5. The diameter of the holes should be slightly smaller than the spindle so that it is secure when the bent portion is pushed home. The spindle itself should be about ½ in. thick, preferably galvanized.

Making the Blades

Cut out four pieces to the approximate shape shown in Fig. 6. The material should be hardwood about ½ in. to ¾ in. thick. An alternative is to

use pieces of tin or, better still, sheet aluminium, if obtainable. Fix securely by means of small screws.

Turn your attention now to the ratchet that produces the noise. Cut a

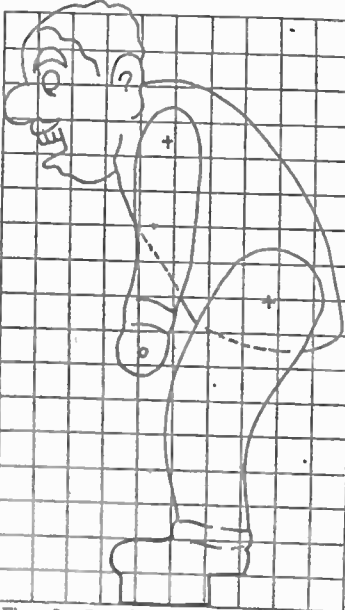


Fig. 8—Details of the figure. The squares are ½ in.

circle of about 3 ins. diameter from a piece of ½ in. wood. Draw in the cogs with a pencil and cut them out with a fretsaw. The shape of the cogs should be such that the spring will slide gently up the longer curved slope and then drop off the end with a snap. The diagram in Fig. 7 shows the spring just about to drop off the end of a cog. A piece of springy metal should be used and is fixed to a small block by means of a screw. The block is in turn screwed to the sail supports as shown.

A piece of thin wood could be used in place of the spring, but in this case the supporting block must be screwed on at an angle because the wood cannot be bent to the shape of the spring.

Another suggestion is to fix a small bell to the forward end of the platform in such a position that the sails just touch it as they come past. The type of bell we have in mind is sold to anglers, who fix them to their rods when sea fishing. The bell is mounted on a spiral spring and has only to be touched slightly to ring.

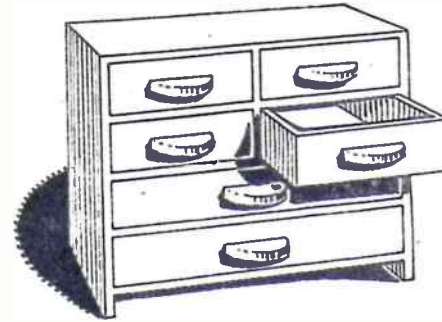
The Figure

Cut the figure of the man from ½ in. wood. The shapes shown in Fig. 8 must be drawn carefully on to the wood, remembering to make two arms and two legs.

To help you to draw out the shapes we have shown squares which should be enlarged to ½ in. It will then be a simple

(Continued on page 100)

You can make A Useful Cabinet for Nails and Screws



are 4½ ins. wide, the full width of the top, and that the back goes in between the sides.

When marking out the sides, set out also the position of the four shelves as indicated in Fig. 1. Draw the lines of these shelves ½ in. apart, then drill holes centrally between the lines for the screws used for fastening. Fix the top to the sides by glue and screws, and then fit and glue in the back.

The Shelves

Next cut the shelves, making sure that they are true to size so that they fit snugly between the sides. Put some fretpins or screws through the back of the cabinet and into the shelves. The two cross partitions are then cut and

CUTTING LIST	
Sides (2)	7½ ins. by 4½ ins.
Top (1)	9 ins. by 4½ ins.
Back (1)	8½ ins. by 7½ ins.
Shelves (4)	8½ ins. by 4½ ins.
Cross Partitions (2)	4½ ins. by 1½ ins.
Small Drawers	
Sides (8)	4½ ins. by 1½ ins.
Front and Back (8)	3½ ins. by 1½ ins.
Floor (4)	4½ ins. by 4½ ins.
Main Front (4)	4½ ins. by 1½ ins.
Large Drawers	
Sides (4)	4½ ins. by 1½ ins.
Front and Back (4)	8 ins. by 1½ ins.
Floor (2)	8½ ins. by 4½ ins.
Main Front (2)	8½ ins. by 1½ ins.
Handles (6)	1½ ins. by 1½ ins.
Note:—Sizes of pieces forming drawers allow for cleaning off and fitting.	

is cut to the exact size of the openings in the cabinet front. Glue the main front to the inner one and put in two screws from the back to make all secure.

It may be found that the drawers will not

SHOWN on this page is a useful type of cabinet for keeping nails and screws. It is made in the form of a miniature chest of drawers, there being four small drawers for the finer kinds of fretnails and tiny screws, and two larger ones for wire nails of various sizes and the coarser kinds of screws.

As Fig. 1 shows, the length of the cabinet is 9 ins. and its height 7½ ins., while the depth from front to back is 4½ ins., which gives ample space for well stocked drawers. Wood ½ in. thick is suggested for the sides, top and back,

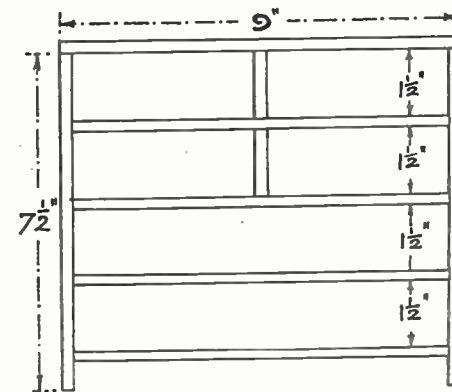


Fig. 1—Details of the dimensions

the shelves and two cross partitions, being of ½ in. wood.

The drawers themselves are of ½ in. wood and very strongly made to take the weighty contents. As it is necessary to have the several parts cut accurately, a try square should be used where possible, both for drawing out the parts on to the wood and for checking during assembly.

Handy List

The cutting list included will be found useful, and the worker should follow this carefully, cutting out all the pieces ready for assembly. Start by cutting the ends of the cabinet, then the top and the back. Note that the ends

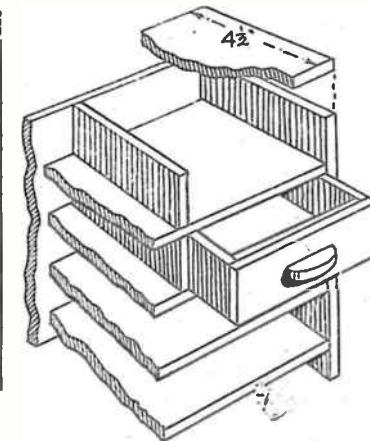


Fig. 2—A view showing construction

glued into place, care being taken to get them centrally between the ends of the cabinet.

The four top drawers are now made. Cut all the pieces for them and glue and pin them firmly together in the form shown in Fig. 3. Note that the sides run the whole width of the floor and that the joint between the inner front is finally hidden by the main front which

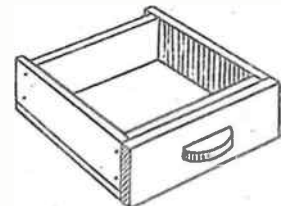


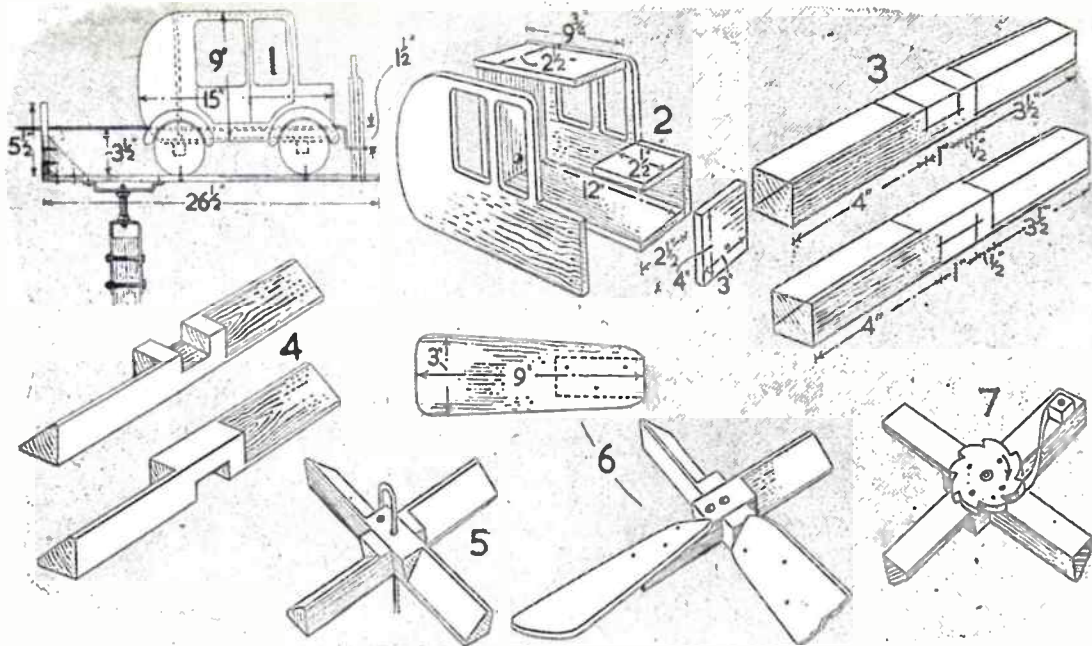
Fig. 3—How the drawers are assembled

fit their openings at first, but glass papering on coarse paper will soon rub down the sides and top, resulting in a perfect fit. Note that the back of each drawer is carried about an ½ in. inside the sides. This is to give strength to the nails so that they will not pull out easily on the removal of the drawer.

Lower Drawers

The two lower drawers are made up similarly to the upper ones and all are finally provided with a handle consisting of a piece of ½ in. wood, shaped as shown, and glued and pinned or screwed through from the back.

The finished cabinet should be cleaned with fine glasspaper and given a coat of clear varnish. The insides of the drawers need not be so treated. (370)



spindle will revolve quite freely in the holes provided. Once you are satisfied that the spindle will work properly you can screw the wheels firmly to the platform. The position of these screws is shown in the sketch Fig. 1.

The Sails

The main difficulty with these is to mark them out properly so that the blades have the proper twist. To help you in this we have shown them in detail. Procure two pieces of 1 in. square wood 9 ins. long and mark them out as shown in Fig. 3. These are identical except for the pieces which are cut out at the centre where they are halved together. Fig. 4 shows clearly the wood that has been cut away. The waste wood is removed by first cutting with a tenon saw and then paring away with a broad chisel.

There are two holes, shown slightly enlarged, the centre one to take the spindle and the other to take the end of the spindle after it has been bent round. This is indicated in the diagram Fig. 5. The diameter of the holes should be slightly smaller than the spindle so that it is secure when the bent portion is pushed home. The spindle itself should be about ½ in. thick, preferably galvanized.

Making the Blades

Cut out four pieces to the approximate shape shown in Fig. 6. The material should be hardwood about ½ in. to ¾ in. thick. An alternative is to

use pieces of tin or, better still, sheet aluminium, if obtainable. Fix securely by means of small screws.

Turn your attention now to the ratchet that produces the noise. Cut a

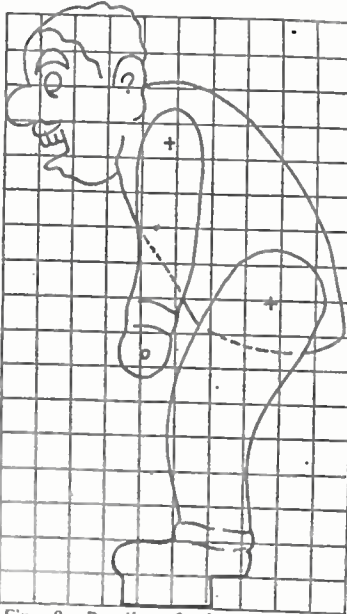


Fig. 8—Details of the figure. The squares are ¼ in.

circle of about 3 ins. diameter from a piece of ½ in. wood. Draw in the cogs with a pencil and cut them out with a fretsaw. The shape of the cogs should be such that the spring will slide gently up the longer curved slope and then drop off the end with a snap. The diagram in Fig. 7 shows the spring just about to drop off the end of a cog. A piece of springy metal should be used and is fixed to a small block by means of a screw. The block is in turn screwed to the sail supports as shown.

A piece of thin wood could be used in place of the spring, but in this case the supporting block must be screwed on at an angle because the wood cannot be bent to the shape of the spring.

Another suggestion is to fix a small bell to the forward end of the sail platform in such a position that the sails just touch it as they come past. The type of bell we have in mind is sold to anglers, who fix them to their rods when sea fishing. The bell is mounted on a spiral spring and has only to be touched slightly to ring.

The Figure

Cut the figure of the man from ½ in. wood. The shapes shown in Fig. 8 must be drawn carefully on to the wood, remembering to make two arms and two legs.

To help you to draw out the shapes we have shown squares which should be enlarged to ½ in. It will then be a simple

(Continued on page 100)



REPLIES OF INTEREST

Treating Scratched Cellulose

WOULD you be so good as to help me regarding a very bad scratch on the head of a bed? The suite is cellulose finish and though I believe it is not possible to eradicate the scratch entirely, is there a way of making it less noticeable? (E.C.M.—High Wycombe).

If the scratch shows white—a sign that it has penetrated to the wood—go over it with a suitably coloured stain, in water or spirit. These stains can be obtained in powder form from most oil shops, soluble in water or methylated spirit; you must state which. When dry, coat the scratched areas with clear cellulose. This is applied with a small brush, but not as a varnish; instead it is flowed on as it were, in one stroke as the brush must not cover an area twice. This should render the scratch quite inconspicuous.

Incubator Problems

I SHALL be glad of some details regarding the incubator whose construction was described in *Hobbies Weekly* earlier. Could the lamp be made at home? Would an ordinary household thermometer do, and where does one get a capsule? Are the felts put in dry, and would ordinary perforated zinc do for the wire gauze? (E.J.E.—N.19).

The lamp can be made at home by purchasing a burner, $\frac{1}{2}$ in. wick, and soldering it to an oil container of tinplate. It is usual to buy the special thermometer as it is easier to read. The

bottom of the heater is open, and is usually furnished with a sliding sleeve, which covers the lamp beneath. The capsule is the ordinary pattern and can be bought, with other accessories from the address mentioned later. The felts are inserted dry, any necessary humidity is supplied by a saucer of water in the incubator. Perforated zinc might serve in lieu of the wire gauze if the latter is difficult to obtain. As some of the accessories, the heater for example, are rather expensive, it will be economical to make them whenever possible, but the heater, rather a complicated piece of work, is better purchased. Parts can be bought from S.P.B.A. Supplies Ltd., Wigton House, 206 St. John Street, London, E.C.1. Purchase what is necessary, and adapt them as may be best, before making the incubator.

Suitable Cement

I HAVE to fasten wire hinges into I concealed holes and can find no suitable cement. I am unable to screw them in and am wondering if hot resin would be suitable, if so how do I do this? I would also like to know how the driving wheel of a belt sander grips the belt, is it a rough surface for the drive? (D.K.—Haxley).

A PASTE made of white of egg and lime makes a good cement for the purpose you require, or you could use a good proprietary preparation such as Durofix (which withstands hot water)

or Bostick or Acrabond. These are very convenient in use and inexpensive.

The belt on a sander grips the wheel by friction, but the surface is not roughened—it drives in the same way as any other belt-driven device.

Additional Valve

COULD you give me details of a circuit for adding a second valve to a one-valve all-dry? (E.B.—Perth).

YOU should wire the primary of an intervalve coupling transformer (ratio about 1:3 or 1:5) to the points where your phones are at present connected. Take the secondary to grid bias negative and the grid socket of a further valve-holder. Connect filament sockets of the new holder to those on the existing holder, and take G.B. positive to H.T. negative. Wire phones or speaker from the anode socket of the new valve to H.T. positive; also connect screen-grid socket to H.T. positive. Adjust the bias to the voltage giving best results. If you wish to use phones, a valve such as the 1T4 can be used. For speaker, a small output valve such as the 1S4 (for 1.4 V. low tension battery) is necessary. Tone may be mellowed by wiring a .01 condenser across the speaker terminals.

Magnet Coils

WITH regard to the *Erratic Boat Game*, how many turns of 28 D.C.C. are to be wound on to the coils? (J.R.—Jarrow).

PUT on as many turns as the solenoids (or coils) will hold, i.e., stop winding when the wire is flush with the circular ends, but make sure there is no danger of the turns slipping off over the ends.

The exact size of these pieces of metal is not critical.

Other methods of fixing will, no doubt, suggest themselves to the worker, but we recommend the method shown as being the usual for this type of novelty. Remember to treat the post with creosote before inserting in the ground.

The end supporting the car will, inevitably, be a little heavy, and if this affects the working of the swivel, scrap lead or other metal can be fixed between the triangular supports to balance. Anything such as a paper weight, or several nuts dropped in position will do. Keep the hub oiled regularly and the bird scarer will work satisfactorily for years. (379)

MECHANICAL BIRD SCARER

(Continued from page 98)

matter to sketch the outline. If you do not feel like tackling this job you should send 1/3 to cover cost and postage, and the Editor will send you a full size drawing of the man and the cog wheel.

Assembling

Bend the crank on the wire spindle and after fixing the two legs in their slots, pass the spindle first through the car and then through the support at the other end. Put the arms of the man on the crank and pivot them by means of screws on to the body.

Pass a couple of washers on to the spindle, and then put on the sails. Push the crank up into the car and bend

the other end of the spindle to fit into the sails. Push home as far as it will go. By pushing this home the crank will go back into the approximate position shown in Fig. 1.

Now for fixing the assembly to the post. Use a fairly stout post, about 2ins. square or even stouter if the scarer is to be higher than 6ft.

The easiest method of swivelling is to use a hub from a front wheel of an old bicycle. There will be two cones and nuts so that the parts can be firmly fixed. Pieces of mild steel about $\frac{1}{16}$ in. to $\frac{1}{8}$ ins. wide should be bent as shown in Fig. 1, and holes are bored in the appropriate places to allow for fixing.

Make the kiddies this PULL-ALONG TUG & BARGE

THE toy tug and barge illustrated constitute quite a novelty in pull-along toys, as the rollers on which they operate are almost hidden from view. In fact, looking at the toy from above, the rollers are quite invisible. Nevertheless, both parts of the toy run easily, even on a rough surface such as that provided by a carpet.

By dispensing with the usual unsightly outside wheels and concealing the rollers, the designer has been able to adhere sufficiently strictly to the true outlines of the prototypes, and this point will make the toy even more welcome to discerning youngsters.

Straightforward Construction

Construction is straightforward enough, and will present no difficulty to anyone with a fretsaw. The pieces are numbered in order of assembly, and the wood used throughout is $\frac{1}{4}$ in. and $\frac{1}{2}$ in. Begin by tracing the parts off on to the required wood, cut the pieces out, then clean them up.

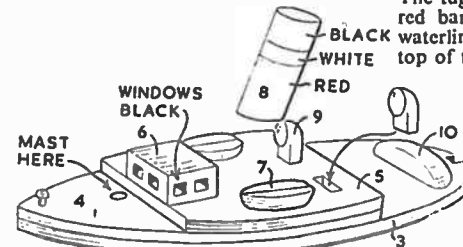
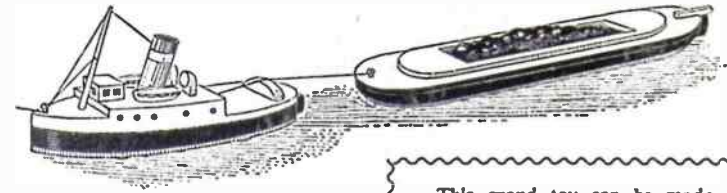


Fig. 1—Details of the superstructure of the tug

Assemble the tug first. Glue pieces 1, 2 and 3 together to form the hull, and then add the superstructure in the order shown in the side view and plan on the design sheet and in Fig. 1. The pieces of the superstructure itself are simple enough to shape, and as all necessary instructions are on the design sheet, no further mention need be made of them here.

Fig. 2 shows the hull without the upper deck, so that the worker can see how the rollers are fixed. The rollers should not, of course, be fixed before the upper deck parts are in position, and, in fact, they can quite well be left until last, when all the painting and finishing has been completed.

For the barge, the pieces 13, 14, 15, 16 and 17 are required. These are all shown quite clearly in the side view and plan on the design sheet and in Fig. 3, and their assembly needs no explanation.



It will be noticed that the pieces 17 hide the rollers from view, and complete the formation of a life-like hold in the barge, making it suitable for carrying the 'cargoes' which will, inevitably, be consigned to it by its small owner.

When all the gluing has been completed, and the tug and barge have been cleaned up, they should be painted with a good quality enamel. Any colour scheme can be used, dependent on the choice of the worker, but the colours should be as bright as possible. To make the models look quite life-like, the following colour scheme is suitable. The tug should have black sides with a red band on the base to indicate the waterline, and a white strip around the top of the deck and superstructure. On

This grand toy can be made easily with the aid of this week's free Design Sheet, No. 2950. A kit of materials, containing all necessary wood, etc., can be obtained from any Hobbies Branch or post free from Hobbies Ltd., Dereham, Norfolk, price 4/8, including tax.

one is red from the deck to about two-thirds of its height, followed by a white band about $\frac{1}{4}$ in. wide and finishing with a black band of roughly the same width.

The barge sides should be treated in much the same way as those of the tug, except that there is no white band. The deck should be cream and the hold

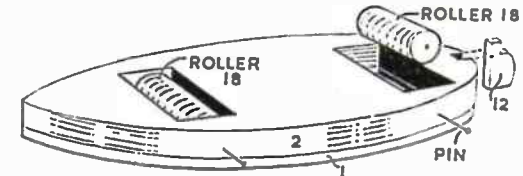


Fig. 2—How the rollers are fitted

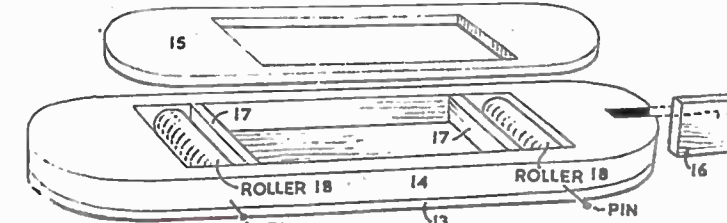


Fig. 3—Construction of the barge

this, black port-holes can be painted as seen in the finished drawing on the design sheet. The deck surface should be cream and the boats, wheelhouse and mast white. The ventilators and the towing hump at the rear of the barge should be painted the same colour as the deck. For the funnel, any colour scheme can be used, and a suggested

black. If these instructions seem at all difficult to follow, a glance at the finished drawing on the design sheet will show the worker what is implied.

When the paint is quite dry, the rollers can be fixed, and $\frac{1}{4}$ in. pins are used for this purpose. Bore holes in the

(Continued on page 102)

An easily made "Starlight" WATCH HOLDER

THIS is a bedside stand for a wristwatch. A touch of the finger operates the switch and the plastic 'star' glows with a soft light and illuminates the dial of the watch.

The 'electrics' of this novelty item are shown in Fig. 1. In the base is a battery and bulb, and over the normal bulb position a hole is drilled in the top, in which is mounted a short length of plastic rod surmounted by a star cut from transparent plastic material. The plastic rod itself is painted black. When the bulb is switched on, light travels up the plastic tube into the 'star' where it is diffused and emitted.

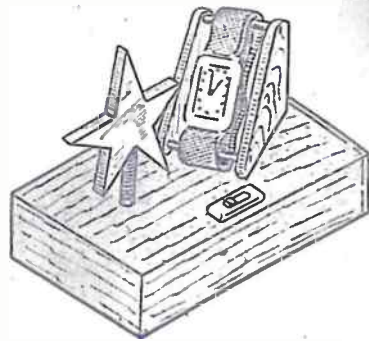
Easy Maintenance

To facilitate maintenance, the battery and bulb are mounted on a tray, which can be withdrawn. The switch is a permanent assembly on the top of the outer case and long leads are provided

battery rests between these, and a rubber band looped over these clips holds it in place.

The base itself is detailed in Fig. 3. This is made from $\frac{1}{4}$ in. wood throughout. The hole drilled in the top for the plastic rod corresponds to the bulb position with the tray fully closed. The tray should be a nice sliding fit in the base, with the vertical end of the tray coming flush with the open end of the base. A scrap of dowel glued to the tray end will act as a handle for opening the tray.

The cut-out for the switch is not shown on the drawing. The size of this will depend on the type of switch used. A miniature slide switch is best, fitted roughly in the middle of one side. The wiring can be added, the switch screwed in place and the drawer fully closed. You can then treat the whole assembly as a finished wood product, glass-



The plastic rod should be at least $\frac{3}{8}$ in. diameter, and preferably larger. It should be a push fit in the hole drilled in the top of the wood base, and it can also be cemented in place. The star is cut from transparent plastic sheet, although opaque plastic will also work quite well, particularly white. To be really effective, however, thickness of the material should be at least $\frac{1}{16}$ in. Laminating two or more thicknesses together will not hurt.

The plastic rod is painted matt

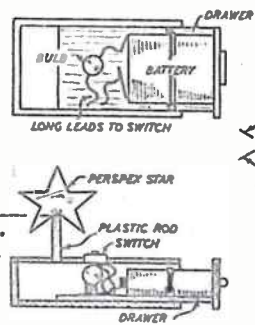


Fig. 1

so that the tray can be withdrawn without disconnecting the circuit.

Construction of the drawer is detailed in Fig. 2. Cut the tray itself from $\frac{1}{4}$ in. material and join to the end of the same, or thicker, material. The bottom edge of this end piece projects $\frac{1}{4}$ in. below the bottom of the tray.

A bulb holder is screwed to the tray $1\frac{1}{2}$ ins. from the end, and two small brass clips are also screwed in place. The

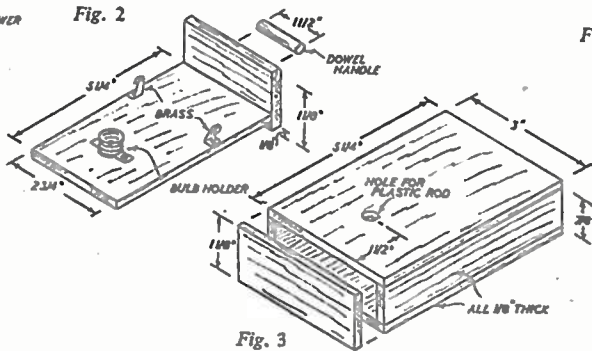
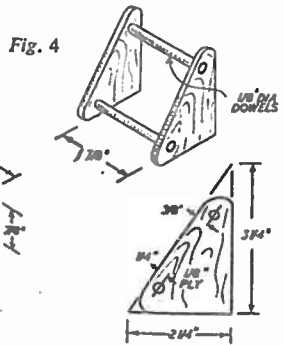


Fig. 3

papering smooth and staining and polishing.

The watch holder is made from two side pieces cut from $\frac{1}{4}$ in. ply and mounted on two lengths of $\frac{1}{4}$ in. diameter dowel—Fig. 4. Make the dowels a push fit in the holes drilled in the ply sides and also glue in place. The whole fitting simply glues to the top of the base at an angle, as shown in the heading sketch. The watch is normally suspended over the two dowels with the face towards the star.



black before being inserted in place. This is to make sure that all the light from the bulb is transmitted up through the rod into the star. The star itself cements on top of the plastic rod.

Improved illumination will result if a small reflector is fitted behind the bulb so that all the light is directed upwards. It is important, too, that the drawer end should be a reasonably snug fit, otherwise light will escape from here and spoil the effect. (374)

PULL-ALONG TUG AND BARGE

(Continued from page 101)

sides of the tug and barge in the positions indicated on the design sheet, making the holes rather larger than required, so that the pins are a loose fit. Then when the pins are driven into the rollers, any slight bending that may occur will not

affect the free running of the toy. Once the pins have been satisfactorily driven home and the tug and barge tested for running, the heads of the nails can be lightly touched with paint.

To complete the toy, small screws

should be driven into the deck of the tug and barge where shown, and the tug should be rigged in accordance with the side view on the design sheet. Now connect the barge to the tug as shown and tie a piece of cord to the screwhead on the bow of the tug. The toy is then ready for use and should give many happy hours of enjoyment to its proud owner.

New Series — No. 8

DESIGNING AND BUILDING MODEL RAILWAYS

By E. F. Carter

Track and Track Laying

HAVING discussed some of the preliminaries to building a model railway, one of the most interesting jobs—that of laying the track, can now be dealt with.

The methods used in 'O' and 'OO' scales, though similar in broad outline, differ slightly in detail, due largely to the arrangements used to fasten the rail to the sleepers. In 'O' gauge, regular chairs are used, whilst in 'OO', various methods of attachment by soldering or clipping serve the same purpose.

Ready-made Track

In the larger scale, track can be purchased ready-made up into 18 ins. or 3 ft. lengths, or the various component parts—rail, sleepers, chairs and fish-plates—can be bought separately and assembled into any desired track formation. This latter method is, of course, by far the cheaper, but the work takes time. An experienced builder can make up a 3 ft. length of straight track in about an hour, but a beginner might take three times as long to finish the job; so it is, undoubtedly, a good plan to purchase ready-made track, so that the railway can be got into running order within a reasonable length of time. Moreover, track making is rather inclined to become wearisome if the layout being built is a sizeable one.

Working in 'OO' scale is also much speedier if one of the proprietary ready-made tracks is used, though, naturally, there are rather severe limitations as to what track conformations can be produced by their use; and if the reader desires to build a non-standard type of layout, with points and crossings of unusual design, then there is no better way of so doing than by purchasing kits of track-making parts and assembling them to produce the exact layout he desires. The simple straights and curves could, of course, be purchased ready-made and fitted in where possible to save time.

Don't Mix Tracks

However, whether working in 'OO' or 'O' gauge, there is one extremely important point which must never be overlooked. Never mix the track-making products of various manufacturers, but use the rail, chairs, and other accessories of one make and one make only. If this decision is not made at the outset, and rigidly adhered to, there is no chance of ever producing a worth-while layout—either as to ap-

pearance or effective running qualities. All sorts of unforeseen snags will crop up which would never have otherwise occurred if this very important matter is ignored.

This is the paramount reason why the writer does not recommend the promiscuous use of second-hand track, unless it is definitely all of the same brand, and the same as that already to hand. If motley collections of second-hand track *must* be used—and a considerable amount of expense can thus be saved—then it should be relegated to the sidings, and never used on the main running roads.

The Motive Power

Of course, before the purchase of track in any form, it is essential—if the motive power is to be electricity—that the method of track electrification is first decided upon, so that the extra material necessary for the 'third rail' can be purchased at the same time as the running rails.

It is at this stage that the decision as to the placing of the third rail has also to be made—whether it is to go between the running-rails or on one side of them.

There is another method of track electrification known as 'stud contact', which is becoming increasingly popular, and which entirely does away with the continuous third rail and substitutes a row of studs between the running rails; the lower ends of the studs being connected together with wire hidden from view by the ballast. This system, however, requires the use of specially designed current collector shoes on the locomotives.

In 'OO' scale the most popular method of supplying current to the engines is that known as 'Two-rail', in which the running-rails themselves are used to convey the current. This scheme, however, necessitates the electrical insulation of every pair of wheels on every vehicle used on the layout; moreover, the introduction of automatic signalling—so simple with 'three-rail'—is considerably complicated on 'two-rail' systems.

For the beginner in either 'O' or 'OO' scale there is no doubt that the 'third rail', when laid outside the running-

rails on one side or the other, constitutes the most foolproof method of electrification. It does not introduce any constructional or electrical difficulties of such a highly problematical nature that they cannot be readily understood and overcome by an amateur.

Running Rails First

In any case, whichever system of electrification is finally decided upon, it will be found best to lay the running rails first, and to get them accurately to gauge and smoothly curving where necessary; so that a train of wagons or coaches can be drawn or pushed by hand—or by a clockwork engine—to test the accuracy of the track-laying work. Moreover, it will be found that all the little problems of rail-fitting and setting can be done very much easier without the presence of the third rail. It must be remembered that a model railway, like a real one, must be first mechanically perfect. Electrical perfection can follow. In point of fact, one is useless without the other—they are interdependent, and equally essential if good trouble-free running is sought.

Use a Straightedge

Track of either scale must be laid so that the left and right-hand rails are at the same height above the baseboard, and a straightedge laid across the track at any one point should be perfectly horizontal. A check with a spirit-level is never amiss. On curves which persist for a quarter or semicircle, it is advisable to slightly super-elevate the outer rail by attaching the sleepers to the baseboard only at their ends on the inside of the curve. This ruse will automatically raise the outer rail to some extent. On curves, the 'third rail' should be laid on the outside of the curve, so that it tends to thrust the engine towards the inside rail. (381)

Instructions and full size plans for a Jet-Propelled Hydro-plane are due next week.

A practical article on MAKING AND FLYING KITES

NO one will deny that model plane making is a splendid hobby and that there is a lot of fun to be had in flying the planes. Yet it is a pity that kite making and flying should often be regarded as 'something for the kids'. A great deal can be learnt of air-currents, air pockets, wind-pressure, angle of flight, etc., with a kite, whilst, as we shall show, there is scope for great ingenuity in making 'messengers' which can release parachutes; for taking pictures from the air and so on.

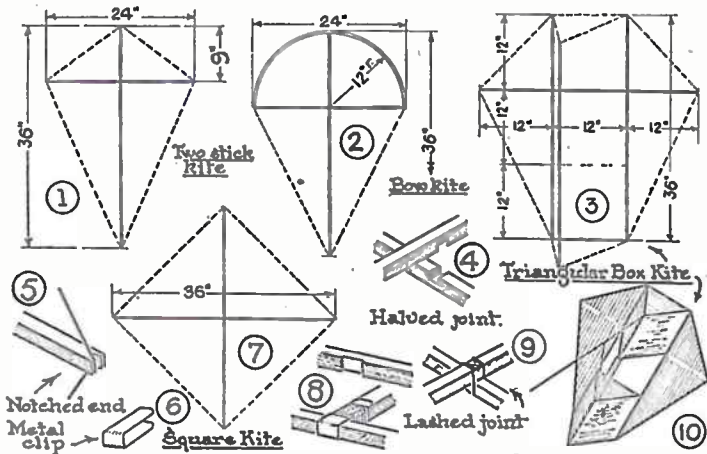
Experiment

There is no *one* way of making a kite so that one can experiment to the heart's content. Some standard practices will, however, be described.

will be greater strength and neatness if a small recess is filed in one piece as shown in the upper part of (8). This joint is again detailed at (13) which shows, in addition how the end of a diagonal part can be cut in a V to take on. Incidentally in Fig. 2, the joints have been shown quite conventionally. As stated, the joints are as detailed in (8) and (13). At (5) we see (though it has been exaggerated in the drawing) the filed notch required at the ends, for example, of the square kite (7).

It is extremely important to have a well balanced kite. Support the extreme ends of the frame on the finger tips or knife edges. If one side dips, either trim a piece right off or glasspaper it well according to the extent of the dip.

For covering you can use anything



The wood used for the straight parts of medium size kites is mostly 1/4 in. stripwood. For the curved part of the bow kite (Fig. 2), indicated by double lines, cane or bamboo cut into 1/4 in. by 1/4 in. section is used. It can be more easily bent if warmed gently, without burning, over a candle, etc., flame. The dotted lines in the drawings indicate where the frame is of string.

Where sticks cross, a plain lashed joint (9) can be used. Use very thin twine or cobbler's thread, and smear with tube glue as you work. Neater is the halved joint (4), which can also be lashed for greater strength and firmness. Where parts join at a T, as in the box kite (12) a metal clip as shown at (6) is used in conjunction with thread binding, as shown in the lower part of (8). There

from newspaper to parachute silk treated with model plane 'dope'. Among the coverings the writer has used are: tissue paper, tracing paper, tracing cloth, manilla paper, an old white window blind and well-washed calico. Crepe paper is good but tricky to paste down. The material is cut about 1/4 in. wider all round than the frame, the hems turned over and then pasted or sewn. This attachment is at the edges only. Do not stick the material to the frame more than is absolutely necessary. The cover must be taut but not so much as to distort the frame. When covering a curved edge, snip the material every 1/4 in. or so.

The material is, of course, very brightly coloured, somewhat in the manner of two-coloured football jerseys.

The flying string is not tied directly to the frame of a kite but to a bridle which, in simple kites consists of four short strings (or two, crossing) tied to the upper part of the frame, as shown in (11a), in such a way as, if raised, will form a tent or pyramid shape. If held by the point of the bridle, the kite should lie flat. The bridle for the box kite is shown at (11). It is a good idea to fix a ring at point z.

Suggested Dimensions

The dimensions given are suggestions only. Considerations of storage, transport, etc., will arise. A large box kite, incidentally, can have a powerful pull (a really large one could tow a light cart or boat). The proportions of a box kite, incidentally are: *width*, half the length; *depth*, one-third length.

The flying string must be strong and long. A light fishing line is good. A simple winder is shown at (15), made from a piece of wood about 12 ins. by 3 ins. by 1 in. One dowel handle is held and the other turned. Never stand still and haul the kite towards you but walk towards the kite, winding as you go. Round off all sharp edges of the winder.

A considerable number of constructors are disappointed because they erroneously presume that *any* kite will fly in *any* weather. No kite, of course, will fly in dead calm. Where the breeze is, very light, take the lightest kite you have (a good reason, this, for making several kites), and have the minimum of tail (to be described). When the wind is boisterous, take a heavier kite and add more tail. As hinted at the beginning of this article, the kite-flyer will get to learn a lot about air currents. For example, a bumpy field is likely to have bumpy air currents over it.

It is best to have a friend to help with the kite launching. He holds it aloft, by the tip, whilst you walk *off into the wind*, unwinding the string as you go. At about 100ft., hold the line taut. You should feel the force of the wind on the kite. Then, at a given signal, the friend tosses the kite upwards whilst you sprint as fast as you can, unwinding the line as you go.

If the kite flies steadily, pay out the string slowly, but if it tosses, give it plenty of 'rope'. When getting the kite down, get it quite near the ground and then suddenly let out a lot of string. When flying large powerful kites wear gloves.

Tails are necessary on some kites, though not on box kites. They can be of paper (16), rag (17), plaited (18), rag

strips tied (19) or rag strips plaited (20). Start with, say, 20ft. of tail and modify by experiment.

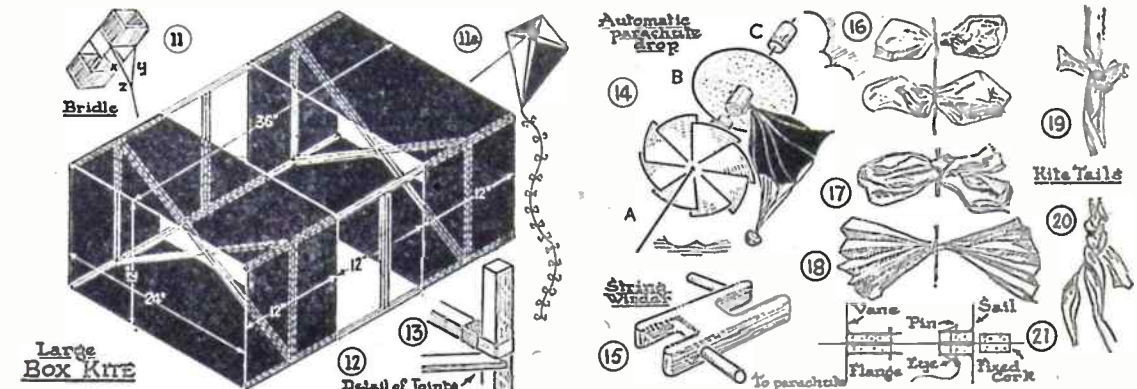
Everyone knows the simple 'messenger', and this will suffice for many readers, though we give a general description of a more elaborate arrangement (14). This consists, essentially, of two parts. The first consists of a circular sail (B) which is sent soaring aloft up the string until it is stopped by the fixed cork (C). This part (B) carries a

core extends inside, only as far as the flange.

The sail of part (B) is of the same diameter as the vane. It has, too, a cork, etc., cored tube soldered on, but there is no flange or no sharp edge. There are, however, a couple of notches filed in the end rim, just a little off-centre, so that a thread passing over will not foul the main kite string. The parachute is quite small and made of silk with a small weight attached, as shown. At its

proportioned, of course, that the tube on the vane goes inside the tube on the sail, but is stopped from going too far by reason of the flange.

You can take camera pictures from the air if you have a reasonably powerful box kite. The snag is that one does not want to risk loss or damage to a good camera, whilst a cheap box camera does not have a very good lens. However, one can get quite a thrill from seeing even an imperfect aerial snap-



small parachute. Part (A) is next sent up, spinning merrily. It makes contact with (B) and releases the parachute which floats down to earth.

Vane from Light Metal

Details are shown at (21). The vane is cut from very light metal. It is soldered to a piece of tubing, sharp at the far end, and which bears a flange or a couple of pins to serve as a stop. The interior of the tube is taken by a cork or wooden core drilled to take the kite string. This

peak a thread is attached and small bead tied on. The thread is then taken through a very small eye soldered on the tube (the bead prevents it going right through). The thread is then taken across the notches and finally tied to a pin head that has been soldered on. In other words, the parachute is now fixed firmly to the sail (B).

But when the vane, with its revolving sharp fore edges meets part (B), the thread is immediately cut and the parachute released. The tubes are so

shot. A delayed action timer is needed but must be altered by the mechanically-minded so that it operates after, say, fifteen minutes instead of the usual one minute maximum, so as to give the camera a chance to get aloft.

Two 'Stunts'

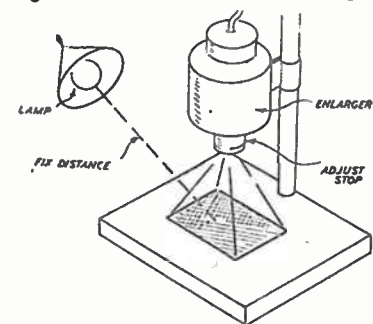
Apart from 'straight' flights, such, for example, of seeing how high your kite will fly (1,500ft. is not at all unusual), there are several other stunts of which there is but space remaining to mention two. Using comparatively cheap kites 'expendible' as they say in military circles, stage a kite-fight. Coat the string near the kite with a mixture of glue and powdered glass so that it is like a flexible file. You then try to manoeuvre your kite to the windward of that of your opponent and let your prepared cord rub against his string. Then, with a sudden jerk, you cut through it. But, of course, he is trying to do the same to yours!

You can fly several kites on one string. Send up a small one as a pilot. Then below it, send up a larger one and then let these two bear up a larger one still, and so on.

Truly there is a lot of fun to be had from making and flying kites, and, despite this jet-propelled age, the sport is by no means outdated. In the last War, incidentally, kites were used for many purposes. These can often be bought at the Government Surplus depots, but it is much more fun to make one's own. (384)

An Enlarging Tip

THIS method of enlarging determines correct exposure time for dealing with a batch of negatives of different densities. A range



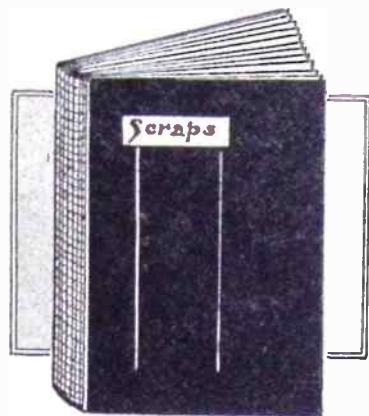
an ordinary lamp near the enlarger, directed to shine down on the image—see sketch. Switch on the enlarger in the normal way and adjust the stop until the image disappears.

If necessary, move the lamp nearer or farther away to achieve this. Once the best lamp position has been established, leave it alone and switch off.

Now with the same enlarger stop and the same negative, expose a test strip and determine the correct time for printing.

For any other negative, switch on the enlarger and the lamp. Adjust the diaphragm until the image just disappears again. Correct exposure time for that negative is then exactly the same as for the other print, and so on. (372)

It's sometimes fun to keep a SCRAP ALBUM



the second section on and sew similarly, this time, of course, from right to left. When the needle emerges through the last hole, tie the thread to the short end left from the beginning of first section.

Sewing subsequent sections, at the end of each pass the needle between the two previous sections, as at (B), then through the loop thus made, and draw tight. This will hold all securely together afterwards. When the final section is sewn, tie off. Now, through each vertical row of double stitches, draw a length of 1/4 in. linen tape, leaving 1 in. to spare above and below, for gluing to the covers as shown in detail (C).

Cramp the whole up in the manner shown in Fig. 3, a strip of wood on top,

THIS is a useful kind of book, suitable alike for storing newspaper cuttings, recipes, scraps for children, or snaps, besides a lot of other things too numerous to catalogue. The commercial pattern is, nowadays, rather expensive to purchase, but one can be made quite cheaply at home, and here is some instruction on how to do it.

For the leaves you can use cartridge paper, or, if something cheaper would serve, the lining paper used by paper-hangers, and sold by the roll. The size of the pages can be left to the choice of the reader, but if some regard is had to the dimensions of the paper employed, and the page size calculated in relation to it, waste can be avoided.

Cut the paper into double sheets, and for each pair (i.e. 4 sheets), provide two guards, these being doubled strips of the paper, to be interposed between, to counterbalance the scraps afterwards pasted in the book, and render all level. One guard will be a strip 1 1/2 ins. wide, and then doubled; the other, as at (A), a 3 in. strip, doubled twice. Arrange these between the sheets as shown in Fig. 1, and call the lot one section.

The number of sections will depend, naturally, on the quantity of pages desired, but it is as well not to make the resulting book too bulky for easy handling. If 12 such sections, the number of pages will be 96, quite a nice number. These sections must now be sewn together, using a strong linen thread, and suitably sized needle. First place all together, and down the back pencil three pairs of lines across 1/4 in. apart, and one line near each end at about 1 in. from the top and bottom of the whole. This is shown in Fig. 2B.

A sewing frame can be dispensed with, if a flat piece of board is laid on the table, against the edge of it, and the sections laid on this in turn. With a well filled needle, open out the first section, and push the needle in and out at the pencil marks, the thread following the path indicated by dotted lines. Lay

and a single cramp serving to hold all tightly. Keep the cramp free of the back of the sections, so that a strip of muslin can be glued over, as shown. Do not omit to draw the tapes straight and free of crease before gluing. Leave for awhile for the glue to set hard. In the meantime the covers can be made.

Cardboard from an empty grocer's box will do nicely for the covers. Cut these large enough to overlap the pages

cardboard. Now draw a pencil line round, 1/4 in. away from the covers; this will give the dimensions of the covering material. The best stuff is bookbinders' cloth, which is reasonably priced, and looks nice, but American cloth could be substituted, or even a strong coloured paper, though the latter will, obviously, not give the wear of the others.

Glue the cardboard covers to the material, turn over and rub well down. Turn over again, and along the space between the covers, glue a strip of brown paper. Glue the overlapping edges of the material, and fold over to the cardboard, and be careful to make neat corner folds. Let dry, then the cover can be attached to the sewn

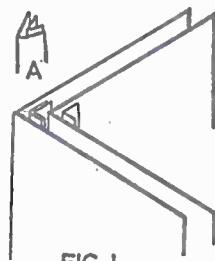


FIG. 1

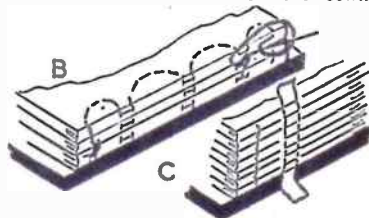


FIG. 2

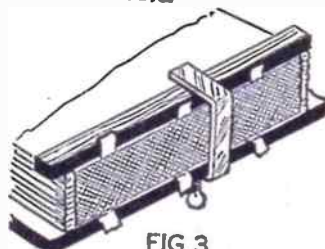


FIG. 3

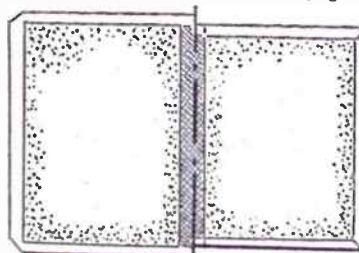


FIG. 4

by 1/4 in. at top, bottom, and front, the back being level. Measure across the back of the sewn sections, and lay the covers on a sheet of newspaper, separated by a distance equal to the thickness of the back, plus that of the

sections to complete the album.

This is a simple job. Lay the sections in the cover, and glue the tapes to it. See that both edges of cover and back of sections are close together when gluing the tapes on, as no gap must be permitted. When done, stand the book upright and leave the covers open (to avoid the tapes sticking to the pages) until the glue has dried. Finally, paste the end leaves to the covers.

Diagram Fig. 4 shows how the covers are glued to the cloth, one side being depicted with the overlapping edges of the material folded over, as a guide. Decoration to the covers can be carried out as the reader wishes, or just left plain as preferred. One simple method is depicted in the finished view of the album, a gummed label being stuck on, with suitable wording, and plain lines drawn in indian ink. (401)

Part 1

THE ART OF STENCILLING

THIS is the first of a short series of articles on the art of stencilling. During the series we shall deal with the necessary tools, the kind of paper to use for the best results, and the particular paint necessary to get brilliant effects.

The amateur craftsman and decorator, and all those with an eye for colour and the knack of arranging designs to best advantage, should try their hand at stencilling. It does not need a great knowledge of drawing and painting, but in the hands of an artistic worker it provides a delightful occupation and opens up many ways of beautifying the home at small cost.

For commercial purposes, too, it is a quick easy and inexpensive method of

cutting stencils. A suitable paper, however, can be made quite cheaply at home by rubbing a mixture of boiled linseed oil and turpentine into an ordinary cartridge drawing paper. After rubbing evenly all over the paper, it should be left to 'dry out' evenly over the whole surface before being put to use.

It will be found that the oil in the paper helps to lubricate the cutting edge of the stencil knife during cutting, and also helps to resist the action of the paint that will be deposited round the edges of the cut parts, including the 'ties'—those little strips which hold the design together. We will touch on these later.

The Stencil Plate

The stencil plate itself consists of the prepared paper with design cut in it. It is essential to allow plenty of margin round the design itself so that the plate can be held down securely while the colour is being dabbed into the perforations.

Stencil knives are, of course, an important part of the stenciller's outfit. The most common forms are shown at Fig. 1, that shown at (A) having a removable nib which can be resharpened on an oil stone.

The writer has found, however, that an ordinary pocket knife with a hard-tempered blade and a thin back takes a lot of beating as a stencil cutter. Such a

A useful item in the stencil-cutter's kit is a small bottle of shellac varnish. This can be brushed on to both sides of the stencil plate after cutting to make it waterproof. Varnishing, however, is not absolutely necessary.

Some workers use plate glass as a cutting surface for their parchment, as this gives a crisp and very sharp edge to the stencils, but the knife edge soon becomes blunted by the glass, and, generally, it will be found that a sheet of strawboard or hardboard is just as effective. A sheet of zinc would also answer, but here again the knife edge will suffer.

To take the colouring medium, have one or two saucers or a nest of saucers as used in water-colour work.

Water-colour, waterproof inks, and even oil paint, all take well on smooth surfaces. If oil colour is used a little copal varnish should be added to it, and turpentine can be added for thinning if necessary. Stencil oil colours can be purchased ready mixed in bottles and tubes, and the instructions on these should be followed. In addition to colours, both poster and oils, distemper may be used quite well for border and corner designs to walls and panelling.

After use, the stencil plate should be wiped clean with rag. If oil colour has been used, the rag should be dipped in a little turpentine. If distemper has been handled then ordinary water will clean

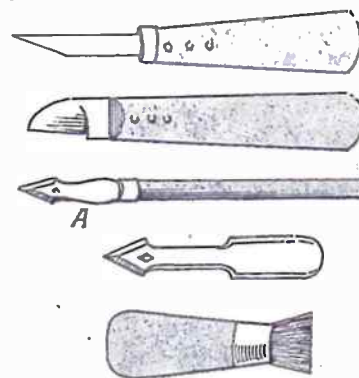


Fig. 1—The tools used

reproduction. When a design is needed only for a limited number of reproductions, the cost of having a printer's block made is unnecessary, as a stencil plate will give almost the same result. Stencilling is a suitable medium for the production of showcards and window tickets, and anything where a pictorial effect is wanted.

Necessary Outfit

The stencil worker's outfit should consist of a small drawing board, a few drawing pins, and, of course, pencils to prepare the design. A fairly soft pencil, such as a B, is best for setting out the design freehand, with an H pencil for lining in and transferring the work to the stencil paper.

Stencils can, of course, be bought cut and ready for immediate use, but we are hoping here to show the beginner just how to make his own.

Parchment paper, now so largely used for lampshades, is excellent for

knife can be easily ground, and the edge and point can be sharpened on a piece of fine emery paper glued down to a piece of board.

The special brushes used in stencilling are usually of hoghair, bound in metal to a stumpy hard-wood handle as seen in Fig. 1. A separate brush should be used for each colour where multi-coloured stencils are being made.

The bristles may in time become turned up by the constant dabbing process, but they can be straightened by careful washing and binding round with fine string for an hour or so.

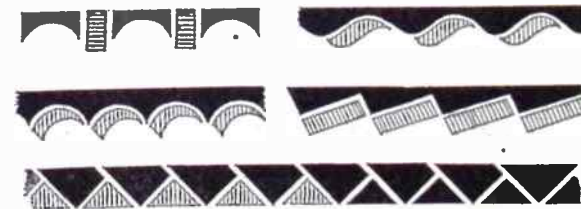


Fig. 2—Simple borders to cut as practice

the stencil plate. This cleaning is easily carried out if the plate has been treated with waterproofing medium as previously suggested.

Always Dab

Regarding the use of the brush, do not under any circumstance adopt a brushing stroke. Always dab lightly, holding the ties securely wherever possible to protect them from tearing. Use the colour sparingly, and do not have it too liquid or it may seep under

(Continued on page 108)

MAKING A DOG KENNEL

THE kennel described on this page will provide a snug and comfortable home for a dog of medium size. The overall floor area is 2ft. by 3ft., and the roof overlaps by about 6ins. all round to give additional protection from the weather.

Although the kennel was designed with a view to providing accommodation for a dog of the spaniel size, the design can be readily adapted for a larger or smaller dog by adding to or subtracting from the lengths of the sides.

together with halved joints in the manner shown, three sets of frames being used to ensure a firm and rigid job. All framing joints should be glued and screwed.

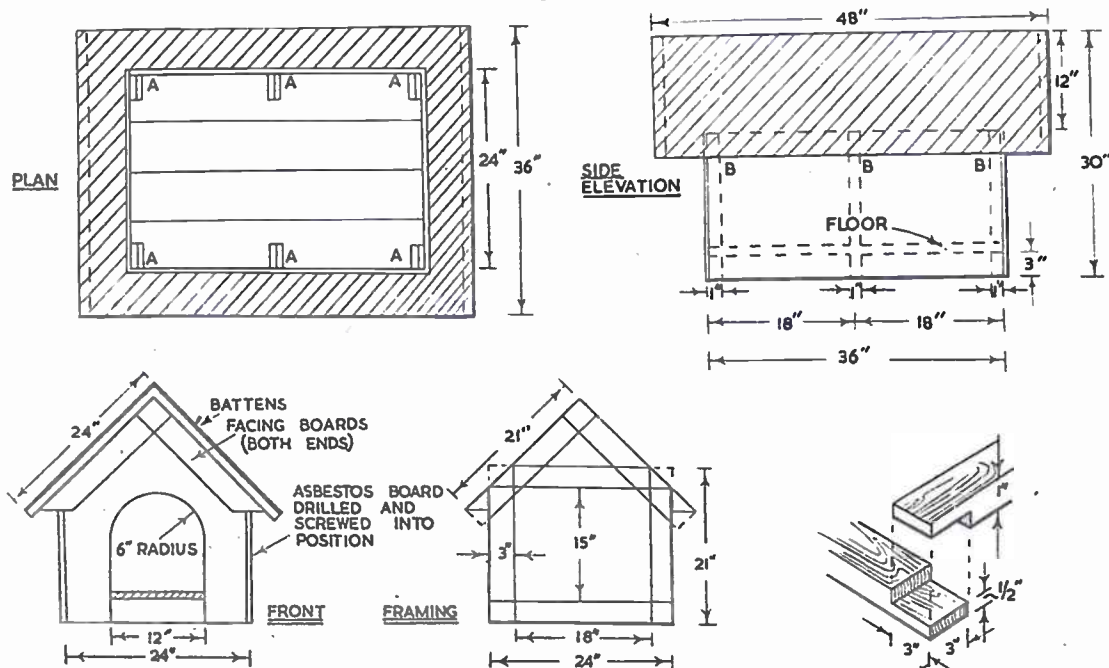
The floor and roof are made of 6ins. by 3in. boards nailed to the frames with 2in. wire nails, but the walls, back and front, are made from heavy asbestos wall board.

The floor and side walls will need to be recessed at the positions marked (A) and (B) in the diagram to accommodate

a curve of 6in. radius.

The facing boards are also made of 3ins. by 1in. timber and are similar in all respects to the top part of the framing, except that no cross brace is fitted.

When the kennel is completed the woodwork can be given two or three coats of good outdoor quality paint, inside and out. The roof can be covered with a piece of heavy weight roofing felt which should be secured in position with 1in. by 3in. battens at both ends



Reference to the diagrams will show that the framing for the kennel is made from 3ins. by 1in. battens secured

the framing members. The opening in the front wall is cut out with a bow-saw, finishing off with a rasp or coarse file to

and in the middle of the roof. The battens should be painted after fitting. (389)

The Art of Stencilling

(Continued from page 107)

the ties and spoil the sharp effect of the finished work.

Having drawn out the design on the oiled paper or parchment, decide on the position of the ties, bearing in mind that they hold all parts securely together.

As practice, draw out one or two simple border outlines as shown in Fig. 2. All those shown can be used as one-colour stencils or as two colour,

but the latter will, of course, have two distinct sets of plates, and each must link in correctly, as will be explained later.

We would suggest here that the worker enlarges the border designs shown, making them from 3/4in. to 1in. deep with length of detail proportionate. A short length of each will suffice for practice. The next article in this series

will deal with more elaborate designs and their cutting. (388)

(To be continued)

USING OLD RECORDS

Break up any old gramophone records into small pieces and place in a vessel containing industrial alcohol which can be obtained at any wholesale chemist's shop. Leave for a day or two, then stir well. The result is an excellent dull lacquer, suitable for models, etc.



HER MAJESTY QUEEN ELIZABETH II

ALTHOUGH the official birthday of Her Majesty is being kept as June 5th, the date of her birth was April 21st, 1926. So let us consider some of the stamps that have already been issued bearing her portrait. These have not been as Queen, of course, but as Princess Elizabeth.

Young Princess

On January 1st, 1932, Newfoundland issued a set of stamps and on the 6c. value she appears as a very young Princess. A more pleasing portrait is the one which appears on the King George V Silver Jubilee set from Canada, issued on 4th May, 1935. Although the Silver Jubilee sets have all gone up very much, indeed, in value, some of the stamps can still be obtained at a

bearing the portraits of the late King, Queen Elizabeth, Princess Elizabeth and Queen Mary. A year later came the Royal Visit to Canada when three stamps commemorated the visit, the 1c. bearing portraits of the two Princesses. This and the Newfoundland stamp just mentioned should be within the purse of all, but most likely a great number of collectors will have specimens already.

New Zealand has already had four stamp portraits, and very charming ones they are, too. The first was in 1943, when for the Christmas Charity stamps they chose two triangular stamps, one bearing the portrait of Her Majesty and the other of Princess Margaret Rose. The next year again, the Charity stamps bore her portrait, but these will be described in another article. The Peace

other in Afrikaans, and they should, if possible, be collected in pairs; the 1d. bore the portrait of the late King, the 2d. the King and Queen, and the 3d. the present Queen and her sister. Southern Rhodesia issued two stamps, the two Princesses appearing on the lower value, the 3d.

Twenty-First Birthday

Newfoundland, on the 21st April, celebrated Her Majesty's twenty-first birthday with the issue of a 4c. stamp. Australia and Canada both celebrated her marriage with a stamp issue, the former the 1d. value and the latter a 4c. stamp.

Malta and Canada each celebrated visits, the former with three stamps: 1d., 3d., and 1/- and Canada with one



A Canadian stamp showing the Queen as a young princess

This stamp commemorates the Royal Visit to South Africa in 1947

A visit to Malta is remembered

Portrait on a 1943 New Zealand Health stamp

A later New Zealand issue showing the Queen with Prince Charles

reasonable figure, and the 1c. which is the value of the stamp illustrated can still be purchased for a few pence. All readers could start a collection of portraits of Her Majesty with one of these stamps. The one from Newfoundland is a rather more costly item, but as it is rather less attractive, one can be forgiven for not starting with it.

There is one prominent variety in the Silver Jubilee stamp from Canada. It is due to a plate flaw just under the right eye, and gives the appearance of a tear. For this reason the variety is called the 'Weeping Princess'. It is a variety that is much sought after.

In 1938 Newfoundland again issued a stamp bearing a portrait of Her Majesty, when she was Princess. This was an issue exactly one year after the Coronation of King George VI and Queen Elizabeth. There were four values

issue was quite a long set, which came out in 1946, and the 2d. value has a picture of the Royal Family grouped inside a crown, the same stamp was overprinted for use in Niue.

South Africa Tour

In 1947, the late King George VI, Queen Elizabeth and the two Princesses went on the tour of South Africa, and a number of South African stamp issuing colonies had sets of four values, the designs of which were:—1d., a portrait of the late King; 2d., the late King and Queen Elizabeth; 3d., the two Princesses; and 1/-, the Royal Family. Basutoland, Bechuanaland and Swaziland each had these.

For South Africa, and also overprinted for use in South-West Africa, there were three designs. These were printed in pairs, one in English and the

entitled 'Their Royal Highnesses the Princess Elizabeth, Duchess of Edinburgh, and the Duke of Edinburgh'. How soon this was to be changed!

Lastly, mention must be made of the portrait showing Her Majesty and the heir to the throne, Prince Charles, so charmingly given on the New Zealand health stamp of 1950. (407)

CHEMISTRY HINT

Sometimes your chemistry oil lamp runs short of oil and the wick is unable to reach the oil. To overcome this just add some water to the oil. Since the oil is lighter it will rise to the top, so the wick is able to reach it. Remember not to add too much water, however, because the wick might reach it and the lamp will then go out.

FOYLES HANDBOOKS

BASKETRY
HOME CARPENTRY
CRAFTS FOR BOYS
LAMP SHADE MAKING
LEATHERWORK

MARQUETRY & VENEERS
MODELLING
PAPERCRAFT
WOOD FINISHING
WOOD TOY MAKING

Price 2/6 each

From all Booksellers or the Publishers

W & G FOYLE LTD

119-125 CHARING CROSS ROAD LONDON WC2



MANCHESTER
10 Piccadilly
(Phone CENTRAL 1787)

BIRMINGHAM

14 Bull Ring

SHEFFIELD

4 St. Paul's Parade
(Phone 26071)

LEEDS

19 Queen Victoria Street
(Phone 28439)

HULL

10 Paragon Square

SOUTHAMPTON

25 Bernard Street

BRISTOL

30 Narrow Wine Street
(Phone 23744)

Head Office & Factories—HOBBIES LTD., DEREHAM, NORFOLK

J. WOTTON (Dept. H.)
149 HOLLINGS ROAD, BRADFORD, YORKS.
ALL TYPES OF MOULDS

3/- each

TOYS, ORNAMENTS, PLAQUES, ETC.

New 1952 Illustrated Catalogue. Send 6d. stamps, refunded on first order over 10/-

TWO GRAND SETS OF DESIGNS

1 A packet of accurate designs for a splendid set of miniature models of 8 ships of the Royal Navy—complete with a Naval base with berths for the ships, and all buildings. Price 1/6

2 Two sets of designs for Famous Aircraft of the 1939-45 War. Worth-while souvenirs, including the Spitfire, Blenheim, Wellington, and 11 others. Obtainable post free from Price 1/6

HOBBIES LTD., DEPT. 99, DEREHAM, NORFOLK

YOU CAN BECOME A HANDICRAFTS INSTRUCTOR

EXPERIENCE NOT ESSENTIAL

Men who enjoy making things in wood or metal can turn their hobby into a permanent and interesting Career. Short hours, long holidays, and security in a job you would really enjoy, can be yours if you become a Handicrafts instructor. Let us send details of the easiest and quickest way to get the necessary qualification.

We guarantee "NO PASS—NO FEE"

If you would like to know about our unique method of preparing you for one of these appointments, write today, and we will send you our informative 144 page Handbook—free and without obligation. Mark your letters "Handicrafts Instructor".

BRITISH INSTITUTE OF ENGINEERING TECHNOLOGY

BIET

595 Shakespeare House
Stratford Place, London, W.1

Micromodels

BUILD YOUR OWN MICRO MUSEUM

Amazingly realistic three dimensional volumetric models.

Railway Engineering, Architectural, Maritime, etc., subjects. Cost pence. Often sell for pounds. Send stamped addressed envelope for 100 model catalogue. Micromodels Ltd., 3 (H) Racquet Court, London, E.C.4

OLD LONDON BRIDGE

KITS for OLD TIME SHIPS

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

Kits for models 7ins. long and upwards.
Ask for free illustrated lists at Hobbies Branches or from Hobbies Limited, Dept. 99, Dereham, Norfolk.

EVERY CAR THAT PASSES
YOU WILL FIND THE INDEX MARK
ALPHABETICALLY ARRANGED IN
WHERE'S THAT CAR FROM?

Price 9d.

from all Booksellers or from the Publishers (11d. postage)
RALEIGH PRESS, EXMOUTH

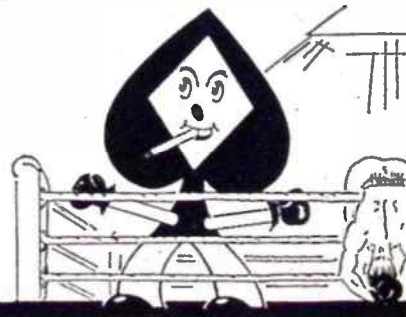
Tommy Trump says:—"You can't beat

DOUBLE ACE

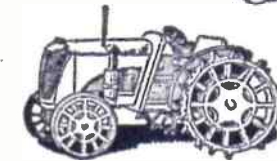
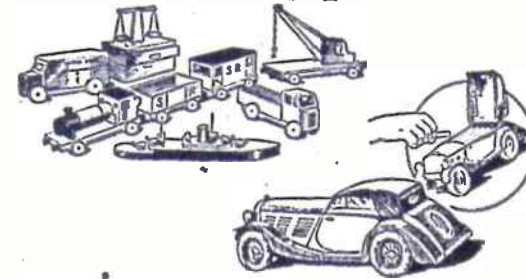
The ACE of cigarettes"

10 for 1/3½

THEY'RE CHAMPION!



Making Toys, Models or Novelties is a paying pastime—



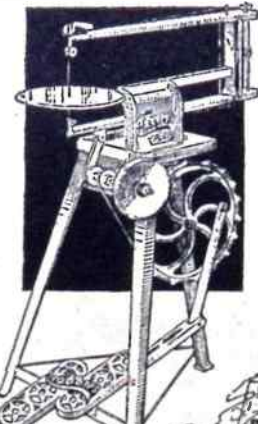
with
a

HOBBIES A1 FRET MACHINE

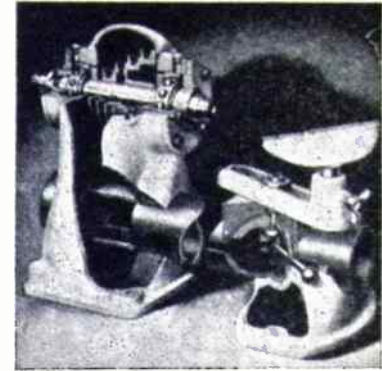
A Treadle Fretmachine provides a factory in the home. The treadle movement is easy, the machines running smoothly and fast. It is astounding the amount of work they will do in wood up to 7/16 in. thick. Both hands are free to handle the work which can be manipulated up to 1ft. 7in. behind the sawblade. Machines are comfortably operated from a chair, rigid and easy running. The A1. has cast legs with wooden arms and special tension arrangement. Spare sawblades, a design and instruction Manual supplied with each. Price ready **£7-19-6** to use

Carriage paid U.K.

Full range of Machines can be seen at any Hobbies Branch. Or ask particulars from large stores or Ironmongers. Illustrated leaflets free on request to Hobbies Ltd, Dereham, Dept. 99, Norfolk.



Choose
a Lathe
that will
last a
lifetime



Here you see a sectioned view of the ML8. 4 in. x 30 in. Woodworking Lathe—the Complete Woodworker. Note the one-piece headstock unit with totally enclosed drive; angular contact ball bearings for years of hard work at speeds up to 2850 r.p.m.; accurate threads and register diameter at each end of the spindle for chucks, faceplates, etc.; plunger indexing mechanism giving 24 fixed positions to spindle; quick action lever control to slides; bed of heavy gauge seamless drawn steel tube. See your Tool Merchant for complete details.

MYFORD

Merchant for complete details.

ENGINEERING CO. LTD. BEESTON, NOTTINGHAM

A new book
... just for the amateur!

Home Woodwork

This is a book written for the amateur, and the author has taken great care to avoid the confusion which arises from the use of technical language. It falls naturally into two sections. The first discusses tools, materials, and woodwork joints, whilst the second part gives practical suggestions for the use of these in the construction of a number of useful fixtures and furnishings for the home. The beginner will have no difficulty in following the clear instructions. The book is well illustrated.

By W. P. MATTHEW
F.R.S.A.,
the B.B.C. Handyman

At all booksellers 7/6 net.

A PITMAN BOOK

PARKER STREET . KINGSWAY . LONDON, W.C.2

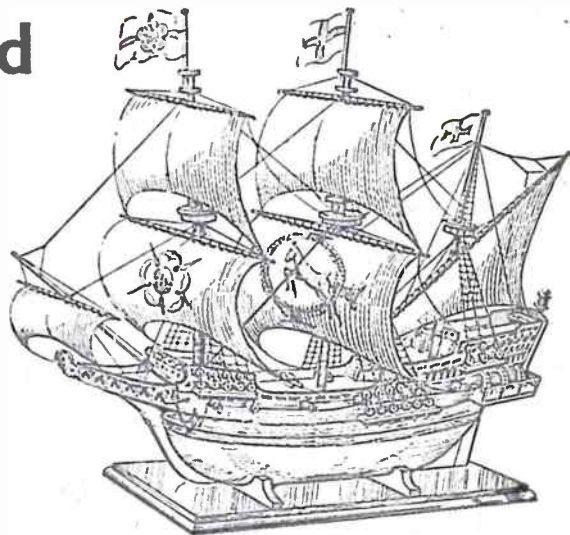
*British
made*

Hobbies

*Fretwork
Outfits*

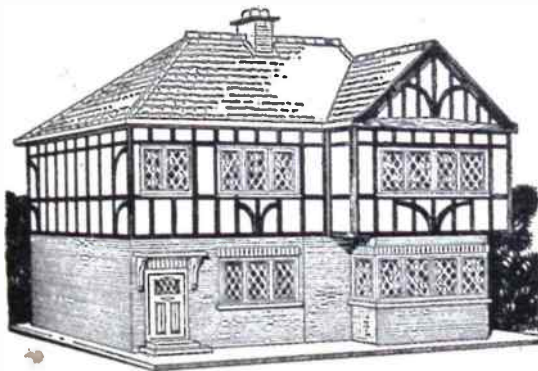
For pleasure and profit

With a Hobbies Outfit you can make models that will please—models that will earn you spare-time cash. A splendid hobby. Patterns are provided for hundreds of things to make—toys, models, fretwork. With a few odd pieces of wood, or the kit provided, you can turn out lots of things; for gifts or even to sell. Any Hobbies Outfit provides all the tools.

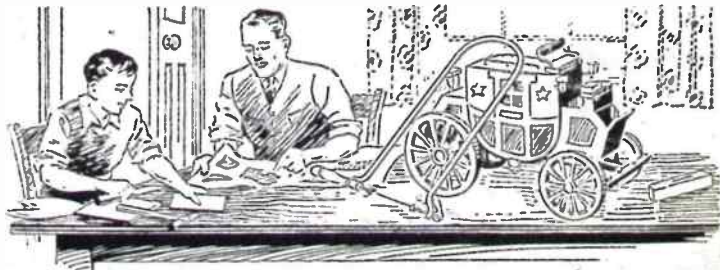


**Complete Tool Sets
Full-size Patterns
Kits of Materials**

Ask for Hobbies at any stores, ironmongers or Hobbies own branches. Free illustrated leaflets from Hobbies Ltd., Dept. 99, Dereham, Norfolk.



*Father and Son
find Hobbies fun!*



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