

Hobbies

WEEKLY

VOL. 115

NUMBER 2971

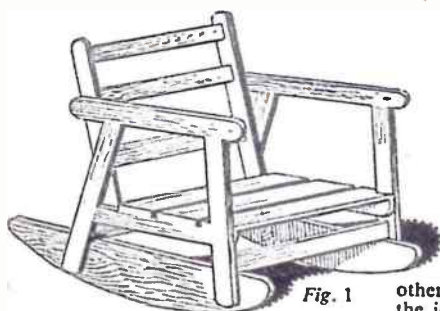
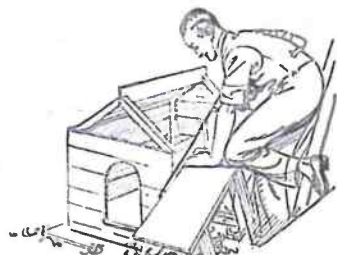


Fig. 1

THE rocking chair shown in our illustration (Fig. 1) would be just the thing for a toddler, and it can be made up simply and quickly. The wood would be inexpensive and easily worked by the home craftsman possessing the usual household kit of tools.

At the end of this article we give a cutting list of parts required.

The chair could well be used without the rockers, if desired, and a portable hinged tray could be fixed to the side arms, making the whole article doubly useful.

How to Start

Commence work by making the main side frames of the chair which consist of the rails (A), (B), (C) and (D) (see Fig. 2). All these rails are to be half-lapped and glued, and either screwed or pinned together with wood dowels.

Cut two lots of the rails to the lengths given, cutting all the ends square across at first. Lay them out on a bench or flat surface and arrange them in place to the measurements shown, allowing them to lap one over the

other, temporarily, while marking out the joints. Note then the front leg (A) must be at right-angles to the arm (B); this can be set with try-square or a set square. Note also that the upright rails (A) and (C) should lie on the top of rails (D) and (B), so as to get the halvings properly placed for the right-hand armrest ready for cutting in.

Take care in making the second frame—that for the left arm rest—and see that the two uprights again 'run through', making a perfect pair of frames. This can readily be understood

when the two frames are placed flat together in the position they will ultimately take when connected with the cross rails (F) and the back of the chair.

The Halving Joints

Now look at Fig. 4 which shows all the rails cut and ready for assembly. The halving joints must be carefully cut in after marking out with the try-square. A small-tooth tenon saw is best for cutting in the halvings both across the grain and down lengthways, care being taken when cutting in the latter direction to allow for the thickness of the saw, so that the finished joint bears up a full ½ in.

Before assembly is started, pencil in the position and cut with the fretsaw the ½ in. mortises in the uprights (A) and (C) which receive the end tenons of the rails (F). These are shown in Fig. 2, and in detail at Fig. 4.

There are four recessed halvings in each frame, one each on rail (A) and (C) and two on (B). These will be cleaned away with a ½ in. chisel after cutting across with the tenon saw.

When the joints have all been made

How you can make a ROCKING CHAIR FOR A TODDLER

IN THIS ISSUE

	Page
Rocking Chair for a Toddler	17
How to Start a Tropical Aquarium	19
Radio Transmitting and Model Control	20
A Jewellery or Watch Box	22
An Audience-Tested Marionette	23
A Miniature Open Truck	24
A Darkroom Clock	25
Tips for the Handyman	26
Shipmodeller's Corner	27
A Simple Colour Mixer	28
Replies of Interest	30

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

THE MAGAZINE FOR MODELLERS,
HANDYMEN AND HOME CRAFTSMEN

World Radio History

4^p

PAGE 17

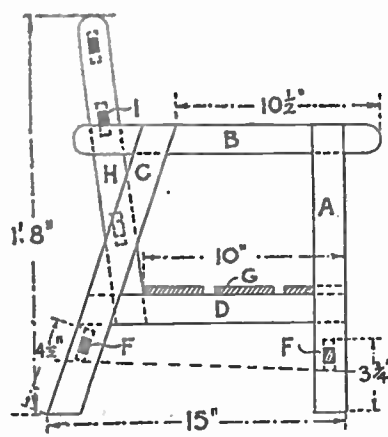


Fig. 2

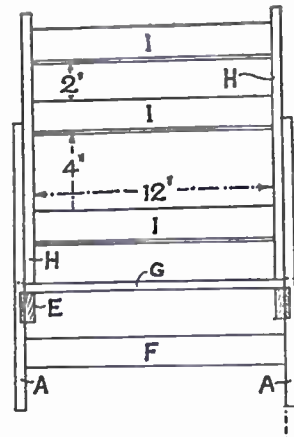


Fig. 3

perfectly, glue and screw them together or pin them with hardwood dowels tipped with glue and driven into suitable holes made for them, the projecting ends being planed or cleaned off with coarse glasspaper when the glue has hardened.

Next cut the two rails (F), form the tenons on the ends, and glue them in place in the frames.

The seat is made of the three pieces (G), and they are nailed to the seat rails (E) which go inside and are nailed to or screwed to rails (D). The rails (E) are shown in Fig. 4 and in the front view of the chair (Fig. 3). The front member (G) will have to be notched out at the ends and fitted round the upright leg (A), see dotted lines in Fig. 2.

The back rest of the chair consists of the two upright rails (H) and the three cross rails (I). The whole frame when made up fits down between the two side frames, as Fig. 3 shows. Round off

the top ends of the rails (H) to a semi-circle and cut the lower ends flush with the bottom of seat rail (D). These lower ends, it will be noted, rest hard-up against the inner seat rails (E). The

- MATERIALS REQUIRED**
- (A). (2). 14 ins. by 1 1/2 ins. by 1/2 in.
 - (B). (2). 15 ins. by 1 1/2 ins. by 1/2 in.
 - (C). (2). 16 ins. by 1 1/2 ins. by 1/2 in.
 - (D). (2). 13 ins. by 1 1/2 ins. by 1/2 in.
 - (E). (2). 10 1/2 ins. by 1 1/2 ins. by 1/2 in.
 - (F). (2). 14 ins. by 1 1/2 ins. by 1/2 in.
 - (G). (3). 14 ins. by 3 ins. by 1/2 in.
 - (H). (2). 16 ins. by 1 1/2 ins. by 1/2 in.
 - (I). (3). 13 ins. by 1 1/2 ins. by 1/2 in.
- Rockers—2 pieces 24 ins. by 4 ins. by 1/2 in.

tenons on the ends of rails (I) will be similarly marked and cut to those on rails (F). All tenons may be cut across and glue-jointed, if desired, to make well fitting joints.

Clean off all surfaces of the rails (H) before screwing the frame in position to the rails (B), (C) and (D).

The rockers are made from 3/4 in. wood,

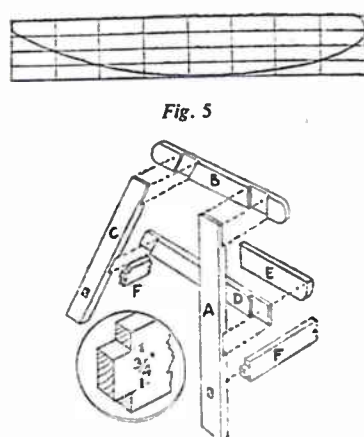


Fig. 4

and a paper pattern should first be made ready for transferring the outline to the wood. Set out on a sheet of brown paper a rectangle 24 ins. by 4 ins. and divide it into smaller rectangles measuring 3 ins. by 1 in. as Fig. 5. Now, taking this illustration as a guide, proceed to draw in the outline of the curve, which may then be transferred to the panels of wood by means of carbon paper.

Cut round the outline of the shapes with a coarse fretsaw and then clean up the edges and surfaces. Fix the rockers, temporarily, in position to the inside of the legs, the dotted line in Fig. 2 giving the approximate position. The chair when at rest should have a slightly backward tilt, and when the desired position has been decided upon, the rockers should be screwed firmly.

All sharp edges and corners of the woodwork should be smoothed off and all surfaces cleaned before the finishing coat of varnish or paint is applied.

SAWING STRAIGHT

Have you noticed, in attempting to use a handsaw, that although you very carefully draw a pencil line in the place where you want the sawcut to be, the saw has a way of departing from the line—generally to the right of the line as you stand over the work? This is due to your faulty position. You need to stand in such a way that the right eye, the wrist and the back edge of the saw are, as far as possible, in line. Practise this for a bit and you will find that you have less trouble than before in following the pencil lines.

FASCINATING HOBBY

How to Start a Tropical Aquarium

THE recent popularity of tropical aquaria might almost be described as phenomenal. So frequently am I asked questions on this most interesting and decorative subject, which clearly indicates the number of people intending to own an aquarium, that I feel my own experience will be of value to them.

Let me first of all dispel any doubts which I have heard voiced. A tropical aquarium is *not* messy or troublesome at all. It is *not* expensive to run and is *not* smelly.

Restful

No matter how well it is furnished your best room will be greatly enhanced by a tropical aquarium. It is so restful to watch, with its graceful animation and silent speed, as many multi-coloured fish move in constant procession in its crystal clear waters.

Let me describe how to start an aquarium. I suggest the best size is 24 ins. by 12 ins. by 12 ins., which I consider ideal, as it provides ample room for about forty small fish, and is not too clumsy nor too heavy. The cost of this would be about £2 10s. 0d. First decide in what position in the room you are intending to put it, because once installed it is very difficult to move. The ideal position is near an electric plug-point and not too near a window; certainly not where the sun can shine upon it. Remember it must be placed on a very strong shelf or table, as when full an aquarium of this size will weigh about 1 1/2 cwt.

Heating

Having placed the tank into position your next consideration is to provide the means of heating the water (this is very simple and economical). This consists of a small electric immersion heater of about 120 watts; a thermostat for controlling the water temperature, and lastly a thermometer for checking the water temperature. Your dealer will advise you on the best for your individual requirements, but the outlay for these three articles should not exceed 35/-.

This brings me to the cost of running; this, of course, varies according to area but it will certainly not exceed 6d. per week. The amount of current consumed to maintain the water at a temperature of about 75 degrees F. is almost negligible. The thermostat does maintain this by cutting off the current at about 75 degrees and switching on again when the water temperature falls beneath this figure. This is completely automatic in

operation and does not require any attention.

Sand and Gravel

Next obtain some sand or gravel which is specially selected for use in aquaria—you will require about 16 lbs., which must be well washed. The method employed to wash the sand is to place it in a bucket and continually agitate it under a running tap until the water runs quite clear. Having washed the sand you are now ready to put it in the aquarium. Well bank it up towards the back of the tank, but keep it level with the aquarium frame at the front. The reason for this is to provide a bed for your tropical plants (which you have to buy next) and to bury your heater in. Yes, you can bury your heater in this manner, otherwise it will look rather unnatural if left exposed; it will also function admirably in this position.

Next take a piece of brown paper, the same size as the bottom of the tank, and lay it on top of the sand. This will serve to hold the sand down while you pour in the water to fill the tank, which you do to within 1 in. on the top. When the tank is full, the brown paper will rise to the top, and you can dispose of it. It is preferable to boil the water first, particularly if your water supply is 'chalky' but, of course, allow it to cool before pouring into the tank.

You are now ready to buy your tropical plants, of which there are many varieties, all very hardy. These plants not only serve to give your aquarium the natural beauty so desirable, but are also vital to maintain the condition of the water and its 'finny' occupants. Therefore you must first consider plants which supply the most oxygen; they in fact maintain the natural cycle by absorbing the carbon-dioxide out of the water given off by the fish, and replaces the vital oxygen. It should be realised that the plants alone do not 'condition' the water, as actual contact with the air is necessary, so bear in mind to allow air circulation on the surface of the tank. This need only be provided with a narrow opening between your tank cover, (described later) and the water surface.

Your dealer will advise you on the best oxygenating plants which are easily obtainable at reasonable cost. These can be planted in the sand, keeping them to

the back and sides of the aquarium; for realism some suitable stones or rocks should be placed upon the bottom. This gives some scope to your artistic ability. You should bear in mind that these tropical plants are very sensitive to temperature, so allow only a short time to elapse between purchasing your plants and planting them, making sure your water temperature has been raised to about 75 degrees by your heater.

Plant Growth

The strong growth of your plants is greatly dependent on adequate lighting of your aquarium. It is, therefore, advisable that you *purchase* or *make* a metal cover to hold a 60 watt electric lamp, which should be separately controlled with the small type of switch used on table lamps. This cover prevents over active fish from committing suicide by jumping out of the tank, and also provides a protection from dust; but it mainly provides that beautiful subtle illumination of your tank without the glare of the lamp. This light should be kept on for at least four hours a day. It will secure the perfect rich green foliage of a healthy plant and reveal the inherent beauty of underwater life, the magic fairyland of colour and movement, which is such a delight to behold.

When your tank is set out and ready you should curb your impatience and wait at least one week before buying any fish. This allows time for the plants to become acclimatised and your tank conditioned. The number and species of fish you purchase depends upon the depth of your pocket, as some of these little fellows can be quite costly. I suggest that a visit to a good stockist is the best way of deciding the future inmates of your aquarium, but do aim at a balanced tank. By that, I mean, buy your fish in pairs—male and female—never one fish at a time.

Beautiful Specimens

There are many beautiful specimens, exotic in colouring (about 1 1/2 ins.—2 ins. long is the maximum growth) and many are 'live bearers'. That is to say they give birth to tiny replicas of themselves, alive and active. What a joy it is to find occasional additions to your fish family. A particularly prolific little fish is the *Lebistes reticulatus*, better known as the 'Guppy'; the males of this species are most delightfully marked to be quite alike. The Swordtails in many colours, the Platys, the Angel Fish whose black

(Continued on page 18)

How to Start a Tropical Aquarium

(Continued from page 19)

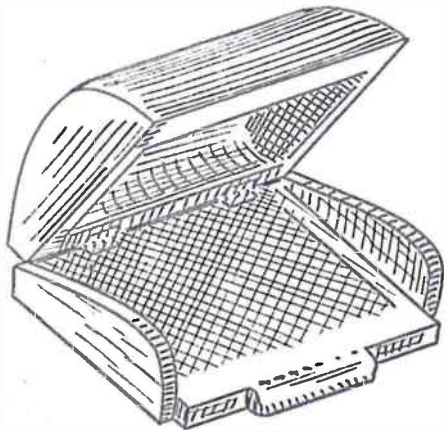
stripes and grace of movement make him an ever popular favourite. The wonderful colourings of the Siamese fighting fish (you must never have two males together as they will fight to the death, but alone they are quite inoffensive) provide a vivid flash of colour in their girations—just to mention a few of the many, many beautiful creatures.

The feeding of these little fish is quite simple: just a pinch of prepared food daily in your aquarium is ample. The greatest trouble results from over-feeding, and an occasional diet change

is good. Most tropical fish are carnivorous, therefore a little finely chopped meat or liver is a very welcome change. And do remember at least once a week use a rubber syphon and clean the bottom to remove excreta and stale food, and 'top up' with water warmed to the same temperature as the aquarium.

Your aquarium now established, it will for a long time to come provide added beauty to your home and endless interest in its constant changing panorama. (J.T.)

A Jewellery or Watch Box



glasspaper. Then cut the two side pieces from $\frac{1}{4}$ in. or $\frac{1}{8}$ in. thick material to the shape shown in Fig. 2 and carefully glue in place. When set these are also rounded off to a nice smooth curve. Leave the actual edges fairly sharp.

Two lid sides are now cut from $\frac{1}{4}$ in. thick material to the proportions given in Fig. 3. This curve must

blend with the curve worked on the side pieces attached to the base. Make sure, too, that the two lid sides are identical in shape. Pin the two together and glasspaper down as one, when cut. They are then assembled between two blocks of wood as shown in Fig. 4.

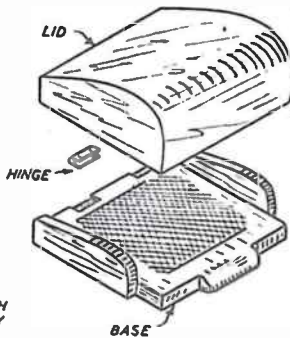
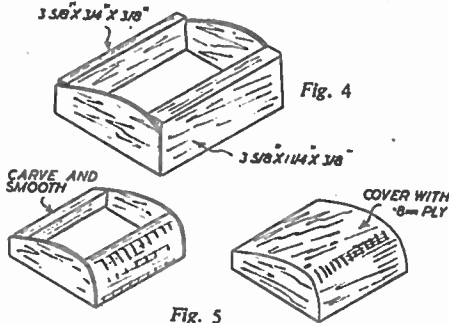
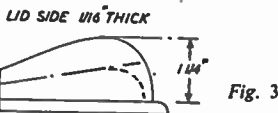
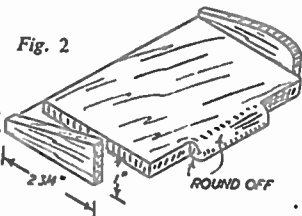
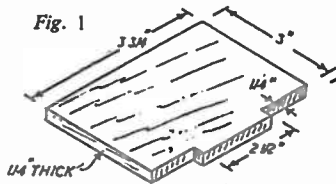
When set, carve and glasspaper the lid assembly down until the blocks

sure that the ply is glued down all around the curve of the front block. You can then lay the lid down on top of the base and finish glasspapering the assembly as one. The lid should be a nice snug fit between the two side pieces without play, but also without binding. Front and rear edges of lid and base should also line up accurately.

All that remains to do is to hinge the lid to the base, as in Fig. 6. Use two small hinges or one long hinge, recessed into both base and lid, so that there is no gap between lid and base along the rear edge when the box is shut. To open, the lid is gripped by the sides.

The interior of the box should be lined and finished according to requirements. If used as a case to hold a watch, line both base and lid with suitable material, erect a suitable pillar or holder for the watch and cover this also

THE modern curved lines of this miniature cabinet are unusual for a woodworking project, yet by carefully building up the parts required, construction is kept very simple and straightforward. Start first by cutting the base from $\frac{1}{4}$ in. thick material, as detailed in Fig. 1, making sure that you work accurately to these dimensions.



The projecting tab at the front of the base should be smoothed and rounded off, as shown. This serves no purpose other than decoration, but carry out this simple job with care, using only fine

conform to the curved profile. The top of the lid is then covered with a piece of 0.8 mm. ply, as in Fig. 5, carefully glued to each of the blocks and to the sides. Clamp in position until set and make

with the same material. Note that neither lid nor base is covered with lining around the edges, i.e. where the wood faces contact when the box is closed.

For small jewelled ornaments, brooches, etc., the base lining may be padded to raise its level and also make it possible to pin such ornaments in place.

Although a very simple project to make, the value of the finished article will depend on the quality of the workmanship put into the job. Take extreme care over shaping and fitting all the pieces and, finally, in the actual finishing of the woodwork. (R.H.W.)

Entertain your friends with

An Audience-Tested Marionette

IN this article we are giving instructions for making a simple marionette, 14ins. high. This model was recently the 'star' of a marionette variety show given from the stage of a school hall at a children's party, and it is not too large for use in your own home if you wish to entertain guests.

However, if you wish to construct a smaller model, it is necessary that each dimension given is reduced in proportion so that the correct balance between each section of the 'anatomy' is maintained. If each dimension is reduced by one half, a 7in. marionette will result, a suitable size for use with the puppet theatre, details of which were published in our issue of December 5th, 1951.

The Head

Fig. 1 shows the undressed model, minus one arm, and the several distinct stages of construction are indicated.

The head is built up from a wooden sphere, 2ins. diameter. The neck is formed from a piece of $\frac{1}{4}$ in. dowel 1in. long, which is glued into a hole drilled in the wooden ball to a depth of $\frac{1}{4}$ in. When the glue is dry, make the protrusion less severe by moulding plastic wood under the chin and around the sides and nape of the neck. Plastic wood is also used to suggest various features such as eyebrows, ears and nose. As the aim is to

Little work is entailed here as this part of the model will be clothed. Simply cut out a shallow recess between

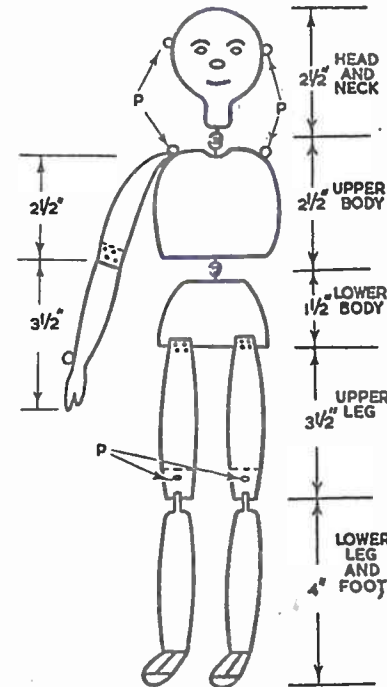


Fig. 1—A general view of the model

the shoulders with a fretsaw or coping saw, and then, with a sharp pen-knife roughly shape the shoulders and waist, and round off the corners. Finally the two sections are prepared with glasspaper.

The head and two body sections can now be assembled. It must be remembered that there are, so far, two body movements to be assimilated, at the neck and waist. These are easy to attain by the use of four small screw-rings, and the illustration shows clearly how it is done. In each case one of the small rings is prised open, inserted into its neighbour and closed up again. The neck and waist are thus allowed a limited amount of lateral rotation, and forward and backward bend.

The upper leg is made in two parts, as a more complicated joint is necessary at the knee. The larger part is simply a padded cloth sleeve, closed at the top but with an overlap which is tacked on to the FRONT of the lower body as

shown. If this is done correctly the padded thigh should hang vertically, below, but from the front edge of the lower body. The thigh should be approximately $\frac{1}{4}$ in. diameter, so as to accommodate the upper part of the knee joint which is made from a piece of $\frac{1}{4}$ in. dowel, $\frac{1}{2}$ in. long. This is glued into the sleeve, or it may be secured by drawing pins, after a small mortise $\frac{1}{4}$ in. deep is cut into it (see Fig. 2).

The remainder of the leg and knee joint, together with the shoe are made from one piece of $\frac{1}{4}$ in. dowel about 3 $\frac{1}{2}$ ins. long. The shin, ankle and shoe are roughly shaped with a pen-knife. If preferred the shoe can be made separately and glued firmly to the ankle, before connecting the knee.

Critical Joint

The knee joint is, perhaps, the most critical part of the model. A form of lock must be incorporated so that the knee can bend in only one direction. Fig. 2 shows how this is attained. When the rounded tenon is inserted into the mortise of the upper leg and secured by a small split-pin through the hole (a), the straight shoulder (b) will prevent the knee from bending in one direction. The joint should move freely, so do not make a push-fit.

A padded cloth sleeve forms the upper part of the arm section. This tapers from about $\frac{1}{4}$ in. diameter at the bottom (which is left open), to the closed top, which is tacked on to the shoulder. The lower part and the hand are made from one piece of $\frac{1}{4}$ in. dowel, 3 $\frac{1}{2}$ ins. long. This is whittled down to

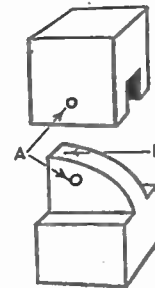


Fig. 2—How the knee joint is constructed

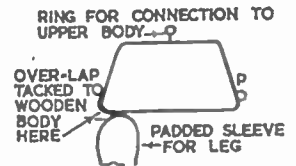


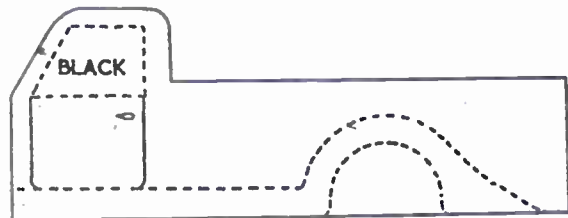
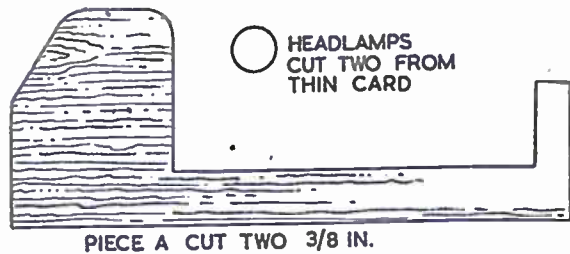
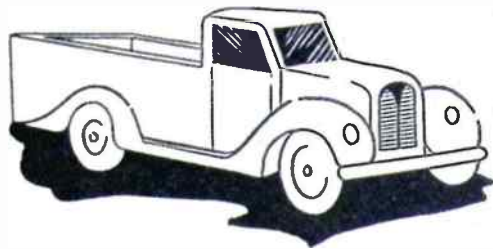
Fig. 3—Side view of the lower body, showing the ninth control point (P), and the position of the upper leg

the wrist, while the hand is rough-carved to give an impression of fingers and hollowed palm.

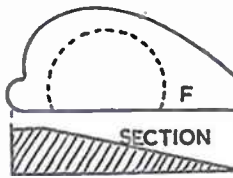
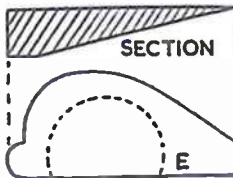
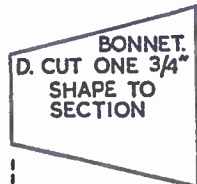
Before clothing the marionette various control points must be positioned. For simple control there are nine of these. Eight are as indicated (P) on Fig. 1, i.e. one just above each ear, one on each shoulder, one on each wrist and one

Don't neglect the Advertisement pages of 'Hobbies Weekly'. You will find them worthy of your attention.

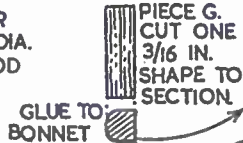
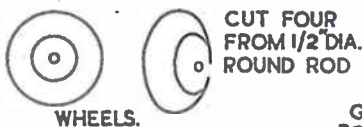
A Miniature Open Truck



PIECE B. CUT TWO 1/8 IN.



WINGS E AND F CUT ONE OF EACH 1/4 IN. AND GLUE BETWEEN SIDES C. AND BONNET



AS in the case of all the miniature vehicles already published, we have endeavoured to give a realistic model with as little detail as possible. There is a certain amount of shaping with a penknife, but the main outlines are cut with a fretsaw.

Trace the various pieces and transfer them to the wood. Odd pieces of 1/4 in., 1/2 in., 3/4 in. and 1 in. wood are needed. Two pieces of 1/4 in. could be glued together to make the 1/2 in. piece for the bonnet.

Cut out the two pieces (A) and glue them together. These pieces form the body of the truck and should now be cleaned up before gluing the pieces (B) in place.

The bonnet (D), cut from 3/4 in. wood, is glued in the front of the cab, which is formed by pieces (A) and (B). The spacing pieces (E) and (F) are next glued on either side of the bonnet. Piece (F) is on the left and piece (E) on the right-hand side. Shape and glue the

small piece (G) to the front of the bonnet as shown by the section.

The long pieces (C) are now glued on either side of the body in the position shown by the dotted lines on (B). These pieces form the wings and mudguards. The wings are rounded nicely after gluing in place.

The model can now be painted in suitable colours, using a quick drying

enamel. Note that the windscreen and side windows are painted black. A small window may be painted on the back of the cab. The radiator and bumpers can be white or aluminium.

The wheels which are 1/4 in. lengths of 1/2 in. diameter round rod, are shaped and painted to match the body. The tyres are coloured dark grey. Secure the wheels with 1/4 in. round head screws. (M.)

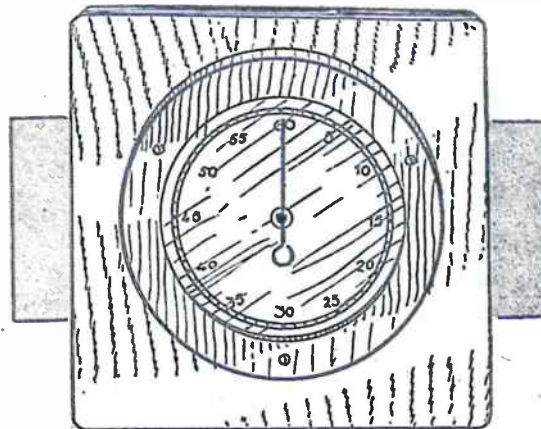
A Soup-plate Garden

I AM entering a competition for a garden in a soup plate, and wonder if you can give me any advice. (W.W.—Aveton Gifford).

WE suggest you first work out a general scheme for your soup plate garden—for example, a 'hill' at one part, with little outcroppings of rock on the hillside, with, perhaps, an ornamental lake in the centre and a few 'paths' made with sand and stone slips. Then plant out your grass—if any—it can be kept well clipped). Small sprigs

of many bushes and shrubs look very realistic, especially if seeds or the like, in bright colours are added. Miniature flowers can best be selected by studying a good catalogue of seeds and plants and selecting 'in season' small varieties, for example, auriculas or aubretia, which can be cut back as needed. Many 'Alpines' and moss or rock plants are quite small and can be planted out in your garden shortly before the competition date.

Photographers can make A DARKROOM CLOCK



PHOTOGRAPHIC readers who possess an old but serviceable clock with a seconds hand, can quite easily convert it to a second's clock for use in the darkroom. Of course, it could be used for making seconds of exposure without conversion, but the smallness of the dial makes reading difficult in the subdued light of the darkroom, and the con-

a wood box, as it were, the bottom brackets can be cut long enough to extend to the back of the clock, with the ends turned over to act as feet and so keep the clock on an even keel. In the centre of the wood front glue the dial of the clock, the minute divisions of which will, in future, indicate seconds of time. The position of the dial is clearly shown by the circle of dashes in the

stout metal, and drilled to fit between the legs and case of the clock, at the bottom, and carrying ring at the top, with extra holes for screwing to the plywood front. Unless it is intended to encase the clock in

1/4 in. ring over the dial, and the third ring over that, thus leaving a rebated recess for the glass to lie in. Keep all in place with the second ring, screwed to the rest, as in detail Fig. 2 (A). The latter ring might have its inner edge neatly bevelled.

The old seconds hand is, probably, as shown at (B) in Fig. 3. Remove the actual pointer, leaving the brass stem bare. This, of course, is a friction tight fit on the spindle of the second's wheel of the clock. It must be extended in length to reach beyond the new position of the dial, and such extension must be of light construction to avoid having any delaying act on the time-keeping. This can well be done by adopting the following method.

Cut a piece of stiff paper to about 1 in. wide and 1 1/2 in. long, and roll it round a

steel knitting needle to give it a natural curl. Glue the paper, place the brass stem of the second's hand at the left end, as at (C) and roll up. Keep the roll tight until the glue is set, then cut off any surplus part, extending beyond the left side, leaving the paper level with the open end of the stem.

A pointer can be made from a short length of wire, say, about 4 in. long.

one half by twisting into ring form, as at (D). Fit the lengthened stem on the second's spindle, and allowing it to extend 1/4 in., not more, above the dial, cut off the remainder. Bore a hole through the stem at 1/4 in. from the top with a darning needle, and push the pointer through to the centre mark, as at (E). Now place a drop of sealing wax on the top, and with a hot iron, melt until it runs in the paper tube and seals the end.

The pointer should be enamelled black or red, as preferred. The clock case might also be enamelled, especially if rather old, and the wood front varnished. A very useful and not inartistic clock will result, ready to give valuable work to the photographic enthusiast. (W.J.E.)

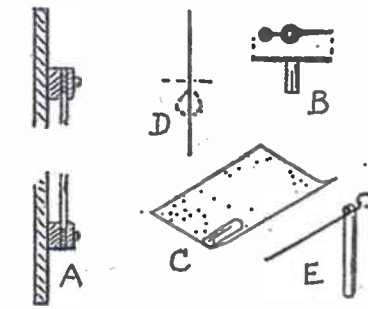
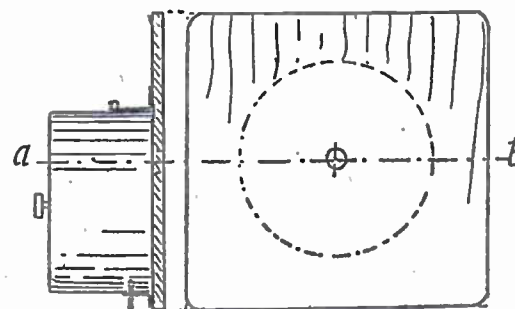


Fig. 3

version increases the size of the dial to normal. It can then be much more easily read. Here are the instructions for setting about the job.

With the clock standing upright, measure the distance between table and second's spindle, double this distance and cut a square of thin plywood to the size. In the centre of this bore a 1/4 in. hole through, and round off the sharp corner angles of the shape. Take the clock in hand, remove the glass, hour and minute hands, dial and second's hand, then fix the clock to the plywood square with metal angle brackets, the spindle of the second's hand being in the centre of the wood, instead of the hour hand, as indicated by the line (a—b) in Fig. 1.

The angle brackets mentioned can be cut from 1/4 in. wide strips of not too

diagram.

The hour numerals are blocked out by gumming a ring of paper over them, also the now useless seconds dial, and the divisions numbered in groups of five, to the total of 60, as in the general view of the completed clock. It is, perhaps, needless to add, that should the dial be dirty, it could be cleaned up by rubbing over with an eraser or stale breadcrumbs.

For covering in the dial cut two rings of fretwood, one 1/4 in. thick and the other 1/4 in. thick. Inside diameters of these should be 1/4 in. less all round than the diameter of the old glass, and outside diameters 1/4 in. larger all round. Now cut a ring of the 1/4 in. wood, the same diameter as the rest outside, and the diameter of the glass inside. Glue the

Here are a few

TIPS FOR THE HANDYMAN

Preventing Draughts

DRAUGHTS can lower the temperature of a room and cause such discomfort that it is well-worth the trouble of making your rooms draught-proof, and you will also keep your fuel bills low, too. The best time to do this job is when you are doing your spring cleaning and decorating.

Usually in old houses there is a certain amount of structural settlement. This causes gaps between the skirting boards and the floor. The best way to seal these gaps is to purchase some quadrant or quarter round moulding about 1/4 in. wide from your nearest timber yard. This will fit snugly into the angle formed by the skirting and the floor boards, and can be nailed into position with some 1 in. wire oval nails. The corners should be mitred (cut at 45 degrees) so as to fit neatly into the corners. It can then be painted to match the skirting. This method not only stops draughts but also helps the cleaning of the room, as the moulding provides a round edge and prevents the collection of dirt in corners.

Draughts due to bad joints in floor boards are particularly noticeable, especially if your floors are stained and polished and not covered with linoleum. The best way of filling these cracks without showing is to soak some brown paper in water until it becomes saturated and 'pulpy' (papier mâché); then press it into the cracks with a putty knife. Wait for a day or so for it to dry, then stain to match the existing floor boards.

Badly fitting doors are another draught inlet. The best treatment for these is to obtain some draught preventing rubber strip. This can be tacked round the door and should seal it completely. 1 in. wide strips of linoleum tacked on the door, allowing 1/4 in. to

overlap on to the door frame provide another good remedy.

A careful inspection round the house will reveal many sources of draught which can be treated and so provide greater comfort in your home.

Clearing Blocked Pipes

AMONG the many sources of trouble in the home are the small defects which occur in drains and waste pipes. These are usually blockages which can be easily freed, yet if left can cause a lot of trouble and inconvenience.

A sink or hand-basin which has a slow runaway due to an obstruction in the waste pipe can be prevented by an occasional inspection of the 'U' pipe beneath the sink. This is commonly known as the trap, and, in effect is a trap for water, the purpose of which is to prevent odours from the drain passing up into the room through the pipe; it is also a trap for small articles which might otherwise collect in a more inaccessible part of the system. The trap is fitted with a screw-cap at the base of the 'U'. Place a bucket beneath this and unscrew cap with a pair of pliers. Turn on your tap and allow some water to run down the waste pipe; this will, of course, run out into your bucket and will probably bring with it the waste matter which has been blocking the pipe. Should this still prove unsuccessful, probe with a piece of stout wire. Replace the cap, and thoroughly flush the drain. If this treatment is not effective, bring into service a rubber plunger (which can be bought at your local ironmongers).

Half fill the sink with water, stuff a wet rag into the overflow of the sink, making sure it is entirely blocked. Then hold into position with one hand while you vigorously and repeatedly plunge

the rubber cap over the waste grill of the sink in an up and down pumping action, keeping constantly in contact with the waste grill. This should free the most stubborn blockage.

Cistern Adjustment

IRREGULARITIES in the action of a lavatory cistern frequently occur in most households, and being so simple to cure it is hardly worth calling for professional attention.

It is often found that the cistern will not operate easily, or that it becomes out of adjustment and overflows.

Let us deal with the one that readily overflows into the garden, as this seems to me to be the greatest nuisance. First we remove the metal lid of the cistern in which we will find a copper ball at the end of an arm, which, while floating on the surface of the water, controls the flow and cut-off of the supply of water to the cistern. This is known as the ballcock. You will find that this ball, if defective, is not perfectly watertight, and consequently does not float properly. Therefore, it is not effective in controlling the valve which cuts off the water. A defective ball can be replaced quite easily at your local ironmongers, and remember to take the old one as a pattern for size.

The correct adjustment should be that the supply is completely cut-off when the water level in the cistern is about 1/4 in. beneath the overflow outlet. This adjustment can be readily made by bending the arm supporting the ball up to allow more water in the cistern, and down to allow less water in. Care should be taken in the bending, as damage to the valve could ensue, and remember, the necessary bend is only slight to obtain correct adjustment. (J.T.)

smock and trousers in contrasting colours, with a typical 'clown' make-up has proved suitable.

The following is a simple test for your completed marionette. Hold it upright from its head so that its feet are just clear of the floor. Now allow it to fall. Do this several times, observing the position in which it lies each time. Each position should appear quite natural and be such as any lifeless body might fall into.

The next article in this series will give instructions for making a simple controller, and explain its use. (C.R.C.)



TO this modern age, the ship's Figurehead is a relic of the past, but to the sailors of past generations it was something very real, regarded almost with veneration. Many incidents are depicted in the pages of our maritime history, and in the great novels of the sea, which illustrate the regard with which these adornments of the vessels were held by the men who sailed in them.

The origin of the custom of carrying a figurehead in all probability arose from one of two things—the desire to

THE STORY OF SHIPS' FIGUREHEADS

By 'Whipstaff'

Egypt had the stem carried up and finished in the form of a lotus plant. For a time during the middle ages the

reign of Henry VIII until that of George II, and among many famous ships to bear it were the 'Great Harry', Grenville's 'Revenge', etc. It took at this period the form of the LION GUARDANT or LION COUCHANT in the Heraldic form.

Occasionally at this period we also see the Tudor Dragon as figurehead, but rarely any other device. It is highly improbable that Drake's 'Golden Hind' ever carried a Hind figurehead as shown in some of the kits sold as representing this famous little ship.

During the reign of James I, the Scottish Lion Rampant was introduced, and although removed from use by Cromwell, it was restored to favour by Charles II.

During this period the beak-head became more modified and less like that of the galley, the decorated trail boards were given a graceful curve up to the figurehead, making one continuous scheme of decoration.

Exceptions

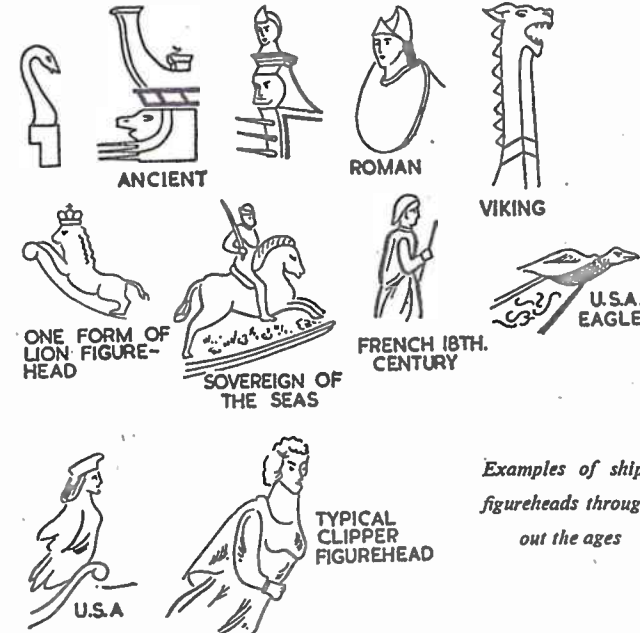
There were exceptions to the Lion as figurehead in such ships as the famous 'Sovereign of the Seas,' whose figurehead was an equestrian statue of King Edgar trampling on seven conquered kings. This later (at her second rebuild) gave way to the ordinary crowned Lion of the period. The 'Royal Prince' of 1610 bore the figurehead representative of Prince Henry, and according to Stow it was 'a most wonderful effort of human genius'.

The 'Naseby', obviously taking the idea from the 'Sovereign' had one of Cromwell trampling the fighting men of six nations, this being removed at the restoration and sold for firewood. The six fighting men were a Scot, Irishman, Dutchman, Frenchman, Spaniard and an Englishman, as can be seen from the costume of the figures, in contemporary illustrations.

Another famous figurehead, regarded as the finest at the time she was built, was that of the 'Royal George', a gilded figure in Roman armour, with red cloak and helmet crest and mounted on a white horse.

The famous Grinling Gibbons, who was responsible for many of our finest and most prized church carvings, was probably also the greatest of our artists in the carving of ships figureheads. Another famous artist in this craft was

(Continued on page 28)



Examples of ships' figureheads throughout the ages

depict one of the gods in the belief that the carrying of such a figure would bring safety and good luck, or, secondly, the idea that a fearsome figurehead would strike terror into the enemy who saw the ship approaching.

In some cases, in China for example, an eye was painted on the bow of the vessel in the quaint belief that the vessel would be able to 'see', and to denote the vigilance necessary in the crew's conduct.

In ancient Egypt the lotus plant was sacred, and most of the vessels of early

figurehead disappeared owing to the fitting of the forecastle platform for fighting purposes, although we see it fitted sometimes in the form of a serpent underneath the forecastle platform.

When the figurehead returned to favour it was not as a separate item but as an integral part of the whole scheme of decoration, port wreaths, stern, etc.

The Lion

With few exceptions the Lion became the general English figurehead from the

An Audience-Tested Marionette

(Continued from page 23)

just above each knee joint. Fig. 3 shows the position of the ninth, and also illustrates more clearly the position of the upper leg in relation to the lower body.

Ordinary straight pins are used for the control points. Clip off the heads of the pins and form a staple by bending the pin into a horse-shoe. Tap these into the wood so as to make them as unnoticeable as possible, leaving a small loop, to which the thread is attached.

The lower arms, hands and legs should be glasspapered and painted a similar colour to the background of the face, while the shoes can be coloured as desired.

If you have prevailed upon the lady members of the family to make the clothing, you are advised to point out to them that it must all be loose-fitting to allow for completely free movement at every joint—neck, waist, hips, knees, elbows and shoulders. The simplest

A Simple Colour Mixer

An elementary toy top can be used to demonstrate practical colour 'mixing' in a simple interesting manner. Younger children, in particular, are impressed and retain a vivid memory of such colour mixing effects.

Inexpensive Apparatus

The apparatus, if such an elementary object can be so termed, consists of a 3in. diameter circular disc cut from stout white card, pierced at the centre and mounted on a 2½in. length of ¼in.

diameter dowel. Make sure that the dowel is properly at right angles to the disc and secure with glue.

Colour Discs

A number of 2in. diameter colour discs are then required. These are cut from thin white paper previously coloured in the required manner, or from opaque coloured plastic sheet. Each colour disc is pierced with a ¼in. diameter hole, as shown. A suitable selection of colour discs would be red,

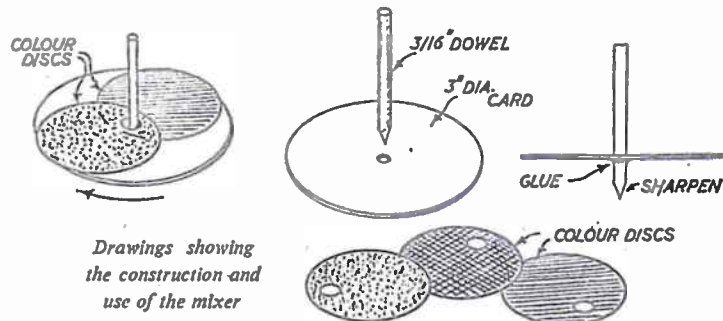
yellow and blue, for a start. It is important that whatever colouring is used, it must be dense.

Mixture

If two or more discs are now slipped over the dowel and the top spun, the resulting colour viewed will be a mixture of that given by each individual disc. If the colour discs are equally spaced, a nearly equal mixture of these colours will result, and so on. The colour discs retain substantially the same positions when spinning. If plastic colour discs are used, these can be made a push fit over the dowel to retain exactly their initial positioning.

The Three Primaries

Pigmented colours are not truly representative of natural light spectrum colours and so, with pigments, the three primaries will be red, yellow and blue. When the top is loaded with three discs, one in each of these complementary colours, the resulting effect will be near white. Normal 'pigment' rules follow for the production of other colours, such as green, orange, etc. (R.H.W.)



Drawings showing the construction and use of the mixer

Shipmodeller's Corner

(Continued from page 27)

trained in England but pursued his art in America during the early part of the 19th century. He was the celebrated James Brooker.

The first ship to carry the Royal Arms as figurehead was the famous 'Britannia', a ship of 100 guns built in the reign of William III.

In 1750, approximately, the Lion figurehead went out for ships below the rating of First Rate and was replaced by the full length figure. And, as classical names (a custom probably copied from the French) became at this period more popular in the Navy, many figureheads were symbolic of the name of the ship; many people figured as subjects for the art of the ship's figure-head carvers including princes, politicians and even in an occasional case, an actress.

The figureheads of French ships were more artistic than our own, while the Spaniards produced elaborate religious groups.

The 'Royal Sovereign' of Nelson's day carried the figure of the reigning monarch George III.

Curious Figureheads

Among many strange and curious

figureheads was that of the privateer 'Terrible'. In this case the figurehead was the gruesome one of a skeleton.

After Trafalgar, the disappearance of the beak bow had the result of making figureheads take a more simple form.

Female Figures

It was early in the 19th century that the Merchant Navy took up the figurehead upon finding that the long bows of the clipper type were ideal for the purpose, and female figures especially became popular, the draperies merging into the line of the hull; from then on the figurehead became almost the only ornamentation on the ship's hull.

Owners of clippers ships often had figureheads representing themselves or some member of their family. Some of the more famous were the Scottish Witch of the 'Cutty Sark', the devil on the 'Styx', a Highlander in full tartan, etc.

The earlier ironclad warships had figureheads, but with the introduction of the ram bow this was replaced by the Union Jack or the Royal Arms with a scroll ast of them. This was about 1860 and they became smaller with each successive type or class of warship,

being completely abolished in the 1890's.

Many excellent examples of preserved figureheads can be seen in the United Services Museum, Whitehall, and in the National Maritime Museum at Greenwich.

In the space of this short article I have been able to give only an outline of this fascinating study, but I will be pleased to try to answer any queries regarding the figurehead of a particular model. And in a future article I shall outline methods of carving and modelling ships' figureheads, which add so much to the finished model and also serve to identify the ship.

In the sketches I have tried to give a representative selection showing the form of the ship's figurehead throughout the ages. These will help to show the wide variety of the ship carver's art. (A.)

KEEP THAT ACE HEAD ON

Very often when you have put on an axe head, the wedge works loose. To prevent this, fill the slit where the wedge goes with strong liquid glue. Also put glue on the part of the handle that goes into the head. The handle should not work loose after this.

CRAFTWORKERS! (Either sex), staffing soft toys at home. Highly remunerative pastime. Experience unnecessary. No registration or enrolment fees. Details S.A.E.—Cuddycraft Supplies, 117 East Rd., London, N.1.

FREE—two attractive Mint high value European Airmail stamps to applicants for Pictorial approvals. 3d. stamp for postage, please.—E. W. Compton, S.C.A., 93 Manor Place, London, S.E.17.

APPROVALS 25 a 1d. upwards.—Jeffreys, 42 Bay View, Craigavon, Port Talbot.

STAMPS FREE! Twenty unused (2½d.).—G. H. Barnett, Limington, Somerset.

SPARE TIME POUNDS!—Send 2/9 for this book of spare time money making plans, ideas; overseas, 3/6.—Johnson, 256 Wakefield Rd., Drighlington, Bradford.

CASTING moulds for lead soldiers and animals. Complete catalogue, 6d. Sample mould, 4/.—G. F. Rhead, Haretest, Suffolk.

QUALITY offer! Junior approval applicants receive set of Australian animals for 2½d. stamp.—Hills, 5 Blue Road, Tipitree, Colchester, Essex.

FREE! 25 stamps of Switzerland to approval applicants enclosing postage.—Yulwontmor Stamps, 175 Priory Road, St. Denys, Southampton.

PROFITABLE spare-time hobby stamp dealing. Stocks unnecessary; details S.A.E.—B.C.M. CREMYLL (11W), 3 Bloomsbury Street, London, W.C.1.

EARN big money leading windows with Decra-Led. A profitable spare time hobby which can quickly develop into a thriving full-time business. Trial kit complete with designs and full instructions, 14/6, plus 1/3 post and packing or C.O.D.—A. Brown & Co., 50 Wood St., Ashton-u Lyne, Lancs.

£3 WEEKLY by genuine clerical homework; no 'security fees'. Details S.A.E.—Johnson, 3 Links Road, Prestwick, Ayrshire.

PLYWOOD offcuts, money back guarantee. 1 Parcel 5/- and 10/- post free.—Mayco (late Ezedraw), 1 Nadin Road, Sutton Coldfield.

500 WORLD stamps, all different, 3/9.—H. Whitby, Godshill, Fordingbridge, Hants.

DUPLEX self adhesive Transfers for decorating fancy goods, trays, plastics, etc. List and samples, 3d.—H. Axon Harrison, Jersey.

FASCINATING! PROFITABLE!



GROW genuine living miniature trees, 6 to 18ins. high. Any kind. Beautiful decorations. Bloom and even bear fruit. Easy to grow; garden not essential. Cost practically nothing—sell for £££s. Send S.A.E. for full details of secrets now.

MINIATURE TREES (DEPT. 20/B)
6, Cedar House, Erlanger Road, London, S.E.14

WANTED—small woodworking assembly, toy making, turnery, box making, etc. Write—Lewis, Kent Cottage, Ninhams Wood, Farnborough, Kent.

MODELS. You can make lasting stone-hard models with Sankey's Pyram Plastic Cement. Supplied in tins by Ironmongers, Hardwaremen and Builders' Merchants. Ask for instruction leaflet.

LEARN SHORTHAND by November 5th (1 hour's study nightly). 1st lesson, 2½d. stamp.—Duttons (Dept. HB), 92 Gt. Russell St., London, W.C.1.

(Continued on page 30)



Build this Realistic Model Village with



Bricks and Mortar Building Kit and Accessories

THE YEAR'S TWO OUTSTANDING 35 mm. FILM STRIPS

THE LIFE AND REIGN OF HIS MAJESTY KING GEORGE VI

also THE FUNERAL OF H.M. KING GEORGE VI

From Sandringham to Windsor, including the Lying in State. All the majesty and splendour of this impressive spectacle seen in Cinema-like reproduction through the

SUPREME CINE VIEWER

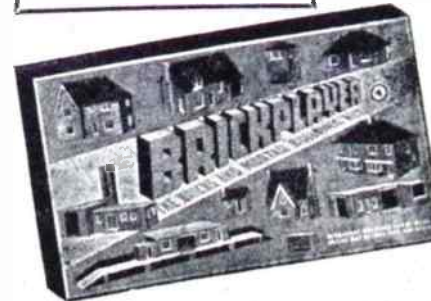
High Quality Definition
FILM STRIPS
2/6
35 mm.



Superb Magnification
VIEWER
2/9

Send P.O. plus 6d. post & pkg. C.O.D. 1/- ex. FOWDEN FILM & OPTICAL SERVICE 2 HASTINGS STREET, LUTON, BEDS.

ENTER FOR THE BRICKPLAYER COMPETITION
Prizes of £10 10s., £5 5s., and £3 3s. and a number of consolation prizes of Brickplayer Accessories will be awarded for winning models.
Write for full details.



The Brickplayer Kit contains miniature bricks in all required shapes, mortar, roofing, metal windows and doors, plans and instruction booklet. All models are architect designed to 'O' gauge scale. Buildings can be permanent or dismantled by merely soaking in water, and the bricks used again and again.

Brickplayer Kits at 28/6 and 52/6 and Accessories are available from good toyshops and stores.

If your dealer cannot supply, write for address of nearest stockist to:

J. W. SPEAR & SONS LIMITED
Dept. "H", Enfield, Middlesex

YOUR IDEAL CHRISTMAS GIFT

REPLIES OF INTEREST

Lining a Cycle
I WOULD like advice on lining a cycle frame that has been enameled with Robbialac. What is the best type of enamel, and brushes or bristles to use? Also is it advisable to line any part of the frame first? (J.C.—Hanley Castle).

FINE lining on a cycle frame is, nowadays, generally done by applying suitable transfers, which could possibly be had from cycle dealers. Otherwise, use a long sable-haired lining pencil—a long-haired brush specially made for the purpose, and costing about 15/-. In general, the lining colour is fairly dense enamel. In your case we suggest the same make of paint as used for the main paintwork. The best order of painting is to paint first those parts which will not baffle you or cause delay when putting in the last lines. Paint so that none of the wet parts will be in your way when doing the remainder.

Magnetic Trouble
I HAVE a wrist watch which will not go when I am wearing it, but goes quite well in any position when not being worn. I have tried sticking a rubber patch and adhesive tape on the back, but with no different result. Is it possible to demagnetise it and could you tell me how to do this? (A.S.—Hexham).

OUR expert advises that it is possible to demagnetise a watch,

but it is a specialised job and an amateur is not recommended to tackle it. It is quite likely you would do more damage to the movement. You should first try wearing the watch on the other wrist, or with the movement on the inside of the wrist. For some unknown reason there are a few people who cannot wear a watch at all, and so far no known cure has been found. It is quite possible that the watch stops when it gets in a certain position—the hands may catch due to too much play if the watch gets shaken badly, and this is a frequent cause of trouble with a centre seconds watch. You should wear the watch and carefully note when it stops—the position of the hands and when it was wound up. If you think it is magnetised you should take it to a good watchmaker for a check-up and not attempt to do the job yourself. There are so many things that could be the matter with the watch, that it is impossible to give a verdict without seeing it, and even then there are some which are very difficult to treat effectively. To all amateur watchmakers we advise working very carefully and not attempting to make an alteration unless you know exactly what you are doing, and why you are doing it. More damage is done in trying to mend a watch without having any experience whatever. Watchmaking is a highly specialised craft, and should be treated with respect.

Miscellaneous Advertisements—(Continued from page 29)

DOLL'S HOUSE fittings and papers; send S.A.E. for list. Dolls house plan—special; send 2/6. Trade supplies.—Zimplan, 88 Ware Road, Hoddeston.

PLYWOOD officia. Gaboon in various thicknesses. Handy sized parcels for the cabinet, toy, model maker, and all handicrafts. Parcels made up in £1 and 10/- lots. Carriage paid. Send P.O. to—Reeves, Plywood and Timber Merchant, 33 Front Street, Monkseaton, Whitley Bay. Tel.: W.B. 4677. Parcels are now despatched on day of receiving order.

AMERICA'S famous hobby magazines. One year's supply. Popular Mechanics, 32/-; Popular Science, 28/6; Homemaker, 16/6; Popular Homecraft, 18/-. Free booklet listing all others sent on request.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

TOYMAKERS' supplies. Wooden, Pressed Metal, Plastic and Metal Disc wheels, Doll's House windows, doors, papers. Illustrated Catalogue, 3d. (Trade Suppl. ed.)—Jasons, 135 Nags Head Road, Enfield, Middlesex.

STAMPS. Approvals 10 and 3 for 1d.—Bates, 5147 Eastworth Road, Chertsey, Surrey.

9.5 Home Movie Film Library. Latest films. Convenient hire terms. Second hand bargains. List, 3d.—'Wayland', 223 Longley Road, Tooting, London.

LORRY KITS. 4 mm. and 7 mm. scale. Also large range of spare parts from which to build to your own design. Send for fully illustrated catalogue—price 1/-.—Wilson's Lorrys Ltd., 6 St. Winchester St., London, E.C.2.

KUKLOS ANNUAL. Indispensable cyclist's handbook. Tours, resthouses, money-saving hints, 2/10, post free.—Burrow, Publishers, 2 Imperial House, Cheltenham.

CONJURING and MAGIC. More New Tricks, Illusions, Novelties. Enlarged Catalogue, 4d.—DeHempsey, Magician, 363 Sandycroft, Bournemouth.

STAMPS for Free gift. Send 2½d. stamp requesting our approvals. Good Stamps. Reasonable Prices.—Willett & Carville, 69 St. Vincent Crescent, Glasgow, C.3.

WHEELS for Toys, etc., in Hardwood, Plastic and Rubber Tyred Metal. Doll's House fittings and papers. Doll's Cot and Pram fittings. Decorative Transfers. Beads for Counting Frames and other Toy accessories. Fine Art Pictures for Jig-Saws, etc. Stamp for lists. Trade supplied.—Joyden Toy Co., 193 Chase Side, London, N.14.

STAMPS FREE—Empire Packet including Pictorials and Victorians free to approval applicants.—Robert J. Peck, 7A Kemp Road, Bournemouth.

Stained Tent
I HAVE a ridge tent somewhat old but untorn or patched. The only trouble is it has at some time been put away while still wet or damp. This has caused a number of blackish grey stains on the outside and the steel pegs have made three or four large red rust marks. Is it possible to remove these marks? (F.W.—Saltburn-by-Sea).

THE mould or 'fungus' (stain marks) on the tent you have, can best be dealt with by brushing vigorously with a fairly stiff scrubbing brush, but there may be difficulty in removing all signs completely. Afterwards the parts affected should be examined and if the canvas is badly deteriorated it should be cut out and replaced with a new patch. Rust is even more difficult to erase; you could try spirits of lemon. We advise giving the whole outer surface of the tent a coating of waterproofing solution, which you can obtain in tins, with instructions as to use, from the camp stores or ironmongers. There are several good brands—Granger's Solution, Mesowax, 'Nev', etc. Work the mixture well into all the seams. See that it is thoroughly dry before you fold the tent up again.

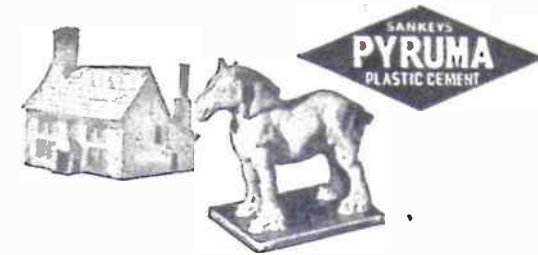
Treating Rust
CAN you please tell me how to treat rust on steel window frames before painting? (W.H.C.—Sevenoaks).
YOU should saturate the rusted metal with benzine and scrub with a wire brush. Repeat as may be necessary, then wash finally to remove loose rust. When dry, coat the metal with pure red lead paint before applying the finishing colour. This should stop the action of the rust continuing further, and provide a suitable undercoat for painting.

NOVEL CALENDAR designs painted on plywood for cutting out. Earn extra cash. Supply your friends, clubs, shops, etc. Sample, 2/-; half dozen, 11/-.—Cleaver (H.W.), 50 Windsor Road, London, N.W.2.

TOY CASTING Moulds. Soldiers, sailors, fairmen, etc. 1,000 varieties from 3/- each. Catalogue, 9d. Moulds for Plasterwork, plaques, ornaments, brooches and Coronation souvenirs. Moulds from 3/6 each. Catalogue, 9d. S.A.E. for list. Rubber moulds, four for 7/6.—F. W. Nuttall, 69 St. Marks Road, Hanwell, London, W.7.

100,000 Government Surplus Bargains. Micro-switches, 230v. 5amp. 4/6, post 3d. Slide-lock fuses, 230v. 15amp. 2/6, post 6d. Button switches, 230v. 2amp. (for table lamps, etc.), 1/4, post 3d. Miniature motors, 3 to 6v. D.C., weight 1½ozs., 8/6, post 4d. Hundreds of fascinating bargains for the Hobbyist:—Motors, relays, switches, gear units, panel lights, etc., etc. Money back guarantee. Send 3d. stamp for list.—Milligan's, 24 Harford Street, Liverpool, 3.

SMOOTH white plywood, 36" x 9½" x ½". 58 for 23/-; 30" x 9½" x ½", 8 for 19/4; 24" x 9½" x ½", 8 for 16/-. C.W.O. post free. Plywood hardwood list, 1½d. 1½d. S.A.E.—Dept. H, JDD. Storage, East Dulwich, S.E.22.



for a house — or a horse!

From rough, rugged stone to smooth animal muscles—any surface, any shape can be easily modelled, moulded or cut from plastic, ready-to-use PYRUMA. Baked or air-dried to stone-hardness, your Pyruma models can be painted or enamelled in realistic colours, as instructed in the Illustrated Book offered below. Send for it today and learn how to make model—
HOUSES, BUILDINGS FOR MODEL RAILWAYS, DOCKS AND AIRPORTS, SHIPS, MODEL FURNITURE, ANIMALS, FIGURES, RELIEF MAPS, Etc., as well as utility objects such as **ASHTRAYS, BOOKENDS, MENU HOLDERS, PAPER WEIGHTS, ORNAMENTS AND DECORATIVE OBJECTS.**

NO SKILL OR SPECIAL TOOLS REQUIRED.
 Inexpensive, PYRUMA is obtainable from Ironmongers, Art-material Shops and Hobbies Stores.

4d. brings book from: DEPT. H.W.
J.H. SANKEY & SON, LIP
 ILFORD ESSEX

FLEXIMOULD
FOR PLASTER CASTING
 WALL PLAQUES, FIGURES, GARDEN ORNAMENTS, BOOK-ENDS, ETC. MADE IN YOUR OWN HOME. THE ALL-FAMILY HOBBY THAT ADDS POUNDS TO YOUR INCOME.
 Write for **FLEXIMOULD ILLUSTRATED LEAFLET** to **DOHM LTD. (DEPT. H) 167 VICTORIA ST., LONDON, S.W.1**

Hobbies LIMITED
MANCHESTER 10 Piccadilly (Phone CENTRAL 1787)
BIRMINGHAM 14 Bull Ring
SHEFFIELD 4 St. Paul's Parade (Phone 26071)
LEEDS 10 Queen Victoria Street (Phone 28639)
HULL 10 Paragon Square
SOUTHAMPTON 25 Bernard Street
BRISTOL 30 Narrow Wine Street (Phone 23744)
GLASGOW 326 Argyle Street (Phone CENTRAL 5042)
 Head Office & Factories—**HOBBIES LTD., DEREHAM, NORFOLK**

Why envy the Expert RHYTHMIC PIANIST?
This FREE BOOK tells how you can be one yourself!

Write, call or 'phone (Padd. 9909) for your copy. It contains full details of the Billy Mayerl World-famous Course. If you already play from printed music you will be amazed how simply and easily you can develop a Rhythmic style of your own. You learn in your own time, without dreary hours of practice—and at a price you can afford. No time limit whilst studying.

BILLY MAYERL
WORLD-FAMOUS COURSE INCLUDES 11 LESSONS 4 RECORDS
 With these clearly written, fascinating, easy-to-follow lessons you rapidly become an envied and constantly sought-after Rhythmic pianist.
 Specially recorded by Billy Mayerl himself on which he talks and plays your pieces to you—in fact, your teacher at your elbow.

SEND FOR COUPON
FREE BOOK TO-DAY!
 PIN TO A SHEET OF PAPER WITH YOUR NAME AND ADDRESS
 I can play } Please cross out one line
 I cannot play }
 To Mr Billy Mayerl (Studio D.2) 395a Edgware Rd., London, W.2
 74

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

200 SHAVES for 2d.
 Do not be prejudiced. Someone was bound to invent some day a device that really will keep a razor blade sharp. We can GUARANTEE that with a Cyclop ATOMIC BLADE KEENER most men will get 200 or more really fine shaves from only ONE modern water blade.—Used dry. No oil paste or water. Not abrasive. Simple, quick, easy. Fr. Patent. Once used—never without it. Move with the times—and for one today! As we have sold out the Utility models, we now offer a De LUXE MODEL at only 3/6, plus post 6d.
KORVING LTD. (H.2), 54 Frederick Street, London, W.C.1

KITS for OLD TIME SHIPS
 Hobbies range of Ship Models includes Elizabeth Jonas, Curcy Sark, Victory, Mayflower, etc. Complete kits of wood, sail material, guns, pulleys, etc., with full size patterns of parts and planned wood ready to cut out, shape and construct. A fascinating pastime.
 Kits for models 7ins., 10ins. and upwards.
 Ask for free illustrated lists at Hobbies Branches or from Hobbies Limited, Dept. 99, Dereham, Norfolk.

THE FAMOUS

BENNETT COLLEGE



can help you
to success through
personal
postal tuition

THOUSANDS OF MEN in important positions were once students of The Bennett College. They owe their success to Personal Postal Tuition—The Bennett College way. You have the same chance to qualify for a fine career, higher pay and social standing.

One of these courses
will lead to your advancement

- | | | |
|-------------------|-------------------------|---------------------|
| Accountancy | Modern Business Methods | Languages |
| Auditing | Shorthand | Mathematics |
| Book-keeping | English | Public Speaking |
| Commercial | General Education | Police Subjects |
| Arithmetic | Geography | Short Story Writing |
| Costing | Journalism | |
| Economics | | |
| Agriculture | Engineering | Road Making |
| Architecture | Drawings | Sanitation |
| Aircraft | I.C. Engines | Sheet Metal Work |
| Maintenance | Machine Design | Steam Engineering |
| Building | Mechanical | Surveying |
| Carpentry | Engineering | Telecommunications |
| Chemistry | Motor Engineering | Television |
| Civil Engineering | Plumbing | Textiles |
| Diesel Engines | Power Station | Wireless Telegraphy |
| Draughtsmanship | Engineering | Works Management |
| Electrical | Press Tool Work | Workshop Practice |
| Engineering | Quantity Surveying | and many others |
| Electric Wiring | Radio Engineering | |

GENERAL CERTIFICATE OF
EDUCATION.

R.S.A. EXAMS



SEND TODAY

for a free prospectus on
your subject. Just choose
your course, fill in the
coupon and post it

TO THE BENNETT COLLEGE, DEPT. H.62, SHEFFIELD.

Please send me free your prospectus on:

SUBJECT _____

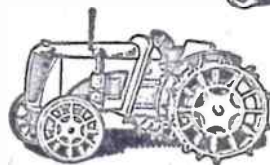
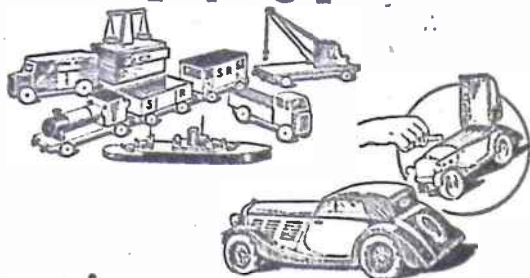
NAME _____

ADDRESS _____

AGE (if under 21) _____

PLEASE WRITE IN BLOCK LETTERS

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 3/4 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 to use **£7-19-6**

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.

