

HERE'S FUN

Fun for the boy a model steam engine.....an electric motor an induction coil or a tool set. Or how about a game that all the family can enjoy? A bagatelle pin-board with scorer attached.....a fine 4ft. Billiard Table. Here are gifts that will satisfy. And remember, you are sure of good value and a square deal when you buy from Hobbies.

INDUCTION COILS

Fun for all the family with this medical induction coil. More than a toy. Works from a flashlamp battery. Moulded bakelite case, pull-out regulating solenoid, silver contact points. Price 3/6, post 4d. Superior model with resistance coil and three-way switch, 5/-, post 4d.



Bagatelle Pin-Board

With Scorer Attached

A standard size bagatelle pin-board, beautifully made, and finished in green. The scorer is fitted at the bottom of board and enables the player to mark up his score after each ball is played. There is a spring-trigger action and ten steel balls. Please do not confuse this board with the cheap inferior kind. Here is a board you will be proud to play on, and at 7/6 it is good sound value.

100 Hobbies Ltd.,

Dereham.

Norfolk and

ELECTRIC

MOTOR

Here is an electric motor

that is, we believe, head and shoulders above the ordinary kind. Develops one-third more power.....

hardened steel bearingsmoulded bakelite case

.....twin drive-belt or

Post 4d.

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battery. Amaz-

Works from a flashlamp

Branches Big Value in BILLIARD TABLES!

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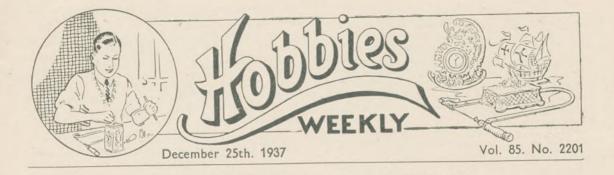
7/6

We are proud to offer this fine 4ft. by 2ft. Billiard Table for only a guinea.

The bed is covered with good quality cloth, and is specially strengthened with a framework of battens to obviate warping. The cushions are "live," and the leather-tipped cues a delight to handle.



Complete with three balls, two cues and chalk. Carriage 2/-. Marker 2/- extra.



LADY'S HANDMIRROR

THE opportunity is provided this week for making two handy little pieces of fretwork which would form admirable and acceptable gifts for any lady. A picture is given of the handmirror both from the back and the front, and it can be seen what a practical, as well as artistic article it is. Worthy indeed of a position on anyone's dressing table.

And with it should be placed a small box just the size for holding trinkets and the odds and ends which usually lie about and get lost. Patterns for all these parts are provided full size, and with the parcel of wood supplied we can start right away cutting them out.

Even the beginner can commence on the little box and be almost sure of making quite a decent job of it first thing. The procedure is the same as in ordinary fretwork, and as there is no troublesome jointing to be undertaken, the matter is quite straightforward.

The Mirror

Let us look first at the handmirror and see what is to be done there. The whole thing is cut from a solid piece of 4 in. wood which forms the base for the various overlays. From the centre of this wood is cut an oval the exact size of the mirror which has to be fitted.

This mirror, by the way, is obtainable from Hobbies like the rest of the material, and the worker will be well advised to lay it in place on the pattern and pencil round its outline to ensure the aperture being the correct size.

This is the only opening to be cut in the main piece of wood, and when it has been done, the part can be thoroughly cleaned up.

In order to make the handle more comfortable in use, a good plan is to rub all the edges with glasspaper where the hand grips that portion.

MATERIAL REQUIRED

Wood.-For making this Hand Mirror and Box we supply a parcel of whitewood and padouk, with four No. 19 Toes for 2/3 post free 2/9. Fittings.—Oval bevelled mirror (No. 5730) 1/9, linen cloth for backing—4d. Postage on fittings 6d.

A complete parcel wood and fittings, 4/9 post paid.

Do this nicely, but get a shapely curve and so cut away the sharp corners of the wood.

The mirror is held in place trom the front by a single rim in $\frac{1}{8}$ in. wood. This contains a few odd frets, and these should be completed before the interior ellipse is cut out.

The edge of this ellipse, in turn, is chamfered to the section shown on the drawing. If the wood is left with this edge straight, it looks rather unsightly and unduly thick.

On the other hand, if a file is used at an angle



of 45 degrees across the edge, this leaves a sloping rim much more in keeping with the daintiness of the article itself.

Lay the piece of wood on a fretwork cutting table, and use the file across the grain downwards through the V-opening of the table itself. Remember to keep the same distance and the same angle in undertaking this filing. It should be done with a 6in. or 8in. fairly smooth file not too wide.

Having completed the piece, clean it up with glasspaper and glue it in position so there is an equal overlap all the way round the opening in

the main and larger portion. Below this overlay, and on the same side, is a small handle piece.

Two of these small overlays are shown, and they can be cut from what would otherwise be the waste wood of the front overlay itself. Take one of them, and when complete and cleaned, glue it down beneath the main overlay of the mirror. This piece, too, can also have its upper edge slightly rounded to make a more comfortable grip for the hand.

Now turn the whole work over and lay the mirror in place behind the overlay on the front. It will be noted there is a good deal of space behind the mirror, and to bring the surface flush with the main portion, a backing piece is required to insert behind the glass.



The box from patterns on the Sheet

This is exactly the same size and shape as the glass itself, and if cut from $\frac{1}{k}$ in. wood will bed in nicely.

Over the whole of the back comes the overlay, and this helps to hide the join of the backing piece. As it does not do so entirely, however, a good plan is to put a piece of material behind the fretted overlay to do so effectively.

Suitable Backing

A suggested material is the blue linen cloth supplied in the parcel by Hobbies, and this is cut a little smaller than the shape and outline of the overlay itself.

Cut the overlay carefully, of course, then clean up thoroughly with glasspaper on both sides. Glue the linen cloth, or whatever backing material is used behind the overlay, then glue the whole thing down to the back.

As on the other side, there is a small fretted overlay for the handle. This can be cut and glued just below the main overlay, and also as before the edges can be shaped slightly to take off their sharpness.

An Initial Overlay

Notice that a space is provided where an initial letter can be fixed. You can often get a cheap metal monogram from the stores, or you can even draw out your own and cut it in ivorine or xylonite or some similar composition. Glue it into the little place shown, and it will make an individual piece of work.

The article should not be stained or polished because it is cut out in whitewood, but a coat of clear varnish can, if desired, be put on with a brush over the whole surface.

Get a very hard varnish as clear as possible because it would be a pity to apply anything which covers up the beauty of the grain in Hobbies whitewood.

The Box

The cutting out of the box is, of course, a separate piece of work, and here again we have all the necessary patterns provided full size to paste down on to the wood. The box consists of a top, a lid, a base and four sides, with a lining and handle to the lid itself.

In order to make it a complete receptacle, the fretted sides of the box should be lined with linen cloth or some suitable veneer paper. The linen cloth is supplied in the parcel of material, but the leatherette paper is obtainable in sheets from Hobbies as shown in the Handbook.

The construction of the box is quite straightforward. The main point to watch is to see that all the edges are straight so that the parts bed to each other snugly.

The upright sides are cut and cleaned, and a perfectly straight edge should be made along the outside of each. The two ends then butt between the longer sides, and the whole lot are glued as a framework between the floor and the lid.

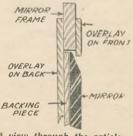
Flat Edges

It will be seen how essential in a case like this, it is to have the fretsaw cutting upright. Otherwise, although the edge may be straight, it will actually be on the slope from one side to the other, and the frame will not stand on the other portions perfectly flat. Of course, so far as the base is concerned, you can run one or two nails along each side upwards from beneath, but this should not be necessary in the case of the lid.

The patterns on the sheet, by the way, are not all shown separate. The lid and the base are shown together, the former contains all the tretted portions,

and this pattern can be pasted down to the The base is a wood. plain outline only, and is easily traced from the pattern of the lid itself.

Notice the mortise joint at A which should fit close on to the handle. A small piece is shown in the righthand corner as the A view through the article, lining to the lid, and



showing parts

this is a plain rectangle 44 ins. long and 3 ins. wide, It is glued centrally under the lid itself, and not only backs the fretted decoration, but serves to hold the lid in place in the top of the box. Make sure it will fit comfortably into the box opening and so prevent the lid wobbling about.

The whole box when complete is raised on four little round toes. They are glued a little way inwards from each corner, and the flat surface should be first roughed up with a knife of chisel. This will be necessary to give the glue a good grip.

"GREYHOUND" CALENDAR OR MATCH STAND

THE illustration on this page, and the patterns given in the centre pages, provide the opportunity for making a distinctive little calendar or match holder. As can be seen, it consists of two main pieces of fretwood, an upright fitted to a base to which are added the calendar or the matchbox holder as required. The main back has a circular opening, and immediately in front of it is fixed a cut-out silhouette of a greyhound.

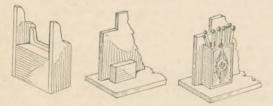
Any ordinary fretwood can be used, and the thicknesses required are given on each part.

Paste the patterns down of the back and the greyhound, then draw out the base in pencil on a good piece of §in. wood. The various dimensions are clearly given, and they must be marked out on a piece of wood 8ins. long and 2§ins. wide. The slot for the tenon in the back is 3/16in. thick and 2ins. long.

Backing the Circle

Round the corners of the base off, and if you wish, slightly round the upper edges also. Cut the outline of the back, then take out the inner circle and the small fret in front of the dog's forelegs. The circle which is cut out is intended to be backed up with some fancy material, and Hobbies linen cloth, red, green or blue, can be used. Or, of course, you can add some of the Japanese veneer paper or leatherette paper obtainable from the same source.

Cut the circle of material with a 4³₄ins. diameter that is, you can easily describe a circle with a pair



The back of the Calendar holder

How the matchbox stand is formed and used

of compasses having a radius of $3\frac{3}{8}$ ins. Glue this behind the circle, then glue the whole thing into the base by means of the tenon at C.

Now we must decide whether we are going to have the calendar or the matchbox holder because the parts for this are the next pieces to be cut out. A suitable calendar is the little Hobbies tablet printed in blue on xylonite. It is No. 6169 which costs $10\frac{1}{2}$ d. post free, and will last every year which comes along, because the date and the day can be altered merely by taking out the appropriate part.



The holder for the cards is shown in a detail herewith. This is a back view, but indicates clearly the block which holds the number cards up and the front which prevents them falling forward. Patterns for these pieces are shown full size with the rest. Cut out a solid block of $\frac{3}{8}$ in. wood, then on each side of it and close to the back, glue the two pieces forming the sides—marked B. Then glue in the piece A close to the front of the block so it sets back slightly from the edge of the sides. The whole thing is glued to the base, and to the back, and is about $\frac{1}{8}$ in. inwards from the end of the latter.

With this stand piece in place, you can add the outline part of the dog. Glue its bottom and end edge and add another tip of glue behind the nose and the body where it overlaps on to the main back.

Painting the Dog

If you are proposing to paint the dog, this should be done—with a matt finish paint—before the part is glued in position. The ground on which the dog stands should also be painted up, and the picture of the finished article gives some idea of how it can be done.

The collar, cye and thin lines of the body can be recessed in with a knife or chisel being merely marks cut into the wood and not right through.

As a Matchstand

If you are intending to make the stand as a matchbox holder, you will not have to cut out the three parts for the calendar. You will only want a block of wood $1\frac{3}{8}$ ins. long, $\frac{5}{8}$ ins. thick and $\frac{3}{4}$ in. wide.

This piece is glued to the base about $\frac{1}{2}$ in. inwards from the end, and leaving just room enough between it and the back for the case of the matchbox to slide down.

A block of the dimensions mentioned may be a little too large for every type of matchbox, and it should be tested up with the one you are going to use before you finally glue it in place. The matchbox shown is stood over this block, then the matches turned into it with their heads downwards. ULINAS AND ATDS

Send your own simple Tips to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

For Drawing Curves

CURVES of large radii may be laid out on various woodworking and furniture by using a full size rip or crosscut saw in the manner illustrated. The saw



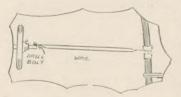
is bent to desired shape and held taut with strong cord. The back of the saw is then pressed against the work and outline marked with pencil to the required curve.— (W. T. Mainwaring).

Simple Brush

A SIMPLE paste brush can be made from an air gun dart, and a wooden skewer or a length of dowelling. Drill a hole in the thick end of the wood, then fix in dart. Cut the wood about 6ins. long to make a suitable handle. --(D. Wells).

Model Rope Making

FOR those who do not know how to make rope-ladders for galleons, this is a tip worth considering. Obtain some fine copper wire and cut into two equal lengths. Fix one end of each piece to a chair handle and other ends to the back after padding



to prevent scratching. The bolt holds drill in a fretwork machine as shown. You then treadle as usual and this will give the wire a twist and a rope-like appearance. —(S. Napier).



Tip for Staining

IF its new wood you are staining, here is a tip. First give the wood a coat of varnish which must be very thin. Leave to dry and then stain it. Finally give it a coat of varnish again and you will find it gives a lovely shine.—(A. Steel).

Dark Room Lamp

THE following is a useful and moncy-saving hint on photography. If you have a cycle lamp or hand lamp, it can easily be converted into a dark room lamp that will be every bit as good as a bought one. First measure the diameter of the glass that is in your lamp and get a glazier to cut a red piece the same size. Fit in the red glass in place of the ordinary one, fix in the bulb and reflector and you have an efficient dark room lamp, for about 3d. cost. You can have an orange glass cut also for your printing papers.—(H. Wylie).

A Wall Plug

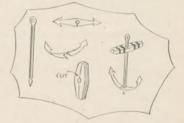
A T my work I ran short of wall plugs and glancing round discovered some strippings off some 1/.044 lead cable. Cutting a piece to the length of a 1½ in.—10 plug I pushed it in the hole I had made, and screwed the switch block up. It held as good as the real plug, so I am sending this tip to you as some of your readers might get in the same plight sometime.—(K. White).

Screen Holder

HERE is a tip to make a screen for a Home Cinema. Take a large sheet of cardboard any size to suit and give the middle a coat of Hobbics silver paint. The border of about 3ins. round has a coat of blackboard black. Then take two pieces of any wide wood 3ft. long, 14ins. wide and $\frac{1}{2}$ in. thick. Make a slot in the midde and put the board into it. Then you can stand it anywhere you wish as the two crossboards form slotted feet like a fireplace screen.— (J. Egar). For original Tips published the sender will receive a Hobbies Self-Filling Fountain Pen. We cannot acknowledge or print all tips sent in.

Model Anchors

WHEN making my model galleon I found this tip very helpful in making a very realistic model anchor. Get a 2in. wire nail, flatten out the head with a



hammer and bore a hole with a Hobbies drill. Make a groove around the other end with a file. Next get a bit of tin or better still thin hoop iron and cut it out roughly and file to shape shown in sketch. Bore a hole in the middle and make a cut as also shown. Bend up and down as in sketch and force the nail into the hole, then bend the piece of iron back again. Next cut a bit of wood (hardwood such as beech is best) as shown and bore a hole. Cut down centre and glue to nail then bind with thin wire. If nccessary cut four grooves to take the wires. Paint a dull black but leave the wood its natural colour .--- (G. Grimes).

Glue Spreader

O^{NE} of the usual "fluffy" type of pipe cleaner twisted into a flat coil makes a fine glue



spreader. These are very handy in applying glue, as the cleaners are inexpensive, the spreader can be thrown away and a new one used for the next job.—(M. Tan).



THE artistic little jar, or perhaps we should say more appropriately, box, is fashioned after the Chinese style, and should be made up from some hardwood. Padouk is chosen for the sides of the box with oak for the remainder. It is, as most workers know, of a rich dark red in colour, and as time passes becomes even darker and puts on a tone much resembling rosewood.

The article overall is 44 ins. square and stands 7 ins. high. On one or more sides there is an overlay, cut in either whitewood or satinwood, with the word "Tobacco" painted on.

The first thing is to cut four pieces of corner moulding (Hobbies No. 47), with grooves made $\frac{3}{8}$ in. wide, $4\frac{1}{4}$ ins. long. The sides to go in them are each $4\frac{1}{4}$ ins. by $2\frac{3}{4}$ ins. by $\frac{3}{8}$ in. When glued up, test the sides for squareness with a set square or tee square, and leave the glue to harden. Fig. I shows a section of the box with the sides glued into the corner moulding.

The base is formed of two pieces A and B in Fig. 2, A is 4ins, square and $\frac{3}{2}$ in, thick and has all its top corners rounded off with rasp, file and glasspaper. Piece B is $3\frac{1}{4}$ ins, square and is also $\frac{3}{2}$ in, thick with all its edges cut square. The two pieces are glued together with equal margin all round.

The lid frame (C) is 4 ins. square and $\frac{1}{4}$ in thick, and the dimensions given in Fig. 3 help in drawing out the shape. The piece cut from the middle— $2\frac{3}{4}$ ins. square is later glued to the underside of the lid sections as D in Fig. 2. The lid frame is fitted and glued to the top of the box portion, and the rounded corners glasspapered.

The lid is made up similarly to the base, with E cut to the same size as piece B, and piece F cut to the same size as piece Λ .

Wood $\frac{3}{8}$ in. thick is used for both pieces, and the piece I' is rounded neatly same as the base. Glued to the top piece I' is a small square of $\frac{1}{4}$ in.



wood cut 1¹/₄ sided with a hole fretted in the middle of it to take one of Hobbics No. 15 Balls.

As a cool hard surface is desirable for maintaining tobacco in a good state, it is suggested that the inside surfaces of the box be coated with at least two coats of white enamel. This work could be done after the top frame is on, but before the base is attached. Allow one coat of enamel to thoroughly harden before putting on the next. All the oak parts of the article should be lightly stained to contrast nicely with the padonk.

The overlay for the side is shown at Fig. 4. This design can either be traced and re-drawn on to 1/16 in. satinwood, or the pattern can be stuck down direct and cut out with a fine fretsaw. Glue, with a number of fretpins should hold it well in place. The word "Tobacco" should be painted on in indian ink or in enamel.

Four squares of 4in. wood glued and pinned to the base make suitable feet, if they project slightly on two sides as shown.





Fig. 1-Construction of the box

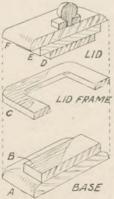


Fig. 2-Cut-away view of cross parts

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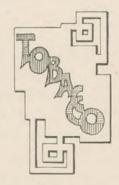


Fig 3—The lid frame Fig. 4—Overlay on the sides

"LITTLE BO-PEEP" JIGSAW PUZZLE

GITTLE Bo-Peep has lost her sheep, and can't tell where to find them " runs the

nursery rhyme. But, in this new jigsaw puzzle, children have—after arranging the little bits and pieces together-an opportunity of finding ten of them, the heads of the sheep being hidden in the completed picture.

Such a novelty is, therefore, bound to be popular two-fold, and being complete with a small, fancy-covered cardboard box (which can be made easily and professionally) and loose lid, it should sell readily or make an ideal Christmas gift.

A neatly printed label on the lid of the box (such as in the illustration) would set the whole off attractively.

The Picture Panel

On page 333 is printed the full-size picture panel which can be pasted to kin. or 3/16in. thick plywood. It would be advisable to spread or brush the paste to the plywood prior to laying the picture on top.

In laying the picture, too, a pencil or suitable length of 3 in. dowelling should be rolled over the paper surface to "squeegee" wrinkles and excess paste from under same-indeed, the picture pattern should be rolled around the dowel or pencil beforehand and the action of laying and removing creases, etc., done at once.

In view of the fact that the jigsaw pieces will be handled a great deal, the picture should be adhered with gum or tube glue. On no account wipe excess glue from the picture (if you accidentally mark it thus) with

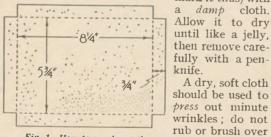
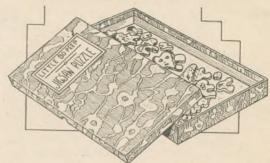


Fig. 1-How to mark out the cardboard box bottom

Being damp, it will stretch and throw the rectangle out of alignment.

When the work has thoroughly dried, with a soft H.B. lead pencil, lightly mark the usual



"locking " jigsaw shapes over the picture. Try to avoid having to cut through any of the sheep's heads. Of course, instead of the "locking jigsaw shapes, you could "cut up" the picture into all shapes and sizes, some taking the form of squares, triangles, etc.

It makes the puzzle more of a puzzle if you can cut it into the smallest possible sizes-but not too tiny, otherwise the picture would consist mostly of saw cuts.

Incidentally, a fine fretsaw blade should be used in cutting. Before cutting, too, the picture could be coloured with crayons or pastels.

The Cardboard Box

To make the box obtain a sheet of thin cardboard 16ins. by 10ins., or two pieces 10ins. by 8ins., same giving the bottom and lid. A fairly decent blouse or ladies' dress box would give sufficient material.

Mark out the bottom as shown by the diagram at Fig. 1. Before removing the corners, crease lines down the sides and ends (with the point of scissors) as shown by the dotted lines. The margins are then folded to make a tray the corners being held with strips of gummed paper.

The Lid

damp cloth.

A dry, soft cloth

the paper with it.

In marking out the lid, make it slightly larger, the sides and ends being $\frac{1}{2}$ in. wide. Sheets of fancy-coloured doll's house paper are pasted around the box and lid, with sufficient margin for adhering over and along the inside as can be seen from the sketch of the finished work. The sides of the lid should have finger cut-outs for easy removal.

MATERIALS REQUIRED

1 piece birch plywood. 9ins. by 6ins. by §in. thick. 2 pieces cardboard. 10ins. by 8ins. 1 sheet fancy paper (No. 160). 22ins. by 20ins.

Those wishing to join The Hobbies League should write for an interesting booklet



A^T this time of the year it is perhaps appropriate that we have a look round at the work we have undertaken for Christmas and also take stock of what we propose to put in hand during the new year. The opportunity of using the Hobbies Handbook as reference is obvious to most of our readers, who have utilised, its pages, possibly more than any other ordinary book for this purpose.

That is probably why more and more are being sold, and why there are a greater number in circulation this season than ever before.

The opportunity arises each week with the gift design presented with the Weekly, to accumulate an amazing variety of designs and subjects for things to make. Obviously it is impossible, or very nearly impossible, to make up each one as it comes along in order to complete it before the ensuing one is published.

Variety

There are, too, few who can really undertake the variety of work which is shown, but these designs as published are planned editorially to help the numerous requirements of a wide variety of workers.

For instance, there are those who like to undertake comparatively large pieces of furniture such as tables, cabinets, and so on, whilst at the other end of the scale there are those who want very simple articles cut from a piece or two of wood.

Between these two extremes we must appeal to the worker who wants to do inlay, to those who prefer to undertake plain models, and again, to those who like novelty cabinets or boxes, or articles of that type. Not to mention, of course, the ordinary individual who wants the typical fretwork.

Make a Catalogue

There is, therefore, a wide range of designs published during the year, out of which the reader can only require a proportion. He cannot hope to execute these as they come along, and one of his needs is, therefore, a small catalogue book of his own, to which he can refer when he is seeking a new job to undertake.

The index of each volume is a great aid in this direction, but apart from that, each reader can keep his own little index of designs and fretwork articles. Here is a suggestion in this respect which will possibly appeal to a large number. An ordinary 1d. notebook can be easily ob-

An ordinary 1d. notebook can be easily obtained, and the pages numbered then indexed A to Z throughout. It should be ruled off with proper columns as illustrated here, and when these are filled up week by week, he will have a ready reference book which saves a lot of time.

The first column shows the subject—cabinet, photo frame, model, or whatever it is—and the second and third give the issue in which it appeared. The column after that is headed "Made in" and this is to show the particular wood used. This may not appear important at first sight, but it must be remembered that a great many people prefer to have their work match up to the furniture or style they have in their own homes.

Name the Wood

Thus, if the furniture is walnut, it would not do to have a cabinet on the sideboard in mahogany. Thus, by putting "Oak," "Mahogany," "Whitewood," in this column, one can see at a glance if it is suitable to the requirements.

Finally in the last column we have the actual cost of materials. This is for one's own reference and serves as a useful book when you want to

SUBJECT	No.	APPEARED	MADE	COST

A useful book for articles to make

obtain orders from customers. It gives a ready reference to what you can make, and also the cost of the material required, so that the price you quote your would-be customer will show sufficient profit to cover your own labour and incidental charges.

An Illustrated Book

Another method is to have a similar book and in it illustrate the articles as well as index them. This will demand a large thicker book because, of course, the pictures will take up more room.

The pictures can be taken from the design sheet so as not to mutilate the copy of Hobbies Weekly, and beneath each can also be pasted the price of materials which are usually printed thereon. A separate folder or little pocket can be made to hold the design sheets themselves, and they should be kept neatly and in numerical order. These sheets, however, will soon fill such a folder as this, and possibly a better plan is to have a sort of loose leaf holder which will accommodate as many designs as one is likely to accumulate.

A Design Container

For this purpose you can make up a container of two boards such as shown here and tie them together with a piece of fancy cord or even ribbon. The boards should be a little larger than the design itself to allow for the holes each side, and should be about $\frac{1}{4}$ in. or $\frac{3}{8}$ in. thick to prevent them warping when pulled together.

Two pieces $8\frac{1}{2}$ ins. long and $6\frac{1}{4}$ ins. wide are quite useful, and neat holes should be bored $3\frac{1}{2}$ ins. apart on each side. The cord can be one long piece taken through the holes on one side then



How to make a design sheet holder

carried up the other, to be tied in a bow when the designs have been put in place.

In this way, one side only has to be undone, the other acting as a hinge. Even with the designs kept like this, some sort of index as suggested should also be maintained for easy reference. This index, by the way, should not be just the name of the design as printed, but should be cross indexed to make it easier for reference.

A Cross Index

For instance, a model aeroplane should be shown both under the classification of "Models" and also put under the letter A as "Aeroplane Model." Let us turn now to another suggestion which may not have occurred to all workers. That is the matter of using a portion of one design in conjunction with a totally different one.

It may be, as an example, that you like the style of, say, a cigarette box, but it has inlaid panels upon it which you do not feel disposed to undertake.

Using other Parts

The first inclination, possibly, is to feel that the work cannot, therefore, be done. But why not glance through some of the other designs and see whether an overlay from one of them cannot be utilised in place of the inlaid panel actually shown?

Your own book of reference, or better still, the fretwork section of the Handbook will show a wide range of these alternatives, and you will very often find it possible to make up just the sort of thing you require. Then, too, if you are making a piece of work for a particular friend, why not introduce individuality into it by incorporating his or her initial somewhere on the article ?

A Transfer Initial

This can also be done often very simply by adding a little piece of wood the shape of a shield or a heart, or a plain square panel on which the actual initial can be shown as a transfer.

Get your transfer first, in order to know the size, then cut out a little piece of wood as a backing for it to add it to the completed article. Have you ever thought, too, of the possibility of cutting some of the smaller overlays for work in metal ? They add a very distinctive touch to any fretwork, and are cut out in the same way as an ordinary piece of wood.

Except, of course, that metal-cutting fretsaws are used, and a piece of sheet metal forms the basis of the work. A variety of metal can be used, such as zinc, brass, copper, aluminium, and even silver. Of course, we are not suggesting that elaborate overlays should be done in this way, but merely the small ones which do not entail a lot of work.

Cutting the Metal

The metal is fitted between two pieces of wood and the design pasted on the uppermost one. Nails are driven through to hold the parts together, and when the design has been cut out and the metal finally rubbed up, it is fixed to its place by two or three round-headed screws.

Do you keep a birthday book? This may not seem, at first sight, to have anything to do with fretwork, but you will see it undoubtedly has a connection. A small diary can have entered into it the dates upon which the birthdays of your friends and relations occur.

Reference to these from time to time will thus give you timely reminder of work to be undertaken



if you are going to offer them a gift. On the other hand, if you are not going to make them a gift yourself, or even in addition to it, the date will remind you of the fact and you can seek orders from other friends of the same person in order to make gifts for them to hand over.

Birthday Book List

Thus, if your birthday list contains the name of a fellow who has half a dozen other chums whom you also know, you could easily approach them or at least some of them, and put up the proposition that you make a small suitable gift which they might like to buy off you instead of purchasing from a shop.

If, by the way, you enter this birthday book in a diary for, say, 1938, do not forget that the actual days will be different in subsequent years. The actual date is the one which you must go by.

If, too, you are following this to a logical conclusion, you should also have another little book in which you have written presents suitable for different people and different types.

That is, for men you can always put cigarette boxes or cabinets and pipe racks, and for ladies such things as trinket boxes, hand mirrors, handkerchief boxes and so on.

Advertise Yourself

Thus, by showing the appropriate list to your friend at the same time as you appeal for an order, you can often clinch the matter satisfactorily. Indeed, it is necessary to mention what you can do when you are putting forward such a suggestion -otherwise the prospective customer may not realise what you can really undertake.

Do not forget, either, to tell him the cost at which you will be prepared to supply, and to give him a chance to let you make something about the price he is prepared to give. Do not, for instance, tell him you can make a suitable present for 10s. od. if you know he can only afford about half a crown.

ERECTING CLOTHES POSTS

LOTHES Posts are of two kinds, one method being to fix them to walls permanently, with iron holdfasts to clasp them, and the other to fix them in the garden, either in the ground permanently or in boxes in the ground. The latter is the far better method because they can easily be taken down when not in use.

They are usually made of Red Deal about 4ins. square and about 8ft. long, with two round pieces at the top to fasten the cord to, made of oak or some hardwood.

The Boxes

The boxes should be made of 14in. material (red deal) and just sufficient clearance for the post to slide in and the pieces nailed together, the nails being driven in on the slant.

In some cases thin iron straps about 12 ins. wide are put around these boxes to bind them together. Before fixing in the ground it is as well to treat

the box with some kind of preservative, and in fixing in the ground the box should be pounded plumb. This is best done by having the post in the box when fixing, and a good eye can readily see if it is plumb or not.

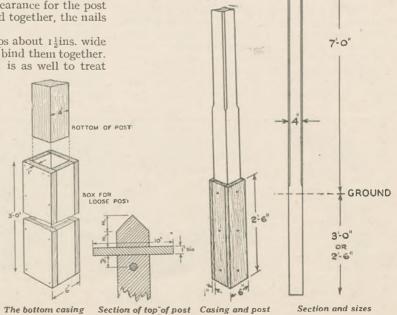
A Cover Cap

The top of the box should be provided with a wooden cap to put on when the clothes post is not in use, so stones and dirt cannot get into the box.

When finished, paint nicely with green paint. A point not to be forgotten is to take The bottom casing off the arris on each corner of the posts and so avoid sharp edges.

The clothes posts in some areas of the South West of England are a fair height, and at the tops (they must have two

posts) they are provided with two pulleys just like sash window pulleys. When the clothes are put on the line they are then pulled up well out of the way of anyone and get a thorough drying.





To make your own diary may at first appear to be a difficult task, but set out below is a simple method for doing this, requiring no special tools or apparatus.

The size of the paper used determines the size of the diary. Here ordinary exercise paper is used and is folded twice along its long side giving a finished size of $4\frac{1}{2}$ ins. by 3ins. This is a convenient size that slips into the vest pocket with ease.

As indicated in Fig. 1, divisions covering a whole week are marked on each page, therefore twentysix pages are required to cover the whole year. If seven pages of exercise paper are used a sufficient number of leaves are left at each end for memoranda, etc.

The Folded Sheets

Fold the sheets as stated and crease the edge well so they remain flat, but do not trouble to cut along the folded edge.

Each folded sheet forms a section and these are sewn together as in Fig. 1. Insert the needle at one end and take the thread along the inside bringing it out at "A," then continue to the second section.

When "B" is reached, tie the loose end and proceed to the third section and so on making a "kettle stitch" (as shown in Fig. 2) at the end of each section. This links the section to the previous one. Finally make two kettle stitches and cut the thread off close to the book.

The Cover

Now knock the back square and rub some thin glue over it, getting the glue between the sections rather than on them. When dry, trim the edges square and prepare for making the cover.

For this cut two pieces of stout cardboard $\frac{1}{2}$ in. longer and wider than the book and prepare a piece of bookbinder's cloth or art leather cloth $4\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. wide. The pencil slot is made from this by wrapping it round a diary pencil and sewing through as in Fig. 3. Use strong thread and make small stitches. Now glue the cardboard to the underside of this,



The Completed Book

leaving $\frac{1}{8}$ in. between the pencil slot and the cardboard.

The paper covering the cardboard may either be decorated or plain just as you wish, cut it to overlap the three edges by $\frac{1}{2}$ in. and the bookbinder's cloth by $\frac{1}{8}$ in., mitre the corners and paste it down as shown in Fig. 4 where one half is complete and the other ready for "turning in." Hobbies leatherette paper is excellent for this, and quite cheap.

Fixing the Cover

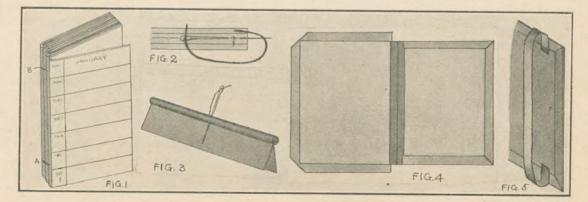
The cover is now complete but separate from the diary itself. Before fixing this, mount an elastic band on the inside of the back cover as shown in Fig. 5 by gluing it.

The first and last pages are in turn pasted and the cover closed onto them. Then leave for a few hours under pressure to dry. When ready, carefully open from the middle to avoid cracking the back.

The Lettering

It is immaterial whether you divide each page up into daily sections now or before covering, and letter the word "Diary" on the cover.

This simple and soundly constructed diary is now complete. Additional pages or a pocket at the end may be added by the ambitious maker, but all who make it will have a useful article of their own handiwork.





There is something special about every Hobbies set of tools to make them superior to any others. They are thoroughly reliable and sold under a guarantee so you get them replaced should there be any trouble. Every tool is British and each outfit has a leaflet or booklet of instructions for the beginner. There are sets from 1/6 to 45/- to suit all pockets.



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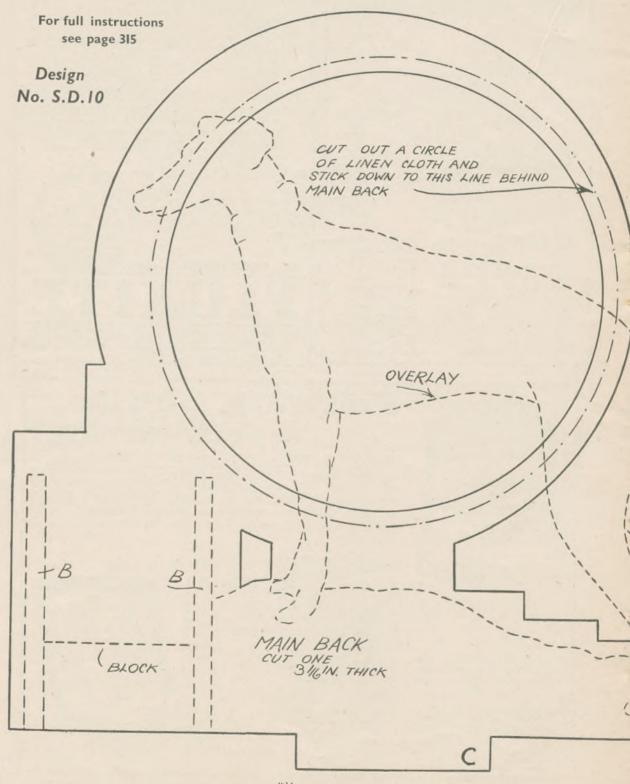
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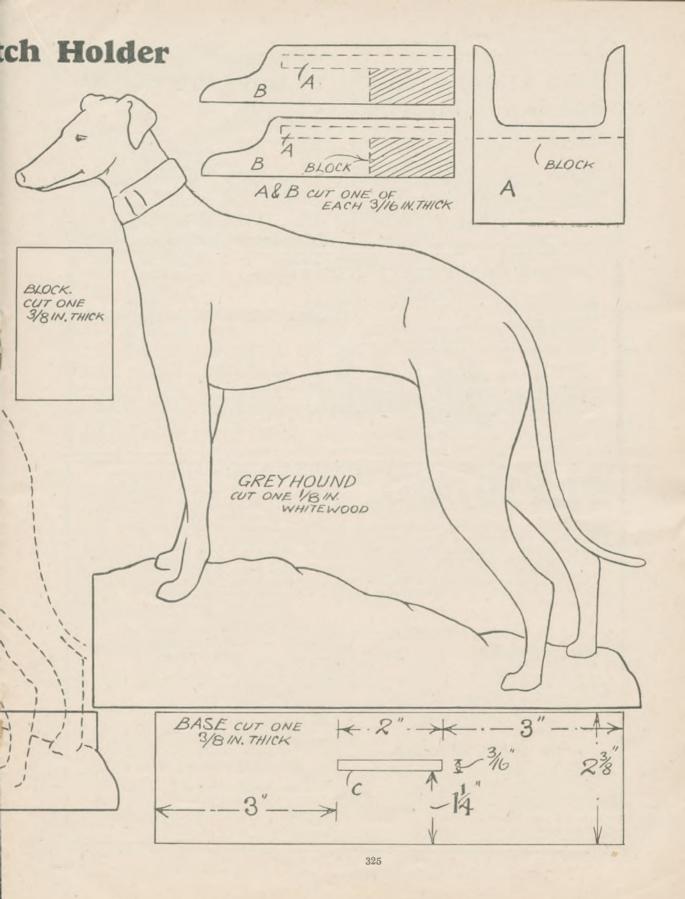
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The "Greyhound" Calendar or Man







HOME-MADE MICROPHONE

🚾 ELECTRICIA N 🕅

THE "mike" to employ its more familiar term, has become more or less a household word, so extensively is it used in broadcasting and public speaking, but probably very few concern themselves with details of its actual working principles and construction.

he AMATE

Most of us use the telephone for instance, but few realise that in reality it is a combination of two distinct pieces of apparatus, the Transmitter (or mike) and the Receiver which works on quite a different principle. It is the transmitter or microphone part of this instrument with which we are concerned for the moment.

How the "Mike" Acts

Briefly stated, the microphone is a device for the electrical transmission of sound, which it ceivable material to improve the performance of the microphone. The success of it depends upon the ability of some part of an electric circuit to alter in resistance when it comes under the influence of sound waves.

The principle is illustrated by the simple diagram in Fig. 1. A thin wooden sounding board, A, is fixed at the bottom to a base, but is otherwise free to vibrate in response to any sound waves that may fall upon it. Mounted on this board is a small carbon pencil pointed at each end, B, and resting lightly on two carbon cups CC. The cups form the terminal points in a battery circuit, the battery being shown at D and a telephone receiver at E.

When the sound board A is entirely at rest no sound is heard in the telephone E, but if sound

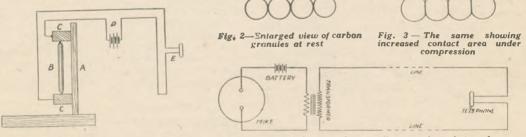


Fig. 1-The first practical microphone

Fig. 4-Transmitting sounds to a distance, through transformer

accomplishes by causing extremely rapid variations of minute currents round an electric circuit, the amplitude and nature of which are due in the first case to sound vibrations.

These electrical impulses can be converted again into sound waves by causing the diaphragm of a telephone receiver or loudspeaker to vibrate in unison with them. The production of sound waves is familiar enough. They are pulsations in the air, consisting of alternations of compression and exhaustion which cause any solid body not rigidly fixed to vibrate in sympathy, as for instance when a deep organ pipe causes the windows of the building to rattle.

In the same way the human voice, musical notes, and noises of every description set the air in vibration, and the microphone is able to take up these air waves and convert them into electrical impulses of a suitable nature for transmission to considerable distances.

Sound Waves Converted to Electric Currents

Since its first discovery in 1866 experiments have been carried out with almost every con-

waves strike A the resulting vibration causes B to rattle in the carbon cups CC and in doing so creates variations in the contact resistance at its points.

This is accompanied by consequent variations in the strength of the current from the battery and sounds corresponding in pitch and amplitude then become audible in the distant telephone E.

Experimental Microphones

Instead of the carbon pencil and cups described, a single wire nail may be laid upon two others at right angles to it, and their contact resistance will vary in the same way under the effect of vibrations due to sound waves.

Other devices have been tried by various experimenters, such



as crystals, resistance liquids, metal filings, electrical brush discharges, the flame of an arc lamp, etc.

For general reproduction in practice, however, carbon in a finely divided form or in granules has been found most generally satisfactory, partly because of the absence of oxidizing and partly because of its sensitiveness to variations of resistance under pressure.

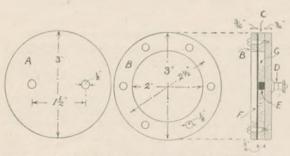
The resistance of a collection of carbon granules decreases considerably when pressure is applied, and an explanation may be looked for in the fact that each granule when resting lightly against its neighbours makes merely a "point" contact, Fig. 2. But when pressure is applied it is sufficiently elastic to flatten slightly at these points (Fig. 3), resulting in an increase of contact area which greatly reduces the electrical resistance of the collection of granules as a whole.

Variations

The current through the telephone circuit naturally alters in correspondence with these changes, and follows in its variations of strength the sound wave impulses which cause the changes in resistance values. In the simple carbon pencil microphone (Fig. 1), the points of contact are relatively few, but with the carbon granules the effect of pressure-resistance change is naturally very much increased.

A Simple Microphone

The simplest practical form of microphone for amateur construction is illustrated at the commencement of this article. The requirements are one wooden disc A, two wooden rings B and C, made of 3/16in. plywood, two terminals D, two carbon electrodes E, a rubber diaphragm F, and about $\frac{1}{4}$ oz. of carbon granules G, to partly fill



Working drawing and dimensions of simple Microphone

the space between the wood disc and rubber diaphragm.

The action of this elementary microphone is explained as follows. When a battery is connected in a telephone receiver circuit to the two terminals at D, which are bridged across by the carbon granules G lying inside the recess, a very small current passes of a steady value governed by the resistance of the circuit, that is by the telephone coil resistance and that of the microphone granules.

When a sound wave strikes F, setting it in vibration, the granules behind it are rapidly compressed and released and the resulting alteration in their contact area causes the total electrical resistance between the two terminals D to fluctuate correspondingly.

Inserting a Transformer

As a consequence the current through the telephone pulsates in an exactly similar manner and causes the telephone diaphragm to vibrate and reproduce the music or speech which occurred at the transmitting end or microphone. Should the line be of considerable length a small high-ratio transformer of about 100 to 1 is used, connected as shown in Fig. 4.

Working Instructions

This simple microphone is easily made from the sets of material supplied by a firm whose address is obtainable from the Editor. The wooden disc and two wood rings are first marked out with the compasses to the dimensions shown, and are either turned in the lathe or cut out with a fretsaw.

Two holes are drilled in the disc for the carbon electrodes and terminals, and six points set out round the circumference of the rings to take No. 4 round head woodscrews $\frac{1}{2}$ in long. Drill one hole through both wood rings B and C and screw them to the disc A, making sure that all edges are flush.

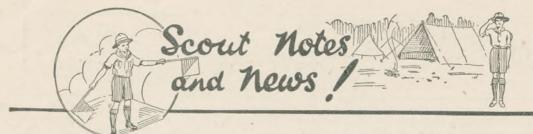
Fitting the Diaphram

While in this position the remaining holes are drilled through the two rings only, but not into the back disc. This ensures that all holes are in line, and after inserting all the remaining screws make a pencil mark or notch across all the edges so they can be assembled together again in the same order later.

Next stretch the rubber diaphragm tightly on a board with drawing pins, and using one of the wood rings as a template force the tips of all the screws just through the rubber. The second ring is then laid flat on the disc A and the centre portion three parts filled with the prepared carbon granules, after which the top ring with its rubber diaphragm can be screwed down in position, and the microphone is complete.

The instrument is used in a vertical position and care must be taken to avoid getting it damp.





WINTER is now upon us once again, when our minds turn to concerts, etc., for fund-raising purposes. Concerts and displays are really a very Scouty way of getting money, as they are (or should be) the outcome of the Group's own efforts.

Furthermore they should be to a certain extent the result of the outdoor summer life. That is to say, a Concert ought to be the collecting together, and rendering under ideal conditions of all the best camp-fire songs, monologues, and jokes from the camping season just left behind.

The first thing when running a show is to get a good talented stage manager and work absolutely to his word. Also try and obtain stage effects in the way of footlights and some sort of curtain. Lights are not hard to wire, and curtains which pull up sideways (not run on rings) are easy to fit.

A back cloth can be plain and tastefully draped; 'bazaar-stall' muslin round a photographer's background is quite good.

It is worth while going to a lot of trouble to get these effects, as they are to the items what a frame is to a picture.

Programme Suggestions

It is a very good thing to get a Troop Song of your very own, introducing local allusions re the headquarters, your parade night, the troop motto, etc. A production of this sort is not as difficult to write and always makes a successful item.

However, as a natural outcome of the Scout training, your concert should have a sketch or play. Acting is really good in many ways. It develops memory, helps clear pronunciation, and gives an outlet to any member who has a marked talent in this direction. Of plays there are no end, but great care should be taken to choose one that suits the resources of the troop.

Have a Sketch

A simple sketch well done is far better than an ambitious piece fumbled through. Some of the points to be considered when making a choice are, whether you wish to act in uniform or not, and if not, whether you can obtain the necessary costumes.

Or whether the scenery at your disposal lends itself in any way to the desired setting, and above all have you boys in the troop who will fit well in the required cast ?

Speak distinctly—wait for the people to stop laughing after a joke before you start again, or you will not be heard and will cut the amusement short.

Do not drop your voice at the end of each sentence. Do not indulge in comic side-play and so spoil the chance of another. Be ready in the wings for 'your cue. Do not hurry through anything deliberate speaking and acting is always necessary. If 'possible try and find someone with real artistic ability to help you with make-up and dresses.

HINTS ON CONCERTS

A rather important point to notice is that when you are giving a play, see that you are not infringing the author's copyright; many people are slack about this, but it is not very Scoutlike. If there is a small royalty to pay, see to it that the amount is properly remitted, the money is usually sent to the publisher of the play script.

Dancing

Folk dancing is another thing which some troops practise in camp, and are therefore able to produce well and without much trouble at a concert, if the stage is large.

Morris dancing is slightly harder and more exacting than Folk dancing, hence if any troop desires to take up this form of display-work, it is as well to start with folk dancing and then proceed to the Morris.

Conjuring always goes down well, as do such stunt items as "The Talking Head," which was given in Hobbies a little time ago.

An orchestra of some sort, if only the piano and two violins, helps amazingly to give the correct feeling to the audience. The orchestra is also very excellent for filling up gaps, but let them play lively stuff.

General Hints

See to it that your items are well rehearsed. Nothing is worse than half known words, and the trouble is that not only are you giving the audience a poor time but you are damaging the cause of Scout concerts in general. So many "Grand Concerts" are anything but grand, that the word becomes meaningless. The show should not be too long. It is very disconcerting to see, as the hour grows late the audience slipping out in one's and two's.

There should not be long, pauses between the items, and above all start on time. Do not charge too much for the seats. Better to have the room packed at sixpence than only a few at one shilling —crowds always make for enthusiasm, and in a show " atmosphere " is everything.



THE sentiments expressed in the middle of the page say exactly what I want. They are friendly and sincere, coming from one whom I want you all to regard as a pal. One who is always ready to help you when he can; who is here to be at your service on any hobby subject. I am not sure that the Christmas festivities will allow much time for real hobby

work, but I know you will look through these pages with as much interest as ever, and decide to get down to some of the good things as soon as you get a chance.

RECEIVED a very interesting picture a little while ago of a model motor car a reader had built in wood, with the aid of a Gem Fret-

machine. The model was 3ft. long, had lamps which lighted up, and even a tiny engine, with still tinier kit of tools. The whole thing made a wonderful exhibition piece, and reflected great credit on its maker—G. W. Parsons of Maidenhead.

WHAT an excellent lot of fellows some of our League Members are. Their enthusiasm is splendid—even apart from the actual work they put in. Here is a letter from a real friend—Edward T. Friend of Southampton —who sent notes of an excellent lecture he gave recently on Fretwork. Of course, I sent him a few books to help him to prepare it, and the result was very good. It is a little too long to give here, but the idea is worth remembering by other Hobbies

League Clubs. He divided the lecture into headings and packed it full of really helpful advice for his listeners. This League Member is evidently as keen to help his friends in the Club, as he is in his own work.

THERE was such a big bunch of entries in our Christmas Number Competitions, that it is impossible to give the winning names this week. You see, in order that the The Editor wishes every reader a jolly good Xmas

printers and I—not to mention George !—should have a little holiday at Christmas, the same as most others, these Notes have to be printed much earlier than usual. And because there is always a little delay in the post and on the railway just before Christmas, I have had to make another day's allowance. So you see these things have prevented me giving results this week. Although,

of course there will be time for the prizes to be sent off so they all arrive in time to add to the enjoyment of a Happy Christmas. Look out next week for names of winners!

HERE'S a very quaint and appropriate address which a sharp eyed reader noticed in Tunbridge Wells. A sign attached to a house read

"The Misses Wood and Pannell, Board Residence." Seems very apt doesn't it ? Can any other readers find actual instances of similar peculiar quotations, I wonder ?

HAVE mentioned in these Notes before how really interesting are our Stamp Articles, even if you are not a collector. There are, moreover, a large number who have read them and would like to take up the hobby seriously. So, for their benefit, I have arranged with our Stamp Expert to produce a page or two on this subject. He will tell you just as an ordinary individual and without the technical and high-flown language, which so often tells you little at all. So look out for this new series for the beginner.

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Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

HERE are three or four letters lying in my correspondence basket which I have had some time now, but have not yet answered. No, don't cry "Shame,' because it is not my own fault. You see, the writers forgot to put their addresses at the top, so I just cannot answer them. If this catches the eye of anyone awaiting a reply, then this may be the cause.

The Editor



THE control cabin is made from a single block of wood with a cardboard facing to represent the projecting upper storey. This has window apertures cut, and also one for the door. Scribed celluloid is stuck on the inside of these for the windows and a cardboard back for the door itself. The sills are of card strip glued on. The building fits into place between the front frames of the stage and a piece of projecting roof can be made at the front with card strip.

The stairway is a Hambling feature which can be bought for a shilling and is a perfect piece of modelling in plywood. Wire handrails can be



The wagon nearly at the top

soldered on with pins for the posts. It is well, before fitting the windows and door to give the edges around these a coat of concrete-coloured paint—dove grey is the best, and it must be flat drying. The locomotive track is then pinned down with gimps, exactly in place. Then the dummy chute can be fitted.

The sprocket chains are just a little bit out of scale, and if so desired, the fronts of the counterweight channels can be covered in with Dennison's strip to help to hide them, though in the model shown this was not thought essential.

It will, however, be found a help in one way the movement of the weights will not be affected by the presence of the coal in the receptacle below the base if these are added to the channel fronts. The windows at the top of the stage are also of celluloid and will shortly be supplied in the form of printed celluloid sheets for the purpose.

The various handrails are of thin wire soldered to pins for posts, with the pin-heads at the bottom, underneath the projecting ledges. The pins can be set in the cardboard with glue, the latter only being applied near the heads. The dainty ladders are also soldered to pins, a piece of cardboard being inserted between them and the stage while being soldered, so that they are symmetrically located.

In painting these ladders black, the same cardboard insert can be used to prevent spoiling the concrete colour of the stage. The handrails are also painted black throughout, and the stairway red, or black if desired.

The stage itself is painted for concrete two coats inside and out, and the wooden block under the top of the stage has black edges, so as not to show through the windows. The front edge of the lift runnels should be painted black, but in no event should paint be used on the working part of the runnels or wheels.



The wagon tipped over the bunker

The cradle, basework and all rodding should be black, and the top roof, with the lean-to roof, should be the same colour. The last work to be done before painting is to fix the lean-to roof and the front of the projecting portion of the stage under it. The coal receptacle below the stage may be wagon-grey.

Underneath the stage, where the locomotive funnels pass to and fro, the building should be carefully smoked with a lighted match.

The two photos accompanying this article show the wagon almost at the summit of the stage, with counterweights near the base in consequence, and (in the other picture) the wagon out of sight, tipped over the bunker.

SOME SIMPLE PARTY

generation and a second s

"O be a magician, you need not be very clever. for many tricks which seem astonishing can be performed very easily. Try the following tricks at a Christmas party, and see how they mystify your friends.

Red, White or Blue ?

111111144

Here is a capital little trick to start with. You will need a length of cord and three handkerchiefs of different colours. If you can get red, white and blue ones, so much the better. Tie a loop at each end of the cord, so that it makes a pair of handcuffs, and slip the loops over your hands. The loops should not be very tight, but you should not be able to slip out of them.

Now you get a member of the audience to hang the handkerchiefs on the cord, by tying them round it. Then invite your audience to choose one of the handkerchiefs, and tell them you can take it from the cord without untying it or slipping

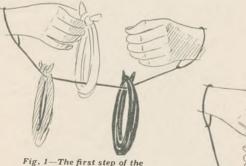


Fig. 1—The first step of the handkerchief trick

your hands from the loops. You turn your back, and-hey presto ! -a moment later the chosen handkerchief is free.

There is no real catch about this trick. To take the handkerchief from the cord, slide it along and over your wrist (Fig. 1) Then draw it through the loop of the handcuffs Fig. 2-The second (Fig. 2).

"Change Please"

Tell your audience that you went into a shop, and after you had paid for something you required a halfpenny change. The shopkeeper, however, had only pennies in his till.

"But my magic powers came to my rescue," you say. "What did I do, but pick up half a sheet of newspaper and wrap the penny in it. When I opened the paper again, two half-pennies dropped out instead of the penny. Shall I show you ?-there's a newspaper somewhere in the room, and no doubt somebody will lend me a penny."

Sure enough, when you wrap up the borrowed penny in a sheet of newspaper which you see lying on a chair, and then unfold it again, the penny has become two half-pennies !

How it is Done

Of course, the sheet of newspaper has been specially prepared and has been put on the chair in readiness. It is really two sheets, which you have pasted together at the centre. You have then folded the back sheet, in readiness, with two halfpennies inside.

Thus, the sheet which the audience believe to be a single one really has a pocket behind it containing the halfpennies. You wrap up the borrowed penny quite openly, in exactly the same way as you have wrapped the two halfpennies beforehand, but you then turn the sheet over, under the pretence of making a few magic passes, before you open it again.

Magic Families

All you need for this astonishing trick is a Happy Families pack of cards. You ask one of your audience to take out any card he wishes. He is to remember which card it is, but you are not to be

told this. The other cards you now place in a pile, face downwards, on the table.

"Now," you say, "don't forget which card you picked, but place it face downwards on top of the pile." Next tell him to lift about half the pack (Fig. 3) and put these under the others. (This is called "cutting

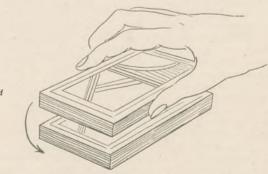


Fig. 3-The Card Trick described

the cards"). The chosen card will now be somewhere in the middle of the pack.

" I'm going to pick out the chosen card merely by smelling at their faces," you announce, and you pick up each card in turn and hold it close to your

motion

nose. When about half the cards have gone through this process, you suddenly stop. "Here's the card you picked—Mister Bun, the Baker," you say. And the card you show actually is the chosen one !

Astonishing though the trick seems to be, it is really quite simple. While the chosen card was being noted by the audience in the first instance, you secretly took a peep at the top card of the pack, as you placed them on the table. When the chosen card was put on top of the pack, it thus came next to the one you had seen.

Then when the cards had been " cut " and you sniffed at them in turn, all you had to do was to look out for the card you had seen. The next card to it (with the pack held face upwards) was the chosen card. Try this and see how easy it is.

Picking the Coin

A similar trick can be performed with a plate of coins. Ask your audience to produce a coin of their own while someone blindfolds you. The chosen coin is to be marked with a pin, and then handed round for everybody to see. Then it is to be put into a hat, and the coins on the plate are to be tipped into the hat too, and all are to be shaken up.

Still blindfold, you dip your hand into the hat, and quickly bring out the chosen coin, although you have never seen it. The secret lies in the fact that the chosen coin, having been well handled, will be warm; the others, having been on the cold plate, will be cold.

Secret Writing

The same hat will do for this trick. You ask your audience to call out the names of men wellknown today, while you write these names on slips of paper, one name on each slip. The slips are folded as you write them, and are dropped into the hat. One is then picked out and opened unseen by you.

"Postman, bring me a present!" you say, and, suiting the action to the words, you produce a parcel from under a chair. It it well wrapped, but, when the wrappings are taken off, it is found to be a picture of the man whose name was on the slip of paper chosen from the hat.

The secret lies in the writing of the names. Unknown to your audience, you wrote the same name on every slip, and the name was that of the person whose picture you have already wrapped up in readiness.

If you choose a well-known name—like Herr Hitler—somebody is certain to mention it, and the trick then cannot fail. A photograph from a newspaper will do for the person's picture.

"BO-PEEP "JIGSAW PATTERNS See page 318





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COMMANDER R. E. BYRD'S EXPLORATION

COME time ago we had in I these pages, notes on the lives of famous men whose porttraits have appeared on postage stamps. After the lapse of time which has ensued we find that a number of stamps have appeared which deserve mention.

Not that it is necessary to say that lately so many men have become famous, but one must admit that there have lately been a great number of centenaries and



such-like anniversaries which philatelists find commemorated on postage stamps. It is thus necessary to turn to some of these stamps and describe why they

The travels of Byrd have appeared, so that when asked by anyone we shall not have to admit that we know little or nothing about the designs.

Remember that people are likely to make such a claim as that—Why collect pieces of paper? -and unless we can show them that these so-called pieces of paper have some definite interest in them then we must put up with the jibe.

Not only do we find that a great number of stamps bearing por-traits have appeared lately but there are a lot of designs which obviously mean something about a certain man although his likeness does not appear.

Take for instance the stamp from the United States of America which was issued in 1933 to commemorate the Byrd Antarctic Expedition. This is a very fascinating design showing the routes of various expeditions, but the stamp needs definite study if we are to get the best out of it.

If there were a few more stamps issued with such a wealth of interest incorporated in the design as there is in this one, then the hobby would gain enormously. Commander R. E. Byrd was

born in 1888. He was in command

of the Macmillan polar expedition in 1925, and flew over the North Pole in 1926. His route is marked on the stamp map, and he then received the Hubbard Gold Medal for valour in exploration. In 1927 he flew across the Atlantic, and his route is again shown with the date of this feat as well.

The idea of flying over the Polar Regions is far from newfor remember that Andrée set off in 1897 with the intention of traversing the North Pole in a balloon. It was not, however, until thirty years had elapsed that the bodies of his party were recovered, together with photo-graphs which they had taken. These were developed and proved to be quite alright.

The idea of an elaborate flying expedition for scientific results is comparatively new however. Commander Byrd set out with three ships, these being necessary to carry all the supplies, etc. One of the boats had been built for many years, but it was considered that this was an advantage since it was many years ago that the best work was done in the building of wooden ships.

It was hoped that such a vessel might withstand the enormous pressure that the ice exerts upon a boat which becomes imprisoned in the icc flocs.

It was on Christmas Day in 1928 that the expedition reached the ice floes, or rather the ice barrier, and then started the task



of transporting much of the equipment across the ice to form a base as close to the South Pole as possible, bearing in mind the task of taking off from the ice in an aeroplane.

The camp formed was like a small village, and actually it became known by the name'Little America.' You will note that these words appear upon the stamp.

The camp was about 800 miles from the pole, and since the expedition had to stay here some considerable time, one can imagine what great benefit the wireless was to such men. It makes one realise what the old-time explorers had to put up with when we recall that in those days they had no wireless, there was no electricity, and the time taken to traverse any given space of water was much longer than it is now Then, men had to be away for years, whereas now they are away only as many months.

When the weather turned favourable, Captain Byrd decided to use his aeroplane, the "Floyd Bennett" to fly over the Pole. Flying in those latitudes is very different from more temperate zones. The rarity of the atmos-phere prevented the aeroplane from rising.

Now the problem presented itself "Should they abandon the attempt or should they lighten the aeroplane by casting away valuable food ? " The latter alternative meant that should disaster overtake the acroplane in its 1,600 mile flight then the occupants would have little chance of holding out until rescued by others. The food would have kept them just that little longer so they might

stand a chance of being found. However, they decided to take the risk, and cast away all but the barest necessities. They set off, and their bravery was rewarded because they returned in a very short time having flown over the Pole and taken the photographs they needed for research purposes.

Captain Byrd is still engaged in Polar Exploration, so we shall probably hear that he has added yet more laurels to his name in the near future.





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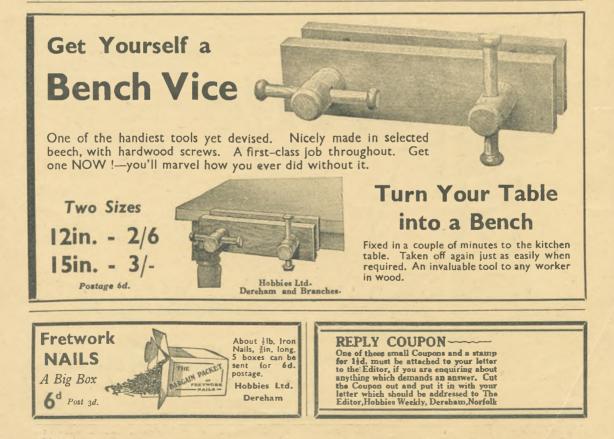
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