

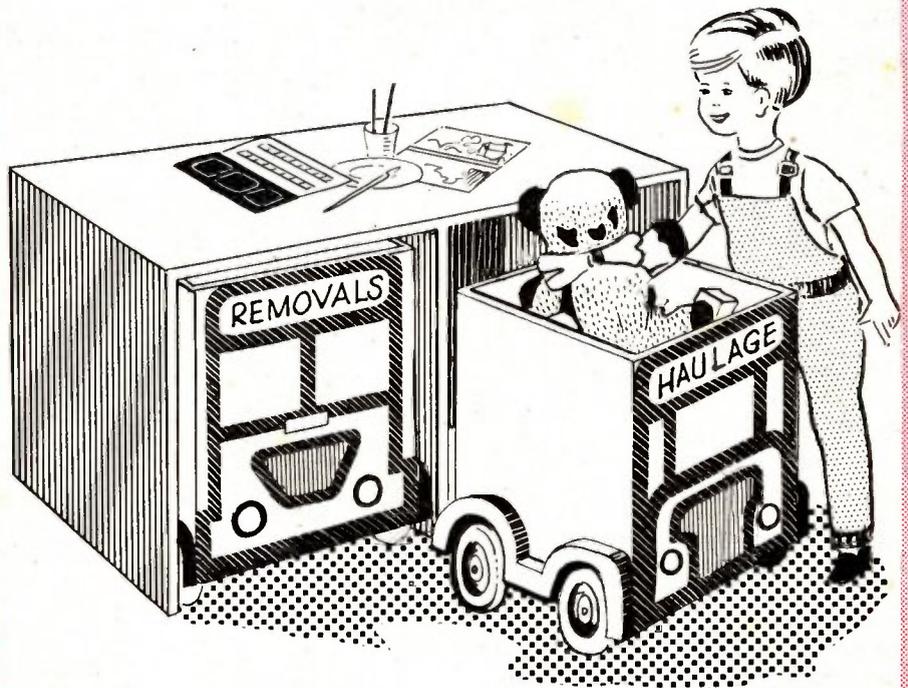
HOBBIES *weekly*

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TOY STORAGE UNITS



TEACH CHILDREN TIDINESS

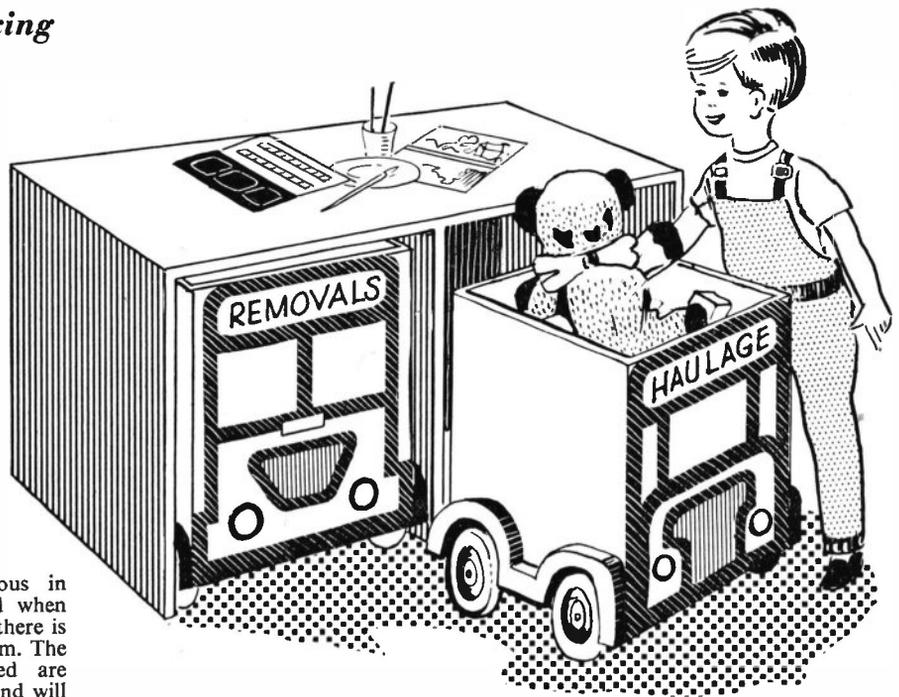
FOR CRAFTSMEN OF ALL AGES

6^p



TOY STORE UNITS

WITH LOTS
OF PLAY
APPEAL



CHILDREN are notorious in leaving toys lying around when bedtime comes and often there is just simply nowhere to store them. The desk and cupboards illustrated are designed as a garage and vans and will help considerably to encourage tidiness. They not only give storage space and play value, but encourage children to 'load up' and 'garage' the vans for the night. The desk top measures 44 in. by 18½ in. giving reasonable space for other activities such as painting, drawing, etc.

For ease of construction it is recommended that plywood is used throughout. The cheapest grade obtainable will suffice, since all the parts will eventually be painted. Joints can be butted and nailed or screwed, using glue for extra strength. Alternatively deal or obechi can be used, battening where necessary

and making due allowance for any difference in the thickness of wood.

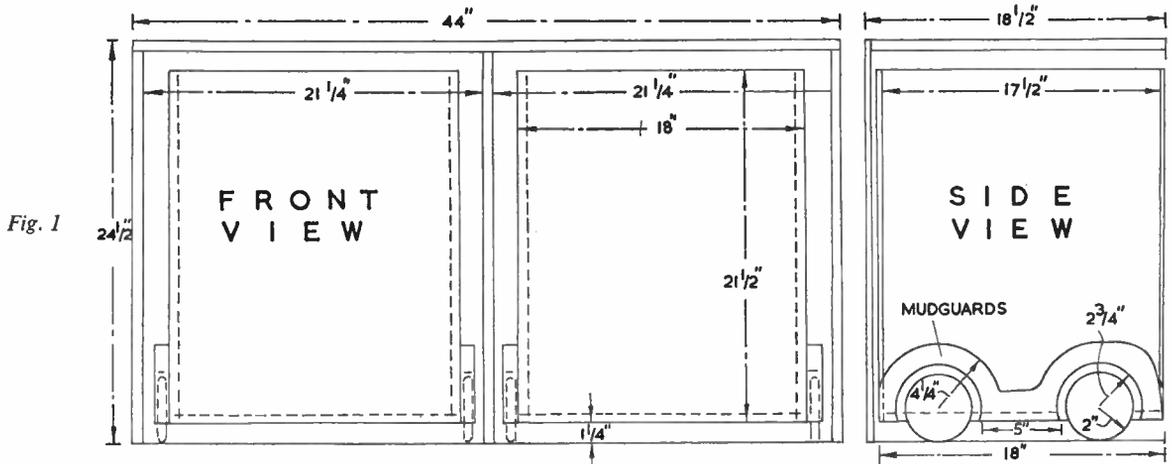
The suggested measurements are shown in Fig. 1, the 'vans' being approximately 18 in. square and 21½ in. high, giving good storage space for small toys. In the side view the ends of the desk are omitted to show the vans.

Make up the desk as shown in Fig. 2. It consists of two ends and a centre partition of ½ in. or ¾ in. plywood to which is screwed the top, also ½ in. or ¾ in. plywood. A back of ¼ in. plywood screwed in place will hold the ends and

centre partition in place.

The 'vans' are made up as plain boxes to the measurements seen in Fig. 1. The sides and bottom are ½ in. plywood and the back and front are ¼ in. Glue and screw the sides to the bottom, then glue and screw the front and back to the sides and bottom to complete the box.

The mudguards are now drawn out to the approximate shape shown on the side view. Draw out 2½ in. radius circles to take the wheels, then sketch in by hand the front mudguard. The rear mudguard can be drawn with the compasses



to a radius of $4\frac{1}{2}$ in. Each mudguard is made up from two pieces of $\frac{1}{2}$ in. wood glued together, the shapes being cut out with a fretsaw. Glue the mudguards to the sides as shown in Fig. 3.

Eight 4 in. diameter wheels are required, and these can be cut from $\frac{1}{2}$ in. or $\frac{3}{4}$ in. plywood with a fretsaw. Alternatively Hobbies turned wood wheels can be used and will undoubtedly give a more attractive appearance to the vans. They cost only 5s. 4d. per set of four (post 1s. 3d.) from Hobbies Ltd., Dereham, Norfolk, or from any Hobbies branch. Strong 4 in. diameter spoked nylon wheels cost 2s 3d. each, post 7½d.

All parts are now cleaned up with glasspaper and with the exception of the top are given an undercoat of flat white. Allow to dry, and rub down lightly with glasspaper or silicon carbide paper, used

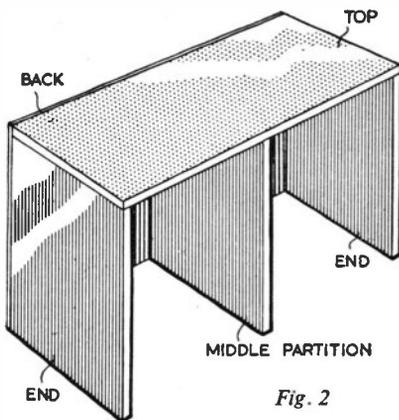


Fig. 2

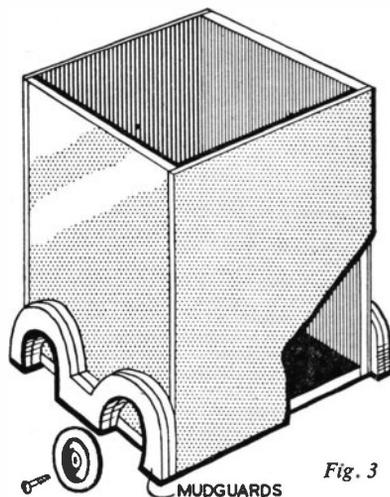


Fig. 3

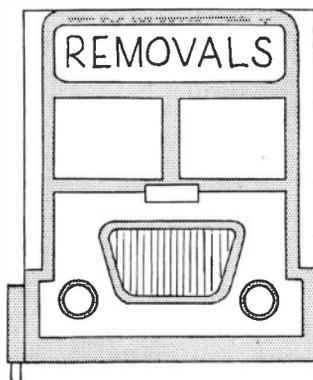
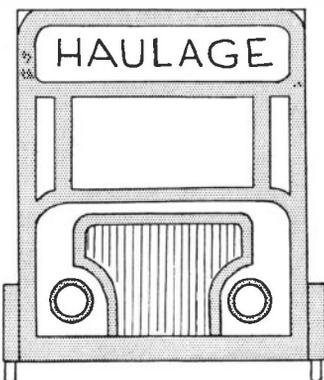


Fig. 4



wet. The top can be covered with Ware-rite or with any of the less expensive plastic coverings. The desk is now finished with high gloss paint, matching the decoration of the room.

Finally paint the vans in realistic colours. A good suggestion is to paint all over pale grey and then pick out the mudguards, radiators, etc. in bright red for one van and blue for the other. The approximate shapes shown in Fig. 4 can easily be drawn out by hand and then carefully painted with a small brush. The headlights could be painted silver for realistic effect.

(M.h.)

THIS hobby of collecting spoons can create a new interest, appreciation and respect for silver.

Many times in the early centuries silver, and gold too, was melted down to pay for wars and the pleasures of monarchs. The earliest reference to the spoon is in the Bible in the Book of Exodus. Historically we find that the Greeks and Romans used gold and silver spoons. Some of these specimens can be seen in museums.

Spoons made from shells were among the very earliest of materials. Later a wooden or bone handle was attached for more convenience. Many metal spoons through the centuries have been produced representing the bowl as a shell — somewhat like the sugar shell we use today. Very early spoons were made of wood, slate or ivory. In some parts of the world bronze and gold were used.

Around A.D. 1400 people carried their eating utensils with them and to fit the pocket the spoons were made to fold in half. Only royalty or nobility had sufficient wealth to supply silverware for

guests to use.

A fashionable gift at christenings in the early centuries was the Apostle spoon. A complete set of 12 was a valuable gift. Sometimes there was a master spoon added which bore the figure of Christ. It was usually determined how many spoons to give by how much wealth one had. Some families could only afford one

COLLECTING SPOONS

or two at the most.

Silversmithing in America was brought about in two ways. A few skilled men came to the new country with the tools and knowledge of silversmithing. Others were blacksmiths who helped the women repair their household utensils and sometimes they became known as whitesmiths. Some of them eventually became silversmiths and the skill went from generation

to generation.

It was around the early 1700's that silverplate was found or invented. This gave those who could not afford solid or sterling silver the opportunity to have silver service for much less money.

Souvenir shield spoons are made by most for our large towns and cities. You can always buy a souvenir spoon at Blackpool or any other of our seaside resorts. Always have a look round junk shops for old spoons. You may find some of the older types such as those made of gold, gold washed, gold plated, silver plated, sterling silver, coin silver, chrome, bone and glass. And, of course, you will always find many of the more popular types going at reasonable prices.

I have a small collection which I display on a pine rack. This rack holds 20 spoons, but larger racks can be made to hold a larger collection. Each spoon has a card with size, description, where it came from and other available information.

Spoon collecting is a rewarding as well as an interesting hobby. (R.L.C.)

A.M. AND F.M. EXPLAINED

THE differences between Amplitude Modulation (or AM) and Frequency Modulation (FM) are quite easily understood, and it is hoped this description will interest radio enthusiasts. 'Modulation' is the carrying of the programme sound by the radio wave, and FM is a method that has only come into popular use during the last few years.

Radio wave

A radio transmitter broadcasts a radio wave, which is an oscillation like the wave (1) in Fig. 1. During silent intervals when no sound is heard with the receiver, the radio wave is of unchanging strength (or amplitude) as at (1).

The rapidity with which the waves are produced is the 'frequency' of the station. For example, the BBC long wave Light Programme is radiated on 200 kilocycles, so the waves occur 200,000 times each second.

As radio waves travel at about 300,000,000 metres per second (186,000 miles per second) the distance between one wave peak and the next depends on the frequency with which the peaks arise. For the 200 kilocycle Light Programme, the peaks are 1,500 metres apart. So it would be said that the station was broadcasting on a wavelength of 1,500 metres.

Medium Wave broadcast stations use frequencies of about 1,500 to 500 kilocycles, or 200 to 600 metres. Television sound and VHF transmitters use frequencies of many megacycles. A megacycle is 1,000 kilocycles. So these signals are called Very High Frequency, or VHF. The VHF radio band is just under 100 megacycles, which is a wavelength of about 3 metres.

When the VHF transmitter is radiating no programme material, its wave is

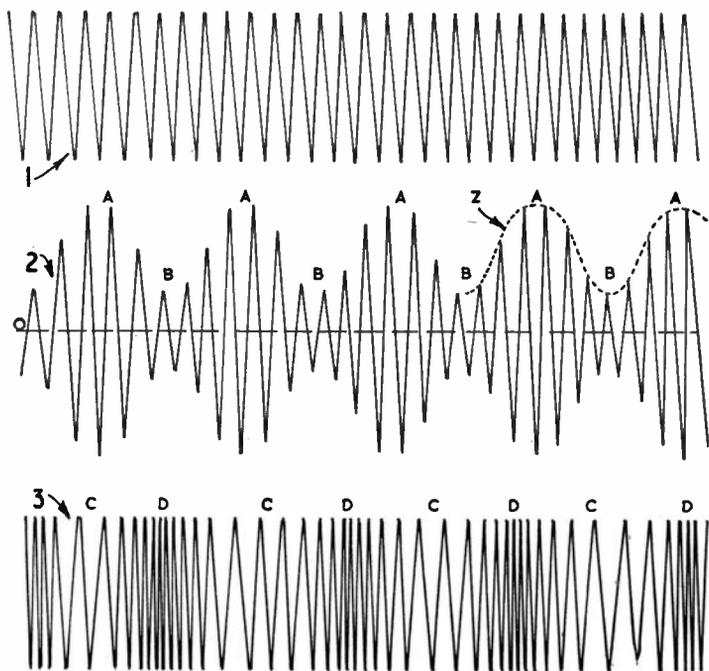


Fig. 1—Amplitude Modulated and Frequency Modulated signals

also like (1) in Fig. 1. The waves are arising much more rapidly, because the transmitter is working on a very high frequency, or short wavelength.

Transmitters use different wavelengths as far as possible, so that any wanted station can be chosen by tuning the receiver.

Amplitude modulation

Medium and long wave stations use

amplitude modulation to carry the sounds of the programme; this kind of modulation is also used by television stations in this country.

If a single note is used to modulate the radio wave, it then resembles (2) in Fig. 1. The waves rise to the peaks A, and fall away to lower power in the dips B. This happens with a speed which corresponds to the audible note which is transmitted.

When AM (amplitude modulation) is used, the frequency (or wavelength) of the radio wave remains the same. But its power, or amplitude, changes. This is why this method is called Amplitude Modulation.

If musical instruments are playing, or if speech is being radiated, the actual waveform is very complicated, as it contains many frequencies at the same time. In Fig. 1, (2) represents a pure note only.

AM detector

Fig. 2 shows an amplitude modulation detector, which recovers the audible signal used to modulate the radio wave. In a simple receiver, A could go to an aerial, and B to earth. The coil could be tuned by a variable capacitor C, to select the wanted station.

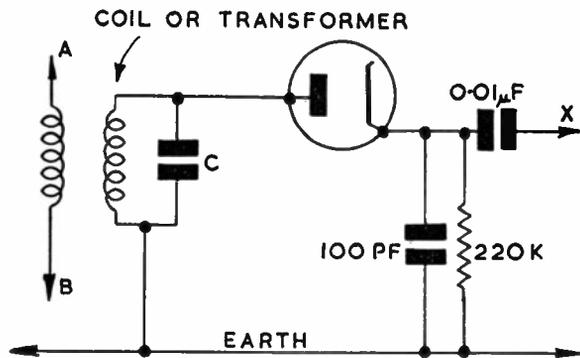


Fig. 2—Amplitude Modulation detector

The diode shown is a valve, but crystal diodes work in a similar manner. The diode allows current to pass in only one direction. This cuts off one half of all the waves in (2), Fig. 1. This can be represented by placing a piece of paper on the dotted line (O) so that all the lower parts of the waves are covered.

The pulses above the dotted line charge up the 100pF capacitor in Fig. 2, so that the actual voltage across it resembles Z in Fig. 1. This is the modulation envelope, or original tone. It could be heard with phones. It can be taken from X in Fig. 2, to an amplifier, to work a loudspeaker.

In larger receivers, other valves will be used before the detector. If so, A in Fig. 2 will usually go to high tension positive, while B goes to the valve anode. The coil may be tuned to the wanted station. Or it can be permanently tuned to one frequency, and a stage called a 'frequency changer' can change the frequency of any wanted station to this fixed frequency.

In simple receivers, it is possible to tune the coil to the wanted station, because the radio frequency is not extremely high, and the circuit can work in an efficient manner.

Frequency modulation

During silent intervals, the FM wave is like (1) in Fig. 1. When a tone is used to modulate the wave, the frequency is changed, as at (3) in Fig. 1. Here, the frequency of the waves drops at the points C, and increases at the points D.

The strength, or amplitude, of the wave is not changed, but the frequency is modified, and this is why this system is called 'Frequency Modulation.'

A great advantage of FM lies in the fact that the receiver can be made insensitive to changes in strength, or amplitude, of the signal. Much interference is caused by changes in amplitude of signals picked up by the receiver. The FM receiver does not respond to these changes, so programmes are relatively free from interference which may cause static noises with an amplitude modulation receiver.

FM detector

The frequency modulation detector has to respond to changes in frequency in the radio wave. One circuit which does this is called the ratio discriminator or ratio detector, and is shown in Fig. 3.

This circuit has two diodes (valves or crystal) and a special discriminator transformer. The secondary of the transformer feeds the diodes (points 4 and 6). A small winding goes to a centre tap on the secondary, and is also coupled to the transformer primary.

When no modulation is present the diodes balance in such a way that there is no output. But when the wave rises and falls in frequency, the ratio of currents

RDT.1. DISCRIMINATOR TRANSFORMER

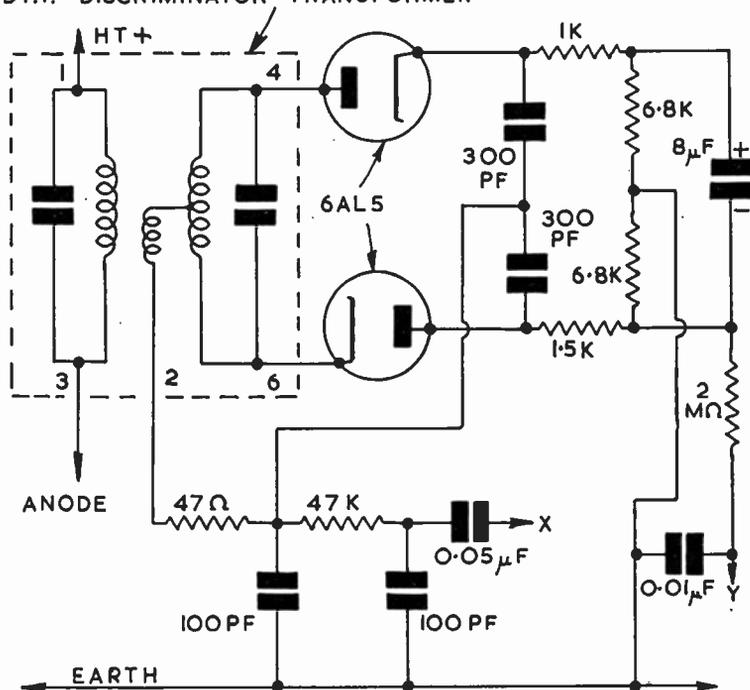


Fig. 3—Frequency Modulation detector

changes, so that a signal is obtained through the small winding from point 2. This is filtered and smoothed, and taken from point X to an amplifier, to work the loudspeaker.

A steady voltage is obtained from Y, due to rectification, and this is often used to control the amplification of earlier valves. This forms an automatic volume control circuit.

FM transmissions are radiated on very high frequencies, and it is not practical to tune the diode circuit directly to the frequency of the station wanted. So a frequency changer has to be provided before the ratio detector.

FM receiver

A typical receiver for the reception of VHF frequency modulated transmissions would have one valve acting as radio frequency amplifier. Except in areas of good signal strength, a multi-element outdoor VHF aerial would be wanted.

A frequency changer stage follows the amplifier, and converts the required station to a lower and more convenient frequency. This is generally 10.7 megacycles. Two amplifiers, each with fixed tuning, and working at 10.7 mc/s, usually follow the frequency changer. These stages are called intermediate frequency

amplifiers.

The last intermediate frequency amplifier can be connected to the discriminator transformer, Fig. 3. Fig. 3 then acts as ratio discriminator, permanently tuned to 10.7 mc/s.

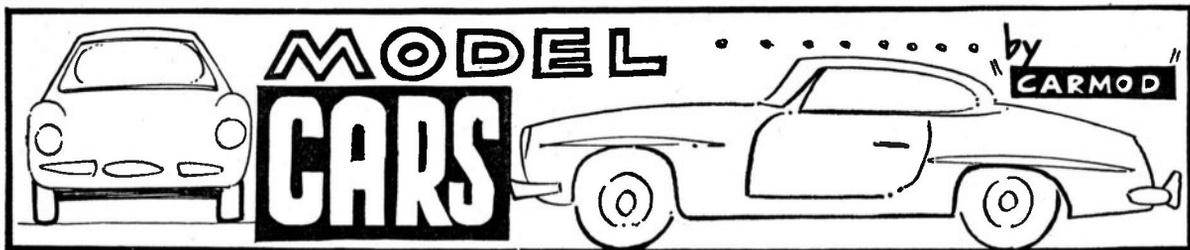
The audio signal from the discriminator is fed into an audio amplifier, often using two or three valves. This, in turn, works the loudspeaker.

In order that the receiver can work correctly, the frequency changer, intermediate frequency, and discriminator circuits have to be aligned, or adjusted to particular frequencies. Only when this is done can the receiver work satisfactorily.

As the construction of a VHF FM receiver is thus a fairly difficult task, it is best to obtain a kit of parts designed for use together, and with a wiring plan and alignment details. The more experienced builder should then be able to produce a satisfactory receiver, or a FM tuner which can feed an existing audio amplifier. It is also possible to buy ready-made FM tuners, for use with an amplifier.

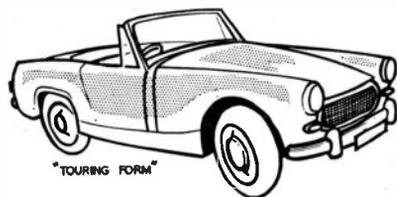
The circuit in Fig. 3 is for a Denco (Clacton) Ltd. transformer. This manufacturer can supply components, or a complete tuner, with audio amplifier and power pack, if wanted. The address is 357/9 Old Road, Clacton-on-Sea, Essex.

'Radio Mech'



THIS chopping of Spot-On's 1/42nd scale miniature Austin Healey Sprite Mk. III into the form in which it can be seen at club racing meetings was chosen because it is the kind of conversion that can be carried out on almost all model sports cars.

It is by no means a radical chopping, involving only a general discarding of superfluous trim such as bumper bars and full touring windscreen. I had hoped to convert this model into one of the sprites that the B.M.C. Competitions Department had prepared for the 1964



racing programme with the special and attractive G.T. bodywork but unfortunately this is just not on. Such a model would involve the building of a completely fresh body-shell.

The Spot-On miniature of the car is a pleasant, clean casting with separate interior, lamps, grills and bumper bars, making it a good chopping project.

The model has to be stripped down to its basic components by the usual method of filing off the button-ended

locating pegs on the underside of the car. The chassis baseplate can then be removed which will allow the other parts to come out as shown in the diagram.

Attention can be given first to the front grille assembly. Cut off the headlamps, side lamps and bumper bar with a fine hacksaw blade. Trim the headlamps of the projections which attached them to the grille and stick back into place. I have found that Uhu is a suitable adhesive for this kind of work. (No. 1 tube available from Hobbies, price 1s. 9d. post 4d.) Soak the bumper bar in warm water for about 15 minutes, after which it will be found that the number plate

essential and it does involve a considerable amount of carving of plastic to get them to fit.

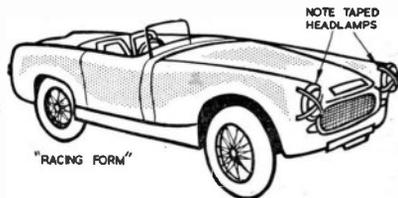
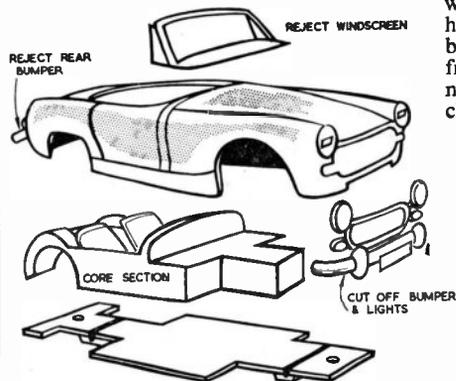
The windscreen and rear bumper are rejected.

The original wheels are not really suitable for the car in racing form and I suggest either wire wheels of the Lesney make or the Porsche type wheels by Marc Europa. These, of course, have to be fitted on new axles cut from steel wire. Cut the wire to the exact length of 3cm. Thread on two 'washers' cut from the plastic covering of electric flex and on the outsides of these thread a wheel. The axle ends can now be burred over with a file

Re-assemble the car and cement on the chassis baseplate, again using Uhu. An exhaust pipe cut from round dowel and painted grey can be cemented on to the underside of the car to project slightly at the rear. A small racing windscreen as shown is cut from clear plastic sheet and cemented into place with Uhu.

Fill in gaps left by rear bumper and side lights with Plastone and touch in with matching colour paint. 'Tape' the headlamps as shown, using white or black strips cut from transfers. Apart from the application of suitable racing numbers, this completes the Sprite in its club racing trim.

AN AUSTIN HEALEY CONVERSION



MODEL ENGINES

By R. H. Warring

THIS book discusses the history, design and application of miniature internal combustion engines.

There are diagrams and illustrations throughout the book and chapters covering all aspects of these engines.

Subjects dealt with include I/C engines and how they work, design and specifications, fuel and fuel mixtures, diesels, glow engines, spark-ignition engines, and installing these engines into model boats, aircraft and cars.

Published by Arco Publications, 9 Grape Street, London, W.C.2. Price 30s. 0d.

transfer will peel off and this can then be re-positioned on the bonnet. Trim the grille to take off the surplus plastic where the lamps were attached and cement back into place.

The white plastic core section should be detailed by painting the seats and instrument panel. Leg room can be cut under the panel with a razor blade. I replaced the original seats with Marc Europa made bucket type, but this is not

The author has prepared a limited number of conversion packs for this chopping. If there is sufficient demand it might be possible to have similar type packs for future subjects. For the Sprite there are two metal bucket seats, four wire wheels and tyres, four blank white discs and number transfers. Price 2s. 6d. post free. Please apply to the Editor, *Hobbies Weekly*, Dereham, Norfolk.

BURST PIPES AND ICEBERGS

WATER expands while it freezes, and pressure of the swollen ice splits waterpipes. Only later, when the ice melts, can water gush through cracked plumbing and flood your home.

Fill a screw-stoppered glass cordial bottle with water. See there is no air left inside, and make sure the stopper is watertight. Put the bottle in a bucket out-of-doors on a freezing winter night.

The trapped water expands as it freezes, and cracks open the bottle. So you can see what happens when your pipes burst. But do beware of splintered glass in the bucket!

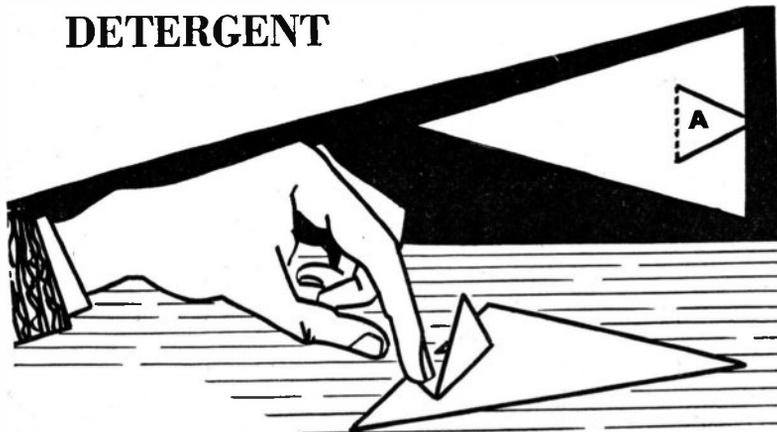
You can also show that water expands while it freezes if you fill a plastic cup to the brim and put it in the freezing compartment of your refrigerator. The freezing water swells, and bulges over the top of the cup. You can see the ice taking up more space than the water did before it froze. In fact ice is not so dense or heavy as liquid water. That's why ice floes can float on a river.

Warm water run over the cup helps you release the ice. Then float the ice in some cold water, to make a model iceberg. Note that only a fraction of your little iceberg is above the surface.

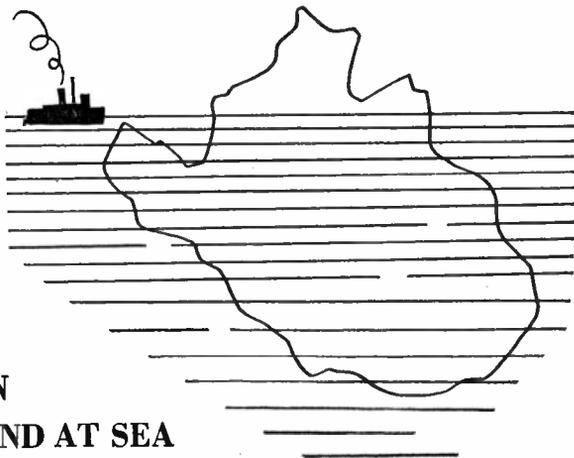
At sea, the visible part of an iceberg may resemble a big island. But the jagged crests of the enormous underwater part can tear open a ship that ventures too near.

* * *

THIS BOAT WORKS WITH DETERGENT



SCIENCE FACTS WHICH DESCRIBE POSSIBLE DISASTERS IN TWO SPHERES—IN THE HOME AND AT SEA



* * * * *

MAKE a cardboard shape 4 in. long, as illustrated — and bend up flap A along the dotted line. Float the toy on clean water, in a wide shallow dish. Then moisten your fingertip with liquid detergent and use it to gently touch the water inside the 'hole' near the boat's stern.

Instantly the boat sails forward — though the toy's movement soon stops. To repeat the experiment, you must change the water and make another boat.

Differences in surface tension work your boat. Incredibly small water particles which you can't see by themselves, are called molecules. Surface molecules cling together more tightly than those

underwater, and so form a thin elastic skin. This is surface tension. Detergent molecules mixed with water cause pulls between all molecules at the surface to be weakened. Detergents reduce surface tension.

To begin with, a skin of pure water molecules cling with equal forces around your boat. But detergent weakens surface tension behind and causes molecules to cling less tightly to the little boat's stern. So the relatively stronger surface tension in front tugs your boat forward. However, soon the detergent molecules spread all over the water, and equalize surface tension again, and the boat stops working.

* * *

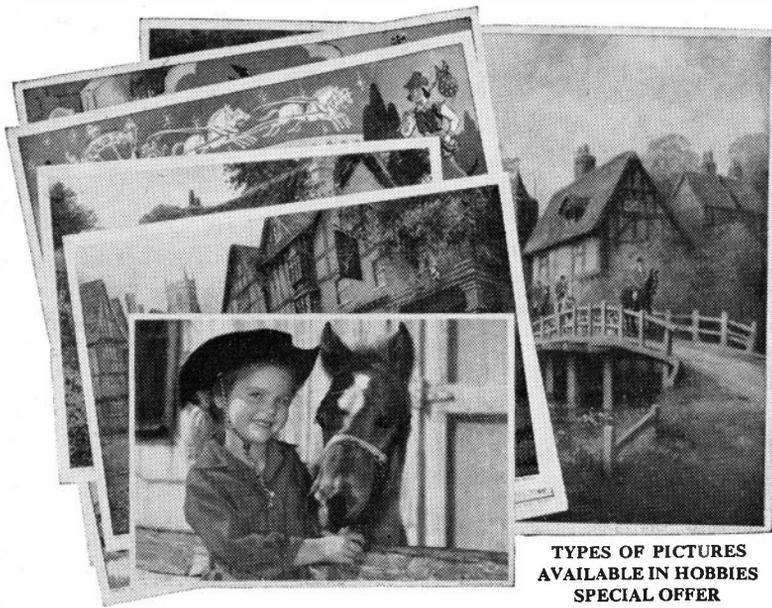
GETTING HOOKED WITH A BOTTLE

CHALLENGE your friends to lift a lemonade bottle, using one hand only and a waxed-paper drinking straw. The straw must be tied like a rope, or pushed under the bottle to be used like a lever. Indeed, the bottle must be raised well above the table.

The secret is to bend the straw into a hook shape. Insert the 'hook' into the bottle. As you do this the straw's shorter arm flips sideways just below the bottle neck. Don't push the straw in too far. Now you can lift the weight of the bottle if you pull up the straw gently.

(A.E.W.)

MAKING JIGSAW PUZZLES



TYPES OF PICTURES
AVAILABLE IN HOBBIES
SPECIAL OFFER

SOLVING jigsaw puzzles is an amazingly popular pastime throughout the world, enjoyed by young and old alike. Millions are produced each year, from the simple kind containing perhaps 12 pieces to the huge interlocking type with thousands of shapes to pore over and fit into place.

The puzzles cut from plywood are, of course, more permanent and are to be preferred to card if they are passed from hand to hand for the enjoyment of several people. Suitable colour pictures can be found in magazines or on calendars and readers should particularly note the special offer of pictures and saw-blades below.

USE THIS SPECIAL OFFER

Hobbies Weekly have prepared a special bargain parcel for readers who wish to try cutting their own jigsaws. This consists of six full colour pictures of suitable chosen subjects ranging in size from 8 in. by 5½ in. to 13 in. by 10 in. They also make attractive pictures for framing.

Also, we will include 1 dozen special jigsaw cutting fretsaw blades of the correct grade to give a perfect cut.

The total catalogue value is 4s. but our readers can obtain a parcel (or parcels) for only 1s. 9d. each (including postage). Save 2s. 3d. by sending NOW while stocks last.

Hobbies Ltd., Dept. J, Dereham, Norfolk.
Please send jigsaw parcel(s) for which I
enclose..... (1s. 9d., 3s. 6d. etc.)

Name.....

Address.....

.....
.....

The first step in making a jigsaw puzzle is to paste the picture on to a piece of ¼ in. or ⅜ in. plywood, which should be slightly larger than the picture to allow for trimming the edges. Due allowance must be made for a slight stretching of the picture when the paste is applied.

Lay the picture face downwards on clean paper, and coat the back with any good quality paste. Leave to soak for five minutes and brush over again if the paste has dried out at all. The reason for allowing time to soak is so that the picture can stretch as much as possible. It will shrink as it dries and pull out any slight wrinkles to give a flat surface.

Lay the picture in place on the wood and with a soft duster smooth down in all directions from the centre as shown in Fig. 1. This will get rid of any small air bubbles under the picture. Immediately the picture has been pasted in position, place it under weights, such as a pile of books, to dry thoroughly. The wood will warp badly if left to dry without keeping it flat. It should be left under weights until you are ready to cut and in any case until the paste has thoroughly dried otherwise the paper may tear when cutting out.

The pattern

The interlocking jigsaw pattern is shown on the opposite page and if you are proficient with a fretsaw you can cut the shapes direct without marking on to the picture.

Cut the edges squarely all round the picture and then cut strips right across the picture, dividing the strips into individual pieces.

If you wish to mark the picture, simply trace the pattern and duplicate to the size required and then transfer to the picture by means of carbon paper. Use a hard pencil and make a fine line so that it will be obliterated by the saw cut.

Tools required

All you need is a handframe and cutting table with cramp as shown in Fig. 2.

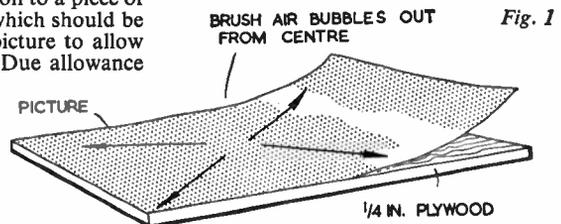


Fig. 1

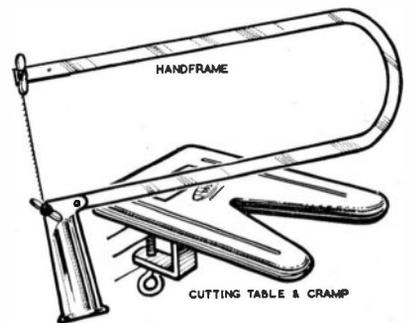
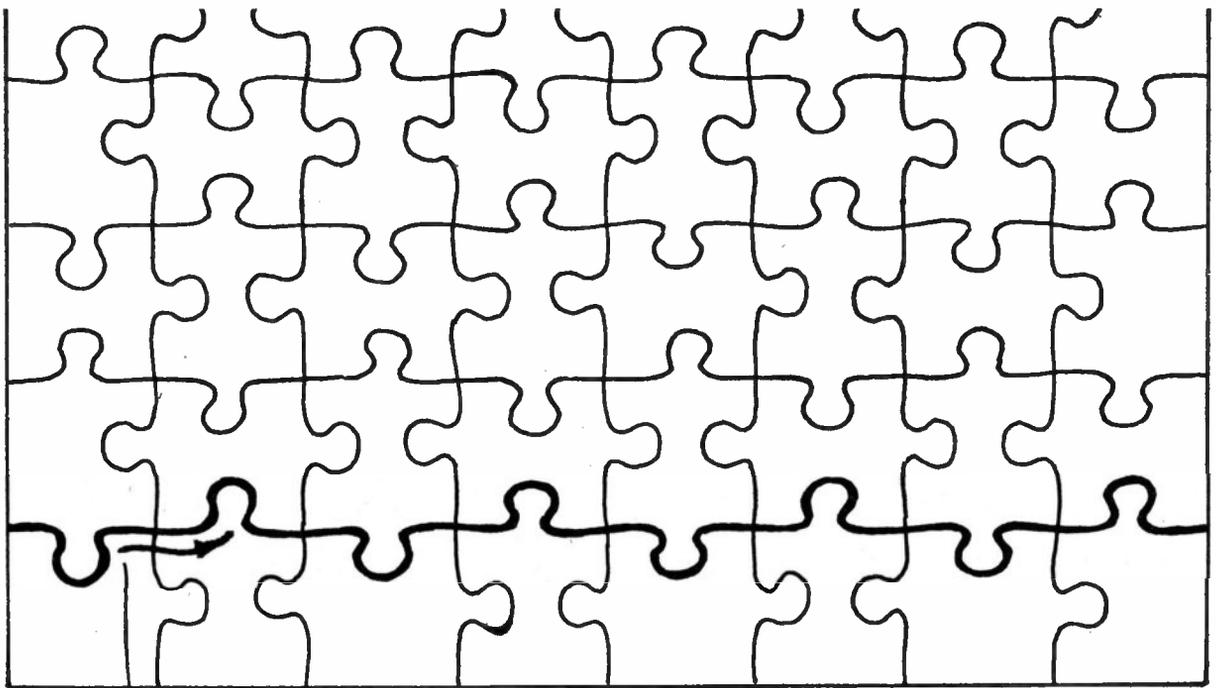


Fig. 2

You can obtain them from Hobbies Ltd, Dereham, Norfolk, or from any Hobbies branch. The handframe (12 in.) costs 6s. 9d. (postage 1s. 3d.) and the cutting table with cramp 4s. 6d. (postage 9d.).

To cut out the jigsaw just cramp the cutting table to a bench or table, place the picture on the cutting table and cut along the lines of the pattern. The saw blade will be kept in the V of the cutting



FIRST CUT INTO STRIPS RIGHT ACROSS THE PICTURE

table whilst cutting and must also be held upright. To avoid mislaying the pieces put them straight into a paper bag or cardboard box as they are cut.

Framing

Colour prints are also suitable to frame as pictures. They can be placed behind glass or clear acetate and framed with wood moulding or passe-partout. Suitable wood mouldings can be obtained from Hobbies Ltd, and some of these are shown in Fig. 3. They are sent in 3 ft. lengths and cost 3s. 0d. per length for No. 12 ($\frac{3}{4}$ in. wide by $1\frac{1}{8}$ in. deep), 1s. 3d. per length for No. 14 ($\frac{1}{2}$ in.

wide by $\frac{7}{8}$ in. deep) and 1s. 0d. per length for No. 7 ($\frac{3}{8}$ in. wide). Add 2s. 0d. postage for any quantity.

The moulding is mitred at the corners, using a mitre block and is glued and pinned together. Fig. 4a shows a typical mitre, pinned at the corner. The picture is pasted to white card, or alternatively is placed behind an opening cut in white card or paper. Put the picture and glass in the frame and cover the back with a piece of cardboard or thin wood which is held in place by small glazing sprigs.

Paste a piece of brown paper over the back to keep out the dust. The order of assembly is shown in Fig. 4b. Attach a cord by means of screw eyes or picture rings at the back and hang in the usual way.

For small pictures passe-partout is quite suitable. Kits complete with picture rings and instructions can be purchased from handicraft and art shops and the framing is simple and straightforward. (M.h.)

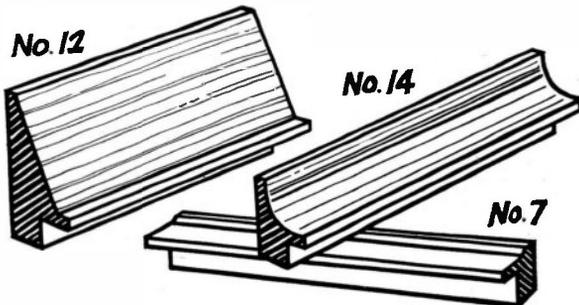


Fig. 3—Types of moulding

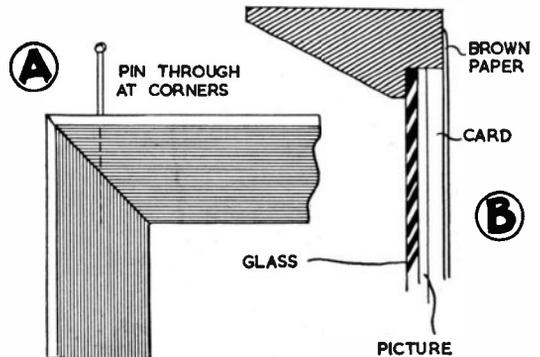
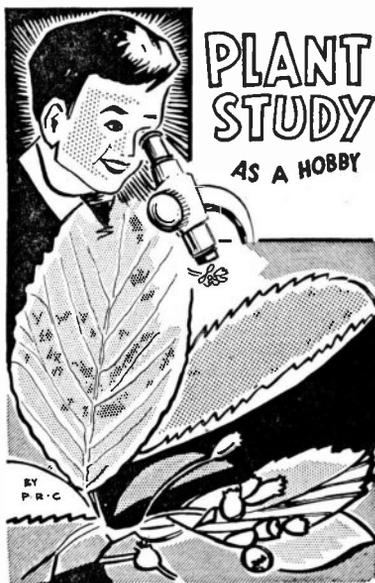


Fig. 4—How to frame pictures

IN the previous article on succulent plants, we were dealing with a group of plants that by the process of evolution have become adapted to living under difficult conditions, or as biologists say, 'a specialized habitat.'

It is characteristic of living things generally that every available type of habitat will be occupied by some plants and animals, unless conditions are quite impossible to life. We have seen that although most plants live in conditions of reasonable moisture, some have become adapted to desert life. Similarly, most plants grow in soil on the ground, so that any that can disperse with the ground have another habitat open to them. Epiphytic plants are able to do just this. The word 'epiphyte' means 'on a plant', and these plants grow on others, not as parasites, but merely to obtain support. Epiphytic plants do not belong to any particular family, although some families consist largely of epiphytic species.

Although by definition an epiphyte is growing on another plant, in practice the larger ones we shall be mentioning are found growing on trees, and they do in fact live much like other plants, using pockets of soil, mostly derived from decaying leaves caught up between branches and in holes. This soil, usually very rich, supplies the mineral needs of the plant, and many epiphytes have aerial roots, that is roots just hanging down from the tree branches, through which they can absorb atmospheric moisture. Obviously soil pockets would soon dry out and aerial roots



EPIPHYTES

would be of no use in a dry climate; thus we do not find epiphytes in desert regions, nor usually in this country. The great places for these plants are the

tropical rain forests of the world, where moisture, both in the soil and atmosphere, is plentiful.

Types of epiphytes

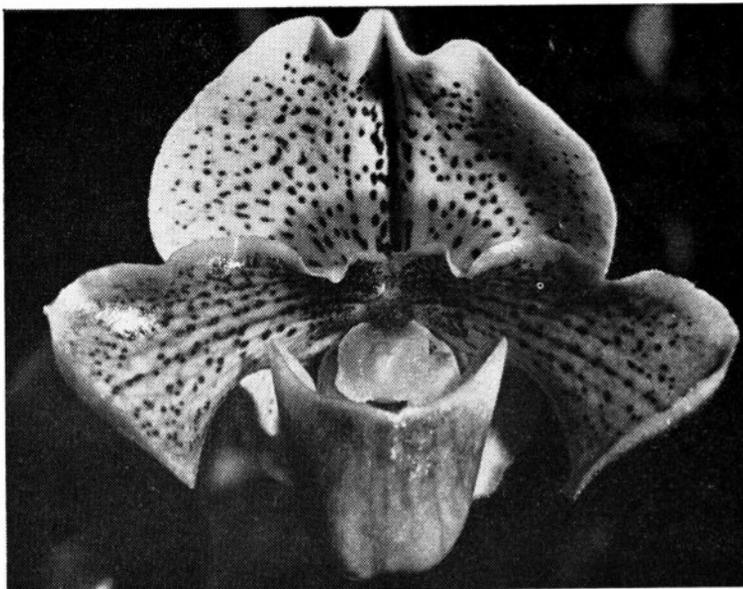
We have already seen when dealing with succulent plants that the Cacti have become particularly well adapted to conserving water, so perhaps it is not surprising that some members of this family are epiphytic. Although the epiphytes live in moist places, they nevertheless must conserve moisture, since they do not have access to the water in the underlying soil.

The epiphytic Cacti, as could be expected, are different in form from the desert types, and the uninitiated would scarcely recognize them as Cacti at all. The two main types of epiphytic Cacti, the *Epiphyllums* and the *Zygocacti*, are very well-known in greenhouses in this country, although naturally they come from the South American jungles. It is quite possible, and indeed easy, to grow an epiphytic plant of this type in a pot in a greenhouse, provided that certain points in the cultivation are attended to. The soil must be moister and richer than that required for most other Cacti, and it is usual to add extra leaf mould or peat for this purpose.

The *Epiphyllums* are often called 'Orchid Cacti', partly because of their large, brilliant blooms, and presumably partly because, in their native state, they display these blooms in the same sort of places as the orchids, also epiphytes.

The word 'Epiphyllum' means 'on leaf', referring to the fact that the large flowers apparently arise directly from the long, thickened 'leaves' of the plant. However, this is incorrect, since these are really stems, the leaves of *Epiphyllums* being absent, like many other Cacti. Many of the native *Epiphyllums*, together with other similar epiphytic Cacti, are night-blooming, being pollinated by moths and other night-flying insects. These are usually white in colour. Plant breeders, however, have crossed these native plants with other Cacti to produce the florists' Epiphyllum hybrids, mostly day-flowering, and with many brilliant colours.

The other familiar epiphytic Cactus is the well-known Christmas Cactus, or *Zygocactus truncatus*. This is often to be seen in florists' shops just before Christmas, when they are usually in flower. To make them bloom so early it is usually necessary to force them, and in the average amateur's greenhouse, *Zygocactus* will flower in the early spring. If ever the reader should buy or be given one of these plants, it is better kept outside during the spring and summer, in a fairly shady place, and not allowed to become completely dry. It should be



A hybrid orchid bloom

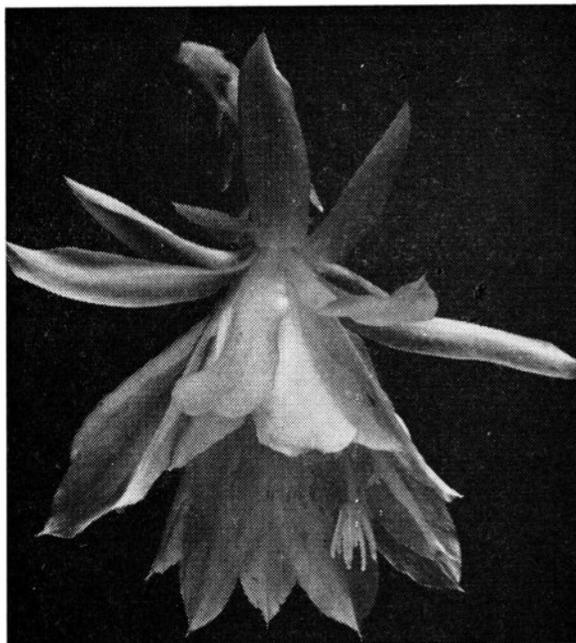
brought indoors in the autumn and kept in the window of a not-too-hot room, or unheated room, Buds should soon be seen, and flowers should follow in profusion early in the year. At this time, liquid feed may be given, and after blooming, water should be reduced for a few weeks.

The orchids

These are well-known as rare, exotic blooms to be seen in the windows of expensive florists. Like the *Epiphyllums*, many of the large blooms we see are results of the plant breeders' skill. Although the orchids native to this country are small, non-epiphytic plants, the large, expensive blooms we see are derived from the tropical epiphytic orchids. These need much skill and care in cultivation, and each plant does not produce many flowers. Hence the expense!

It is certainly possible to have a small collection of *Epiphyllums* and *Zygocactus* indoors, but orchids are another matter and are best left to the enthusiasts with plenty of time and money. However, there is no reason to be deprived of examining and enjoying the beauty of these fascinating plants, since they are often to be seen at the larger flower shows, and London readers would be well advised to visit the Royal Horticultural Society Orchid Show in the spring. Kew Gardens also have a splendid display of these plants early in the year; in fact some are to be seen at most times. Here, the extreme epiphytic ones can be seen growing on tree trunks, much as in their native jungle.

An Orchid Cactus, a hybrid Epiphyllum called German Empress. The flower is bright pink and about 3 in. across.



Ferns

In a much earlier article we mentioned different types of ferns; those growing in this country. Since these non-flowering plants are so successful, in their own way, and require damp conditions, it is not surprising to find them in the moist tropical jungles. Amongst the many types found there, we naturally expect some epiphytes, and a number have

adopted this way of existence.

One of the most spectacular is the Stag Horn fern, with its large, horn-like fronds. This can also be seen at Kew, in the tropical fern house. We have therefore seen three quite different groups of plants, all growing as epiphytes.

Next. Water plants and other unusual places to live.



THE T-BONES

HAILING from Brighton, The T-Bones are a group who got together a few months ago and look like making a big impression on the pop scene. They were signed and brought to London by Russian manager Giorgio Gomelski, the man who handled The Rolling Stones at one time and manages that very popular group The Yardbirds.



Their drummer is a one-time Trad jazzman, which helps the group to swing more and gives them a very distinctive sound. Vocalist with the group is Gary Farr, son of world famous boxing

champion Tommy Farr.

First disc by The T-Bones is *How many more times*, an unusual, atmospheric number written by Howlin' Wolf and released on Columbia DB7401.

GREECE

On the Olympics Set from Greece the designs include an historical as well as the usual sporting background to the Games. Here are full details of these picturesque designs which are well worth having in your album.

- 10 Lepta — Amphora of the 6th Century — Peleus and Atalante fighting.
- 1 Drachma — A detail from an ancient amphora picturing runners.
- 2 Drachma — Ancient Vase depicting athlete jumping.
- 2.50 Drachma — A detail from an ancient pitcher showing a discus-thrower swinging for the throw in the presence of the ephor.
- 4.50 Drachma — 5th Century sculpture honouring a chariot-race victory.
- 6 Drachma — Design from ancient vase showing two boxers.
- 10 Drachma — Apollo.



'Olympics' Set from Greece

RUSSIA

On the Russian Olympics Set the five values of 3, 4, 6, 10 and 16 kopeks depict the various sporting events. Also issued recently are the five pictorials marking the 100th anniversary of the First International. All values are 4 kopeks.

GERMANY

Three new permanent issues from Germany in December featured Castle Gate, Ellwangen (50 pf), Trepton Gate, Neubrandenburg (60 pf) and Elling Gate, Weissenburg (80 pf).

TOPICS FOR COLLECTORS

NEW STAMPS

KENNEDY PORTRAIT

The first anniversary of the assassination of President Kennedy was marked with a special 40 pf. stamp on 22nd November from West Germany showing a portrait of the former President.

JAMAICA

The Commonwealth Parliamentary Association exists to serve Commonwealth Parliamentarians and, through them, the Commonwealth. Since its foundation the Association has held conferences in various parts of the Common-



wealth. In 1964 the conference was held in Kingston for the first time and to honour this event Jamaica issued three commemorative stamps depicting various Government Houses. These were: Gordon House — 3d. black and green; Headquarters House — 6d. black and red; House of Assembly, Spanish Town — 1s. 6d. black and blue.

SWEDEN

Two new jubilee stamps appeared from Sweden on 10th December, commemorating the following persons awarded the Nobel Prize in 1904.

Frederi Mistral (1830-1914), France, and Jose Echegaray y Eizaguirre (1833-1914), Spain, were between them awarded the Nobel Prize in Literature, Mistral for the fresh originality and true inspiration of his poetic production, which reflected the natural scenery and native spirit of his people; and Eizaguirre in recognition of the numerous and brilliant compositions which, in an individual and original manner, revived the great traditions of the Spanish drama.

John William Strutt, Lord Rayleigh (1842-1919), Great Britain, was awarded the Nobel Prize in Physics for his investigations of the densities of the most important gases and for his discovery of argon in connection with these studies.

Sir William Ramsay (1852-1916), Great Britain, received the award for his services in the discovery of the inert gaseous elements in air, and his determination of their place in the periodic system.

Ivan Petrovic Pavlov (1849-1936), Russia, awarded the Prize in Medicine for his work on the physiology of digestion, through which knowledge on vital aspects of the subject had been transformed and enlarged.

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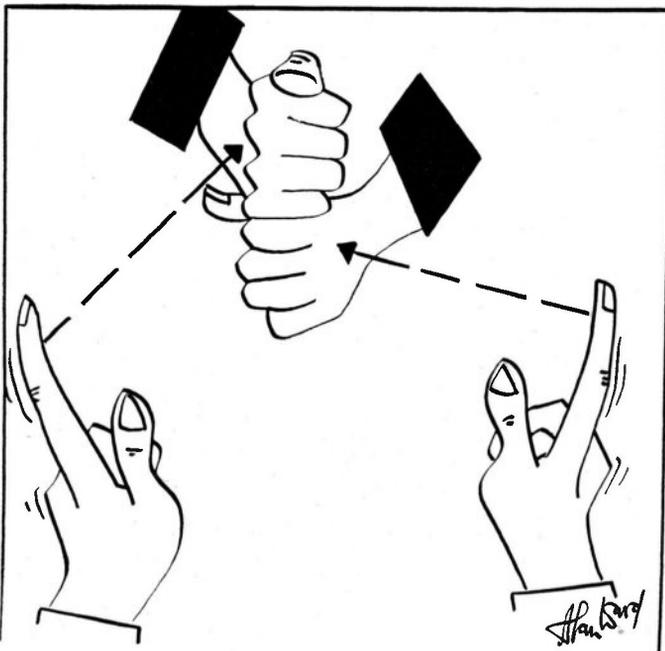
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USING her forefingers only, a little girl can part a strong man's fists — if he holds them clenched and pressed one upon the other, at arm's length.

Try the experiment with the help of a younger friend. If you both follow the instructions precisely, the child will find the stunt easy enough.

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 ★ and included will be an interesting ★
 ★ display arranged around the theme ★
 ★ 'A Hobby'. ★
 ★ 'Hobbies Weekly' will be repre- ★
 ★ sented and visitors will be able ★
 ★ to see made-up models of various ★
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Convincing as the effect may seem, the procedure, like Judo, exploits certain mechanical defects in the body.

Your bones and muscles form systems of levers which make the complicated movements of your trunk, head and limbs possible.

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Your outstretched arms form a pair of third order levers that can only be swung back and forth by distant muscles in your chest and back.

Only little forces applied to your fists are needed to overcome the control you can exert by these muscles in this particular situation.

Consequently, a child can make a champion boxer look like a weakling!

But if you want to get your own back and 'win' in the end, you can cheat by secretly sticking the thumb of your lower fist up into the clenched fingers of the upper one. Then it will take much more than a blow from the fingers to get your fists apart.



Miscellaneous Advertisements

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UNDER 21? Penfriends anywhere — details free—Teenage Club, Falcon House, Burnley.

SUPERB FREE GIFTS to applicants. Whole world approval service from 1/4 catalogue (3d. postage). Normans, 12 Twist Lane, Leigh, Lancs.

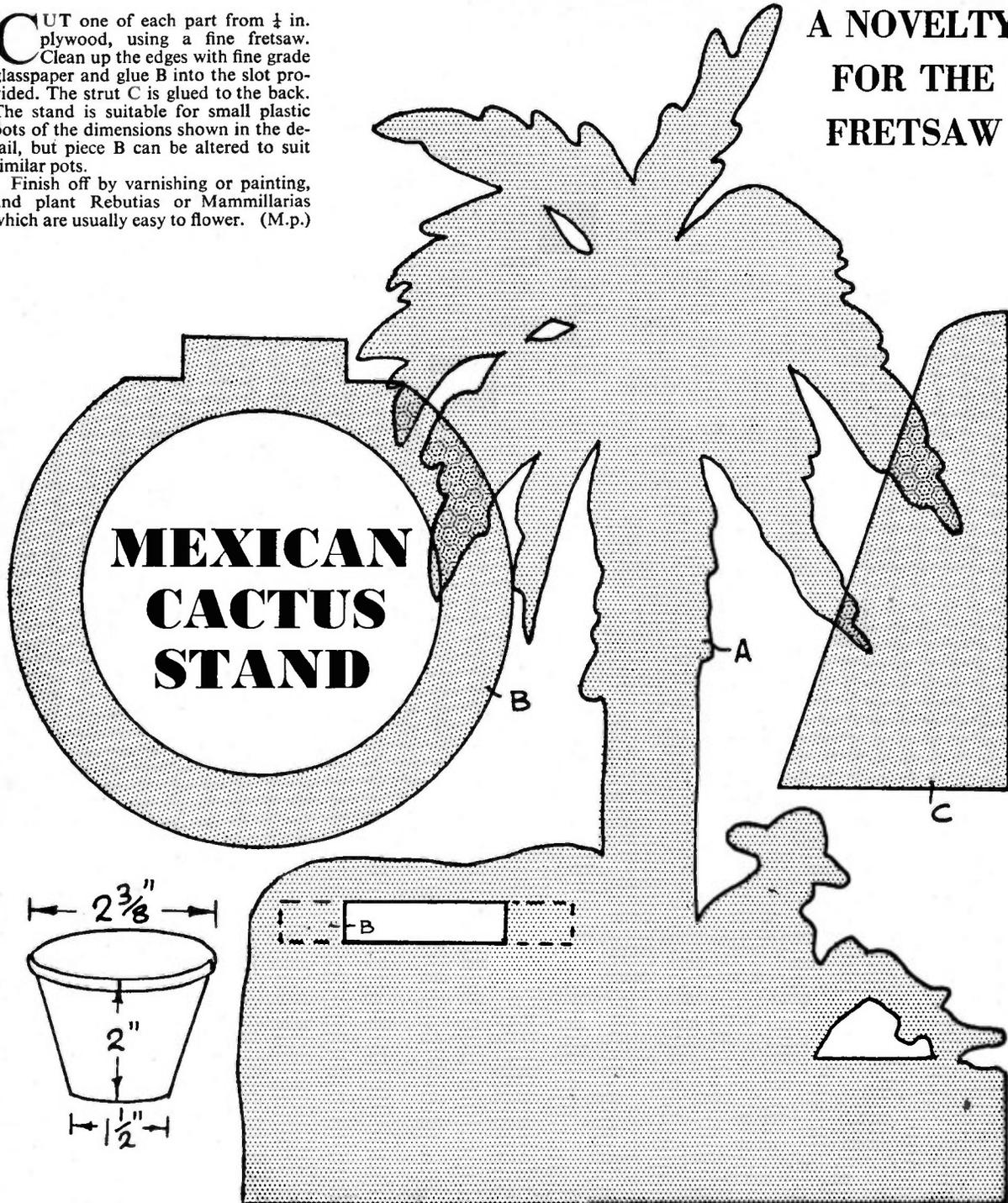
STAMPS FREE — Empire Packet with Approvals (3d. postage). — John Peck, 143 Markham Road, Winton, Bournemouth.

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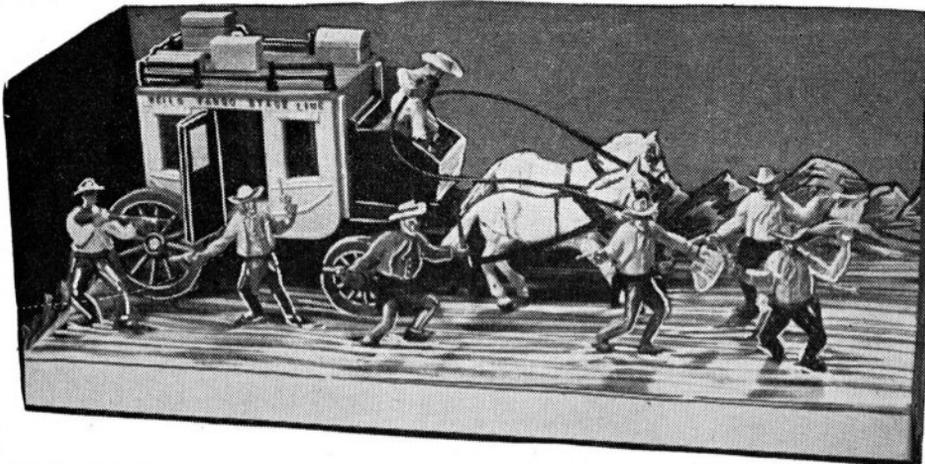
CUT one of each part from $\frac{1}{4}$ in. plywood, using a fine fretsaw. Clean up the edges with fine grade glasspaper and glue B into the slot provided. The strut C is glued to the back. The stand is suitable for small plastic pots of the dimensions shown in the detail, but piece B can be altered to suit similar pots.

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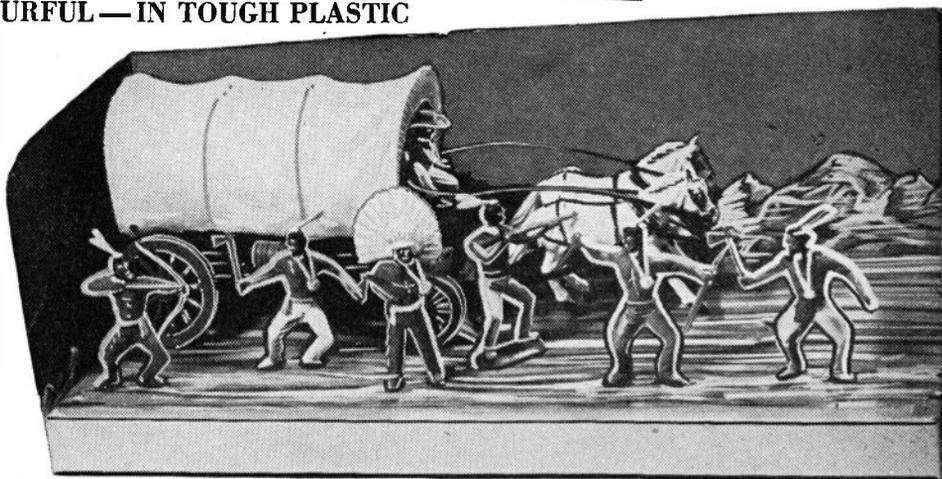
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