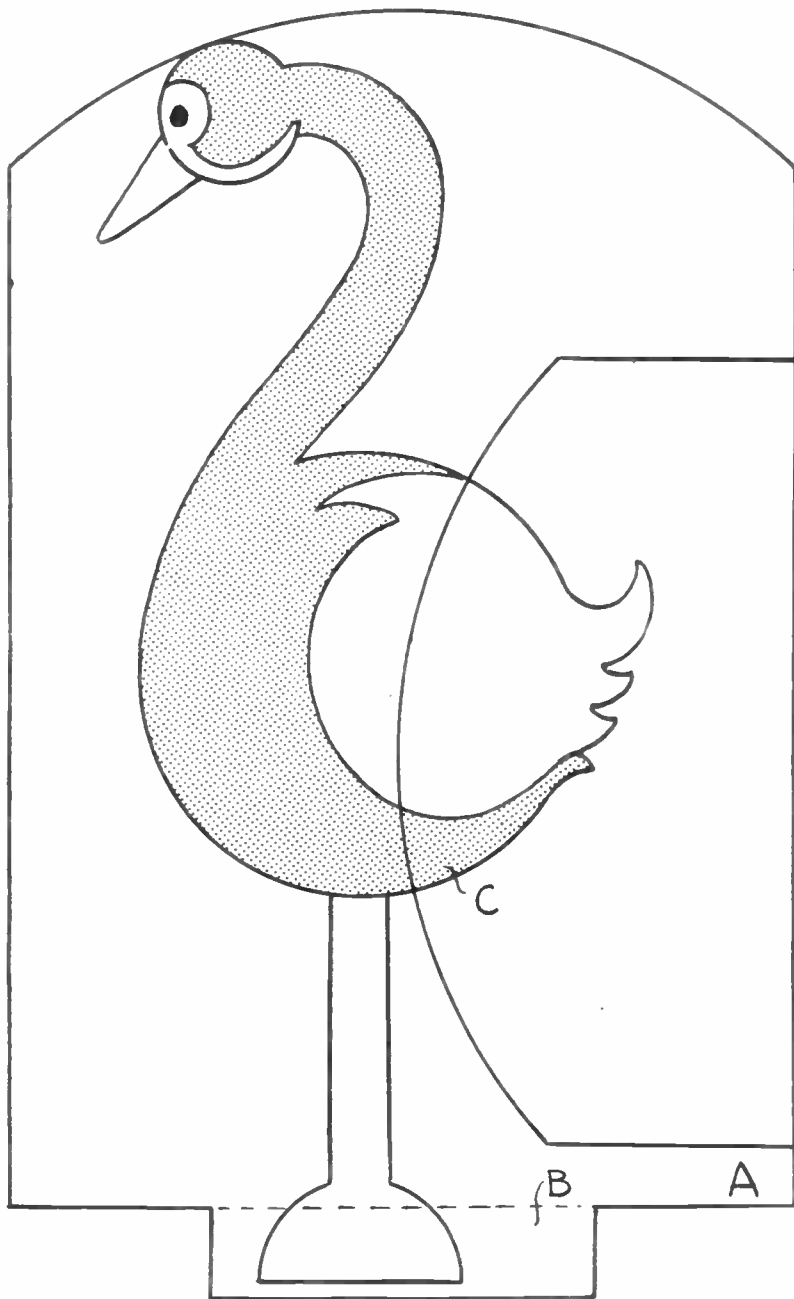
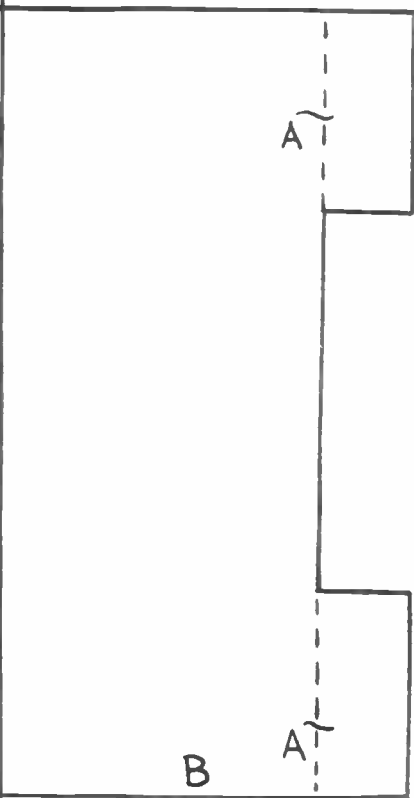


COMIC 'BIRD' BOOK-ENDS



CUT one each of pieces A, B, and the stork (C) from $\frac{1}{2}$ in. wood. Glue the tongue of A into the slot in the base (B). Glue the stork on the base B with the beak touching A. Clean up and paint in suitable colours. Parts should, of course, be duplicated for the other end. (M.p)



21st SEPTEMBER 1960

VOL. 130

NUMBER 3380

THE ORIGINAL
"DO-IT-YOURSELF"
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

FREE Plan Supplement

Also in this issue:

STAR CHOICE: A
MUSIC STOOL

COLLECTORS' CLUB

PLANS FOR NOVEL

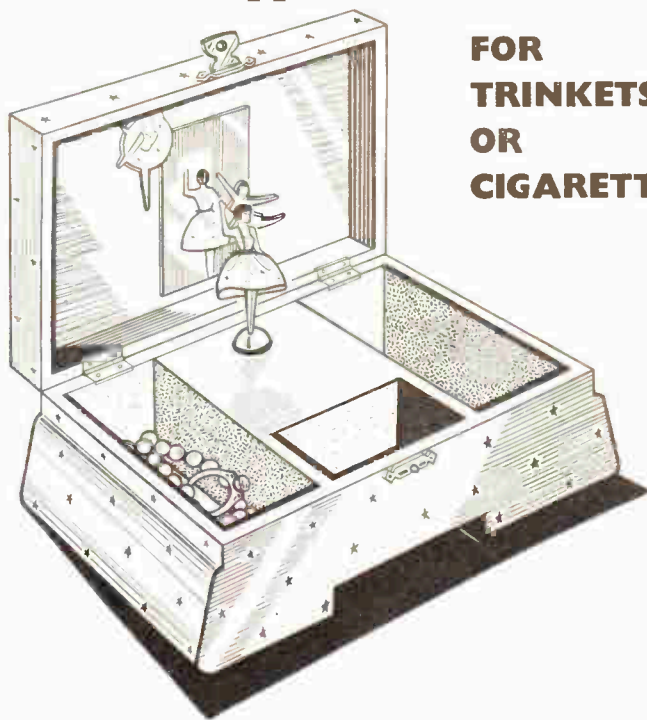
BIRD' BOOK-ENDS

WOOD PUZZLES

SHIP MODELLING

MAKE A SUCCESS
OF PORTRAITURE

ETC. ETC



**FOR
TRINKETS
OR
CIGARETTES**

A BALLERINA MUSICAL BOX



Up-to-the-minute ideas

Practical designs

Pleasant and profitable things to make

World Radio History

5^D



THE vina, the national instrument of India, calls up a vision of troops of Nautch girls, dancing to its music, the little peals of silver bells fastened around their ankles keeping time as they glide and whirl.

The vina is a queer looking instrument. It is a single bar of hollow bamboo, fastened with extended birdclaws, carved from wood, to two empty gourds.

STRIKE UP THE BAND—2

The ends of the bar are often beautifully carved to represent birds or heads of animals. Eight wire strings are stretched along the top of the hollow bamboo over a series of movable frets, and there are three other strings, which pass over a single fixed bridge. The player throws one gourd over his left shoulder, and passes the other under his right arm, holding the bamboo diagonally across his breast. The frets are pressed with the left hand, and the strings are snapped with little hard strips called plectra, worn upon the first and third fingers of the right hand.

Another beautiful instrument of India is the soorsringa. It is shaped something like a banjo, but it sounds more like a guitar. It is made of dark wood, with a round body, pear-shaped at the back, and a long slender neck, and is beautifully inlaid with ivory and pearl. There are eight wire strings, which are played with a plectrum.

The sawad, or East Indian guitar, is also a beauty, both in form and decoration. The sides and back are dark green, almost black, covered with golden figures.

One of the most graceful of ancient

instruments is an old boat-shaped harp of Burma. The body is of dark wood, with a sounding board of buffalo hide, and a cluster of silk cords and tassels is a pretty decoration fastened to the curved neck and falling around the front. There are thirteen silk strings, which are tuned by pushing them up and down the neck to which they are fastened. The player holds the harp on his knee, with its neck over his left arm, and sweeps the strings with his right hand. This instrument was used only as an accompaniment for songs.

All nations, both savage and civilized, use the drum. The forms of this instrument are countless.

The Hindoos have a small drum that is made of wood bound with strips of skin, and painted with rings of bright colour. The taphone, or hand-drum, of the Siamese is beaten with the fingers instead of sticks. It is a gay bright red drum covered with gilt figures, and is used as a tripping accompaniment to melodies played by flutes and guitars.

The mogyo is a very odd drum which was used in ancient Buddhist temples. The name signifies a wooden fish. It is not made in the form of a fish. But the scaly forms of two fishes are a part of the gilded decorations. This drum is bright red, ornamented with black and gold. It hung in the temple. The Buddhist priests beat upon it when reciting their prayers.

Drums are easy to play. So they have always been favourites with wild tribes. In Palestine the double pipe and parabukkeh, or hand-drum, are still used. But they belong to ancient times. At weddings and other festal gatherings the musicians whistle little melodies on the pipes, tap an accompaniment with their fingers upon the parabukkeh, which is made of pottery covered with skin, beat tambourines, and clap their hands for hours without a sign of weariness.

Advertising Pencils

A PENCIL which would be the delight of any schoolboy bears the name and dates of every British Sovereign since William the Conqueror. It is one of a collection of about 1,300 pencils in the possession of Mr J. McGill of Auckland, New Zealand.

Mr McGill, who is a sewing machine repair man, noticed while on his rounds that a number of firms issued pencils on which was stamped their Company name, and he began bringing them home to his children.

By this means the collection just grew and grew until it has reached its present total. Most of the pencils were made in New Zealand. Many of them advertise different brands of whisky and spirits and one is shaped like a walking stick. Another has a calendar on it, and one bears the full itinerary of the 1937 Springbok tour.

Pencils are also issued as advertising media by many British firms, and would form the basis for quite a collection.

Leslie's Lindy Lou

LESLIE Burden of 13 Mount Gilbert, Wellington, Shropshire, has a lovely pet poodle called Lindy Lou. He has just made a kitchen unit for his mother.

'With my fretwork outfit I have made an automatic cigarette box, fruit bowl and a newspaper rack,' he writes.

Leslie, who collects stamps and labels, would like pen friends throughout the world.



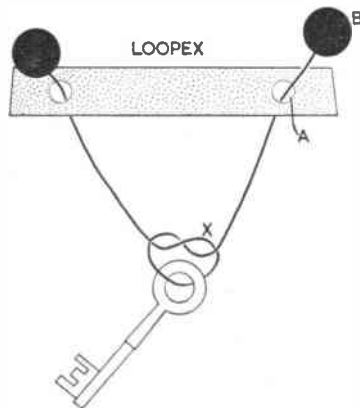
Leslie Burden and Lindy Lou



PUZZLES TO MAKE

A SELECTION of novel puzzles will be useful to keep guests entertained whilst you provide refreshments for them, and will keep most children quiet for a long time. 'Peggee', 'Loopex', and 'Twizzle' are three such items, which can be made up using a variety of scrap materials. All three are unusual in appearance and robustly constructed. 'Loopex' is not too difficult to solve, 'Twizzle' is seemingly impossible, and 'Peggee' is quite infuriating, so the three in circulation together will create a lot of fun and bewilderment.

For 'Loopex' you will need a 5 in. wooden strip such as an old ruler, two large and brightly coloured beads, a key, and a piece of soft string about 9 in. long. Bore a $\frac{1}{4}$ in. diameter hole at each end of the wooden strip. Next, you must string the key in the middle of the string by means of a simple thumb knot. Thread the ends of the string through the holes in the wooden strip, then pass the ends through the beads and tie large knots in the string to prevent the



ends from slipping back through the beads.

You are required to untie the knot about the key without damaging any part of the puzzle. This is possible by passing loop X through hole A over bead B and back again through A. To tie the knot once more, these moves are reversed.

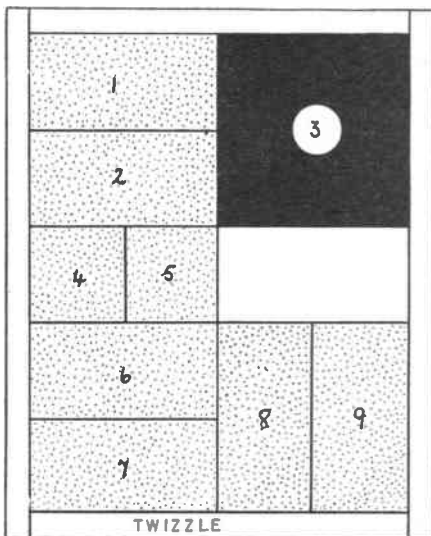
For 'Twizzle' you must make a tray by gluing lengths of $\frac{1}{4}$ in. strip balsa wood around the edge of a piece of stout cardboard, measuring $5\frac{1}{2}$ in. by $4\frac{1}{2}$ in. Cut out the nine blocks needed from plywood, using a fretsaw. You will need one large block measuring 2 in. by 2 in., six medium sized blocks measuring 2 in. by 1 in., and two blocks measuring 1 in. by 1 in. These must be well rubbed with glasspaper so that they will fit loosely into the tray and will slide easily past one another. The large block must be

painted black, in order to contrast with the other eight blocks, which will look well if painted red or bright blue.

Place the nine blocks into the tray, as illustrated. To solve the puzzle you must move the black block into the space occupied by blocks 8 and 9, whilst only moving one block at a time. This may take you ten minutes, if you are fortunate, or ten weeks! It is possible to do this in fifty-seven moves, but please try it yourself.

'Peggee' is made from a large wooden bead, into which a 5 in. length of $\frac{1}{4}$ in. diameter dowel rod is tightly glued. Use a sharp penknife to cut a 'hook' near the lower end of the dowel 'peg', as shown. Draw a girl's face upon the bead and, when the ink is dry, protect the features by painting over the head with clear varnish. An elegant looking tube for the peg can be prepared from a wooden bobbin such as copper wire is wound upon, but failing this, a tube may be made by boring a hole through a 5 in. length of a broomstick, or by gluing two cotton reels together. Bore a hole right through the bobbin, at right angles to the middle, about 4 in. from the top. Thread a piece of elastic through this hole and pin the ends of the rubber strip to the 'base' of the bobbin, using drawing pins. The rubber should not be too loose. Finally, glue a stout cardboard disc to the base, so that the bottom of the bobbin tube is completely sealed over.

The object of 'Peggee' is to insert the peg into the tube in such a manner that



the hook engages with the rubber. It should thus be possible to pull the peg partly out of the tube, then to let it snap back into place, pulled in by the rubber, when you release your hold on the bead.

Actually, if you have made your apparatus carefully, so that the peg is only slightly less in diameter than that of the hole through the tube, to achieve your object, without cheating, is absolutely impossible because the hook cannot engage the rubber. However,



when you demonstrate your own mastery of the problem to your friends, you can make it seem as if you have 'caught' the hook upon the rubber by means of the following subterfuge. Take the top of the bead between your thumb and first finger and move the half-inserted peg up and down, in a reciprocating motion, which will make it appear that you have caught the rubber. Then, press the top of the bead hard and let it flip back into the tube with a loud 'snap'. A little unhurried acting on your part should enable you to convince your friends that you have succeeded. You will enjoy watching their fruitless efforts to 'catch' the elastic. Naturally, you will take some trouble to paint the puzzles attractively. (A.E.W.)

Instructions for making

BALLERINA MUSICAL BOX

THIS charming Ballerina Musical Box is designed for holding trinkets or cigarettes. For this purpose it has three compartments, two measuring 6 in. by 2½ in. which are thus large enough to hold king size cigarettes or even cigars.

The box measures 9 in. by 6½ in. by 3½ in. high when the lid is closed, and incorporates a dancing ballerina doll which pirouettes round and round to music when the lid of the box is raised. This delightful novelty has been designed for easy construction, and it can be confidently undertaken with a minimum of tools. Apart from the ease of construction, details will be given later of an alternative finish to painting which is easier for those not too proficient with a paint brush and which gives a most charming effect. A mirror inside the lid also enhances the beauty of this model, as it reflects the actions of the ballerina doll.

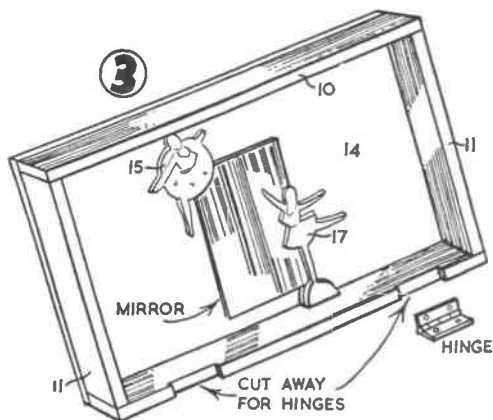
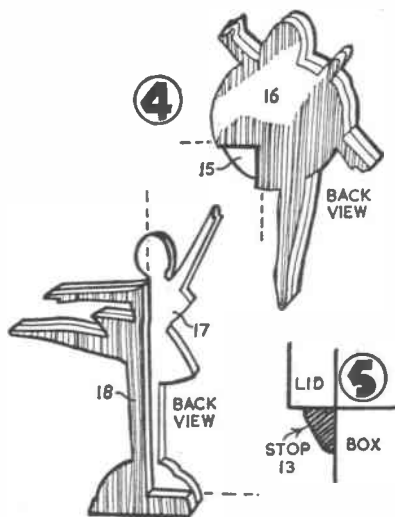
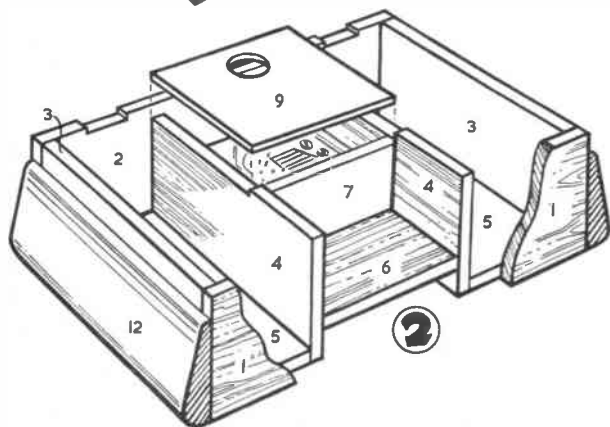
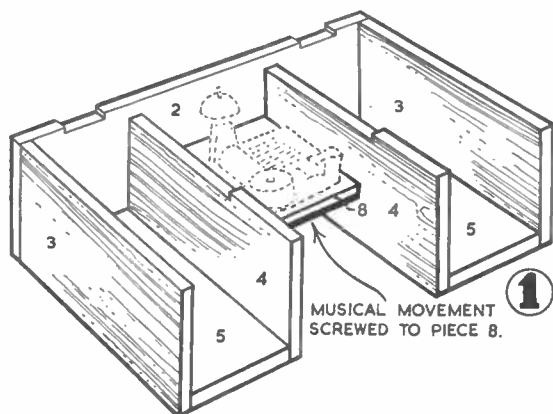
As the lid of the box is raised, the ballerina springs upright and dances to the musical accompaniment of the movement, which is started off at the same time.

Most of the parts required for the box are shown full size on the design sheet, and these should be traced and transferred to their appropriate thicknesses of wood. For other pieces (3, 5, 12, and 14) the measurements are clearly shown on the design sheet, and they should be marked out accordingly on to the wood. When all parts have been accounted for on the wood, cut them out with a fretsaw and clean up thoroughly with glasspaper.

The first step in assembly is shown in Fig. 1. Glue pieces 5 between pieces 3 and 4 to form the two side containers, which are in turn glued to the back (piece 2). Then add piece 8, which forms the platform for the later addition of the musical movement. In addition to glue, pins can be added throughout for

strengthening.

Proceed as shown in Fig. 2 by adding piece 7, which forms the front of the musical movement container, and carry on with piece 6, which is the floor of the small compartment. Then add the front



of the box (piece 1) which is shown cut away for clarity. Having shaped pieces 12 from ½ in. wood as indicated on the design sheet, these can be added at both sides of the box.

Next prepare to fix the musical movement to its base (piece 8) adjusting the position to conform with the hole in piece 9, which is temporarily placed in position for this purpose. When the correct location for the movement has

been determined, screw it to the base with the winder shaft protruding through the hole provided. The addition of the ballerina to the movement is provided for by a hole in piece 9, which is fixed by screwing and thereby provides facilities for getting at the movement in case adjustments are required later on.

The lid of the box is made up as shown in Fig. 3, pieces 11 being butted between pieces 10. The frame thus formed is covered by the top (piece 14). The mirror, the position of which is shown on piece 14 on the design sheet, is held in place by two ballerina motifs cut from $\frac{1}{2}$ in. wood. Each ballerina consists of two thicknesses glued together, the backs (pieces 16 and 18) having cut-outs which form recesses to hold the mirror. Fig. 4 shows how the pieces are glued together. These figures should be painted or other decoration added before fixing

to the lid. Locate the mirror in its correct position, add glue to the backs of pieces 16 and 18, and position the figures so as to hold the mirror securely.

The lid is attached to the box by hinges. Note cut-outs to take the hinges on the back (Fig. 1) and lid (Fig. 3). Piece 13 is shaped from $\frac{1}{2}$ in. wood to the section shown, and glued to the back of the box to prevent the lid going back too far when opened (Fig. 5). The two sections of the clasp are next added as shown in the finished illustration.

Line the three compartments with flock paper and finish the box to choice. This can be by painting, after thoroughly rubbing down and preparing the wood. Covering the outside of the box with one of the decorative stick-on plastic materials also gives a very pleasing effect.

The ballerina doll is screwed to a spindle provided on the musical move-

GET A KIT

Hobbies Kit No. 3380 for making the Cigarette or Trinket Box costs only 14/7 and contains panels of wood of the correct thickness, mirror, catch, hinges, flock paper, etc. Kits from branches or by post (1/6 extra) from Hobbies Ltd., Dereham, Norfolk.

Hobbies No. 4. Musical Movement, for using with the box, incorporates an exquisitely dressed Ballerina, and is available with choice of two tunes, "Swan Lake" and "I could have danced all night". Movements cost 24/3 (post 9d. extra).

ment. It folds down by the gentle action of the mirror as the lid is closed, and this action also stops the music.

HAVE FUN WITH CORK FIGURES

A FEW corks, some cocktail sticks and a little imagination will produce all kinds of humorous novelties as shown in the photograph.

A fretsaw or a fine tenon saw will be ideal for cutting, while glasspaper will remove the burrs and smooth off in general. A sharp knife and a little adhesive will also be required. Water colours or poster paints will be needed for decoration. For the sake of convenience the novelties shown in the illustration were painted in black and white only, leaving as much as possible of the natural cork to show the construction.

You may make small humorous fig-

ures, animals or what you will, but no doubt it will assist if we give brief details of how the two novelties were made.

The man is made from two corks of

By H. Mann

medium size and two of a smaller size. The larger corks are glued together at the larger ends and the decorations completed before assembly. In this case the waistcoat was painted white and the jacket in black. A small cork was then

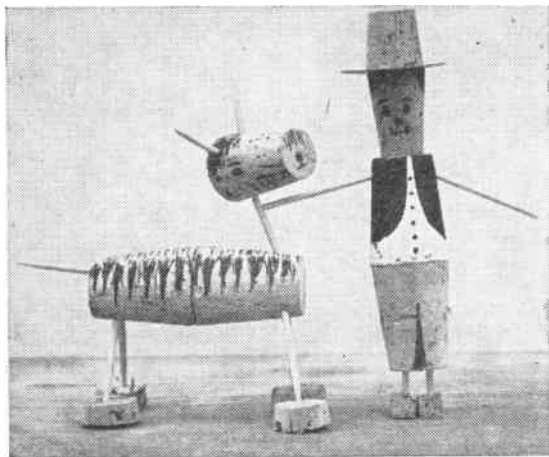
painted to represent the face. Here the details may be added in Indian ink with a pen. This cork is then glued to the body and a small disc of paper attached on top to represent the rim of the hat. Finally a segment was cut from the other small cork, the larger portion being used for the hat, which is stuck on top of the paper disc. The segment is placed flat on the table top and cut in half to make a pair of shoes.

We now come to the assembly. A cocktail stick is broken in half and the pieces inserted as legs. These two legs are then pushed into the shoes and here we should mention that a little care is required to ensure that the legs are inserted vertically if the figure is to stand upright and retain balance. Two further sticks inserted in the sides of the body represent the arms and the figure is complete.

The animal is made from two medium-sized corks and two small corks. The two larger corks are glued together as before and decorated. Another small cork is detailed for the head, i.e., eyes, nose and mouth, and half a stick pressed in on each side to represent the ears. A similar piece of stick is inserted for a tail.

Four segments are cut from small corks to make the feet and the insertion of four cocktail sticks in the body to represent the legs almost completes the novelty. The feet are attached finally.

All parts cut with the saw are smoothed by rubbing on glasspaper and if thought necessary you may glue the sticks into position.



ACTI & SUCCULENTS

IN the article on flowering cacti a number of different types were mentioned but the ones producing the largest and most beautiful flowers of all, the Epiphytes, deserve an article to themselves.

Most people think of cacti as desert plants, roasting all day under a brilliant sun. Although this is true for the majority of plants, there are quite a number of epiphytes growing on trees in the tropical forests of South America. These leafless plants, with their leathery stems, are

4—EPIPHYTIC VARIETIES

capable of withstanding a certain amount of dryness, but they need completely different cultivation from the sun-loving desert species.

A suitable compost is John Innes' No. 1 with a generous helping of bone meal in the bottom of the pot. Leaf mould may also be added, if available. These plants do not like too much of the sum-



ZYGOCACTUS TRUNCATUS, the Christmas Cactus

mer sun. An east facing window suits them admirably; failing this, put them out of doors during the summer, preferably under a shady tree, where they will get dappled sunlight.

During the spring and summer these epiphytic cacti should be watered generously and although the watering must be cut down during the winter, they ought not to be allowed to dry out completely. If grown in the house it is a good idea to pack the pots around with damp peat; this simulates the dampish atmosphere of their native state. In addition to liking more water than the desert cacti, these epiphytes also need more warmth. Although they will tolerate temperatures as low as 40°F. they will really flourish if kept warmer.

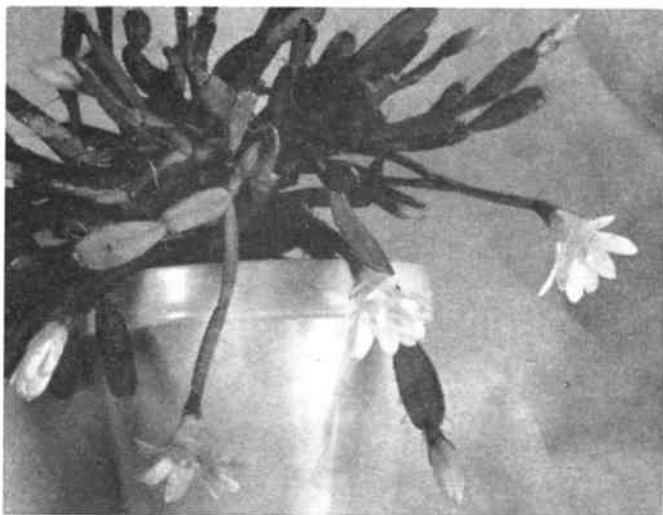
The best known of all these plants is the Christmas Cactus, *Zygocactus truncatus*. This consists of many small green pads on which cerise flowers are produced, usually not at Christmas but late



An *EPIPHYLLUM* or 'Orchid Cactus'

around the end of April. *Rhipsalidopsis rosea* is another pretty little plant that flowers in June, the flowers being a pale pink colour.

The most spectacular of these jungle cacti are the Epiphyllums, or Orchid Cacti. These are hybrid plants, most of



RHIPSALIDOPSIS ROSEA

January. (Plants can often be seen in full bloom in florists' shops before Christmas, but these are forced.)

A rather similar cactus is the Easter Cactus, *Rhipsalidopsis gaertneri* (sometimes called *Schlumbergera gaertneri*). This produces brilliant scarlet flowers

which have been developed in America, where they do so well in the centrally-heated houses. Epiphyllums can be obtained in almost all colours except blue, although the most common ones are red. The flowers are about six inches

● Continued on page 439

Another Baffling Card Trick

REFERENCE to Fig. 1 will reveal that we have six small piles of cards with a remainder of three odd ones. From this casual glance I wonder whether you could forecast the sum of the value of those cards at the bottom of the six piles? Perhaps not at this stage, but in Fig. 2 you will observe that the piles have been turned over for inspection and twenty-nine happens to be the sum of the face values.

So we now propose explaining how you may perform a simple, but baffling, trick with a similar manipulation of the cards.

Hand a full pack of cards to a friend,

number of the odd remaining cards. Isn't it easy? This simple arithmetic will

By 'Mystifier'

supply the sum of the values on the bottom cards, but to clarify the example still further, please refer to the illustrations once again.

Number of piles	6
6 - 4	= 2
2 x 13	= 26
Remaining cards (3)	= 29

Reference to Fig. 2 will show that we

trick we can attempt a modification. The same procedure is followed until the cards have been dealt out, when your friend is asked to set aside one pile. While this is being done you perform the necessary mental arithmetic for the normal trick, and you are aware of the answer. Now ask that the remainder of the bottom cards be totalled, and on asking this figure you have only another small subtraction to make to enable you to forecast the value of the card at the bottom of the odd pile. For example, we will assume that the pile — unseen, of course — bearing the seven of spades

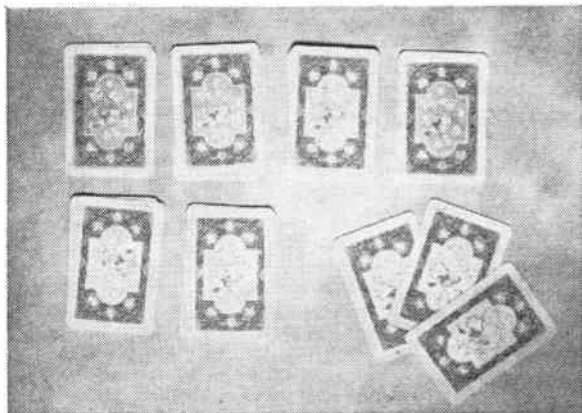


Fig. 1—Six piles of cards with a remainder of three odd cards

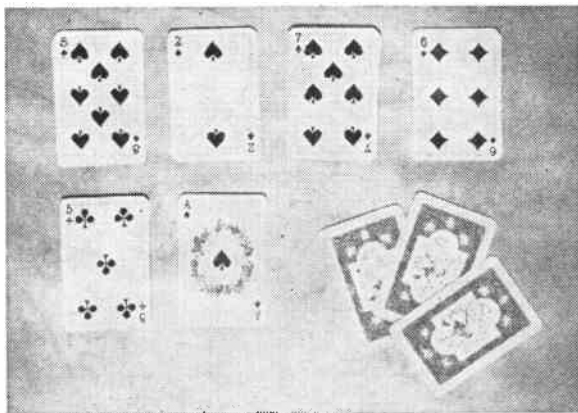


Fig. 2—The piles have been turned over to prove the forecast as mentioned in the text

who is asked to shuffle and deal out in a certain way. He is to look at the top card and note the value, dealing as many more cards as are required to make the total up to twelve. For example, if the seven of spades is turned up it counts seven, as you may expect, and a further five cards are placed on top but face downwards. It may be advisable to demonstrate the dealing of this first pile, leaving your friend to proceed alone with the remainder.

This process is continued until it is impossible to make any more piles, and there will be a balance of a few cards remaining. You should warn your friend before dealing that aces count as one, while the Knave, Queen, and King should be counted as ten in each case. (This is important.)

The effect is much more surprising if you do not watch the dealing, and if you only return to the table when the operation has been completed, so now for the secret.

Observe, or ask, the number of piles dealt out, subtract four, multiply the answer by thirteen, and then add the

have eight of spades, two of spades, seven of spades, six of diamonds, five of clubs, and the ace of spades, the total of which is twenty-nine.

The total should be announced before the cards are turned over, and this will mystify your friend and audience.

Since you now know the secret of this

was laid aside, and your friend tells you that the total of the others amounts to twenty-two, you have only to subtract this number from twenty-nine, and you know the value of the card in question.

Try the original trick and its modification, but remember to have a preliminary rehearsal first.

● Continued from page 438

CACTI AND SUCCULENTS

across and some varieties, notably *cooperi* are very sweetly scented. Most of the red Epiphyllums are very free flowering, the buds usually appearing towards the tops of the stems. But some of the white varieties flower from the base instead of the aerial shoots. These produce magnificent flowers, but by no means as freely as the red hybrids, sometimes called *ackermannii*. Unlike most cacti, Epiphyllums do not close their flowers in the afternoon, so that working owners

are able to see them! The white ones, however, often open in the evening and are at their best during the night.

After having produced their wealth of bloom, it is a good idea to rest these plants for a fortnight in a well shaded place with little water, after which they may be repotted if necessary. Otherwise the cultivation is as already suggested for the other epiphytes.

(P.R.C.)

Next: Living Stones.

THE WAY TO SUCCESS

TO ensure taking a first-class portrait, correct positioning of the available lighting is of paramount importance.

Place the side lights so that their rays of light project down towards the sitter and at an angle of 45°. If the angle of light direction is too high the eyes on your finished print will be over dark. Too low an angle gives the face excessively dramatic shadows.

No less important is the distance the side lights should be from the subject. The best way of determining this is by visual observation.

The face has certain natural highlights, areas where light reflection is greatest. These occur where the flesh is sparse: the forehead, nose, chin and upper section of the cheeks. With the side lights too near, some, if not all, the highlights will be obliterated and parts of the face lost in darkness. Placing the lights too far away again destroys the highlights, creating a flat light area lacking contrast.

The most popular pose is full- or three-quarter-face. When taking a full-face shot the wooden, passport-type of photograph can be avoided if the sitter's shoulders are turned sideways to the camera. For the three-quarter pose the sitter's gaze should follow the line of his nose. This angle avoids over-emphasis on the whites of the eyes.

Set up the back light to one side of

the subject. Direct it at the screen so that its light covers the area of your picture. This ensures a balanced background effect.

The sitter should be immediately beneath the fall of the top light. Forward or backward of this position will cause too much or too little lighting to fall on the sitter's face. With the sitter behind the line of the top light a white spot will appear on the nose. Moving forward brings the face gradually into deep shadow.

By K. Baxter

When photographing women remember that — even if they do not care to admit it — they are looking for a portrait that flatters them. For this reason the first thing to do is decide which are her best features and arrange the pose and your camera position to emphasize them. At the same time it is necessary to tone down any irregularities. A careful study of the face in repose will readily reveal these. Camera angle and lighting will do the rest.

If the camera is aimed down at the sitter a weak chin or a long nose will receive even more prominence. A three-quarter view will lessen the width of a heavy lower jaw and help the appearance of a broad nose.

Distortion of features, caused by a false perspective, will result if the camera is placed too near the subject. A good average distance is eight feet, and the camera should be at eye level.

When taking child portraits, a full-front view will as a rule be found the most satisfactory. Make sure the child is seated quite comfortably and has something to do. A small toy, preferable to a large one, will keep the child interested at least long enough for you to take the picture. And once your camera is set, this should always be done with the minimum of delay.

The speed of the film you will use will depend on the type of camera you have, good results, generally, being obtained with a fast film. For a 35 mm. camera, however, a medium speed film is to be recommended. This will give you the best quality enlargements which are, of course, necessary with 35 mm.

Correct exposure is another item of top importance. The use of a good exposure meter is the sure way to success. This is an expensive item of equipment



Subject behind line of toplight, causing nose to appear as a white spot

though, and if you are not yet ready to invest in one I suggest you try the following method.

Decide on a particular type and speed of film and stick to it. Then, with your first film, take several photographs of the same subject, using the same lighting arrangement, but using different exposures. Make a careful note of these and from your finished prints decide which exposure has given you the most satisfactory result. You will be able to work from this for future photographs, provided no drastic alteration of your lighting pattern is made.

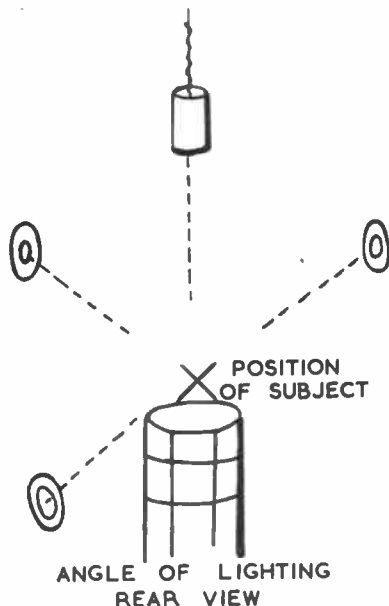
Exposure faults are the principal causes of failure. Examination of your negatives will show you whether under- or over-exposure is to blame.

Under-exposure produces a marked lack of contrast, while in the shadow areas of the subject there will be an absence of detail. Certain parts of the negative may be as clear as the edges of the film where no exposure has taken place.

If, prior to development of the film, under-exposure is known to have taken place, perhaps due to an oversight when setting the camera, some of the faults can be rectified by the choice of developer. This applies also, to a lesser extent, in the case of over-exposure, where many of the highlights are lost or seriously impaired. The negative will also be affected by excessive contrast.

Other common causes of failure are the result of camera-shake, a scratched film, and fogging.

● Continued on page 441





A MUSIC STOOL FOR MAX JAFFA



Ed Capper received an interesting letter the other day from Max Jaffa, the famous violinist. It ran: 'As you can appreciate, I have a large quantity of sheet music and storing it is quite a problem. I have overcome it by adapting filing cabinets with suspended files to hold the music.'

'It occurred to me that a modified version could be made up inside a piano stool to store the limited quantity of sheet music used by the average pianist...'

It occurred to Ed Capper also that this was a very good idea.

First, make up a rectangular-shaped piano stool, with a hinged lid, as shown. Hobbies Furniture Panels No. S.12 are ideal for the sides, lid and bottom piece. If the stool is made around 18 in. long by 16 in. high, each panel, which measures 36 in. by 10 in. by $\frac{3}{4}$ in., can be cut in half for two lengths.

The front and back of the stool can be

of plywood or hardboard, fixed with panel pins. Four wooden balls (also obtainable from Hobbies) can be used as feet.

The hanging files to carry the sheet music are made from a continuous length of close weave hessian or canvas. The rods carrying the hessian are $\frac{3}{4}$ in. dowelling. The hessian is carried over the tops and held in place with a fabric adhesive such as Fabrex. The rods should be cut to fit inside the length of the compartment, with $\frac{1}{2}$ in. clearance at each end. Their ends rest on bearers of 1 in. square deal, screwed inside the side pieces.

Identification tags can be made of thin card and glued in place along the rod tops. Finally, a pair of bought handles (Hobbies No. 710 are ideal), are screwed to the side pieces.

The lid is hinged with brass butt

★★★★★★★★★★★★★★★★★★★★
★ Coming from a famous violin- ★
★ ist, Max Jaffa's choice of project ★
★ is understandably in the world ★
★ of music. ★

★★★★★★★★★★★★★★★★★★★★
hinges. As it would be impossible to make a firm fixing for them on the back plywood, a supporting length of 1 in. square deal is screwed along the top edge of the plywood.

The easiest form of soft seat for the stool is foam rubber, at least 1 in. thick, and held in place with adhesive. Or those of you handy in this way can make a padded, upholstered seat.

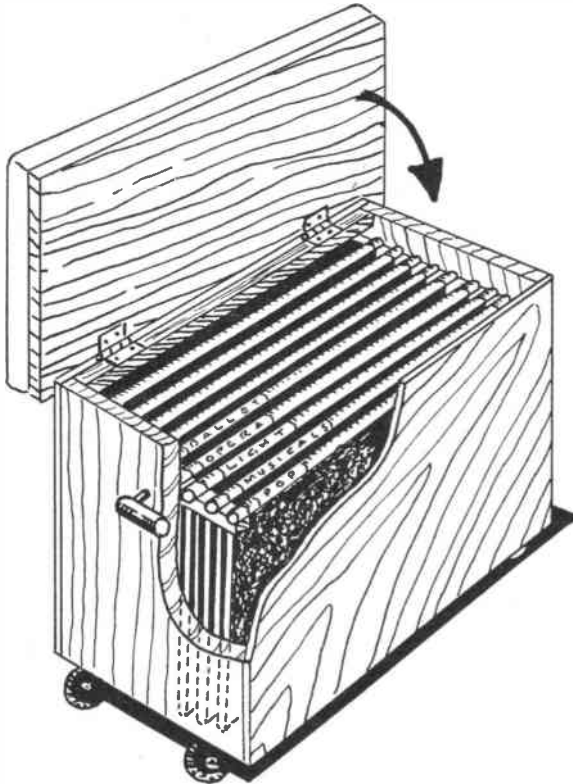
● Continued from page 440

Successful Portraiture

Camera-shake produces a blurred picture. It can be eliminated by practice and the application of a few simple rules. Stand with the feet squarely on the floor about one foot apart. Never breathe in at the moment of exposure. This creates body tension. Breathe out, then press or squeeze the lever or button shutter release. If convenient, rest the arms on something, such as the back of a chair. A cable shutter release might also prove an asset. And if the cable is sufficiently long you will be able to take your own portrait.

Scratches are usually the result of slightly rough film rollers or the presence of grit or dust in the body of the camera. Remove any roughness from the rollers with extra fine emery paper. The camera should be cleaned out with a very soft brush. One made specially for this purpose can be bought quite inexpensively at your local photography shop.

Fogging occurs when loading or unloading the film. These operations should always be carried out in a semi-darkened room or shady place, so that all direct light and sunlight are excluded.



TIPS ON PAINT SPRAYING

At one time, paint spraying was a job usually reserved for the professional decorator, but this is no longer the case. Nowadays, there are many low-priced spray guns available operated from small compressor units or from the household vacuum cleaner.

Although the popularity of spray painting is on the increase, it must not be assumed that it is necessarily the ideal method of paint application. When large areas or intricate moulded surfaces have to be painted then spray painting is quick and efficient, but for small jobs it is still better to stick to the faithful paint brush. However, a working knowledge of spray painting is useful to the home decorator, so here are a few tips well worth remembering.

The hole through which the stream of paint is ejected from the gun is very tiny, so it is essential that the paint is not too thick. Generally speaking, the consistency of paints intended to be applied with a spray gun requires to be a little thinner than that prepared for brush application. Some manufacturers cater for spray painters and produce paints which are thinner than normal, but if ordinary types are used then these should be thinned down in accordance with the manufacturers' instructions. Take care, though, not to overthin so as to cause the paint to lose its obliterating power. Most types of paints and distempers that can be thinned to the required consistency are suitable for use with a spray gun, provided a satisfactory pressure is also available. Obviously the non-drip types of paints are unsuitable for this purpose.

Straining the paint

It is essential to ensure that the paint used is clean and free from dirt and pieces of skin which might block the gun. If you have any doubts about the cleanliness of your paint, strain it through an old nylon stocking before using. Always prepare enough paint beforehand to complete each job so that you won't be held up when spraying operations commence.

Spray painting is not a means of hiding bad surfaces, so for satisfactory results the same amount of preliminary preparation of the surfaces must be carried out as required for brush painting. Furthermore, make quite sure that your work is perfectly dry before any paint is applied, otherwise blistering will result.

If you have never used a spray gun before, then it is advisable to practise on some scrap timber before tackling any important jobs. This will enable you to

get the 'feel' of the gun and the correct operation of the trigger control. The distance the gun is held away from your work is a very important factor. The small circular stream of paint which is ejected under pressure from the gun

By K. Finlay

widens out as it travels towards the surfaces. If the gun is held too close to your work excess paint will be deposited on to the surfaces, and if held too far away the application will be too weak. The best position for the gun is six to eight inches away from the surface.

Hold at right angles

When in use, the spray gun should be moved along the surface at a steady pace depending on the pressure of the spraying equipment. A low pressure will call for a slower movement. The gun should always be held at right angles to the work surface as shown in Fig. 1. By doing this the deposit of paint will be uniform along the whole surface. At first, however, there is a great tendency to swing the gun in the form of an arc, but this practice should be avoided as it causes an uneven distribution of the

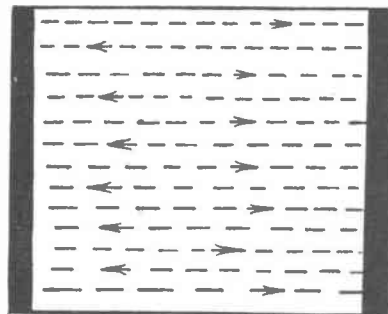
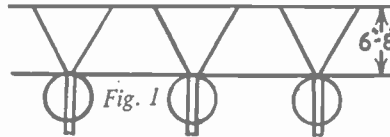


Fig. 2

paint which could be noticeable when the job is completed.

The method of spraying a surface which is not too wide is shown in Fig. 2.

First of all the two edges are sprayed vertically, and then the middle part is covered by moving the gun backwards and forwards. After completing the first horizontal stroke, the second stroke should overlap the first by half its width. This will ensure that the surface will be adequately covered. Complete the job as quickly as you can to avoid a patchy appearance.

If, however, the surface to be painted is quite large and cannot be tackled in one stroke, then it must be completed in sections. A width of three feet is a good workable distance for each section. Once again speed is essential, so try and keep the edges 'wet' so that they can be 'picked up' without showing the joins.

When spraying corners and intricate moulded work, great care is needed in controlling the flow of the paint. If too much is released the corners or mouldings become filled up with excess paint and this could spoil the appearance of the finished job. After a little practice on some plain work, you will find that the flow of paint still continues for a fraction of a second after the trigger (or other form of control) is released. You will, therefore, get accustomed to releasing the trigger a split second before arriving at the corner so that just the right amount of paint is allowed to get to your work before the flow ceases. If possible, try to paint internal corners by treating each surface separately.

Masking and cleaning

When spray painting skirtings, and other narrow members, masking of the floor and walls is necessary; and this may be done with newspaper or cardboard. Furthermore, masking is also necessary when a two-tone finish is required.

On completion of your work, the spray gun should be thoroughly cleaned to prevent clogging by dried paint. This is best done by pouring a little thinners into the container and blowing this through the gun. Wipe all parts clean with a dry cloth.

Painting with a spray gun is quite suitable for outdoor work as well as indoor but, of course, do remember to choose a calm day.

 ★ Next week's issue will contain ★
 ★ details for making a self-pro- ★
 ★ pelled 'Go-Kart'. Make sure of ★
 ★ your copy. ★
 ★ ★

BUYING OR SELLING?

Classified advertisements on this page are accepted at a cost of 6d. per word prepaid. Use of a Box No. is 1/- extra. Send P.O. with advertisement to *Hobbies Weekly*, Advert. Dept., Dereham, Norfolk. Rates for display advertising on application.

£5-£20 WEEKLY. Spare time. Mosaic Business Manual tells how. Copy 5/6. — Mosaic (Dept. 6), 124 Newport Street, Bolton.

PERSONS (either sex). Soft toy assembling. The ideal profitable pastime. Experience unnecessary. Everything supplied. Apply, enclosing s.a.e. Dept. H.W. Cuddlycraft Supplies, East Road, London, N.1.

50 EMPIRE Stamps; 5/- each, stamp magazines 1/- each, post free. Try our 7 days stamp approvals. — E. C. F. Townsend (H), 92 Tenby Road, Edgware, Middx.

WHEELS (Hardwood and Rubber Tyred Metal). Cot, Pram, and Doll's House Fittings and Papers, Beads, Transfers, Prints and other accessories. Stamp for new lists. (Trade supplied.) New address — JOYDEN CO., 91 Peplins Way, Brookmans Park, Herts.

PEN PROFIT. If you like writing send for 'Writers' Guide' (free). Thousands of words to interest beginner or experienced. Typewriter unnecessary under our system. Writers' Ring, (H.W.), 5 Edmund Street, Birmingham 3.

TABLE TENNIS TABLES, sets. Full size table, two cork bats, two balls, posts, net; £15 carriage paid. Details — Southern Sports, Longstone Road, Eastbourne.

KUKLOS ANNUAL. Indispensable cyclists' handbook. Tours, resthouses, money-saving hints. 3/- post free. — Burrow, Publishers, 2 Imperial House, Cheltenham.

NEW!

LEARN RADIO & T/V SERVICING and ELECTRONICS

and how to make and build your own equipment — using an exciting new Practical apparatus course. Ideal for starting your own business or as a fascinating hobby.

FREE Brochure, without obligation, from
RADIOSTRUCTOR Dept.
READING, BERKS G.81
Britain's leading radio training organization

MAKE ART PAY. Learn to Draw/Paint Flowers, Birds, etc. in Designs or Pictures for waiting manufacturers. Profitable. Fascinating. Even beginner's work can sell. Pc. brings free brochures. Clun Valley Features (H.W.), Clun, Salop.

LEARN RADIO & ELECTRONICS the NEW Practical Way! Very latest system of experimenting with and building radio apparatus — 'as you learn'. FREE Brochure from: Dept. H.W.10, Radiostructor, 40 Russell Street, Reading, Berks.

FIFTEEN mint pictorials, including Ghana commemoratives with approvals. — Hopper, 23 Houndsden, N.21.

BRASS, COPPER DURAL, ALUMINIUM, BRONZE

ROD, BAR, SHEET, TUBE, STRIP, WIRE
3,000 STANDARD STOCK SIZES

No Quantity too small List on Application

H. ROLLET & Co. Ltd.
6 CHESHAM PLACE, LONDON, S.W.1

Also at
Liverpool, Manchester Leeds, Birmingham

100 DIFFERENT stamps free! Request 4d, upwards discount approvals — Bush, 53 Newlyn Way, Parkstone, Dorset.

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

12 MALTESE STAMPS FREE. Ask for Maltese stamps on approval. — Box No. 39, Hobbies Weekly, Dereham, Norfolk.

WORKERS with sewing machines required for making cushion covers. Regular work guaranteed. Apply enclosing s.a.e., Dept. 28, Arnold Trading, 10 Shelley Road, Worthing, Sussex.

TRANSISTORS, Germanium Crystals, Headphones, etc. Lists and diagrams free. Germanium Diodes with three crystal set circuits 1/- Postage 4d. — P.R.S. (H), 33 Bourne Gardens, London, E.4.

GRAND OFFER — Pkt. of Stamps Cat. Value 20/-; Stamp Album; Sheet of Flags; Pkt. Stamp Hinges. THIS BARGAIN OFFER for ONLY 7/6. Postage extra. — 'APPROVALS', 32 Cross Whitehouse Row, Leeds 10, Yorks.



TRINKET BOX

KIT No. 3070

Materials and instructions for making this 5½ in. long box cost

4/9 (postage 1/- extra)

HOBBIES LTD (Dept. 99),
DEREHAM, NORFOLK.

APPARATUS & CHEMICALS

For your experiments. Let us help you equip a HOME LABORATORY

Beakers, Crucibles, Flasks, Funnels
Gas Jars, Test Tubes, etc.

Booklets:

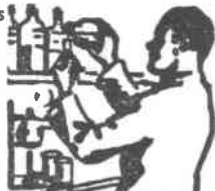
(including postage)

'Experiments' 1/2
'Formulas' 1/2
'Home Chemistry' 2/10
New edition

Send 3d. Stamp for latest PRICE LIST

A. N. BECK & SONS (Dept. H.W.)

60 Stoke Newington High Street, London, N.16



HEAR ALL CONTINENTS With H.A.C. Short-wave Receivers

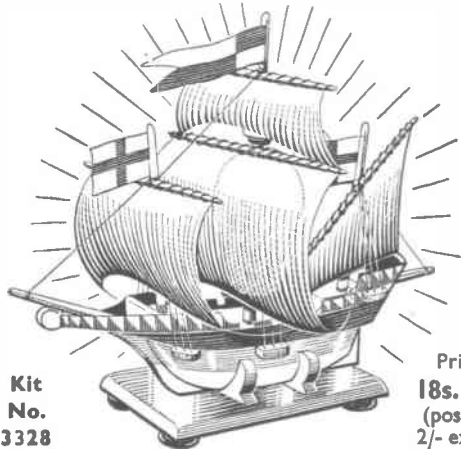
Suppliers for over 18 years of radio S-W Receivers of quality.

One-Valve Kit, Price 25/- Two-Valve Kit, Price 50/-

Improved designs with Denco coils. All kits complete with all components, accessories and full instructions. Before ordering, call and inspect a demonstration receiver, or send stamped addressed envelope for descriptive catalogue.

'H.A.C.' Short-Wave Products (Dept 22), 11 Old Bond Street, London, W.1.

PICTURESQUE GALLEON ELECTRIC LAMP



Kit No. 3328

Price 18s. 6d. (postage 2/- extra)

A really worthwhile project which will add distinction to any home, and can easily be built with a fretsaw and a few simple tools. Kit No. 3328 contains all necessary wood, materials, and fittings.

HOBBIES LTD (DEPT. 99), DEREHAM, NORFOLK

MAINLY *for* MODELLERS

IN the ancient vessels we have been studying classification was by the number of banks of oars, and the point to note from a modelling point of view is the way the rows of oars were arranged.

In single banked galleys the oars were worked on the gunwale and were held in place with leather straps. In larger ships of this type the oars passed through ports, probably oblong in shape to allow of a wider sweep with the oar, coming in closer to the side of the vessel. The oar ports were staggered in galleys of more than one bank, to avoid the oars fouling one another.

In all galleys the horizontal rows of oars were termed 'banks'. The rowing benches on which the rowers sat were placed at a slightly oblique angle, this

poop. Between these two decks running along the main deck are benches for the rowers, usually 27 to each side. On each bench sat four or five slaves whose lives were spent pulling at the oars, which were very heavy, being some fifteen feet long.

Between the two rows of benches ran the 'bridge' on which two boatswains walked, wielding their long whips.

WOODEN SHIP BUILDING—10

Fig. 1 shows the broadside profile of this famous type.

In Northern waters the progress was from the fine seaworthy Viking ships.



Fig. 1

PROFILE OF CORSAIR GALLEY



PROFILE OF VIKING SHIP

Fig. 2

proving more practical.

From these early galleys a natural progression was to the larger thirteenth to sixteenth century galleys of the Mediterranean, culminating in the fast war galleys of the Barbary Corsairs. These were dependent on the oars for speed of manoeuvring although carrying a sail or so. They were classed according to size, galleots, brigantines, etc, a galleot being a small galley and a brigantine smaller still.

The number of men to the oar varied from four to six in a galley, two or three in a galleot, and only one man to the oar in a brigantine.

A gallease of this period was at the beginning a large heavy galley with three masts and a rudder and actually was the main type between the galley and the development of the galleon.

In this Corsair galley we have a deck at the bow of the ship and one at the

The hull profile is shown in Fig. 2. It is fortunate that we have preserved one or two of the actual vessels of the smaller classes and so our knowledge of these is much wider than of the earlier types.

These fine seaworthy vessels were clinker built completely in oak. In size the one known as the 'Gokstad' boat, discovered in 1880, is 77 ft. 11 in. long, extreme breadth 16 ft. 7 in., and depth from gunwale to top of the keel 5 ft. 9 in. The keel is 14 in. deep, 11 in. of this below the lowest planking, and 4½ in. thick.

The hull is planked on 19 frames or ribs, some 3 ft. 3 in. apart and made from grown timbers, resting on top of the keel and extending in one piece from side to side. Each frame is 4 in. thick in diameter at the bottom, where it rests on the keel, and tapers to 3 in. diameter at the gunwale end.

There are sixteen planks or strakes

on each side, put on 'clinker' fashion, the average width of each plank amidships being 9½ in. including the overlap portion, which is 1 in. The thickness of the planks is 1 in. usually, and they vary from 8 ft. to 24 ft. in length. The exception to this is the tenth plank up on each side of the vessel. This is 1½ in. thick, forming a shelf on which rests the beam ends. Also, the third plank from the top is 1½ in. thick and into this are cut the oar ports, sixteen on each side.

The two upper planks are thinner, usually ¾ in., and inside the top one is secured the gunwale, a stout timber 3 in. by 4½ in. The planks are joined with iron rivets and plates ¾ in. square.

The planks are fashioned from thicker material than the finished plank and worked so that a ledge 1 in. high is left in the centre of each. This ledge butts against the frame, as does the upper edge of the plank. Holes are bored through the ledge, one either side of the frame, and ties are passed through a corresponding hole bored in the ribs. In this way the planks are secured to the frames.

The only iron used is at the end of each plank, both fore and aft. Here a single nail is driven through each and riveted to the ends of the frames.

The beams athwart the ship rest on the shelf left in the tenth plank and on the tops of the floors. Usually the beams are 7 in. deep and 4 in. wide. These are made more secure by knees (or brackets) secured with oak treenails.

The beams are supported by short pillars reaching from the centre of each beam to the middle of the floor or frames.

I have gone into these types in rather more detail because they are really our first examples of true shipbuilding—that is, built up on keel and frames.

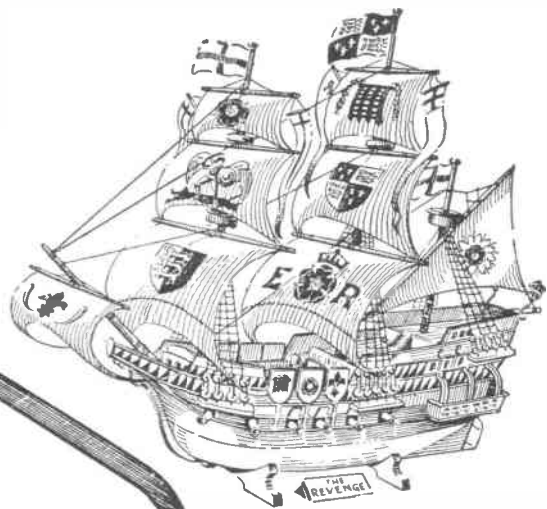
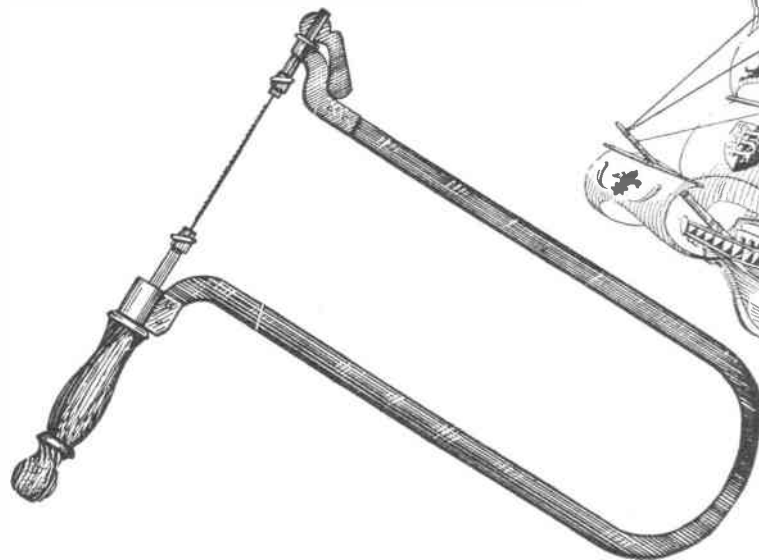
MODEL AIRCRAFT ENGINE TESTS

By Peter Chinn

MODEL aircraft engine manufacture began, in America, more than a century ago. Today it is a world-wide industry, with types ranging widely in power, price, etc. Even the expert pauses to wonder which type will suit his purpose best. This book gives the full test report and comments on a selection of engines ranging in size from 0.33 c.c. to 5.76 c.c. and in price from 35s. to £8, and should prove very helpful to the powered model aircraft enthusiast.

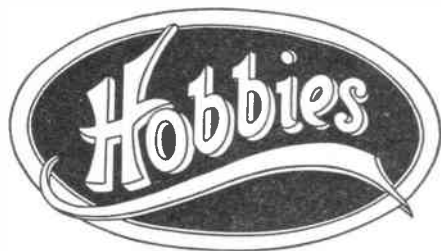
Published by Percival Marshall & Co. Ltd., 19-20 Noel Street, London, W.1. Price 5s. 0d.

FOR A FIRST-CLASS MODEL . . .



**. . . Use a
First-Class
Tool . . .**

MADE BY . . .



WITH the fretsaw you take the hard work out of model making. It cuts the pieces in less than half the time taken by any other method; it cuts cleanly and accurately; in fact it has no substitute. And when you are not model making you will find it equally useful for light woodwork and those 101 odd jobs you have to do about the house. Cuts wood, light metal, leather, plastics, etc.

Get yours now and join the ranks of real model craftsmen. But remember - insist on Hobbies or you may be disappointed. Prices from 5/6. The saw illustrated is our famous 14in. Lever Frame price 16/-, 18 in. price 17/-.

From Stores and Ironmongers everywhere, Hobbies Branches, or by post (1/6 extra) from Dept. 99, Hobbies Ltd., Dereham, Norfolk. Free booklet on request.

DEREHAM, NORFOLK

The Application of Adhesive Tapes

NEW kinds of self adhesive tapes are finding increasing use and application both in repair work in the home, and in the make up of models of many kinds.

The amateur electrical enthusiast will find bright and colourful pressure sensitive tapes which may be used for binding the ends of wiring and for insulation work in general. New heatfix or heat sealing tapes and paper produced for both labelling and sealing work may be used for coil winding. Most other forms of adhesive tape can bring about corrosion of wiring and the new heatfix coated strip or tape will overcome this possibility.

In the sphere of home decoration, most attractive border and panelling work may be carried out by the means of a suitable design and colour-printed self adhesive tape. New designs have an application for frieze decoration, borders and walls in the home or club where plain distempred walls, wooden partitions and other large plain areas stand in need of some adornment. While these pressure sensitive or self adhesive tapes are merely applied by finger pressure, the new heatfix or heatseal tapes or strips are applied by heating the material with a flat-iron or a hot plate.

Pressure sensitive tapes are also obtainable in small label form, in white and in colours, including gold and silver, and in many attractive shapes and in sizes. These may be used for small poster work on models of railway stations, window stickers for model shops and stores, for marking, coding or grading wood, hardboard and other materials used in connection with every kind of hobby.

Model making

Any of the tapes mentioned, and, of course, the well-known gummed or glued brown paper tape applied by moisture, may be used in the general construction of bridges, houses, box kites, model furniture, forts, factories, stage work, and where cardboard or hardboard is used. In addition to a joint, join or seam seal, they serve to reinforce the edges and joined sections of all kinds of models. Stiff grades of brown glued tape may be wound round to make up cylinders, coils, and the components needed for box kite make up. Cutting up lengths of tape, moistening the material, and rolling into cylinders can produce very strong materials which will support a heavy weight of cardboard. In this way, rolled tapes may be used for the legs of tables and chairs, and for pier and column supports. When the rolled

tube of tape is further dipped in water and left to dry out the cylinder becomes really rock hard, and it will need a hand-saw to cut it into two. Layers of glued material, laminated, can be made up into boards with considerable strength in all directions.

Where there is no special skill, or as an alternative to the use of paint or crayon, first class posters may be obtained by the aid of coloured tapes which may be suitably cut in size and shape to make up wording.

In the home

In cold weather, it may be found that glued or gummed tape may harden, but the adhesive will be quickly activated or made tacky if it is moistened with warm water.

A pane of broken glass may be held in position, without further damage, with a strip of cellulose transparent tape. A bandage around a cut finger may be held in position firmly, but without undue pressure, by the application of a small piece of tape. Jars, cans, tins, drums and canisters may be sealed around the lid and thus keep out dust and damp from foodstuffs. Masking of car parts when re-spraying is another obvious use for tapes.

Garden tools and broom handles which fit badly may be bound round with a strip of tape, making the end sufficiently large to fit into the iron tool or broom head. Tears in fabric window

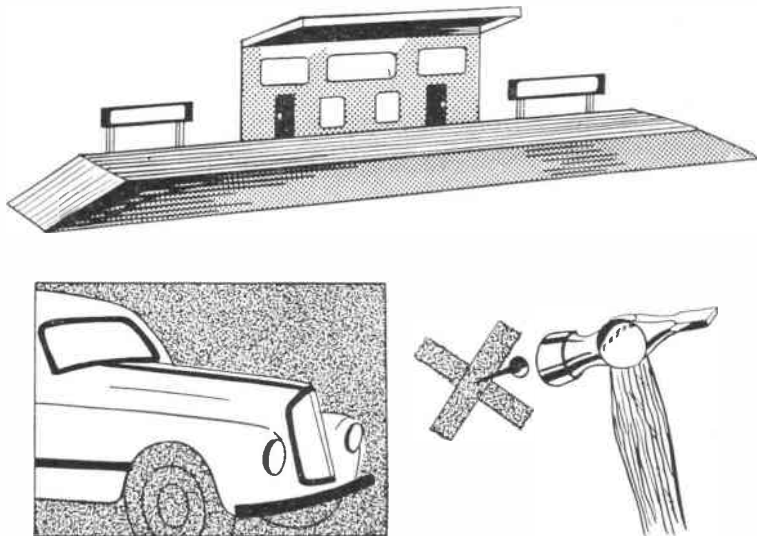
blinds may be repaired, broken and raffia or straw handles on shopping baskets may be held for all time with self adhesive tape.

There is a special sports tape which may be used to bind handles of bats and other such items, again made in various colours. As an aid to the home carpenter, where bricks and plaster walls present difficulty, when it is necessary to drive home a nail, two small pieces of tape applied criss-cross fashion will not only strengthen the wall surface, but will prevent surface cracking. Plaster walls, partitions and cracked surfaces may be temporarily sealed with a suitable tape of a strong kind. One may paint on top of a plain tape, matching in the general colour scheme of the wall. Minor cracks may be sealed in this way before painting down and the tape will further harden in this treatment.

Broken camera bellows, and similar extending items, may be repaired with cloth or linen tape, thus making a first-class job. Various tapes have a value in sealing off draughts in winter along the edges of closed windows and doors.

It is well known that the transparent types of tape are ideal for mending torn paper work, book covers, pages, music MSS., maps, and charts, etc. When buying a new road map, it is a good idea to cover each folded section with a good transparent tape and thus considerably reduce the wear and tear on the seams.

(F.T.D.)



Some of the projects mentioned in this article involving the use of adhesive tapes

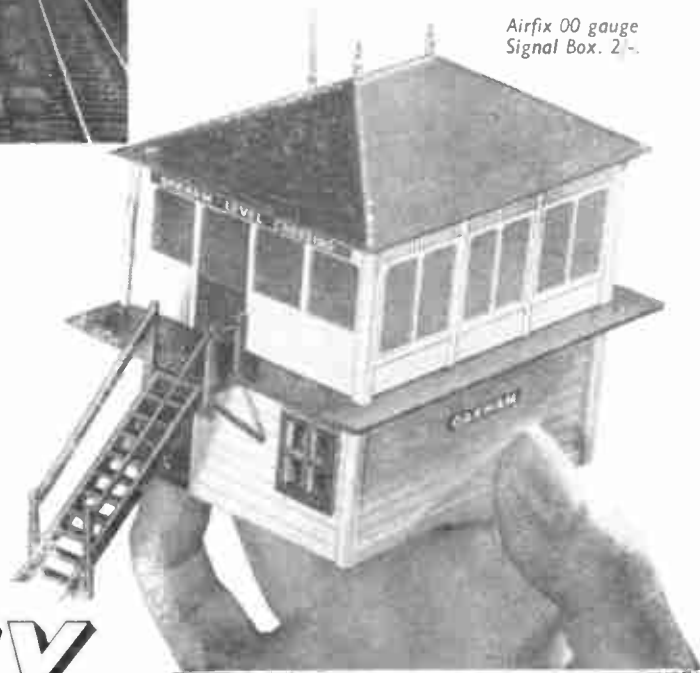


Copyright photograph by permission of British Railways

Just like the real thing!

Airfix kits are not just models — they're exact replicas, each series to a constant scale.

Airfix 00 gauge Signal Box. 2/-.



There are models galore in the Airfix range! Aircraft from fighters to bombers (all to the same 1/72nd scale), 00 gauge railway accessories, vintage cars, historical ships. Airfix value is unbeatable — ask your dealer for the latest list.

Nearly 100 kits from 2/- to 10 6d.

AIRFIX

THE WORLD'S GREATEST VALUE
IN CONSTRUCTION KITS

From Model and Hobby Shops, Toy Shops and F. W. Woolworth

STOP PRESS!

Latest Airfix Production



BLACKBURN N.A. 39

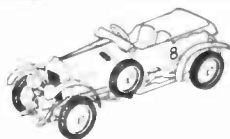
A perfect 1/72nd scale model of the latest naval strike aircraft, with Royal Navy markings. 10 1/2" long, it has folding wings, hinged nose cone and other moving parts. 4 6.

Also new: 1/72nd scale model of the versatile Douglas Dakota. Can be built from the 74-piece kit to military or civil specification. 6/-.



AIRCRAFT

Bristol Superfreighter 716d.



VINTAGE CARS

1930 Bentley 2 -

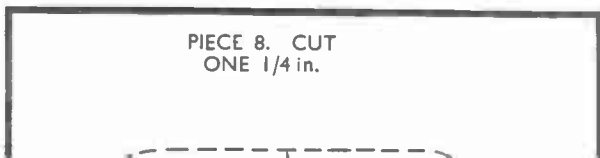
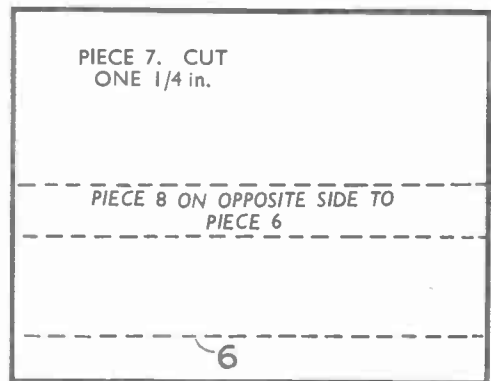
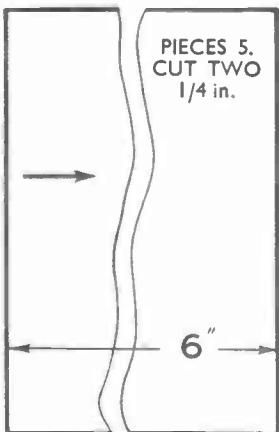
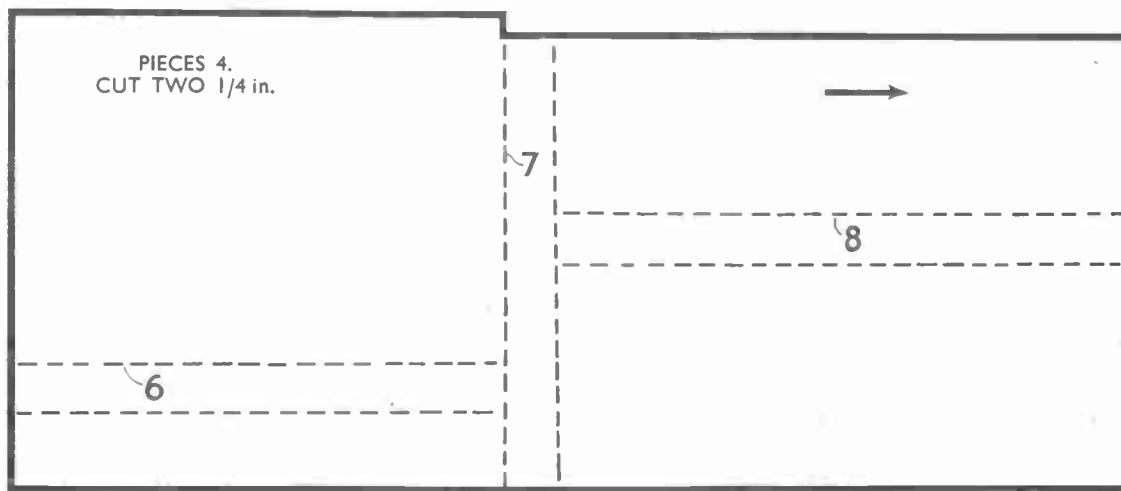
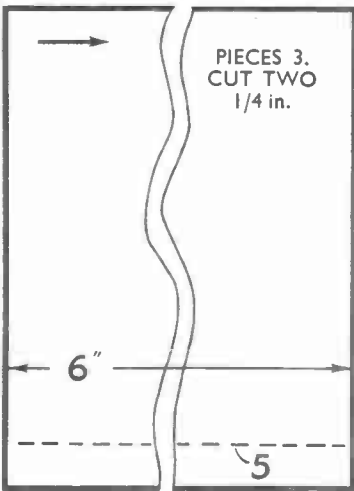
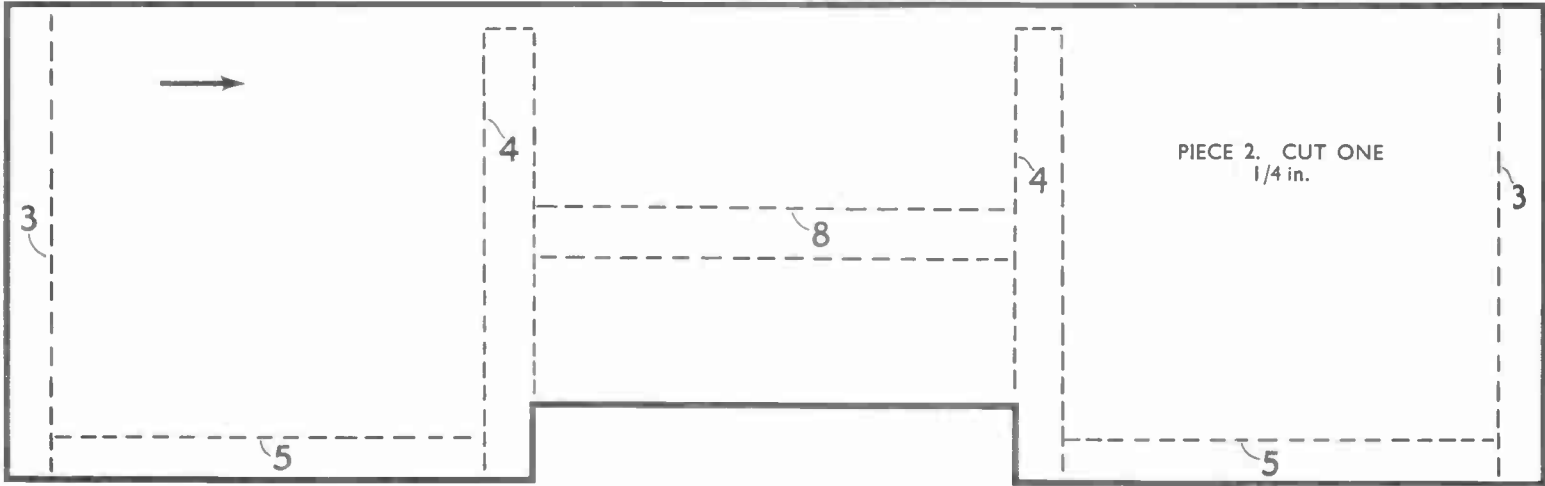
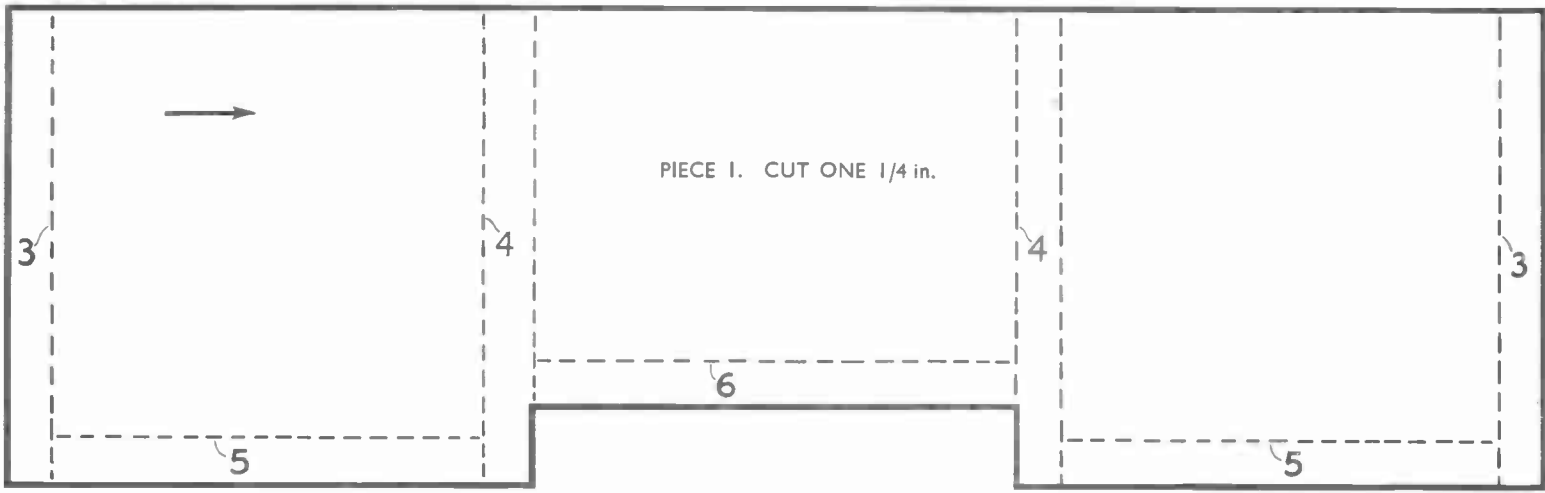
MODEL FIGURES

Lifeguard 2/-



HISTORICAL SHIPS

H.M.S. Victory 2 -



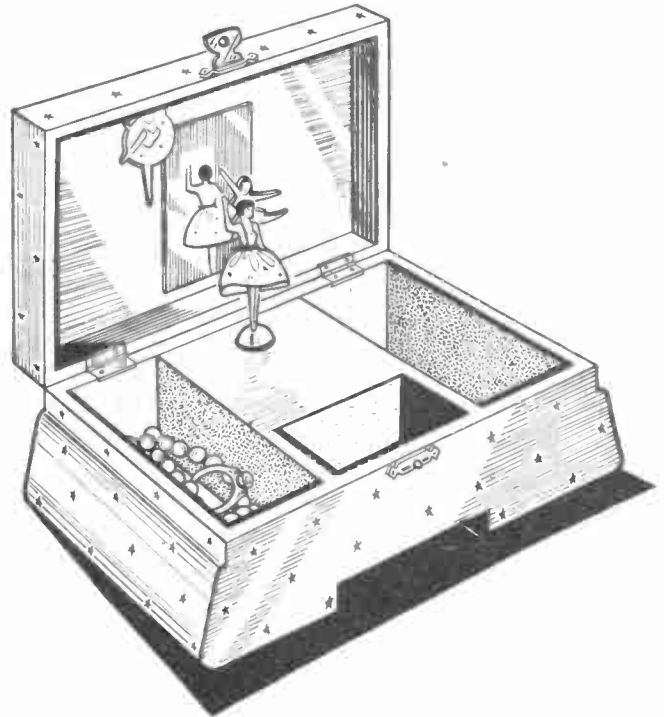


DESIGN

No. 3380

BALLERINA MUSICAL TRINKET BOX

SIZE 9 ins. x 6½ ins. x 3¼ ins. HIGH.



PIECE 13. CUT ONE 1/2 in. SHAPE TO SECTION.

THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

A KIT OF MATERIALS FOR MAKING THIS DESIGN IS SUPPLIED BY HOBBIES LIMITED, DEREHAM, NORFOLK. PRICE ON APPLICATION.

THE WORLD'S STRONGEST GLUES

Stick it with-

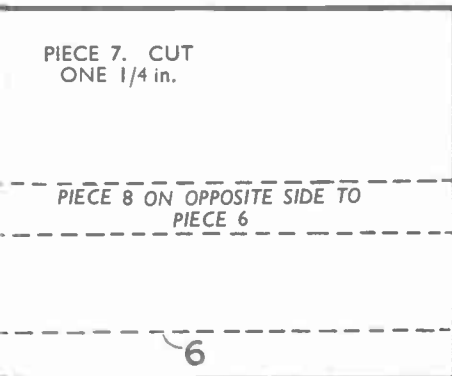
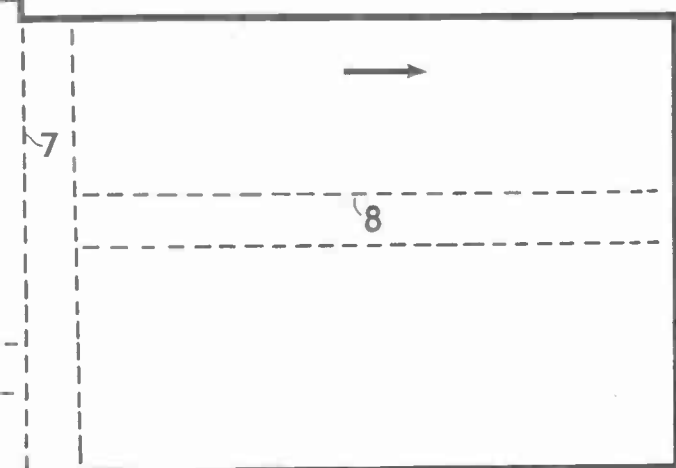
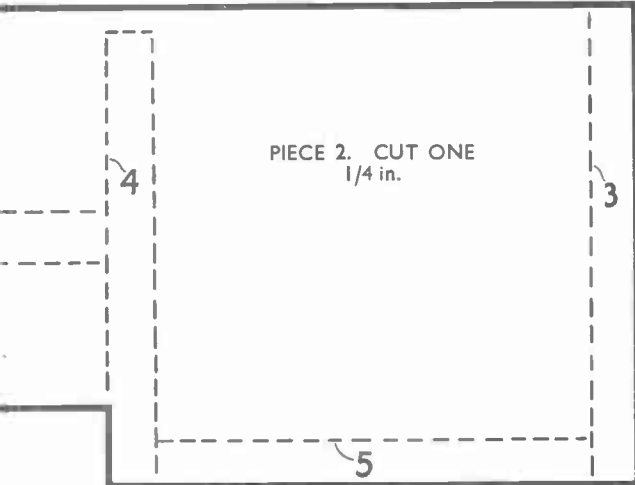
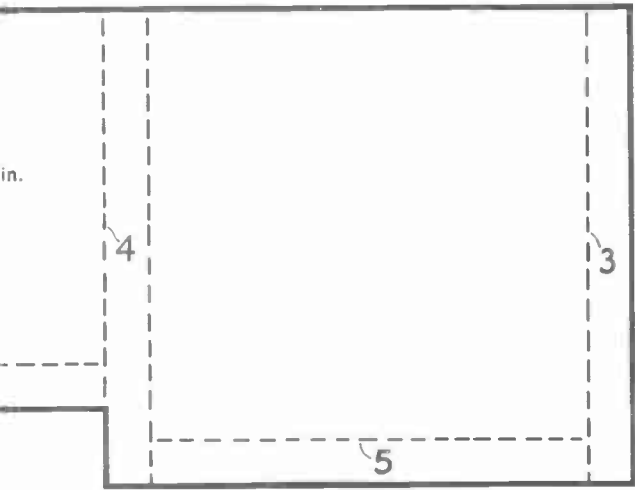
Croid

UNIVERSAL

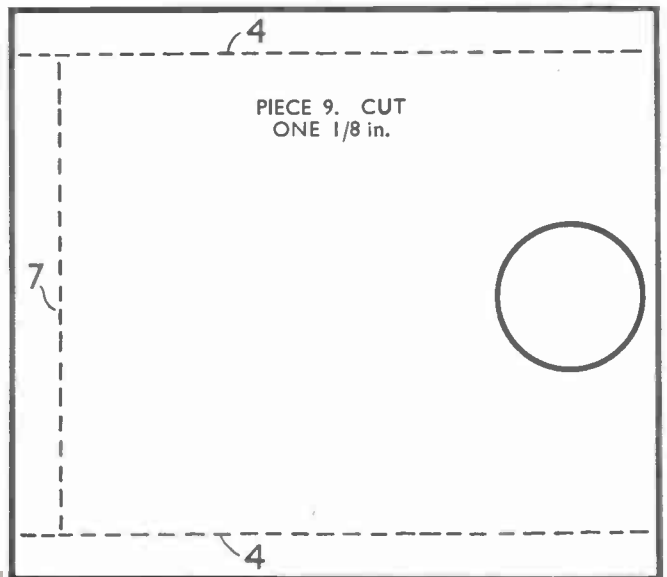


A cold glue of great strength—for wood, leather, cardboard, plastic, etc. Made to B.S. specifications. Large tube 1/2d, 8 oz. tin 2/10d, 1 lb. tin 4/6d.

BUY CROID FROM YOUR LOCAL HOBBIES BRANCH

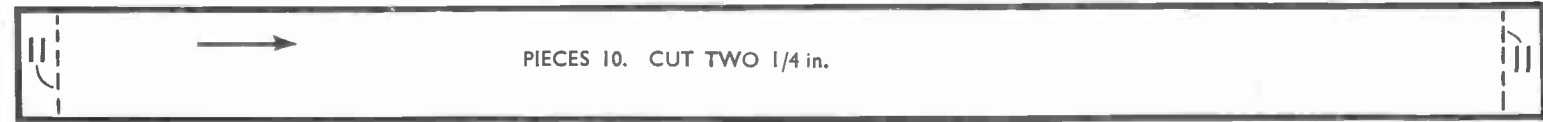
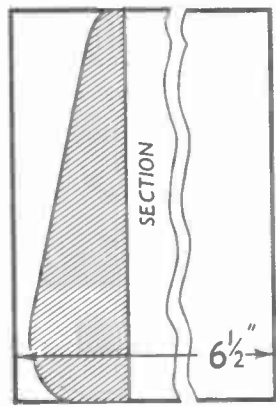
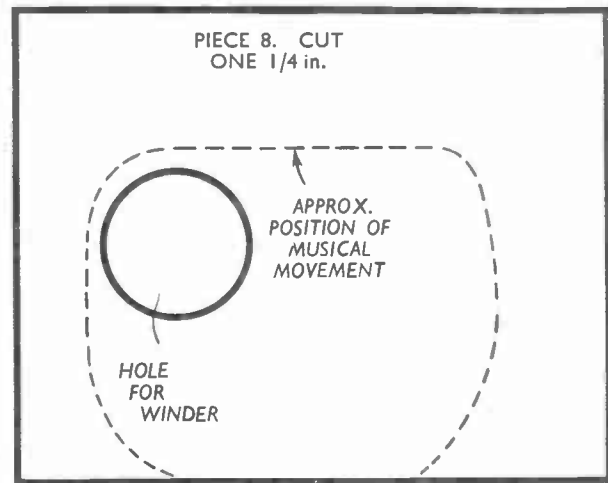
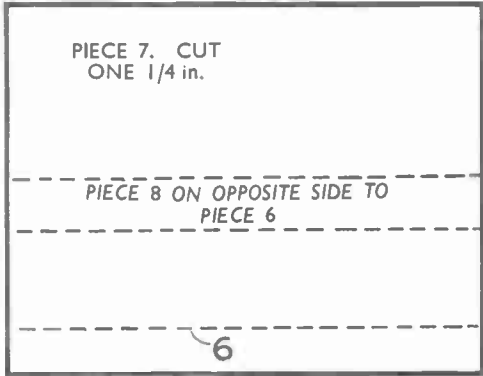
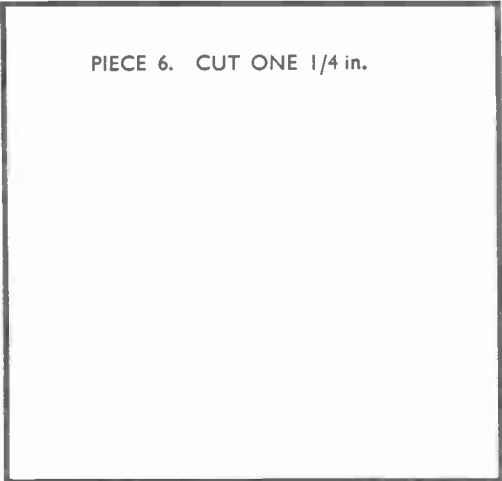
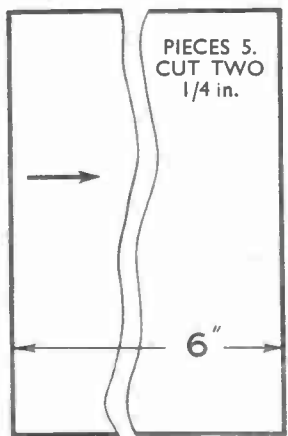
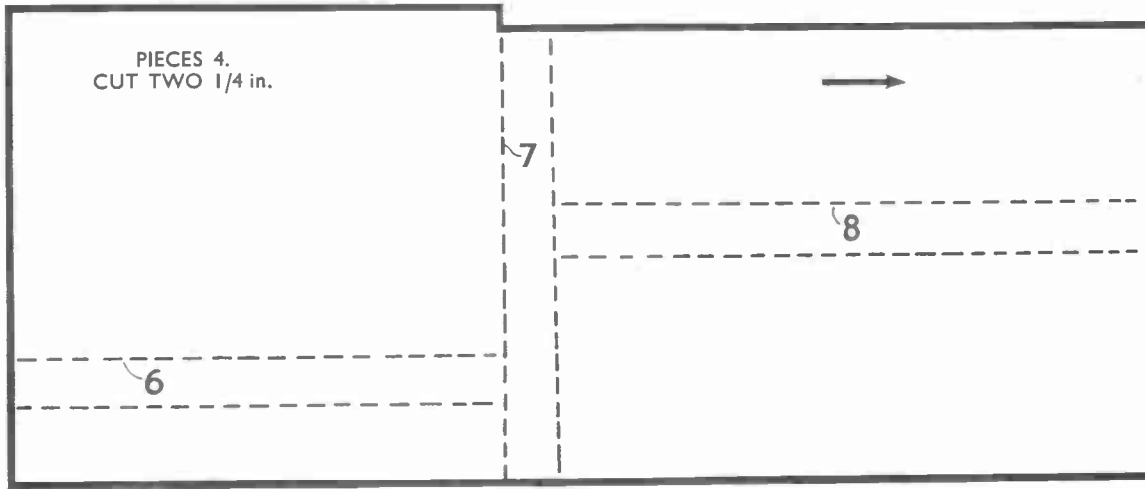
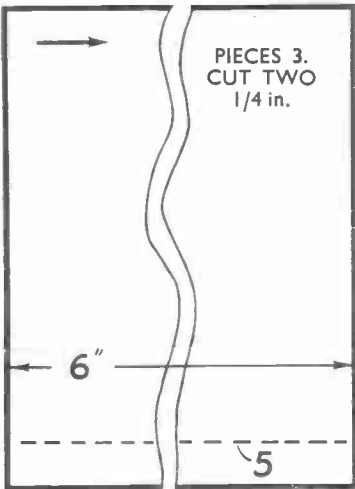
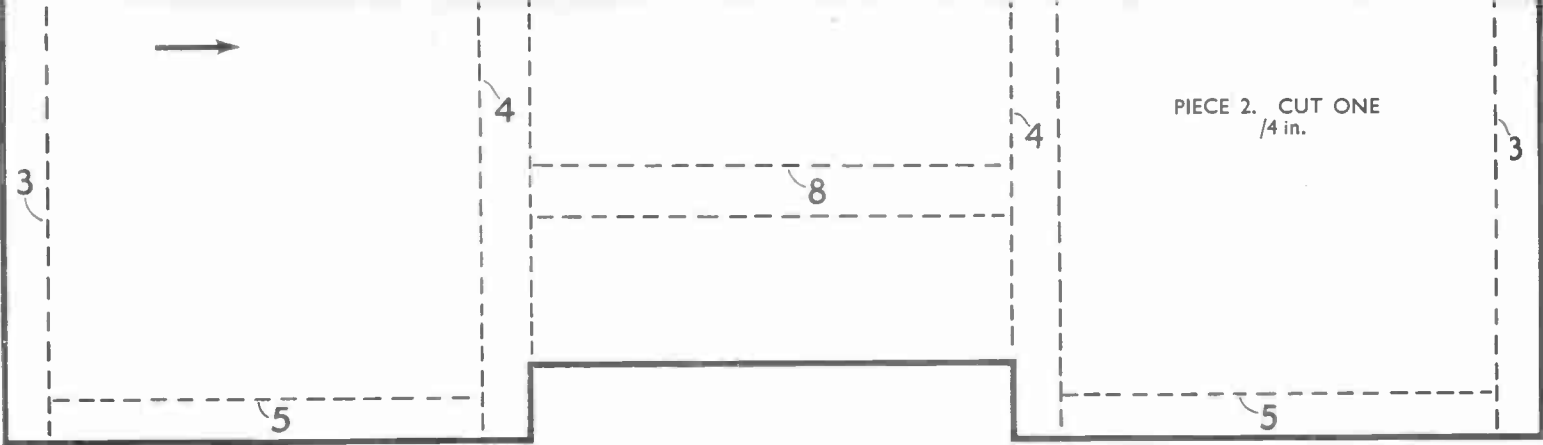


PIECE 16. CUT ONE 1/8 in.

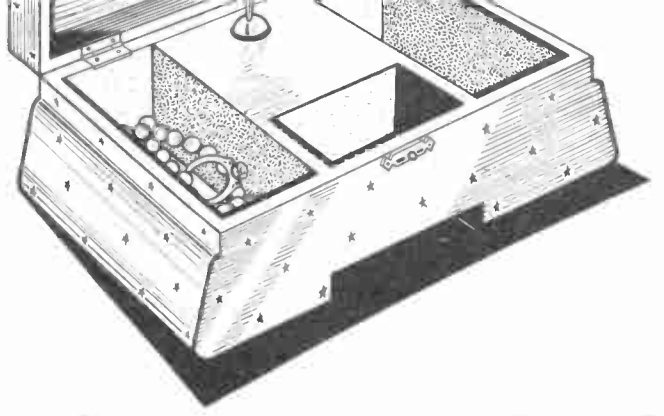


PIECES 12. CUT TWO 1/2 in. SHAPE

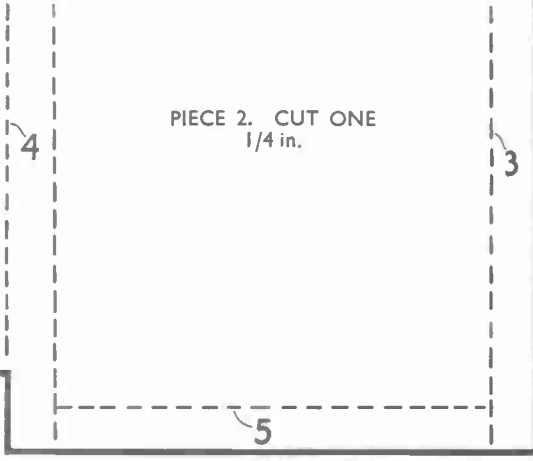




SHAPE TO SECTION.



PIECE 2. CUT ONE 1/4 in.



THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

A KIT OF MATERIALS FOR MAKING THIS DESIGN IS SUPPLIED BY HOBBIES LIMITED, DEREHAM, NORFOLK. PRICE ON APPLICATION.

THE WORLD'S STRONGEST GLUES

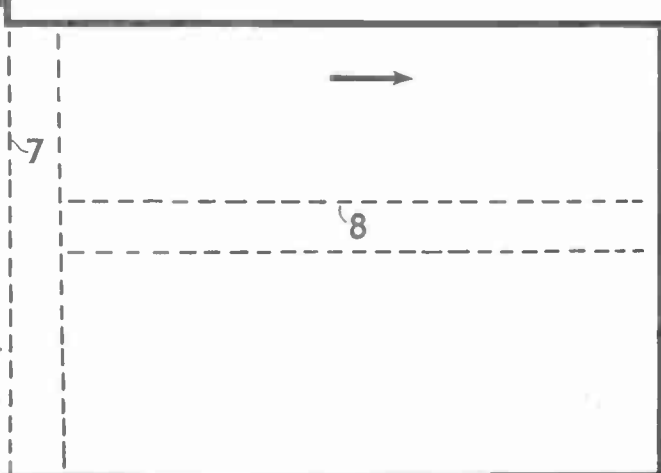
Stick it with-

Croid
UNIVERSAL



A cold glue of great strength—for wood, leather, cardboard, plastic, etc. Made to B.S. specifications. Large tube 1 1/2d, 8 oz. tin 2 1/10d, 1 lb. tin 4 1/6d.

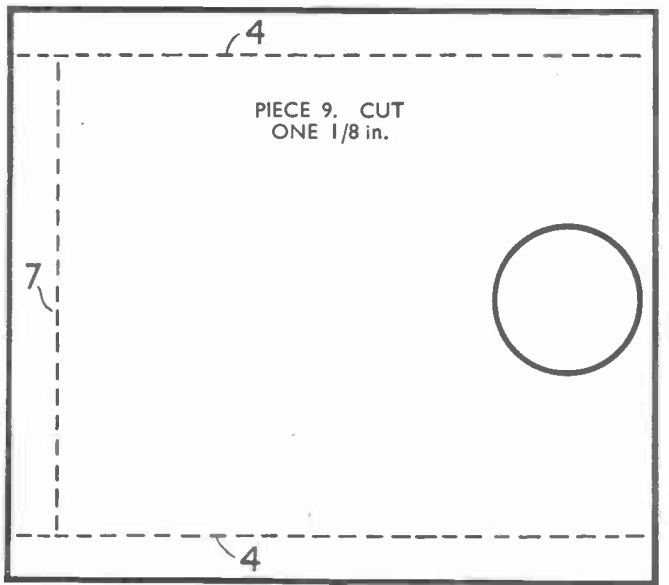
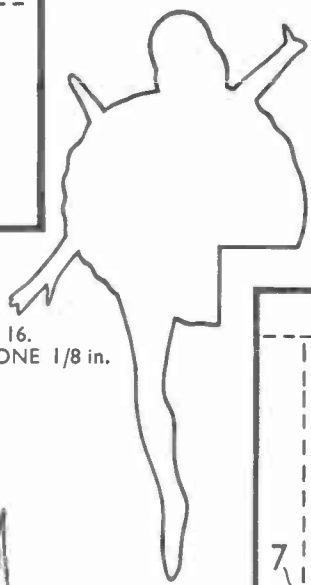
BUY CROID FROM YOUR LOCAL HOBBIES BRANCH



PIECE 7. CUT ONE 1/4 in.

PIECE 16. CUT ONE 1/8 in.

PIECE 8 ON OPPOSITE SIDE TO PIECE 6



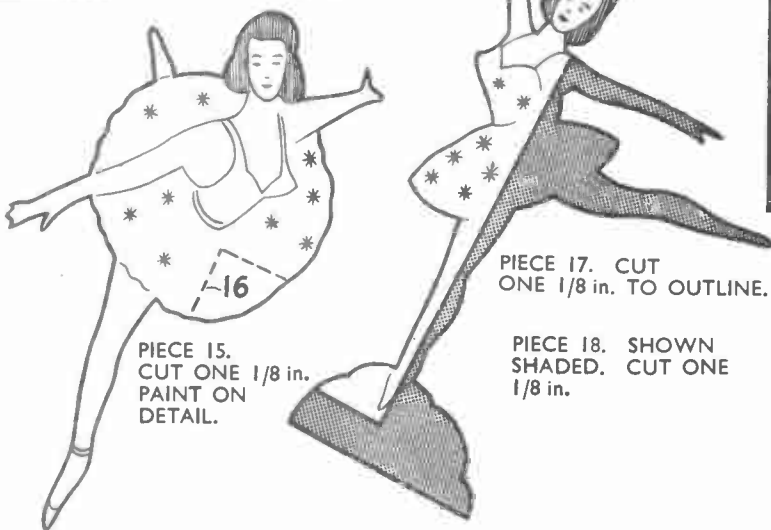
PIECE 9. CUT ONE 1/8 in.

PIECES 12. CUT TWO 1/2 in. SHAPE TO SECTION.

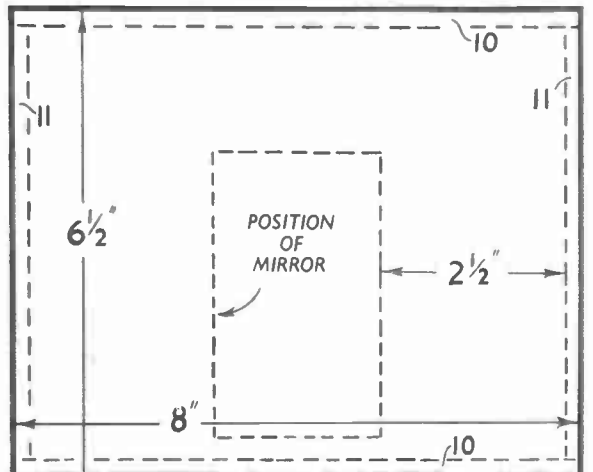
PIECE 15. CUT ONE 1/8 in. PAINT ON DETAIL.

PIECE 17. CUT ONE 1/8 in. TO OUTLINE.

PIECE 18. SHOWN SHADED. CUT ONE 1/8 in.



PIECES 11. CUT TWO 1/4 in.



PIECE 14. CUT ONE 1/8 in.

PRINTED IN ENGLAND.