

### IN THIS ISSUE

age 161 Musical Barrel Organ -Books to Read 162 Mechanised Television Roundabout 163 Stamp Collector's Corner 164 165 A Novelty Holder for Matches Train Spotting -166 . . . Trimming Your Prints -167 Using Your Canoe - - Comic Cuts - - -168 169 Marbling Effects -170 Model Archimedean Screw 172 Patterns for Special Photo Frame

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



# FREE design inside MUSICAL BARREL ORGAN (FOR USE AS A TOY, CIGARETTE BOX, ETC.)

This design for a musical barrel organ should prove very popular. It has been designed for use as a toy for a child, but also incorporated beneath the hinged lid is a small compartment in which can be contained cigarettes, trinkets, etc., thereby making it also a very practical proposition for use in the home.

Incidentally the musical movement is hand wound and has been specially designed to play while turning either backwards or forwards. It therefore cannot easily be broken with mishandling by a child. As a novelty this should have a very popular appeal, and the make-up is easy if the instructions are followed closely in connection with the various parts indicated on the design sheet.

For a start, trace off the parts from the design sheet and transfer their shapes to the correct thicknesses of wood indicated. Then cut them out with the fretsaw and clean up with glasspaper.

The first step in the construction is the body of the barrel organ, as shown in Figs. 1, 2 and 3. Fig. 1 shows the construction minus the front (piece 1). Note that piece 8 is broken away to show the shape of pieces 7. Piece 8 consists of thin plywood, which is formed round pieces 7 to make the receptacle for the cigarettes, etc. (as shown in Fig. 2). The position of the musical movement is also indicated in Fig. 2, and in Fig. 3 there are shown the front (piece 1) and piece 9 in place.

The first sequence of assembly is with pieces 2, 3, 4 and 5 of the body, which are glued together. Next remove the handle of the musical movement, locate the shaft through the hole in piece 1, and screw the movement down to piece 5, at the same time adding pieces 1 and 9 in

### FOR ALL HOME CRAFTSMEN Over 60 years of 'Do-it-Yourself'



position. Finish off the interior by gluing in position pieces 6, 7 and 8 (Fig. 1).

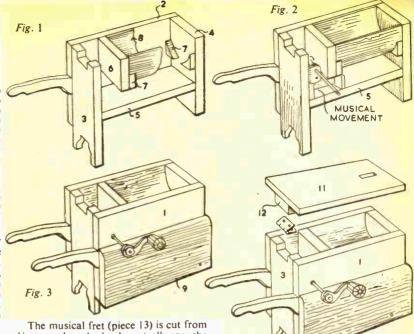
Piece 11 is the top or lid of the barrel organ to which is glued piece 12. The hinge is screwed to piece 12 and the slot in piece 3 (shown in Fig. 4).

### KIT FOR 6/11

All the wood and materials needed for making the Barrel Organ are in Kit No. 3212, price only 6/11. From branches or Hobbies Ltd., Dereham, Norfolk (post free). A special hand-turn musical movement (No. 3) costs 17/6 extra. Tunes available are "Clementine" or "Here we go round the Mulberry Bush".

The monkey is shaped from  $\frac{1}{2}$  in. wood. Two pieces of  $\frac{1}{8}$  in. wood glued together with the grains running in opposite directions would make a stronger job. The monkey can be shaped if needed, and it is glued into the slot provided in the lid (piece 11). The monkey's tail can be fashioned from a piece of string, cord, etc., stiffened with glue, or from thin wire.

The wheels are cut from  $\frac{1}{6}$  in. wood and the spokes shaped. Screw the wheels to the front and back in the positions shown on the design sheet. Countersink the screws and cover them with hub caps (pieces 15). If the wheels are required to move, use longer screws and glue backing pieces of wood inside the front and back to take these screws. In this case, of course, the wheels will be made a loose fit on the screws.



The musical fret (piece 13) is cut from in. wood and glued centrally on the front panel, and small circular overlays (16) are glued in the positions shown on the design sheet. Note that one of them is drilled to slip over the shaft of the musical movement. Replace the handle and the model is now ready for the finishing touches.

If it is to be used as a toy, the subject lends itself to a bright finish in a combination of colours to suit the individual or the recipient. For instance, if it is intended for a child, bright greens, reds and yellows, etc., should be used. If it is to be made for an adult for more practical use as a cigarette box or trinket box, then a more sober finish is indicated.

Fig. 4

### **Books to Read**

### Complete Home Improvement Handbook

by M. Evans Associates

WHETHER or not we are prepared to concede the claim that the 'Do-It-Yourself' movement originated in America, we are well aware of the vast and growing practical interest taken by a high percentage of Americans in 'know-how' methods for the handyman, and the number of 'how-to' handbooks is legion. The Complete Home Improvement Handbook, however, is not just another addition to the list — it is a complete library in one volume of over 1,000 pages, and is about the most comprehensive textbook the home handyman could wish for. Its wealth of information is designed to save its price many times over in the course of the average handyman's domestic year. There are more than 2,000 illustrations, covering every job, from roof to basement, and it is put over in the big way we have come to expect from the other side of the Atlantic.

Published by McGraw-Hill House, 95 Farringdon Street, London, E.C.4— Price £2 5s.

### **Photography**

#### by Eric De Maré

THIS is essentially a book for the amateur, but its scope is so comprehensive — from the history of photography to the latest ideas in colour systems — that it offers as much to the advanced enthusiast as to the veriest beginner. Whilst the technical letterpress is liberally illustrated by line drawings, a most attractive feature of this work is the inclusion of a 64-page section of photographic plates depicting the work of some of the world's most renowned photographers, past and present.

Published by Penguin Books, Harmondsworth, Middlesex—Price 6/-.

### [Pets of Today] Series No. 3 – Pigeons, Doves and Pigeon Racing

No. 4 -- Town Dogs

by David Le Roi, M.A., B.Sc.

THESE are two very welcome additions to the *Pets of Today Series*, and each contains a wealth of information, from the history of the pet to management and feeding, breeding and treatment for ailments. These excellent handbooks can be highly recommended, especially for anyone proposing to keep a pet for the very first time.

Published by Nicholas Vane (Publishers) Ltd., 194–200 Bishopsgate, London, E.C.2—Price 4/6, fully bound and wrappered, 6/-.



RADERS of Hobbies Weekly who have made the charming TV Roundabout from design No. 3179, may be interested in this photograph of a novel and effective display cabinet made to house the TV roundabout alongside a small alarm clock.

The diagram gives back view with measurements of the open-back cabinet and shows positions of components. A simple gadget consisting of a small base piece (B) upon which is mounted wood pulley assembly (P), and wood or metal arm (A) is built up from oddments.

The clock fits tightly into the hole cut out for it through the front panel. The 8/2 clock slopes back slightly due to the sloping panel. Under and slightly to the right of the clock is screwed the pulley assembly. A rubber band pulley belt is passed around the pulley and brought up and around the clock's alarm winding key. A slot is cut carefully half-way down one of the sides of the musical box nearest to the position of the musical movement's stopper arm. A length of wire is passed through this slot and bound or soldered to the stopper arm inside the box. This lever (L) reaches to the arm on the pulley, as



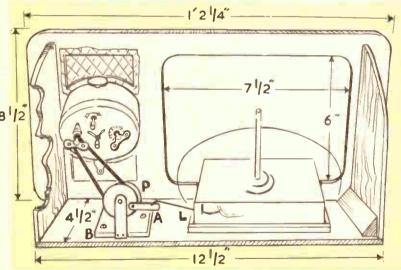
# Mechanised Television Roundabout

Novel setting described by T.S.R.

shown in the drawing. The wire should be easily bendable for adjustments.

The roundabout is wound up in the normal way but temporarily prevented from turning by the lever held up by the pulley arm. The alarm clock is wound up and set to go off at chosen time. When it does so, the pulley will drop and release the musical movement.

Mahogany 4in. plywood was used in construction, and after being well glasspapered, the natural grain of wood was brought out with wax polish and 'elbow grease'. Radio-speaker cloth was glued behind the frets above and below the clock face. It will be noted from the photograph that the roundabout protrudes at the front of the cut-out 'screen' and is prevented from slipping out of place by a frame of stripwood as shown in the diagram.



### The children's favourite

This is Hobbies model of the TV Roundabout which has become such a great favourite among children. All the delightful little figures are authentic as on the B.B.C. Children's Hour version, and their cutting out is a grand exercise for all fretworkers. Kit No. 3179 for making the roundabout costs only 5 -Incorporated is a musical movement which also rotates the platform. Movements cost 18/3 and tunes can be selected from:—

> Jingle Bells O Niy Papa Blue Danube Vienna, City of my Dreams The Harry Lime Theme from 'The Third Man' Brahms' Lullaby Parade of the Wooden Soldiers Some Enchanted Evening Merry Widow Auld Lang Syne 163

> > World Radio History

Silent Night Limelight Moulin Rouge Greensleeves Tales from the Vienna Woods Home Sweet Home Swedish Rhapsody Bells of St Mary's Blue Bells of Scotland Irish Eyes are Smiling



WO very kind friends of *Hobbies Weekly* have combined this week to furnish the material for most of the article, and these gifts are the subjects of the illustrations.

The first was sent by Mr. G. Donaldson of Auckland, New Zealand. On February 15th New Zealand issued two stamps to commemorate the 75th anniversary of the first shipment of frozen meat from New Zealand to this Country. The two stamps are the 4d. and the 8d., the former in blue and the latter in red. As can be seen, the design of the 4d. is a lamb astride the map of New Zealand and the 8d. shows the sailing ship 'Dunedin' which carried the first cargo of frozen mutton and also a modern ship, with the dates 1882–1957.

It was a Mr. Davidson who saw the enormous possibilities of trade, if only meat could be sent in good condition across the world from those countries which had plenty of space and few people, to those which had plenty of people but few acres upon which to feed them.

Mr. Davidson was the general manager of the New Zealand and Australian Land Company, and he got the directors of the company to see his point and to grant a sum of £1,000 with which to experiment. Davidson then got in touch with a firm specialising in refrigeration and he got them to fit up the necessary apparatus on board ship. This was to sail out to New Zealand and take on board the carcases which would have to be frozen on board, as there was no plant available on land to do this work.

The lambs were slaughtered on land, cleaned, frozen, and then stowed away in the special holds prepared to receive them. But this operation was not carried out without mishap, for after some 600 of the carcases had been put down below, the crankshaft of the refrigerating plant broke and had to be repaired before work could go on. The difficulty was the 600 carcases already frozen. They would thaw and then go bad, so they had to be thawed and brought up and sold to the local inhabitants.

Unfortunately, the mishap so scared the people who had booked a passage, that most of them cancelled, so that only two passengers sailed. When the ship arrived in London there was, of course, great anxiety as to how the cargo had withstood the trip and the state of the carcases, but it is on record that only one of all the shipment was unfit to eat.

These stamps commemorate a most momentous event not only for New Zealand, but also for Great Britain, as it solved to a large extent the feeding problem of the time.

# SOME NEW ISSUES By L. P. V. Veale

together are of very different designs. Canadian stamps of the small size are printed in sheets of 400 stamps divided into four panes of 100. These larger stamps are printed in sheets of 200 divided into panes of 50 each. They are so arranged on the pane that when four stamps are ordered it will usually be quite easy to tear off four, giving one of each design. There is also one line in the pane which allows four different stamps to be torn off as a vertical strip. The 50 in a pane are in ten rows of five and the



In the same connection one must also mention the 6d. stamp of the 1940 Centenary of Proclamation of British Sovereignty; this shows a map of the world with the route of the Dunedin' marked upon it.

In 1932 there was a stamp from the Argentine which also bears on the carriage of food through the tropics and that was the stamp issued in connection with the V1th International Refrigeration Congress. When you look at the illustration it is rather difficult to realise that you are looking at a refrigeration plant, but as the stamp was issued for this, presumably it must be one.

Mr. Gibbs of Hanover, Ontario sends the Official First Day Cover depicting Canadian sports, or, as they call it, the Outdoor Recreation Series — skiing, fishing, swimming and hunting, and readers will at once notice that there is something unusual about this cover. The four stamps, although they are all joined vertical strip is the middle one.

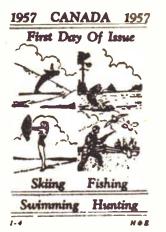
The stamps were designed by Lawrence Hyde and you can see the initials L.H. generally in the corners — top left for the shooting, bottom left for the skiing, bottom left for the fishing and bottom right for the swimming, and you can see the date 1956, although the first day of issue is the 7th March, 1957. This is shown quite clearly on the cover illustrated.

It is not often that one comes across this type of printing, that is to say four different stamps joined together — and, of course, they should be collected as a block if possible — or as a vertical strip of four different as mentioned above. Denmark in 1924 on the occasion of the 300th anniversary of the Danish Post showed portraits of King Christian IV and also King Christian X on different stamps. The portraits were printed facing, first to the left, and then to the right, so that in this case it was possible

to have a block of four stamps of different design but all joined together.

There is no doubt that stamp collecting keeps one up to date, that is if one is willing to be reminded of events by stamps, and one looks at the designs and takes in what is given. For example how about the independence of Ghana? When was that? How many collectors would remember this if they had not had it put clearly in front of them by stamps? There are two sets to assist in remembering this date, first the special set issued by Ghana, four values 2d., 24d., 4d. and 1/3. The design of each is the same, a fish eagle flying over the map of Africa with a small dot to show where Ghana is to be found. There is a small medallion portrait of the Prime Minister. Dr. Kwame Nkrumah.

There are also the current designs of Queen Elizabeth stamps overprinted 'Ghana Independence 6th March 1957'.

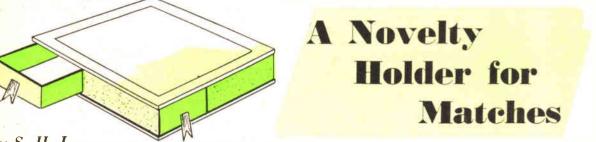


Scouts will not have to be reminded of the Golden Jubilee, but philatelists



Canadian first day cover.

have an excellent portrait of the founder from the Netherlands Antilles which has issued a set of three stamps to commemorate this.



### By S. H. L.

OU can make attractive little novelty match box holders from two pieces of cardboard and some surplus wallpaper.

Take two pieces of stout cardboard each measuring 4ins. square. and cover them on one side only with some fancy wallpaper, so that the edges are slightly overlapped as shown in Fig. 1. Fold over and bind the edges with strips of passe partout to improve the appearance.

With the top and bottom thus prepared, ordinary match boxes are glued to the covers according to the manner shown in Fig. 2. Fix to the base portion first, then glue on the top, leaving under a weight until firm. It should be noted that in each instance the boxes are attached with the sandpaper sides on the outside.

Take out the drawers (emptying the matches and laying aside for the moment) and affix small pieces of ribbon as drawpulls. First cover the outside front ends of the drawers with a piece of matching paper or the passe partout binding. After this operation, cut a slit across the

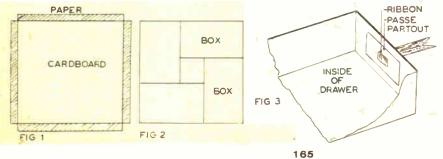
World Radio History

front of the drawer the width of the ribbon. Trim the ribbon as shown in the sketch by folding in two and cutting across to a corner. This will avoid fraying. Push the other end of the ribbon through the slit with the tip of your knife, fastening by glue to the inside surface of the drawer and further strengthening with a strip of passe partout. The matches may then be returned and the holder is complete.

Instead of cardboard, hardboard may be used for the top and base of the holder, finishing with paint and decora-

tive transfers, the edges being treated with a coat of gold paint.

A picture or a photograph may be attached to either the cardboard or hardboard type, but do not forget that the harder substance may scratch table tops unless a piece of baize is attached to the bottom. Another detail to note with hardboard holders is in the finish at the corners. It is advisable to file to a rounded corner to improve the appearance.



### WITH A CAMERA

# TRAIN SPOTTING



An engine snapped while slowly entering the station and taken from the end of the platform in full light.

Have you ever thought of train spotting with a camera? You do not need any expensive instrument for first class results, and there is a lot of fun to be had from exchanging snaps with pen friends in different parts of the country.

Do not expect to snap an express in motion at something like 60 miles per hour, especially if it is moving across the path of the camera, but there are slow goods trains you can capture while in movement.

With a platform ticket you will be able to establish a position in the station for the photography of all kinds of engines, but make sure that you select a good observation point. To obtain a view of the full length of an engine, showing valve gear and coupling rods you will find the best viewpoint on the opposite platform. And usually all outbound trains face into the light, making your task quite easy. At such points there are also ample opportunities for snapping incoming trains which enter at a slow pace.

#### Vantage points

Outside the stations you will find many good vantage points on bridges, or footpaths alongside the railway, but here you are strongly recommended to select a position where there is an up gradient. There are two reasons for this. The trains are never travelling quite so fast on the rising gradient for one thing, and the other reason is that the engine has to work much harder, emitting lots of steam and smoke, making your pictures very spectacular. Smoke from the chimney, formed in a billowy line, also breaks the sky area of your picture.

It is not at all difficult to take a 'head on' picture of a 'moving train. Keep the camera quite still, resting it on the fence, press the trigger gently, and you will be really surprised at the good results.

Taking a picture with the train travelling across your line of vision is quite another matter, but not impossible. Frequently you will have seen pictures of motor cycle racing, or motor car racing. These are taken by a photographic technique we term 'panning'. The camera is held in position and swung in an arc with the movement of the train, so it will be appreciated that your camera must have a type of view inder enabling the motion to be followed through. As a trial of this, place your hands to your eyes as though holding a pair of binoculars. Look at some approaching car and keep it in your vision as it gradually approaches to close range. You will find that this demands an even, steady movement from first sighting to the finish. And it is almost the same with photography.



Admitted, it is wise to practise a good deal, but it is a trick worth trying. Start on something a little casier at first like a bicycle or a motor car not travelling too fast, until you have acquired the knack.

An approaching train is sighted in the viewfinder when it is about 200yds. away, and you follow it up with the camera until that moment when you press the trigger and a moment or so after. That is, until you have completed the arc. Or in other words, the camera is swinging round with the motion of the train and the trigger is pressed during that swinging and when the train is nearest. This swinging must be even and constant — never jerky or you will only get a blurr.

If you act correctly, the engine will appear quite sharply defined in your picture while all the background is blurred. • continued on page 167



This interesting picture shows one of the first diesel coaches in use between Bradford— Leeds—Harrogate. Similar coaches are to be expected in other parts soon. 166

# Advice for photographers TRIMMING YOUR PRINTS

O you like your prints to have a really neat border? Just like the ones produced by the commercial finisher? Then here is a simple and easy method to ensure the best possible appearance of your pictures.



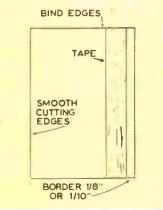
Trimming the print with a knife held close to the edge of the glass

It does not matter how careful you may be when printing your own snapshots, they always seem to have uneven borders, or are a little out of square. This simple method will give good results.

We require a piece of clear glass about 44 ins. by 34 ins. (larger if you wish to deal with bigger prints), which will be suitable for the majority of snapshots. Two of the edges must be smooth, mainly to avoid the danger of cutting your fingers when handling. This smoothing may be done by rubbing the edges with a carborundum stone, plus carborundum powder, using turpentine as a lubricant. Do not work on the glass so vigorously that the straight edge is damaged. The intention is to remove the sharp edge where the glass has been cut. Treat the two long sides in this fashion, so that you have two working edges. It is also a wise precaution to smooth off the corners. The other two sides may be bound with strips of Sellotape for protection.

We now require a guide line for our borders, using a strip of Sellotape attached to the glass on one side either 1/10in. or in. from, and parallel with, the edge.

The best way of achieving this is to take any newspaper where the columns are separated by long, vertical lines. Rule a line parallel with such a vertical at one of the selected distances, that is, either 1/10in. or in. The glass is now laid on the newspaper with its edge in perfect alignment with the printed line



and you have only to stick on your strip of Sellotape so that it coincides with the prepared line. This gives us our guide line.

In the foregoing it has been suggested that two edges of the glass were prepared, one of which has been used for a narrow border. You may prefer to make a border slightly wider on the other edge, or leave it free until the occasion arises. but if you wish to make, say, a  $\frac{1}{2}$ in. border, follow the same routine.

Two methods of cutting are available, and it is up to you to choose the one which suits you or produces the better results - it costs no more to try both!

We take a print in the left hand, superimposing the glass so that the edge

#### • continued from page 166

of the Sellotape on the glass coincides exactly with the edge of the picture area. Holding the two quite firmly, the print underneath, the waste paper is quickly trimmed away with the assistance of a pair of scissors, as shown in the illustration. Keep the blades in close contact with the edge of the glass while making the cut.

The second method calls for a sharp knife or a razor blade and is, perhaps, more useful when the waste material is very slight. If a razor blade is used it is much safer to invest in one of those small razor-blade holders. Alternatively, you may buy the type of razor blade having a piece of steel down the spine and only one sharp edge.

With the knife or blade, the print is laid on to some old cardboard - never on the unprotected table top or wood, not only because of the danger of damage but because you cannot produce a clean cut owing to the grain. The glass is laid on top of the print, with the Sellotape guide line again in alignment with the edge of the picture area. Hold the glass gently, but firmly, while the surplus is trimmed away with the knife. It may also be mentioned that it is a good plan to allow the knife to slant inwards, making a sloping undercut on the print. This also helps to keep the blade against the glass. Each side is similarly treated and on completion you will find that there is an even border all the way round your picture.

There is just one other point. Remember that the face of the glass which is in contact with the print must be kept quite clean, and if you keep the trimming guide in an envelope it will last for (S.H.L.) many years.

# **Train Spotting**

Always keep a careful eye on backgrounds, or you may find a telegraph pole emerging from the engine boiler.

A shutter speed of 1/50 or 1/100 second is guite adequate for pictures of trains moving towards you, or for trains entering and leaving stations, providing you use a panchromatic film like HP3 or Super XX.

Train spotters are not now exactly unwelcome visitors to railway stations, and a platform ticket will allow access to many suitable places, yet you must be warned against climbing railway fences or stone bridges. Trespassers are likely to invite trouble and danger. Moreover, you can often use a fence for keeping the camera steady. Stay on the right side of the fence and you will also be on the right side of the law!

### SOLUTION TO CROSSWORD NO. 6 PUBLISHED LAST WEEK

PUBLISHED LAST WEEK Across: 1. Emma. 4. Frill. 9. Sole. 10. Oily. 11. Inch. 12. Opium. 13. Dime. 14. Net. 17. Pelts. 19. Raven. 22. Raise. 23. Medal. 25. Bar. 26. Soap. 28. Rouge. 30. Upon. 31. Glum. 32. Over. 33. Spate. 34. Edit. Down: 2. Manager. 3. Ashanti. 4. Float. 5. Rep. 6. Loud. 7. Limited. 8. Tyres. 15. Esse. 16. Lama. 18. Lazarus. 20. Verdure. 21. Nairobi. 24. Usage. 25. Breve. 27. Pomp. 29. Got.

# USING YOUR CANOE



A Sea Scout uses feathered paddles as he enters a small rapid. The canoe is a P.B.K.10.

F you have built a decked canoe, you will want to get the most out of it. A canoe of this type is a surprising craft which will go just about anywhere wet, and there are several points about its equipment and management that will help you to take advantage of all its possibilities.

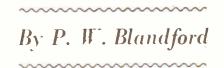
If you are going touring you will soon find the value of good painters. The one on the bow should be rather longer than the canoe, then you can turn the craft right round from the bank after launching if necessary. If you tackle rivers with shallow rapids and have to wade frequently, the best stern painter is quite short, with a loop to grasp as you step out (A). Loop the painters to their fittings so that they are easily removed (B), then if you need an extra length on the stern you can remove the bow painter and tie it to the stern one. Strip brass hooks on the coaming keep your painters ready for use (C).

#### The double bladed paddle

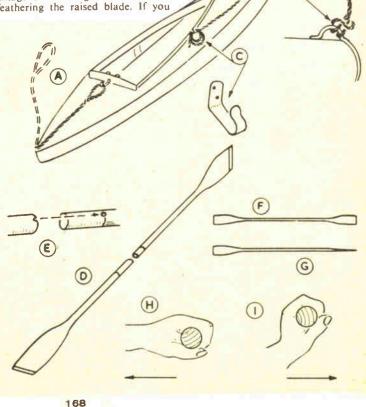
The only satisfactory paddle for a decked canoe is a double-bladed one 8ft. long, either bought or made according to the instructions with the canoe plans (D). Bought paddles usually have brass tubular joints at the centre, but nothing is provided to locate the two parts correctly. This can be done by putting a round-head screw partly into the inner piece and filing a notch to fit it in the other piece (E).

The obvious way to have the paddle blades would seem to be with the blades in line (F), but most enthusiasts have them at right angles (G). This involves quite a natural action and gives the advantage of reducing wind resistance by feathering the raised blade. If you have spooned blades you will have to discover for yourself which way you prefer the twist.

If you wish to pull anything, you have your wrist straight. If you wish to push a stubborn door you bend your wrist back. The difference between these two positions is about a right-angle and the



amount you wish to twist the paddle. You use this action with one arm and let the loom of the paddle twist in the other hand. Suppose you twist with the left arm: when the left blade is dipped your wrist is straight (H), after the blade



is lifted from the water you dip your wrist before the other blade is immersed (I) and keep it like this while pushing forward that side and pulling back the other.

Hold your paddle with your hands rather more than the width of your shoulders apart. Dip each blade just below the surface and keep the angle of the loom of the paddle as low as you can without touching the cockpit coaming. Beginners tend to dip too deeply, and as they get tired, their hands come close together and the paddle rubs the coaming.

#### Pace and time

In a two-seater, the front person sets the pace and the rear one keeps time. However, the rear one is the skipper, because he is in the best position for steering, which he does by pulling harder one side or the other while keeping in time with his mate. If that does not have sufficient turning effect, both pull one side only, or one pulls forward while the other paddles backwards.

You will have to experiment for yourself to find your natural length of stroke, but for touring a long slow stroke is less tiring and actually more effective than a short fast one. Give a good thrust forward with the raised hand as well as a pull back with the other one.

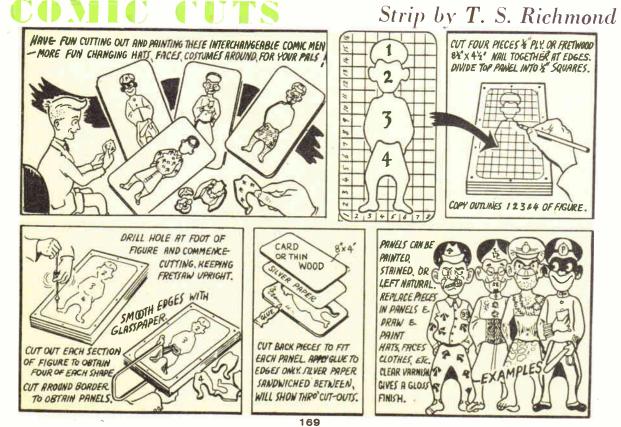
### Avoiding a ducking

When you are sitting in a canoe there is very little fear of capsizing unless you do something really silly — it is getting in and out that fun has been known to happen! The easiest way to get in is from wading in shallow water. Put one foot centrally in the canoe, well forward of the seat, reach across to the other coaming and flop into the seat, letting the water from the plimsoll drain over the side before bringing in the second foot.

When getting in from a bank avoid sharing the weight between the canoe and the bank — an attempt to do the splits over an ever-widening gap may be the prelude to a splash. If there are two of you, one holds the canoe while the other gets in. Face the way you are going, and put one foot in centrally, reach down to the far coaming, well forward, and hold the bank with the other hand, while you put the second Next week's issue will describe an easy way to make a portable picnic table. Also competition, ships model pattern and 'Use of transistors in radio.'

foot behind the first and sit down. Do not lean on the bank, and make sure both feet go in centrally.

Canoeing in bad weather need not be uncomfortable. Spray covers should be used, as supplied with the canoe or made according to the instructions with the canoe plans. The normal canoeing clothing below the waist should be shorts, bare legs and old plimsolls, in any weather. The best waterproof garment above the waist is an anorak - anything which fastens down the front tends to leak, although there are some good short plastic or oilskin coats. Whatever is worn should come outside the coaming and spray cover, so that rain runs on to the decking. If there is no hood to the coat, a sou'wester makes the best headgear. For wear ashore a pair of waterproof trousers completes the outfit.



### EXPERIMENTS ON PAPER

OU can make all kinds of fancy coloured papers by means of the marbling method. As implied by the name, the resulting effects are similar to the grain in marble, but with a little modification we can produce other original patterns, and after making, the paper can be used for bookbinding or for the production of many novelties.

We need two reasonably large trays of

with a pint of warm water, stir until dissolved, then slowly add another quart of cold water. This makes the size to be poured into the marbling tray. The other tray is required to hold water for a rinse after marbling. It will be appreciated that smaller quantities of solution must be mixed in the same proportions.

MARBLING BEFECTS

Cover the table top with sheets of old newspaper to avoid transfer of the colours to the table. Place the marbling mixture, gradually lowering until the entire surface is in contact with the colours which will be transferred. Fig. 2 shows how the paper is laid on top of the solution. After a moment remove the sheet, transfer to the rinsing bath, where it is placed face upwards underneath the water, agitated for a moment to remove surplus colour, removed, drained and laid to dry on a sheet of newspaper ready at hand.

on to the size solution. The modification

of the arrangement of these drops in our

marbling tray makes considerable dif-

described, and taking a stick, move it

slowly through the colours, you will produce a pattern as shown in Fig. 3. You

must be warned not to stir the mixture

too vigorously, or to break them unduly,

pattern as revealed by Fig. 4. Here you

are recommended to make a simple

comb by hammering nails through a

piece of wood. Keep the nails at least

in. apart, or, again, the colours will

mingle. Drop the colours into the tray as

before, stir very gently as for the swirl

pattern, then draw the comb slowly

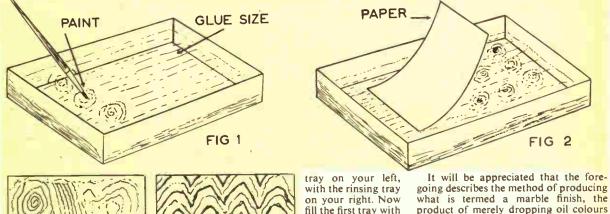
through the mixture. Draw the comb

once only and be ready to take the

or you will lose the swirling pattern. Finally, we may produce a combed

If you drop in the colours as just

ference to the result.





### FIG 3

some description, and if you have no suitable pie dishes, biscuit tin lids are ideal for this work.

Other materials required are glue size, water, small painting brushes, a comb, oil colours, turpentine and white paper, preferably glazed on one surface. The latter can most often be procured at any artists' materials shop in sheets measuring 20ins. by 25ins. Note that while ordinary household paint can be used, the modern synthetics, lacquers or varnish paint will be unsatisfactory and it is better to purchase small tubes of artists' oil colours.

Mix two tablespoonfuls of glue size

fill the first tray with the glue size solution which should not be allowed to jelly if it does, add a little more cold water. Pour plain water into the rinsing tray. The marbling tray

is prepared for the work merely by dropping oil colours on to the surface with the aid of a small paint brush, as shown in Fig. 1. The

### FIG 4

oil paint is thinned with a little turpentine to such a consistency that it will drop from the brush with a gentle shaking. When properly mixed it should float on the size mixture, spreading very slowly. To produce multi-colour effects several colours will be required, so use a separate brush for each colour, but remembering to place one or two drops of the same colour in different parts of the tray.

The paper is cut to a suitable size, and we are ready to start our marbling. Take up a sheet of paper in the right hand, with the other end held by the left hand. Lay the left edge on the surface of the It will be realised that quite a few prints may be made with the same preparation, although they will differ a little, but after the first half dozen, the transfers will become fainter. You may ©Continued on page 172

# Made this yet? **BED-TRAY**

or

# **BOOK-REST**

Kit contains all wood and fittings

From branches:

LONDON 78a New Oxford Street, W.C.I (Phone MUSeum 2975) 87 Old Broad Street, E.C.2 (LONdon Wall 4375) 81 Streatham Hill, S.W.2 (TULse Hill 8796) GLASGOW-326 Argyle Street (Phone CENtral 5042) MANCHESTER-10 Piccadilly (Phone CENtral 1787) BIRMINGHAM-100a Dale End (Phone CENtral 5483)

or direct (post free)

With

SHEFFIELD-4 St. Paul's Parade (Phone 26071) LEEDS-10 Queen Victoria Street (Phone 28639) HULL-10 Paragon Square

(Phone 32959)

Price only 13/6

SOUTHAMPTON-134 High St. (Below Bar) Phone 25947 BRISTOL-65 Fairfax Street (Phone 23744) NEWCASTLE-42 Dean Street Newcastle | Phone 21465

DESIGN

No. 3174

(<sup>Dept</sup><sub>99</sub>) Dereham, Norfolk HOBBIES LTD

> 171 World Radio History



'EXPERIMENTS IN CHEMISTRY' 1/2 (post free) A. N. BECK & SONS (Dept. H), 60 STOKE NEWINGTON HIGH STREET, LONDON, N.16

in 12 days or money back. New gland and spinal discovery increases height 2 to 5 inches. 'I have gained 44 inches in height. My weight in-creased from 9-stone 4-lb. to 10-stone 34-lb.'—P.D. 'Increased 3 inches'.— H.G. Guaranteed harmless. Full course 10/- (or \$1.50). Air Mail 16 3. Details 2d. Sent under plain cover. J. H. MORLEY, 28 (H/169) Dean Rd., London, N.W.2. Practical Courses, all subjects. List free.

Short-Wave Receivers H.A.C.

Suppliers for over 18 years of Radio S-W Receivers of quality. One-Valve Kit, Price 25/-Two-Valve Kit, Price 50 -Improved designs with Denco coils. All kits complete with all components, accessories and full instructions. Before ordering, call and inspect a demonstration receiver, or send stamped addressed envelope for descriptive

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

## THE PRACTICAL WAY of learning RADIO · TELEVISION · ELECTRONICS

AMATEUR S.W. RADIO · MECHANICS · PHOTOGRAPHY · CARPENTRY, etc., etc.

NEW—Experimental outfits and lesson manuals sent on enrolment remain the student's property. Tutor allotted to each student for personal tuition throughout the course.

In radio and television courses, specially prepared components are supplied which teach the basic electronic circuits (amplifiers, oscillators, detectors, etc.) and lead by easy stages, to the complete design and servicing of modern radio and T/V equipment.

THESE PRACTICAL COURSES ARE IDEAL AND MAY BE YOURS FOR MODERATE COST

Fill in the coupon to-day for a free Brochure. There is no obligation whatsoever. Courses with equipment enable you to design, construct and service 2-stage radio equipment 3-stage T.R.F. circuits - Television equipment · Workshop Test Panel Oscilloscope - 5 valve 3-waveband superhet circuit

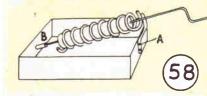
SUBJECTS INCLUDE:- Radio · Electronics · Television Equipment Mechanics · Chemistry · Photography · Electricity · Woodwork Electrical Wiring · Draughtsmanship · Art · Short Wave Radio Oscilloscope · also many other Home Study Courses without equipment.

EMI	COURSES FROM 15/- PEF	MONTH
And State of State	E.M.I. INSTITUTES, Dept. 31.X London W.4	
Associated with H.M.V., Marconiphone, etc., etc.	ADDRESS	
	Subject of interest .	AGE
World-wide industrial organisation.	(We shall not worry you with callers)	(if under 21) 19,6 57 icas

Simple science experiments

NE of the earliest mechanical methods of raising water was by the Archimedean Screw, a model of which is shown in Fig. 58.

The trough consists of a shallow tin. The spiral is made from 1 in. diameter copper tubing which can be pulled into shape round a wooden cylinder, about 11 ins. in diameter, and held at one end in a vice. The axle and handle are made from *in*, diameter brass rod which passes through a length of Meccano strip (A) fixed to one end of the trough with Meccano nuts and bolts, and then



through the centre of the wooden cylinder which holds the spiral tube. This wooden cylinder is part of the cylinder on which the spiral was formed. The other end of the rod rests in a length of brass tubing (B), which is soldered to the inside of the other end of the trough.

The trough should be partly filled with water, so that the open end of the spiral dips into the water each time it is turned.

#### Model hydraulic lift

The transmission of pressure by liquids is made use of in the hydraulic press, the principle of which is illustrated in Fig. 59. If the area of the piston (B) is 100 times larger than that of the piston (A), a small weight on (A) will balance a weight on (B), which is 100 times greater.

Find a wooden box (A) with a lid that is a fairly smooth sliding fit inside another wooden box (B) as shown.

On the bottom of the box (B) place a football bladder, partially filled with water and through a hole in one end of the box fix a long glass tube into the neck of the bladder. Stand gently on the upper surface of the box (A) and you will be able to raise yourself up before the eyes of your amazed audience by pouring water from a beaker into the funnel and so into the logn glass tube.

#### A water turbine

You can drive your working models with this model water turbine (Fig. 60).

100 LBS AT LEAST **5 FT** A B

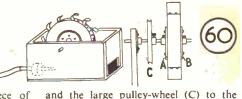
**MODEL ARCHIMEDEAN SCREW** 

T.A.T.

By

bush-wheels; large Meccano pulley and axle rod; 1/2 in. brass round-headed screws; rectangular wooden box with the inside well covered with shellac, a circular hole in one end, a longer rectangular hole in the other end, and small holes for the Meccano axle on the sides; glass tube, one holed rubber ring; rubber tubing.

Divide the circumference of the circular piece of wood into twelve equal parts and fix each of the pieces of tin in position with two screws. Fix with screws a Meccano hush-wheel at the centre of each face of the wooden wheel and a Meccano bush-wheel over each of the small holes in the sides of the wooden box. Push the Meccano axlerod through the bush-wheel and sides of the wooden box, placing the large Meccano pulley-wheel on the rod as you do so. Fix the bush-wheels (A) and (B)



axle with the fixing screws, place the

glass tube in position through the

rubber ring and connect this tube with

You will require a circular piece of wood about lin. thick and 6ins. in diameter, with a hole about an kin. in diameter through its centre; twelve pieces of tinplate, 1in. by 2ins., each curved at one end and drilled with two holes near the other end; four Meccano

### Continued from page 170

Marbling Effects

rubber tubing to a water tap. Adjust the glass tube so that the water jet impinges on the curved surfaces of the tin.

then replenish with more drops of paint in the same positions as before.

When the colours are stirred or combed there is a tendency for them to mingle, and any subsequent additions of colour may give drab effects. It is better to empty the tray, clean with newspaper, refilling with the size solution for a completely new start.

You will be aware that the three primary colours, red, yellow, and blue will combine to form almost any colour you will desire. If you have to buy small tubes, which are only a few pence each, these three will suffice. Moreover, there is always a tendency for the edges of the colours to merge a little in the solution, and this factor should be considered when forming the arrangement.

Avoid extremely violent combinations

172

World Radio History

of colour if you wish to produce tastefully patterned papers. For example, autumn tints are best produced by using only red, yellow and a little green. On the other hand it is often better to have a contrasting colour when making the combed pattern, particularly where the pattern repeats, as shown by the thicker lines in the diagram. You should also remember to arrange the colours in a regular order for the full length of the tray for this method as for example, a repetition of, say, yellow, red and blue in the same order.

Always allow the papers to dry thoroughly before stacking away under a weight, or before using. Although the water may dry out, it may take a little longer for the oil colours to become (S.H.L.) perfectly dry.





One large FULLY ZIPPED Compartment. One ditto same size back to back, 4 Buttoned off separate side by side super imposed Pockets. 2 strong adjustable webbing back straps Made of genuine R.A.F. 100



per cent. waterproof material, all brand new, Ideal for Motor Cyclists, Hikers, Fishermen and 100 other uses. 4/11 only, post etc. 1/1. A fraction of original cost. Send immediately.

(HOBW/64), 196-200 Coldharbour Lane Loughboro Junction, London, S.E.5 en all day Saturday. 1 p.m. Wednesday. Open all day Saturday.

Surplus STOCK — Medical hypodermic syringes, 2 c.c. with two needles. Ideal for delicate oiling, gluing, etc. Individually boxed. Approximate value £1, now 5/6 including post-age. Spare needles 6/- dozen. — Whetstone Luminations, 40 Stafford Street, Liverpool, 3.

REVOLUTIONARY Model Motor — beauti-fully engineered. Reverse-brake-clutch. Suitable Meccano, other models or workshop. Self-contained; no key to lose; no batteries. Plus lineshaft to drive three models. Only 10/-. We pay postage - Contour House, Kingswear, Devon.

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



EARN it as you do it — we provide practical equipment combined with instruction in Radio, Television, Electricity, Mechanics, Chemistry, Photography, etc. — Write for full details to E.M.I. Institutes, Dept. HW47, Radio, London, W.4.

MAKE YOUR OWN MUSICAL BOX. Send S.a.e. for price and tune list or 9d. P.O. for 16 page fully illustrated catalogue (returnable with first order) or 1/6 P.O. for catalogue and plans to make your own musical box to Dept. H.W., Metwood Accessories, 65 Church St., Wolverton, Bucks.

A GENTS (either sex) wanted for private Christmas greeting cards. Our sample book is full of attractive designs and best selling novelties. Excellent profits for keen agents. Highest commission. — British Greeting Card Co., Box 5, Gate Street, Blackburn, Lancs.

UKLOS ANNUAL. Indispensable cyclist's Khandbook. Tours, resthouses, money-saving hints, 2 10, post free. - Burrow, Publishers, 2 Imperial House, Cheltenham.

STAMPS FREE — Empire Packet including Prictorials and Victorians with approvals. — Robert J. Peck, 7A Kemp Road, Bournemouth.



ENUINE Swiss Musical Movements. The Gbest and largest selection of tunes in the country, lowest prices 16'3 each. Genuine Thorens Movements, 22'9 each. All guaranteed. P & P. 9d. extra on all orders. - Richardson & Forder, HW, 5 Chapel Place, White Hart Lane, London, N.17. WHEELS (Hardwood and Rubber Tyred Whetal). Cot, Pram and Doll's House Fittings and Papers. Beads, Transfers, Prints and other accessories. Stamp for new lists. (Trade supplied.) New address — JOYDEN CO., 91 Peplins Way, Brookmans Park, Herts.

TTENTION. Attractive selection 100 stamps ATTENTION Attractive scientish to some s; approval. Free gift stamps for all customers; Innisfree, Hammer-23d. stamp. - Andrewes, Innisfree, Hammerfield, Hemel Hempstead, Herts.

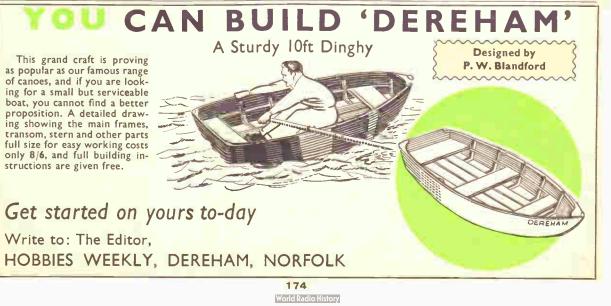
MATCHBOX-SIZE crystal sets; all parts, instructions, 3.3. Headphones 13/9.

R. Bailey, 44 Stanley St., C. Oldham. SPECIAL OFFER—12 British Empire Pictorials I/-; usual price 3:-. Request approvals — West-lake, West Park, Clawton, Holsworthy, Devon.

PAINTSPRAYING' HANDBOOK. Covers Car, Industrial & Flock Spraying. 3 6, post 4d. Catalogue of our Cellulose and Paints and all Allied Sundries 21d. - Leonard Brooks Ltd., 81 Oak Road, Harold Wood, Essex.

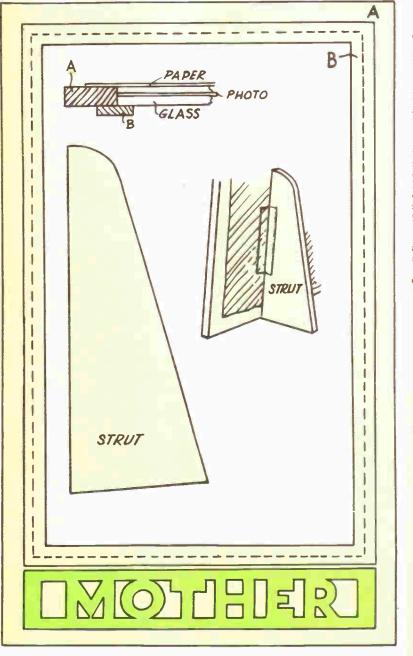
STOP SMOKING!! Quick guaranteed remedy. Free testing sample!! — Triumph Remedies (H), Exeter

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



### For young fretworkers

# **Special Photo Frames**



AKE up two pieces to form the frame. Piece (A) is the main piece  $\pm$ in. thick, and to the front of this is glued piece (B)  $\pm$ in. thick. Piece (A) is cut to the dotted line and piece (B) overlaps all round as shown in the section at the top of the page.

The glass, which is  $5\frac{1}{2}$  ins. by  $3\frac{1}{2}$  ins. goes behind piece (B), then comes the photo, a piece of thin wood as a backing, and finally a piece of brown paper pasted over to keep out the dust and hold everything in position.

The strut at the back is glued in position and strengthened by means of small pieces of tape, as shown in the detail. Alternative method of fixing is to hinge to the thin wood backing by means of two  $\frac{1}{2}$  in. hinges. Use small countersunk screws and file flat where they protrude.

The overlays MOTHER and FATHER are cut from  $\frac{1}{2}$  in. wood, and are glued to the front of each frame to make up the pair.

Finish the frames by giving several coats of wax polish. (M.p.)



175

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





