

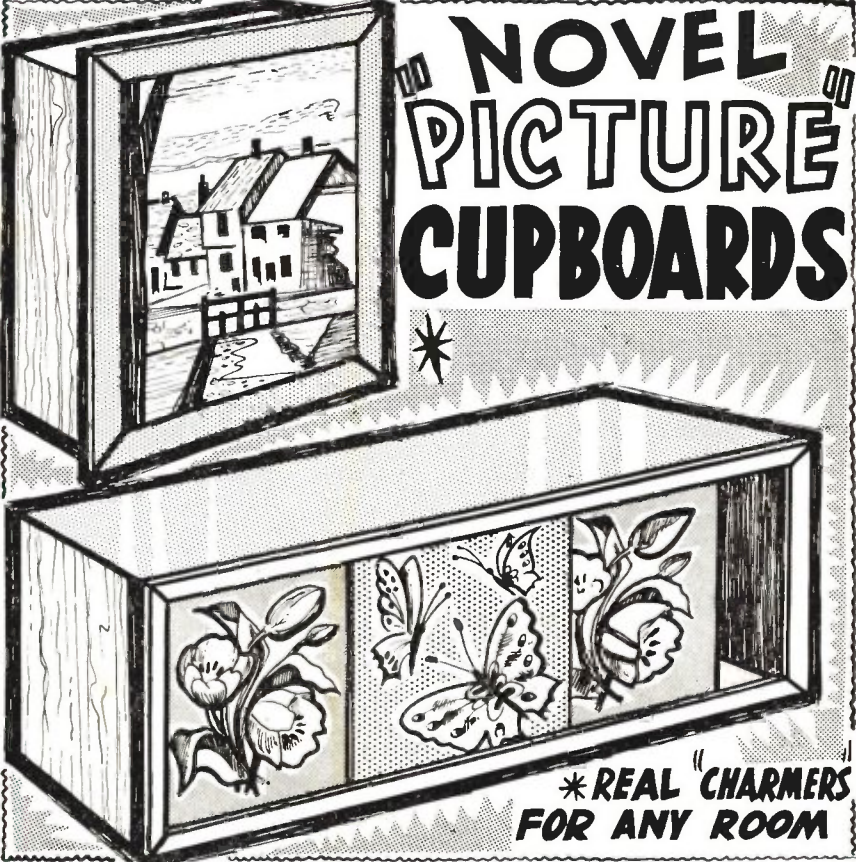
HOBBIES

weekly

10th JUNE 1964

VOL. 138

NUMBER 3574



**NOVEL
PICTURE
CUPBOARDS**

*** REAL "CHARMERS"
FOR ANY ROOM**



FOR CRAFTSMEN OF ALL AGES

6^p



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FIRE BRIGADE

INSIGNIA

By C. Jay

QUITE a number of people collect regimental badges and buttons, but comparatively few specialize in Fire Brigade insignia. Yet the majority of British Fire Service badges — cap badges especially — are really miniature works of art. Generally speaking they take the form of an eight-pointed star with the Brigade crest in the centre in colour, and a collection, displayed to the best advantage, can be really impressive.

Buttons used on fire tunics, undress uniform and coats come in a variety of sizes. Badges of rank, worn on the shoulder, consist of chromium bars for leading firemen and sub-officers, impellers for Station Officers and Assistant Divisional Officers, and impellers and laurel wreaths for Divisional Officers up to Chief Officer rank.

Fire helmet badges — the days of the old brass helmet finished years ago and nowadays helmets are made of plastic, cork or fibre glass — are sometimes made of plastic.

Although badges and buttons are the most popular collectors' items, being the more easily obtained, there are other items of Fire Service interest that can be fascinating to collect. The most sought-after are the old fire marks — the metal plaques which the Fire Insurance Companies such as the Phoenix, the Sun, the Hand-in-Hand, the Guardian, the Royal Exchange and many others, used to fix prominently on the fronts of houses insured with them.

Stories have been handed down that in those days when the insurance companies had their own bridgades, a brigade would respond to a fire call but on arrival would first make sure whether there was

a plaque on the house indicating that it was in fact insured with their company. If not they would either stand around just watching it burn, or merely go back to their station!

"This may or may not be true, but it was certainly the usual custom to identify the company's insured houses by its own mark. Although most of the marks still in existence are already in collections, it is possible to come across the odd one. They are very decorative, some made of pewter and some of thin copper or tin, and they used to be painted.

Another intriguing item that can occasionally be found is a Staffordshire ornament of James Braidwood, the famous Chief of the London Fire Engine

Establishment, who was killed at the great Tooley Street fire in 1861.

Pictures and photographs of fire engines, from the old hand-manual pumps and steamers to the present-day powerful motor pumps and 100 ft. turntable ladders, can form a most interesting collection.

There are keen collectors of Fire Brigade insignia and other items all over the world, and a society was recently formed in this country for people interested in photos and pictures of fire appliances and fire stations and other aspects of fire brigade history and activities. The address of the general secretary is 20 Chipping Street, Longsight, Manchester 12.

Themetime:

NEEDLES AND NEEDLE COVERS

NEEDLE cases come in a variety of designs and colours and many people collect them because there are no set rules for this hobby.

A collection mounted in a loose-leaf album can create novel interest. Friends soon start to ask questions and before long the collector finds himself compiling a note book of facts to which can be added the following.

The needle is a simple thing, yet each one produced passes through many

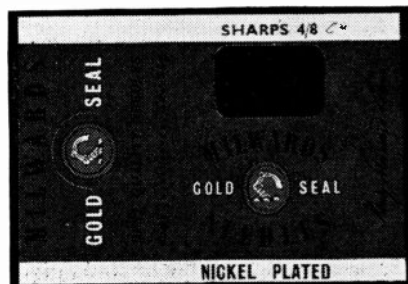
hands. The needle-maker cuts the fine steel wire into small pieces called blanks, each of which is as long as two needles. As these blanks are cut from coiled wire they are bent. So the first thing to do is to straighten them. A great many are placed together in two strong iron rings, heated red hot and cooled slowly so as to soften them, and then rolled over and over with a smooth-file.

The smooth-file has two slits in it, through which the rings pass, so that it comes right on to the wires and rolls them out straight. The blanks are then ground sharp at both ends on small grindstones. The middle of each side is next flattened, and grooves are made on each side in a stamping machine, which also leaves little dents where the eyes are to be. The eyes are punched through in a small press.

The blanks are now strung by running two fine wires through the eyes, and are then bent backwards and forwards until they break in two in the middle, each blank thus making two needles. Next comes tempering and polishing before they are put into packets.

Needles used by the first Queen Elizabeth, Queen Anne and other ladies of note were often made of gold or silver. Collectors sometimes come across them in most unlikely places and such items are obviously rare and valuable.

(R.L.C.)



Attractive and useful

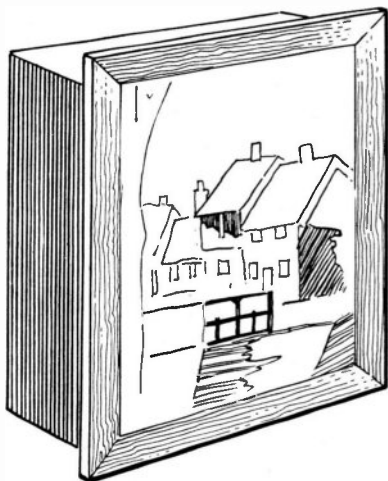
PICTURE CABINETS

studies, particularly those given away with gardening periodicals, may all be used to good effect. Needlework and tapestry may be stretched on to a back-board and framed in a similar manner.

The cabinet should be a simple affair, constructed mainly of $\frac{1}{2}$ in. wood with a $\frac{1}{4}$ in. plywood or $\frac{1}{8}$ in. hardboard back. Use glue and pins for strength. Finish off

by filling the grain and painting with high gloss enamel.

A suitable cabinet is shown in Fig. 1. The size should be made to suit a picture such as the marquetry subject shown in the main illustration. The marquetry picture is framed with contemporary moulding and is then hinged as shown in the cut-away diagram in Fig. 2. Note



ALTHOUGH particularly useful in the small home where space saving is essential, these cabinets could be an attractive feature in any setting.

Since deep framed pictures are so popular it is suggested that the depth should be increased to form a cabinet which may be used for a variety of purposes. The depth will of course depend upon the size of the picture being used and it is important that the cabinet should not overpower the picture. There are many ways of using pictures in this manner, and a few are suggested here.

Use can be made of a variety of subjects for decoration. Marquetry pictures, oil or water colour paintings, attractive prints cut from glossy magazines, flower

$\frac{1}{2} \times 1$ " STRIP MITRED ROUND TO FORM PICTURE MOULDING.

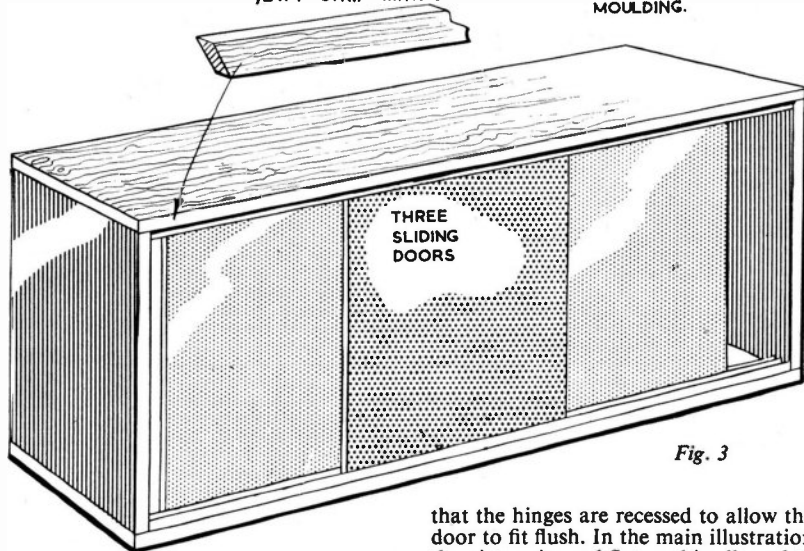


Fig. 3

that the hinges are recessed to allow the door to fit flush. In the main illustration the picture is used flat, and is allowed to overlap all round. This however cuts down the size of the cabinet.

Paintings, prints etc, can also be framed, covering with glass if necessary. Any type of large section contemporary picture moulding may be employed.

A longer cabinet is indicated in Fig. 3. Three pictures are mounted on $\frac{1}{4}$ in. plywood and are used as sliding doors. Plastic channels may be bought for this purpose and screwed in position. Mitre strips of wood round the edge to form a picture moulding.

Transfers may be used here as shown on the cover picture. The doors should be painted cream or white and the transfers applied in the usual way. The transfers shown are Decorette Tulips No. 149 of which two are required (one for each panel) and Butterflies No. 173. There are eight butterflies on the sheet and all can be used if desired. Decorette sheets are 2s. 3d. each (post 3d.).

Hang the cabinets on the wall by means of brass wall hangers. Screws in the wall should be Rawlplugged. (M.h.)

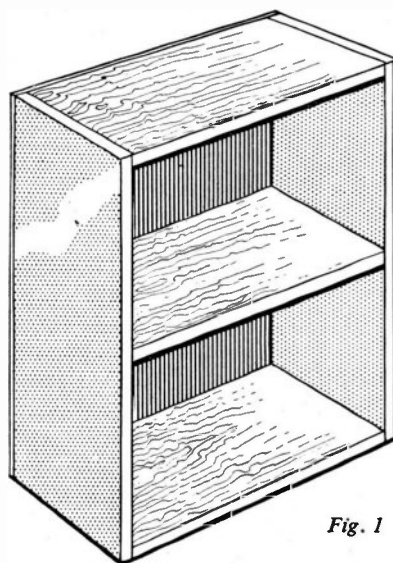


Fig. 1

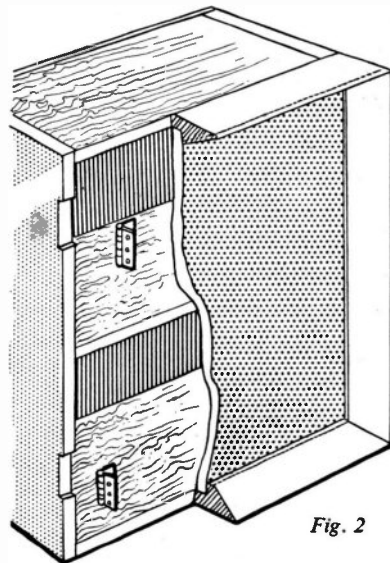


Fig. 2

Make sure of excellent

ZOO PICTURES

THERE are so many live subjects at our zoos that one of our biggest problems is knowing what to ignore. Most people enjoy a visit to the zoo to see the animals and it is a fine place to take your camera.

Nearly all the wild animals, birds of prey and reptiles are necessarily confined to some form of cage. How I wish someone would explore the possibility of using reinforced plate glass, especially for smaller animals. And we want

By S. H. Longbottom

pictures of the animal — not the iron bars. Moreover, if the cages are covered by roofs we are deprived of adequate top-lighting — although this may not be apparent — and shots may be doomed to failure.

At some zoos you will find the lions in the open where you can see them clearly without the heavy bars, but they may be some distance away, demanding either a telephoto or a long focus lens.

We assume that you value both your life and your camera and it is wise to obey the warning notices attached to the cages of ferocious animals. The tame wild animal — with the exception of the famous Elsa — is very rare indeed! And you can't look through a tiny viewfinder and keep your eye on the animal



This fine animal was on the move all the time but caught by pre-focusing and waiting patiently.

at the same time. Your intention can easily be mistaken and a swift spring could be dangerous, so please accept this warning.

Fortunately, we have lots and lots of subjects worthy of our attention and the fact that they may be kept behind netting does not disturb us. Here we stand fairly close to the mesh and aim

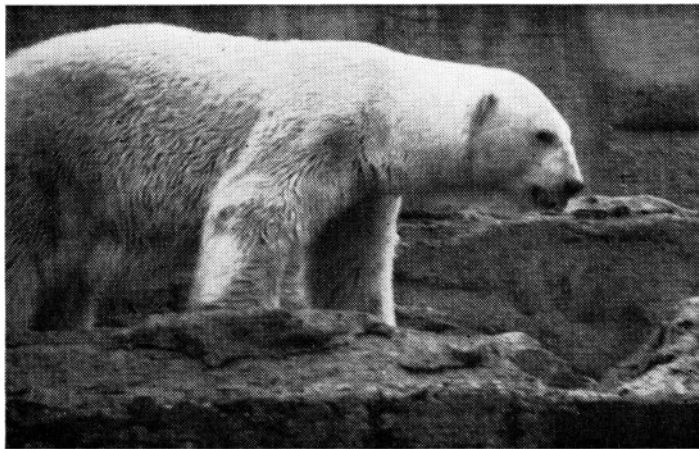
the camera at the subject. Netting will not always spoil the photograph if it is close enough and out of focus and providing the mesh is not actually touching the lens. When the mesh is a little larger you will have ample room for the lens.

There is one other point we should also mention about zoo pictures and that is that brilliant light is not always an advantage. In fact, good, diffused sunlight is preferable to unclouded sunlight, which causes harsh shadows. All the photographs shown here were taken on a cloudy day, although bright, and you will see that there are no shadows.

Some of the animals take a nap after feeding time while others annoy us by being constantly on the prowl. If they would only stand still a minute while we focus! A mouse will not emerge from its hole while we are making a noise and larger animals are just as timid. They sometimes prowl because they are suspicious, so the remedy is for you to exercise a little patience.

Watch the movement of the animal strolling backwards and forwards then select a convenient spot where he can be expected. Focus on this spot, keep the camera steady and wait until he moves into range. Bears often prowl in this fashion.

The rhinoceros is slower in compari-



This huge bear was constantly on the prowl and I had to wait for him coming within suitable range.

son and you should be able to catch him easily. But always take a quick glance at the background to see that there isn't a tree growing out of his back! Another way is to 'pan' a shot, that is, pre-focus on the animal, pick him up in the viewfinder and move the camera with him as he prowls. Press the trigger when he is in range and you have matched his speed. The background will be fuzzy but this does not matter.

The eyes are a good point to focus on in most cases, remembering that we should concentrate on the subject, getting as much of the animal on the negative as possible and thereby eliminating conflicting backgrounds. If you can use a large aperture so much the better for this will then throw the background out of focus. It makes your subject stand out more strongly against the fuzzy background and there can then be no conflict with the animal.

We find that lots of large birds such as pelicans are mostly housed in wired enclosures. In such instances we can always choose a viewpoint which allows the camera to be tilted downwards towards the birds. This eliminates the top edge of the enclosure on the opposite side and the wire mesh itself will merge into the background.

Reptiles lay quite still for most of the time and our difficulty is that they have to be kept in special quarters. Glass cases with artificial lighting will be found in the reptile houses and this means longer exposures. And we must also try to avoid any reflections from the glass. If you care to try your luck at



By pointing the camera downwards we eliminate the displeasing background.

such shots it is wise to make a close approach, using a supplementary lens if necessary.

While the monkeys are always attractive they are difficult to photograph. The monkey houses are usually covered by a wire mesh at the front, the animals are active and climb to the upper branches of the trees darkened by

the roof. If you want a shot here you will have to exercise some patience and a flashgun will be useful.

While close-up pictures of animal heads are always good we should not amputate our subjects by taking half a body, usually by being too near. If you must take the whole, see that all four legs are included.

Skin friction demonstrated by

THE RICE TRICK

AT the seaside you may sink easily into soft wet sand, or mud, even if you are 'spreading your weight' and standing upon a board. However, if you drive three or more cricket stumps deeply into the marshy ground and then rest your board on top, you should be able to stand steadily upon your little platform on 'piles'.

Your improvised piles grip in the ground and do not slip deeper down when you put your weight upon them. The reason is 'skin friction' between the stumps and surrounding mud or sand particles.

For centuries primitive peoples have been utilizing this principle to build villages 'in stilts' over marshy ground, lakes, or even the sea! Today, great factories and refineries are commonly built over marshy or 'soft' ground, upon hundreds of deeply-driven concrete posts knocked into the earth with pile-driving machines.



And in India, the Fakir magicians have put skin-friction to a different use, with a cunning mechanical trick . . . Fill a clean paste jar with uncooked rice and press down the grains with your fingers. Then give the rice a series of quick stabs with a dinner knife. Soon you will be able to plunge the knife in deeply, where it will become wedged between the tightly-packed rice grains.

Concrete is sometimes agitated by an electrically-driven vibrator, whilst wet. Just as your stabbing actions cause the rice grains to pack down in the jar, so the concrete-vibrator helps to pack the sand and grit in the aggregate. This liberates air bubbles and makes the concrete set stronger.

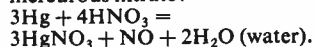
But let us return to the Fakirs rice trick: If you lift the knife, skin-friction between it and the rice will be more than enough to bear up the whole weight of both jar and rice! Try it and see.

(A.E.W.)

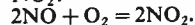
CHEMISTRY AT HOME

TWO analytical reagents necessary in the laboratory are mercurous nitrate, $\text{HgNO}_3 \cdot \text{H}_2\text{O}$, and mercuric chloride, HgCl_2 . Both may be prepared from the metal. They are poisonous, so care should be taken when using them.

Dilute 14 ml. of strong nitric acid, HNO_3 , to 33 ml. with water. Pour this on to 20 grams of mercury in a small beaker. Set the beaker in a safe place in the open air, for harmful fumes will be given off. Gas bubbles appear almost at once, and the mercury dissolves to form mercurous nitrate:



The nitric oxide, NO , at once unites with atmospheric oxygen, O , to form red-brown fumes of nitrogen peroxide, NO_2 :



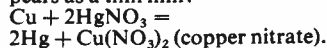
The harmful nature of nitrogen peroxide is the reason for conducting this part of the experiment in the open air.

Stir the liquid occasionally. During the next day or so white crystals of mercurous nitrate gradually separate out. When no more form remove them, and let them drain and dry on a porous brick. Keep the mother liquor.

To make up a solution of mercurous nitrate for analytical use stir 2 grams of the crystals with 20 ml. of water. The crystals break down into a white powder. Now add strong nitric acid drop by drop until the powder just dissolves.

The mother liquor may now be worked up for the preparation of mercuric chloride, but before doing so just dip a swab of cotton wool in it, and wipe the swab over a clean copper, Cu , or brass surface. A brilliant silvery plating appears. The plating is easily

mistaken for good chromium, Cr . This is, in fact, the secret of the old chromium plating swindle where a vendor in the market place offers a bottle of this miraculous solution which will chromium plate at a touch. Unfortunately, the plating disappears shortly after the vendor. The copper or copper in the brass displaces the mercury which appears as a thin film:



EXPERIMENTS IN MERCURY COMPOUNDS

By L. A. Fantozzi

Evaporate the rest of the mother liquor to dryness in the open air. Continue heating over a low flame. Nitrogen peroxide is given off, and mercuric oxide, HgO , is formed:



When no more red-brown nitrogen peroxide fumes are visible, and the mass has turned a purplish-red, let the whole cool. The oxide changes its colour to a fiery orange.

To make mercuric chloride from this first dilute strong hydrochloric acid, HCl , with twice its volume of water.

Put the oxide in a beaker, and heat in a boiling water bath. Boil the diluted hydrochloric acid, and add it in small portions to the oxide until the latter has dissolved. Add an equal volume of water to the solution, boil up over gauze, filter it, and then evaporate it until a drop taken up on a glass rod crystallises at once. Then let the solution cool overnight. White prismatic crystals of mercuric chloride separate out. Drain and dry them on a porous brick. A

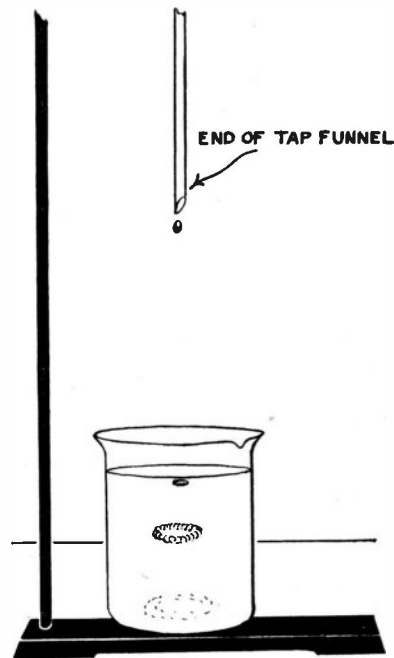


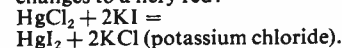
Fig. 2—Disappearing rings

further crop may be obtained by repeating the evaporation. The reaction is:



For an analytical test solution dissolve 2.71 grams in 100 ml. of water.

A curious and interesting salt which may be prepared from mercuric chloride is mercuric iodide, HgI_2 . It exists in a yellow and a red form, either of which can be made to pass into the other. To prepare it dissolve 17.1 grams of mercuric chloride in 100 ml. of water, and stir into it a solution of 3.32 grams of potassium iodide, KI , in 50 ml. of water. The mercuric iodide appears as a yellow precipitate, but this rapidly changes to a fiery red:



Wash the precipitate by decantation until a sample of one water is shown to be free from potassium chloride by its giving no precipitate of silver chloride,

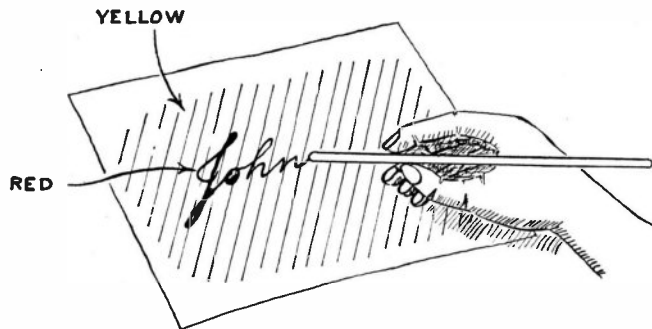
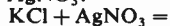


Fig. 1—Writing with a glass rod!

AgCl, with silver nitrate solution, AgNO₃:

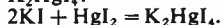


Filter off the mercuric iodide. Before drying it all smear some of the wet sludge thinly on a filter paper with a glass rod, and let it dry. Warm the paper gently over a flame. The red salt changes to the yellow form. Now draw a glass rod across it. The rod leaves a scarlet track (Fig. 1). Here is the basis for the baffling trick of writing your name in red on yellow paper using only a glass rod!

The yellow and the red iodide have different crystalline forms, the yellow being the less stable, so that even a touch from a hard body causes its reversion to the stable red form.

A variation of the method of preparing mercuric iodide leads to some interesting results. To a solution of potassium iodide in a test tube add drop by drop a solution of mercuric chloride. The mercuric iodide appears at the top of the liquid, but redissolves before it

falls to the bottom. The reason for this strange behaviour is that mercuric iodide reacts with excess potassium iodide to form soluble potassium mercuri-iodide, K₂HgI₄:

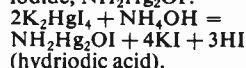


This can be arranged as an intriguing demonstration for your friends. Simply let mercuric chloride solution drop from a tap funnel into potassium iodide solution in a beaker. By adjusting the height of the tap funnel the mercuric iodide may be caused to form rings which revolve upon themselves and slowly disappear as they sink (Fig. 2).

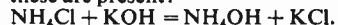
An alkaline solution of potassium mercuri-iodide is known as Nessler's reagent. This provides an important test for ammonia, NH₃, and ammonium salts. As the presence of these in water may indicate sewage pollution the reagent is much used in water testing laboratories. To make up Nessler's reagent mix solutions of 0.5 gram of mercuric chloride and 1.25 grams of potassium iodide each in 3 ml. of distilled water. Then add a solution of

6 grams of potassium hydroxide, KOH, in 12 ml. of distilled water.

To show how delicate the test is nearly fill two test tubes with distilled water. To one add a drop of ammonium hydroxide, NH₄OH, to the other a drop of ammonium chloride solution, NH₄Cl. To each of these highly dilute solutions add a drop of Nessler's reagent. In each case a brown precipitate or a yellowish-brown colouration appears owing to the formation of oxydimercuriammonium iodide, NH₂Hg₂OI:



The necessity for an alkaline solution is that the alkali liberates ammonium hydroxide from ammonium salts when these are present:



This test will detect even smaller amounts of ammonia if one looks down through a column of the liquid. The yellowish-brown tint, unobservable through the side of the column, may then be seen.



Electrifying a Guitar

PLEASE can you tell me how to electrify a Spanish-type guitar and if a battery-operated loudspeaker can be used? (S. C.—Newcastle.)

A SMALL button type microphone can be secured near the strings and should prove satisfactory. If your guitar has steel strings, then a very cheap pick-up can be made from an earpiece placed close to the strings so that they just miss at their maximum vibration. Any type of low frequency amplifier, including battery operated, will be satisfactory, providing that there is sufficient amplification. An amplifier which proves all right for the purpose of record playing may not be powerful enough for your purpose. In that case, a pre-amplifier would be necessary to place between the pick-up and the main amplifier. This could also be battery operated.



Bottled 'Snow'

PLEASE could you tell me what is used for 'snow' in a bottle of water, the snowstorm that used to delight us as children? (E. F.—Coventry.)

THE 'snow' of the old snowstorm globes is either benzoic acid or naphthalene. Both were used. The main necessity is to see that the flaky crystals are of the right size, of course. If not of suitable size when bought from the pharmacist, sifting will put this right. Benzoic acid is usually sold as a coarse crystalline powder and just right for the purpose. As naphthalene makes up the common mothball these can be crushed and sifted, but it is better to buy flake naphthalene.

* * *

Bed Warmer Bulb

CAN you suggest a suitable type bulb which can be used in the making of a frame bed warmer? (H. C.—Derby.)

WE think the type you mean is available through any electrical shop. Ask for a Glow Baby replacement bulb which is of 100 Watt capacity, sprayed red and costs 2s. 8d.

SHRINKING TV PICTURE

MY TV set is five years old. The picture is beginning to 'shrink' slightly, and unlike an old set I had, there are no 'outside' controls to enlarge the picture vertically or horizontally. Could you please offer any solutions as to what I may do or look for to correct same? (H.A.—Bolton).

AREDUCED picture is generally regarded as being due to loss of scan power. This may be from deterioration of the valves in the time base and scanning circuits, or in lost voltage due to rectifier failure. Controls allowing some adjustment are generally present, with small knobs, or slots for screwdriver adjustment. In view of the voltage present, and possible live chassis, care is essential.

* * *

'Rubbing Alcohol'

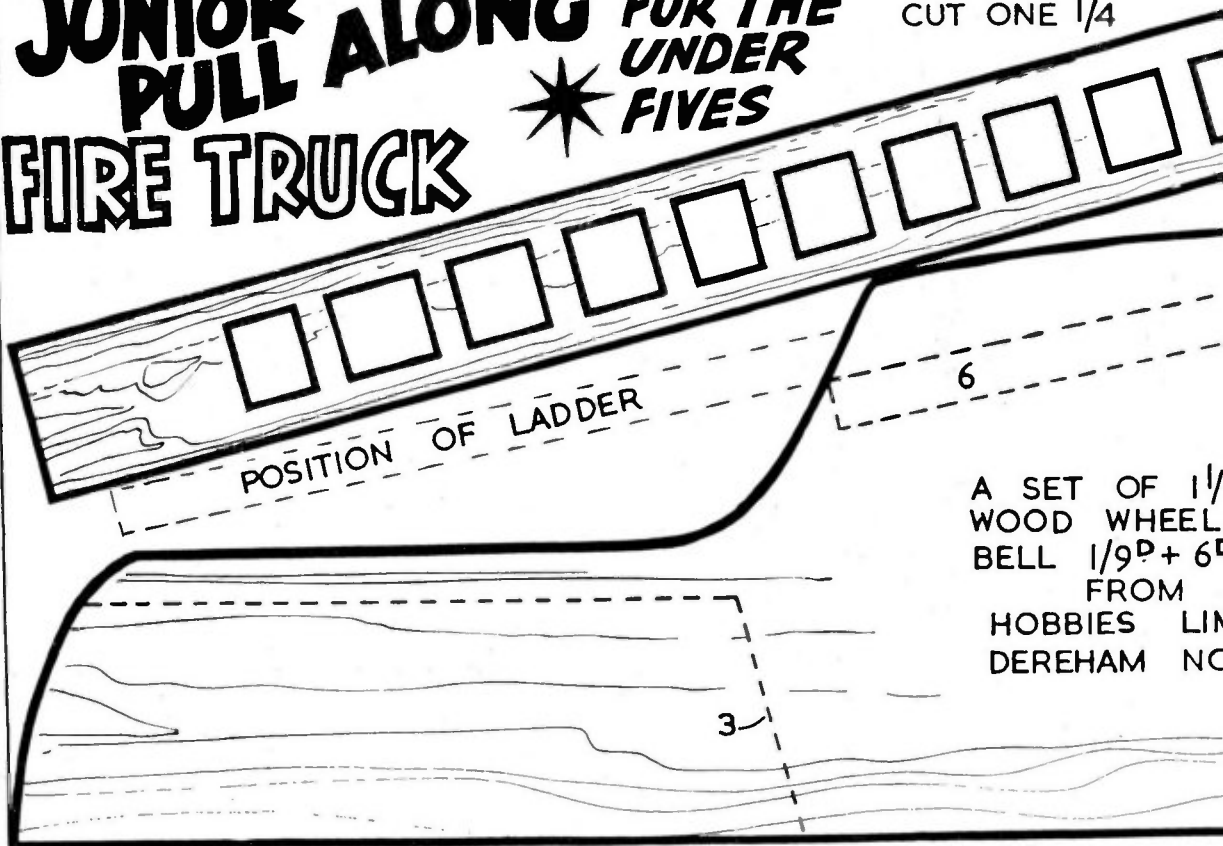
CAN you please tell me exactly what is 'rubbing alcohol'? (D. A.—Fudsey.)

RUBBING alcohol is surgical spirit which is obtainable from any pharmacist. There are various formulas for surgical spirit which consists essentially of industrial methylated spirit plus small amounts of additives — usually castor oil, methyl salicylate and ethyl phthalate.

JUNIOR PULL ALONG FIRE TRUCK

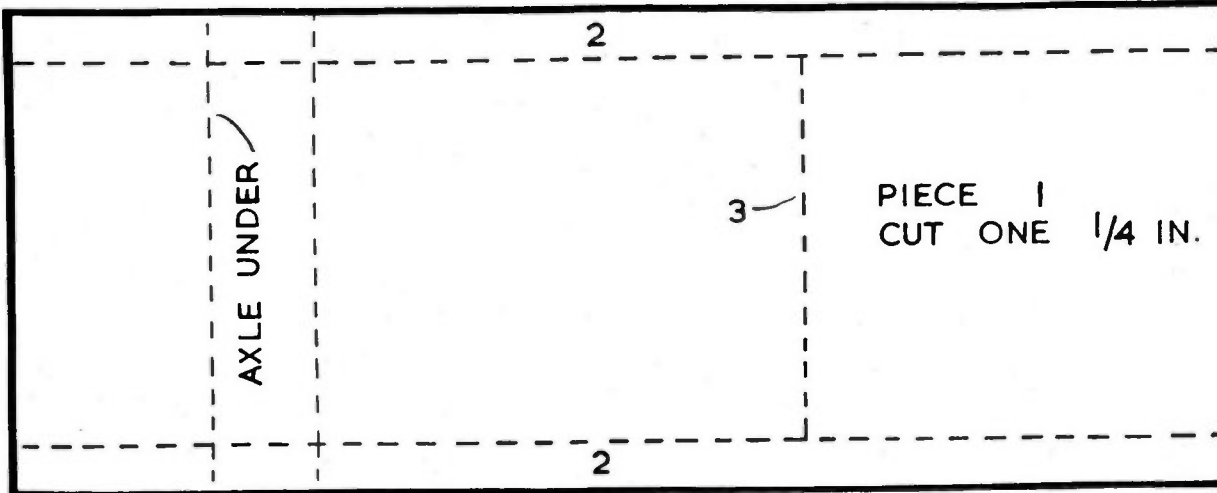
FOR THE UNDER FIVES

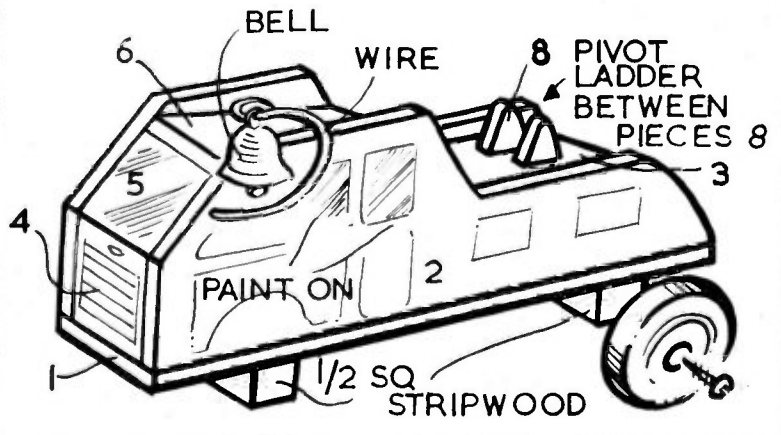
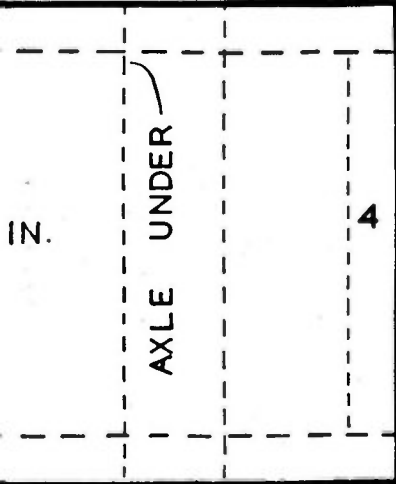
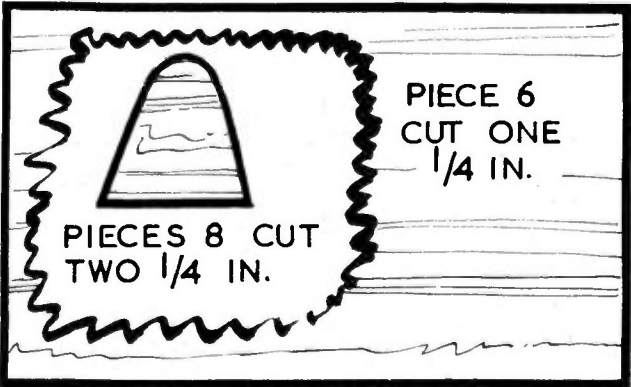
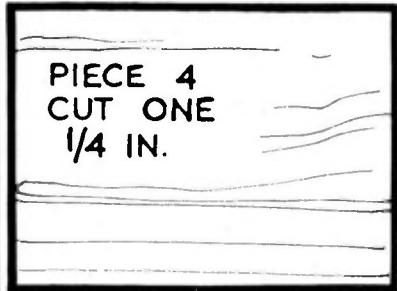
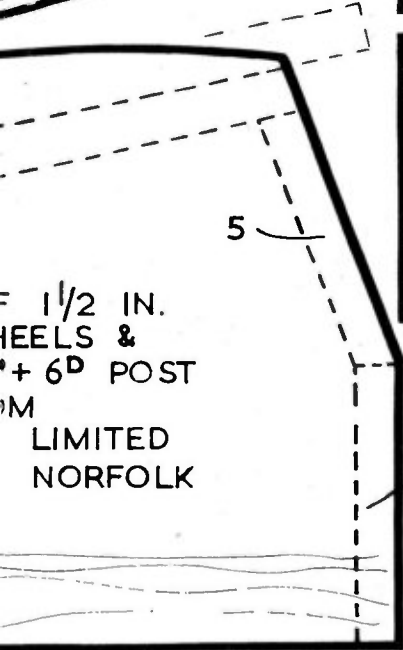
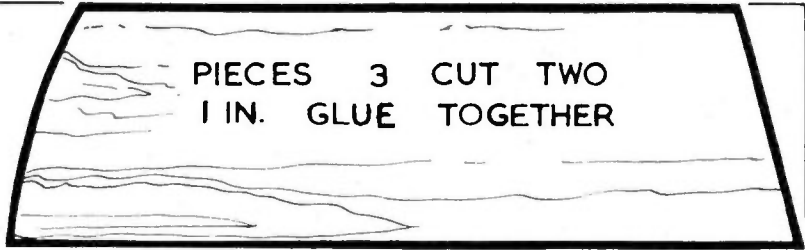
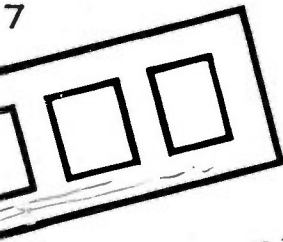
LADDER 7
CUT ONE 1/4



A SET OF 1/4
WOOD WHEEL
BELL 1/9^D + 6^D
FROM
HOBBIES LIM
DEREHAM NC

PIECES 2 CUT TWO 1/4 IN.





MAKE YOUR OWN MOSAICS

MOSAIC pictures are quite easy to make and the following describes how to prepare them. You may use linoleum scraps and beads for ornamentation although we make our own mosaics.

The materials required are: Plastone (obtainable from an art shop), Crack filler, Hardboard for the backing, linoleum scraps and coloured beads, Poster colours.

By H. Mann

Your design may be a simple one as shown in the illustration of a duck, or some animal; or you may construct a nice geometric panel in the manner of ancient Roman pavements. Small panels do not require a specific design and you may have a modern treatment.

Ducks usually have some colourful markings and for your guidance we would suggest you refer to a coloured picture. Or you may make a circular emblem, although this may involve some careful planning with your square mosaic but well worth the trouble.

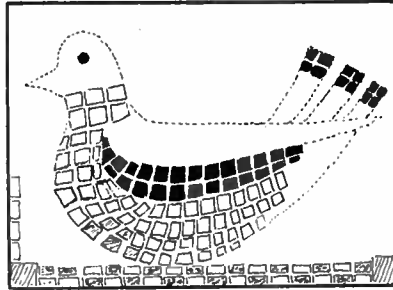
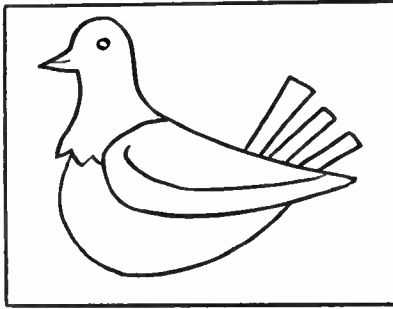
Our design must be prepared to fit a specific size of board and we suggest that it should be a piece of hardboard measuring 8 in. by 10 in. This will allow some latitude without being too large.

It is best to prepare your design on a sheet of paper the exact size required, transferring this to the hardboard backing with the aid of a piece of carbon paper. The transfer is then outlined in Indian ink directly on the hardboard while the original design on the paper can be used for arranging the mosaics.

Plastone is a modelling material which dries hard after processing, a $\frac{3}{4}$ lb. tin costing approximately 3s. 6d. Roll out a quantity of Plastone into sheets so that they are $\frac{1}{4}$ in. thick. Your poster colours may now be applied, a variety being used, e.g. white, brown, green and blue in accordance with the colour scheme.

Rule off the sheets into squares either $\frac{1}{2}$ in. or $\frac{3}{4}$ in. with a knife. Place $\frac{1}{2}$ in. thick strips of wood at either side of the Plastone sheet with the ruler across and this will avoid any undesirable impressions on the soft material. Note that we do not cut right through the sheeting but mark the squares sufficiently so that they will break off when the clay has hardened.

You will then have a quantity of Plastone squares coloured as required



and which can be used in conjunction with squares or oblongs cut from linoleum. Remnants of linoleum will be quite sufficient and these need not be of the same colour since they can be used for filling in the background or making the border.

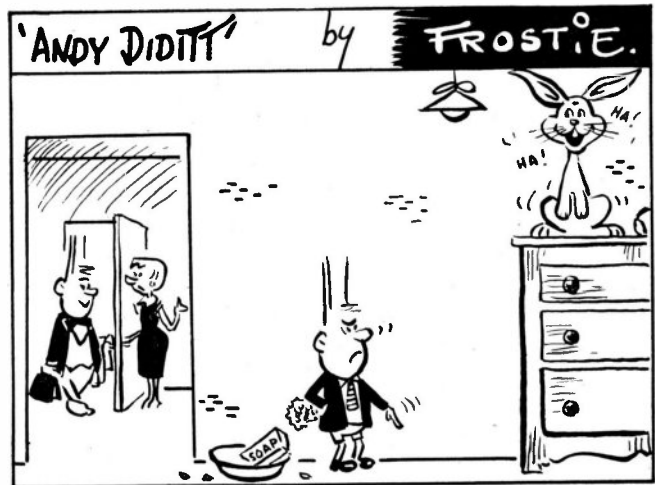
The next step is to arrange your mosaics, of both kinds, on the original design when you will be able to see how they fit, matching the colours as decided. A glass bead may be used for the eye. It is then an easy matter to transfer them to the hardboard backing applying adhesive to their backs. I find that Polybond is satisfactory for this purpose.

You may find it best to start with the subject first then proceed to the border and finally filling the background. We should mention however, that the mosaics should not actually touch each other when laid in position, so leave a tiny gap between each to allow for the next stage of filling the cracks.

Having fixed the mosaics on the hardboard backing the next step is to mix a quantity of crack filler fairly thinly and run this into all the cracks then wipe over the surface with a damp cloth to remove the excess. Be sure to remove as much excess as possible from the surface of the mosaics before setting aside for drying.

Finally, a coat of clear varnish is applied to the whole to give a pleasing gloss and your mosaic is complete.

These mosaic panels may be used for wall ornaments when it is advisable to fix a hanger at the back, or smaller ones can be made for table mats. In the latter instance it is advisable to use a heat-proof lacquer such as Kingston's Translac.



"NEILLY'S JUST WASHED HIS HARE AND NOW HE CAN'T DO A THING WITH IT!"

Easily made

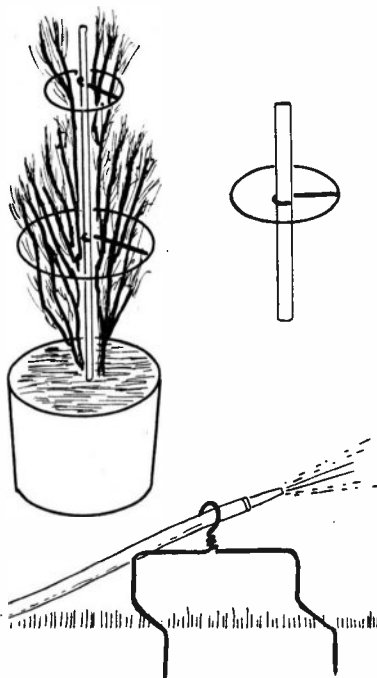
GARDENING GADGETS

EARLY staking can prevent your plants from becoming misshapen. With a little corrective training they will grow into better shapes and look much more attractive, and this applies to both outdoor plants and those grown as indoor pot plants.

Spreading of the foliage is really important, for it allows warm air to circulate quite freely, so if you wish to train a bushy plant try using old wire lampshades as shown in the sketch.

Fix the old frame as shown with stout wire you can buy from the ironmonger. Alternatively, you may bend a length of wire round a tin of suitable size, twist the ends to fasten but leaving a length for fastening to the central cane. The diameter of your rings will be determined by the size of the plant.

An old umbrella frame can also be utilized for similar purposes. Remove the old cover then cut the ribs into 12 in. and 18 in. lengths. Apply two coats of dark green paint. If you cut a large potato in half you may stick the ribs into this as you paint them and they will dry quickly without excessive handling. When the paint has dried slip the prepared ribs in behind the plants, tying so that they are almost unseen in the foliage. You may also shape the tops into loops with the aid of a pair of pliers, when you



will be able to slip a single stem through.

Sweet peas can also be trained over an old umbrella frame or old bicycle wheel if either of these is mounted on the top of a single pole. String is taken from the ribs or spokes and pegged down into the soil. If a plant is set by each peg it will grow up the string and ultimately make a pleasing, covered dome.

A lot of time can be absorbed if you have to stand with the hosepipe for watering. Some gardeners fix the hose to the back of the garden fork or spade but unfortunately there is a danger that the hose may break loose and give you a drenching!

We have a simple gadget you may prepare from stout wire. Twist a loop for holding the hose leaving a surplus at each end for making the attachment stick in the ground as shown in the sketch. This should hold quite firm while the water is playing.

If you have an old hosepipe you can make simple trickle irrigation units. Plug one end of the hose with a wooden bung then bore small holes at regular intervals. Connect with your new hose with a clip, place in position along the rows of seedlings or plants and turn on the tap. The water pressure must be adjusted so that the water just runs out slowly. (S.H.L.)

MOCK TERROR BIRD SCARER

HAWKS hunt little birds, who, therefore, scatter in confusion whenever one of these sharp-eyed birds of prey appears.

This thought occurred to the owners of an English vineyard in Sussex, when their precious grapes were threatened by fruit-loving blackbirds. So an ingenious bird-scaring device was launched to drive the blackbirds away.

Genuine feathers were stuck on to a plastic hawk, and this realistic dummy bird was suspended below a balloon filled with lighter-than-air hydrogen gas.

Then, whenever the thieving blackbirds arrived on the grape fields, the balloon was released, bearing aloft the plastic hawk tethered to a line.

The mock hawk dipped and swooped in the breeze — and the blackbirds fled for their lives. (A.E.W.)

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THE SUPREMES

OUT of the maze of girl groups who seem to be pushing the boys to one side in the American best-selling lists with their shrill, wild and madly exciting vocalizing, comes a group with something rather different to offer.

For the Supremes — three young ladies from Detroit — debut on Stateside (SS 257) with an ultra-smooth effort called *When the love light starts shining through his eyes*. Their easy-flowing rhythm and satin-smooth sound makes a



change which is interesting to say the least.

The three girls — Diana Ross, Mary Wilson, and Florence Ballard were at school together, and have been close

friends since their childhood days. *Breathtaking guy* did much to establish the girls. And then came *When the love light starts shining*, which found itself high in the American Top Thirty.

* * *



THE JAYNETTS



The Jaynetts are one of the hottest record groups in America today. They soared to the top of the charts in the space of five weeks with their very first record—'Sally go round the roses'—released here on Stateside SS227

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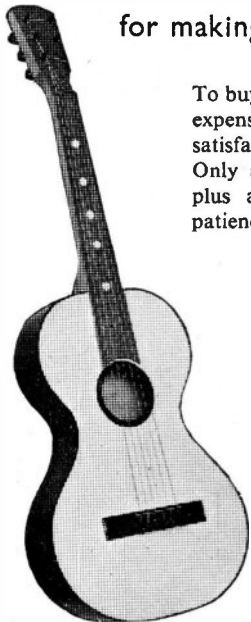
FREE — Interested in Marquetry? A special leaflet 'Making Pictures in Wood' by the fret-saw method is free for the asking. Send to **HOBBIES LTD, DEREHAM, NORFOLK.**

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Frog 249 BB Modified	2-49 c.c.
D-C Allbon Rapier	2-49 c.c.
Enya 15-D	2-47 c.c.
Enya 15-1B	2-47 c.c.
O.S. Max-II 15	2-47 c.c.
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Cox Olympic 15	2-45 c.c.
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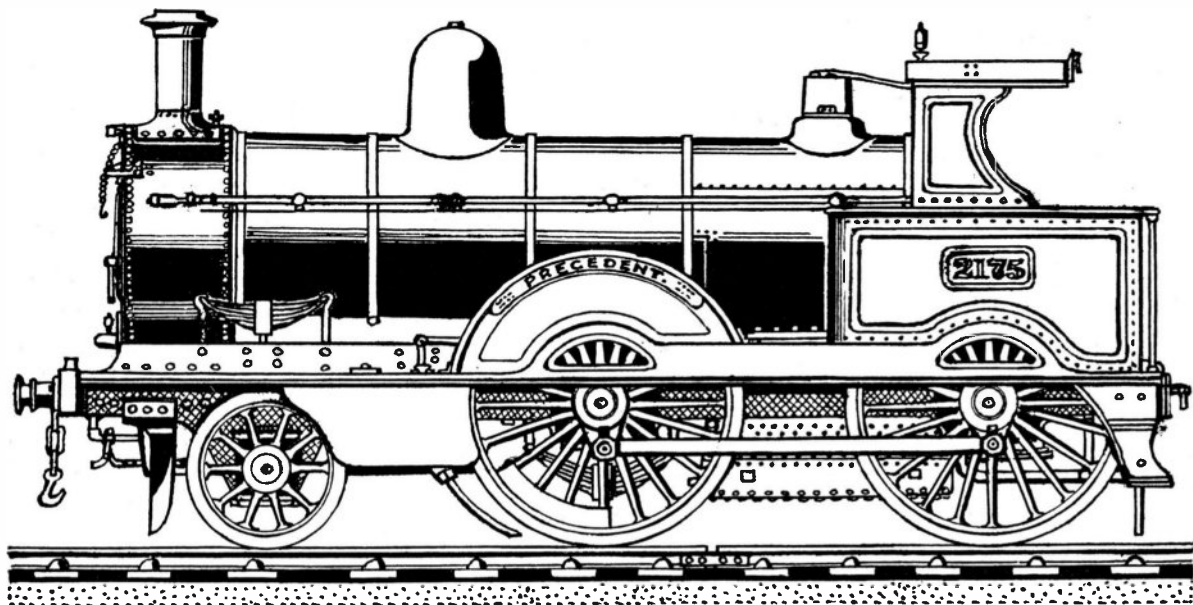
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THE CREWE 'PRECEDENT'



No. 2175, the original Crewe 'Precedent' as first built. F. W. Webb. December 1874. L & N. W. Railway

IN an earlier article in our series I described the London and North-Western 2-4-0 *Precedent* class as running in their later years after various modifications and renewals had been made.

Our subject this week depicts the engine No. 2175 *Precedent* as originally built by Mr Webb at Crewe in December 1874. She was the first of a batch of 20 engines built from December 1874 to May 1875. These were numbered 2175 to 2184 and carried the following names in the same order: *Precedent, Robert Benson, Edward Tootal, Pluck, Patience, Perseverance, Buffalo, Giraffe, Antelope, Reynard, Alma, Lowther, Penrith Beacon, Chillington, Avon, Princess Beatrice, Snowdon, Caradoc, Salopian* and *Cambrian*. Between April 1877 and February 1882 a further 50 were built, the last one being No. 955 *Charles Dickens*. This gave a total of 70 of the original engines.

The *Precedents* were Mr Webb's first design for the L. & N. W. R. since succeeding John Ramsbottom as Locomotive Superintendent at Crewe in 1871. The engines were a development of Mr Ramsbottom's 6 ft. 6 in. *Newton* class of 1866, (described in an earlier article) and were intended primarily for the heavier trains on the Southern Division between

Crewe and Euston (a line which has fairly easy gradients) but the trains on this road were much heavier.

As first built, *Precedent* carried the following leading features: wheels diameter leading 3 ft. 7½ in., coupled 6 ft. 7½ in., cylinders 17 in. diameter and 24 in. stroke, ports 14 in. by 1½ in. and 3½ in., centres of cylinders 2 ft. thus enabling long bearings for the crank axle and which were attained by making the steam chest of triangular form. The leading wheel axle-boxes were of gun-metal, having ¼ in. lateral play controlled by inclined planes. The main frames were ¾ in. thick, and the Allan straight link motion was used. Engine wheel-base was 7 ft. 5 in. + 8 ft. 3 in. making 15 ft. 8 in. The boiler made in three rings had a diameter of 4 ft. 0½ in. inside the front ring and 4 ft. 2 in. inside the back ring and contained 198 tubes of 1½ in. diameter giving a heating surface of 980 sq. ft. The firebox provided 103 sq. ft. giving a total heating surface of 1,083 sq. ft. Grate area 17.1 sq. ft. and working pressure 140 lb. per sq. in., this was however raised to 150 lb. after 1887 when new boilers were provided.

Engine weight in working order on leading wheels 10 ton 5 cwt., on driving wheels 11 ton 10 cwt. and on trailing

coupled wheels 11 ton, total 32 ton 5 cwt. In the design Mr Webb retained several of Mr Ramsbottom's features including the drop-down smokebox door, which was held in the open position by the hook and chain, and the ash hopper beneath the smokebox into which the ashes descended through spaces at the sides of the cylinders. At first the regulator was in the smoke box and resembled a rotating Corliss valve. Mr Webb however soon discarded this in favour of the Ramsbottom double beat type placed in the dome. From 1887 to 1894 Mr Webb renewed the 9 engines of the *Newton* class as *Precedents*, finally making a total of 166 engines, which were the mainstay of the L. & N. W. R. expresses for over 30 years.

(A.J.R.)



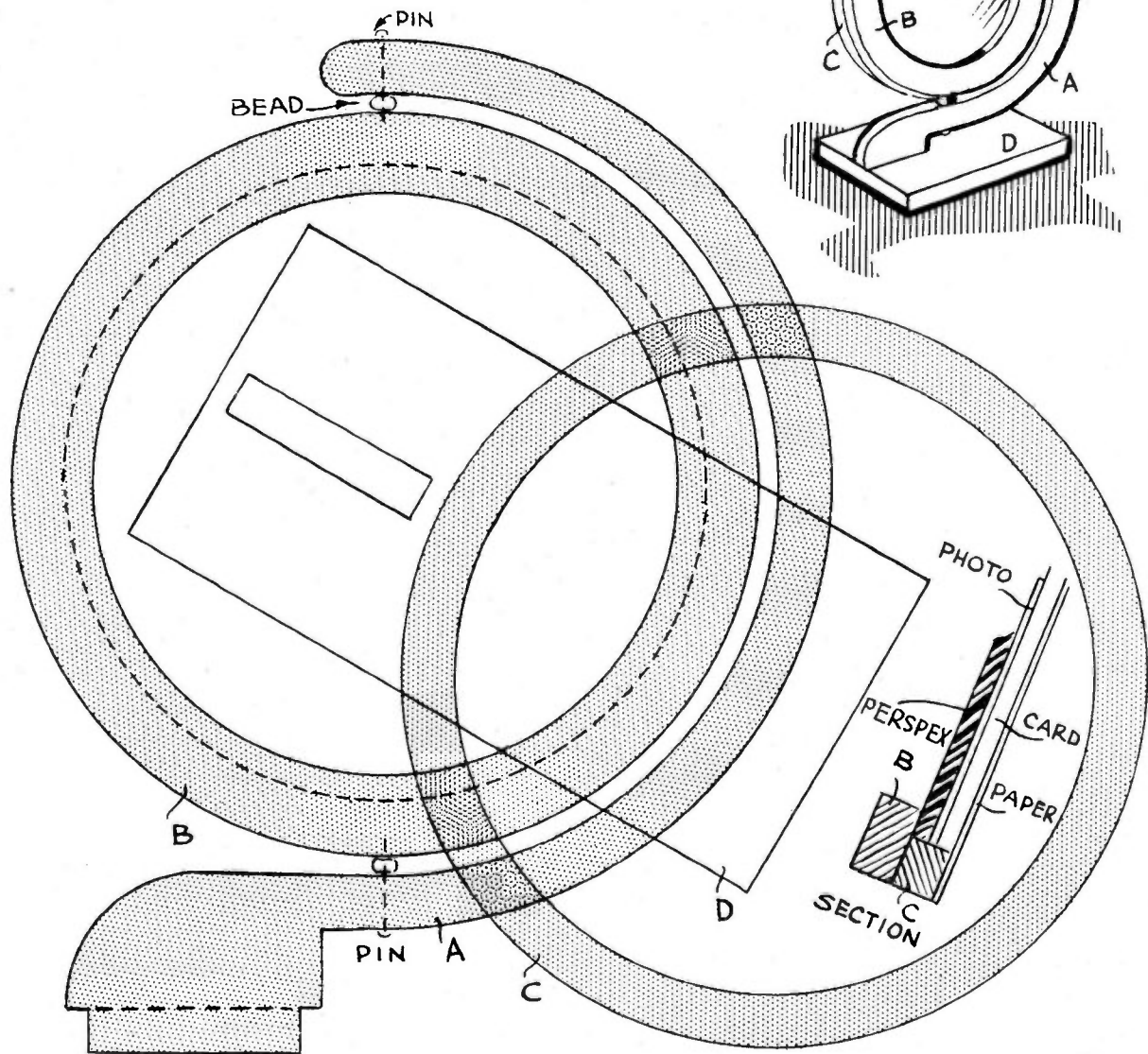
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CIRCULAR PHOTO FRAME

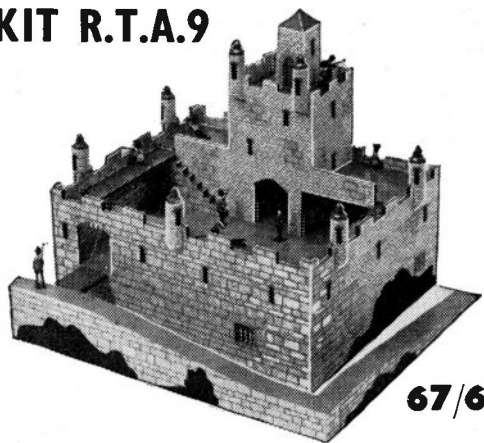
USE your fretsaw to cut out this attractive frame, cutting one each of A, B, C, and D from $\frac{1}{4}$ in. plywood. Assemble as shown in the small sketch. The 'glass' can be cut from a piece of clear acetate sheet or perspex. Cut the acetate sheet with scissors, and

the perspex with a fretsaw.

Clean up and paint cream or white. Assemble by using pins, top and bottom, with a spacing bead as shown. The photo is backed up by card and a piece of paper pasted over the back. (M.p.)



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67/6

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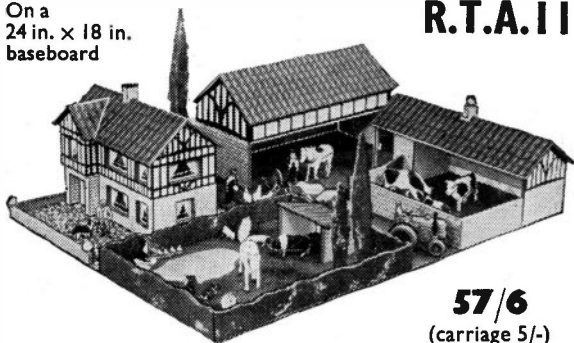
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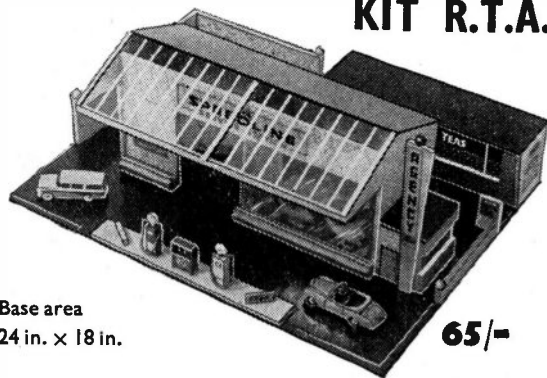
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