## IR.A.E. PIPE IRACK DESIGN FIBEE INSIDE

September Ist. 1943
Price Twopence
Vol. 96. No. 2498

# MODEL <br> OWN <br> HOUSE 

A view is given of a council house, and instructions how tu draw it to a scale are given, so readers can apply

HOW many readers have thought of making a model of the house they live in? Not so many perhaps, yet such a model has a special interest of its own. Cardboard is invaluable for such modelling as it is easily obtainable and lends itself well to realistic work and colouring.

The only snag is how to make out the parts reasonably true to scale, without some knowledge of draughtsmanship. A few hints on this subject may be helpful.

these instructions to drawing a scale model of their own particular house.

The first thing required is a measuring stick. This is a wood strip, say $\frac{1}{2} \mathrm{in}$. by $\frac{1}{2} \mathrm{i} \mathrm{in}$. and about 12 ft . long. With a soft lead pencil, divide this into divisions of 1 ft . each, and clearly mark the number of each division against them.
Each foot is then sub-divided into inches as in Fig. 1, noting that these sub-divisional lines are not of equal length, those denoting 3,6 and 9 in. spaces being made longer than the rest in order that the measurements can be more clearly read.

## The First Sketch

Now make a rough sketch on paper of a front and ond elevation of the house, as in Fig. 2, not of the house in the drawing but of your own. Stick this to a piece of cardboard for convenience in handling, then with a pencil and the measuring stick, measure off the distance from the house itself and transfer them to the sketch.

First measure the total length, then the horizontal distances, such as 1 distance from end to window, 2- the window itself, 3 -from the window to door, and so on,

The vertical distances can follow, first the height to eaves (16) height of door (17) that to the windows (18) height and width from eaves to tip
of gable (13, 15) and so on to the end. Many of the measurements can be taken from ground level, those higher up will need the assistance of a short ladder to reach.

The roof ridge (26) can be measured without climbing the roof by laying the measuring stick in the roof, perpendicular to the eaves, with its far end touching one end of the ridge, and making a chalk mark on to the eaves to correspond. The distance between these two marks on the eaves should be the same as the length of the ridge, and can easily be measured from the ladder.
pointed gable front, taking all the measurements from the scale to correspond. Then put in the door and window openings.

This represents the front of the house, to be afterwards cut out of cardboard. Add in the roof details, as these will be required later to measure off from though they are nothing to do with the house front.

The back of the house is similarly dealt with, but the roof details need not be added as they are already available.

The end elevations are completed in the same way, roof details being


Fig. 1-The scale
Fig. 2-Side and front elevations and numbers
The measurements of the chimney stacks can be estimated accurately enough for all practical purposes by counting the bricks in a row (about 9ins. each) and checking the height as Ift. for every four rows of bricks.
A good way to estimate the height and diameter of the chimney pots is to hold a pencil at arms length and shift the thumb up and down it until the top of the pencil and the thumb are equal to the height of the pot, and, without shifting the thumb, to compare this distance with the bricks on the stack. A rough and ready method but useful in such circumstances. The measurements for the end elevation are taken similarly.

## Setting out the Work

A second sheet of paper should be provided to contain the measurements of windows, doors, etc., of the rear, and opposite end elevations. With these figures, paper, ruler and setsquare the scale elevations for the model can be drawn.

It is necessary, of course, to decide first the size the model is to be. For a house of that style shown in the drawing, i.e., 24 ft . long, a scale of 4 in . to Ift . will make a model 6 ins. long. Not very large perhaps but large enough for a start. First draw the base line, and divide this into 24 divisions of $\frac{1}{4} \mathrm{in}$. each, each division representing one foot.
Erect the side lines, then the top line of the wall. On this line draw the


Fig. 3-Dimensions and shape of roof part
put in one end only. So far as the ends are concerned the walls finish at line 31, in the pattern of roof shown. When the elevations are completed, you will have scale drawings of the four sides of your house, ready to paste on cardboard and cut out.

For the roof (Fig. 3) draw on the paper a rectangle, the lepgth, 32, being equal to the side of the house, measured from the base line, and the width to the sides of the roof, or measurement 28 repeated.
At each side mark off distances 13 the width of the gable. Here a narrow strip is to be cut out equal in width to the thickness of the cardboard employed. At the ends mark off distances 27 , equal to those measurements shown in the end elevation.

On the centre line of the roof mark two points a distance apart equal to
the length of the ridge, i.e., 26 , and from these points draw lines to 27 at each corner.

Allow a short margin all round for overhanging at the eaves, paste to the cardboard, and cut out. Cut a line lightly along the centre (the ridge line) and bend to the roof angle.

To draw the gable roofs, Fig. 4, draw a line equal to distance 29 , repeated. Erect a centre line as long as 30 , and at each end of the front line erect those short lines equal to distances, 33 .

Draw lines from these points to the top and allow for overhang at front and ends as shown by the thin outer line. This is the gable roof, two of which are required.

## Chimney Stacks

The chimney stacks can be easily made of solid wood, planed to the thickness of the stack and cut to the correct length and height. From the elevations drawn, measure off and mark on the wood the angle of the roofs as shown at A , the middle stack, and $B$, the end stack, and saw out.

These should then be covered with white paper to facilitate colouring afterwards. The extended brickwork round the tops of the stacks can be simulated by gluing strips of cardboard round, as at B.

The cardboard parts can now be glued together. First the four sides of the house, then the roof. An opening each end of the roof remains


Fig. 4-The gable end


Fig. 5-Details of the chimney stack
to be filled in. The pieces for these need not be drawn out, as the cardboard can be laid over the openings and the shape marked out by drawing a pencil round underneath.
Between the gable front and ro of cut small bits of fretwood to fill the space between the vertical ends, not the sloping parts, and glue in place. The gable roofs can then be cut lightly on their centre lines and be bent and glued over.

Follow with the chimney stacks and then add the chimney pots, which are best shaped up with a file from dowel rod.

A word of warning here. The roof must be bent to its correct angle, i.e. 45 degrees, if all parts are to fit correctly afterwards. This can be better assured if bits of fretwood cut to that angle, are glued in the roof before fixing.

# Patterns and particulars are provided for making a WOODEN TOAST RACK 

WE give this week a simple piece of fretwork which will appeal to the beginner as well as to the more advanced worker. On cover iv of this issue is full size outlines of all the parts to make up this design, and the simplicity of it is apparent from the picture of the finished article shown here.

Wooden articles such as this are becoming the fashion now in the home, and we see, as well as toast racks, such things as butter-dish stands, bases for condiment sets, fruit stands, bread boards, etc.

## Commencing work

They all lend character to the table, and they may be easily made by quite the beginner at woodwork providing he does not attempt to hurry his work, and gives due care and attention to the setting out and the cutting of the wood.
Then too, there is the shaping to be done, sharp edges to be taken off neatlv, and rounded edges or "thumbmould " edges to be worked on the base sections of most if not all the articles mentioned above.
The patterns of all the parts of the toast rack now under consideration, are given full size so all one has to do is to stick them down to the wood and cut them out with a fine fretsaw: There are but two thicknesses of wood in the rack, $\frac{1}{1} \mathrm{in}$. stuff being used for the base and its cross feet, and for the centre or handle partition. The remaining six sections are cut from $3 / 16 \mathrm{in}$. wood.

## Wood Provided

Two of Hobbies standard panels will be found sufficient for cutting all parts, and one G3 and one G4 panel will be required. Paste the pattern of the base, together with the cross feet, which may be taken from the waste wood cut from its centre, to the $\frac{1}{1} \mathrm{in}$. wood. Cut out, and bear in mind that before glasspapering off the paper pattern from the surface, prick in the positions of the screws or nails which will later be inserted to reinforce the fixing of the uprights.

The positions are shown near the end of each upright, which is itself indicated by the dotted lines. Cut also the two feet sections, and then cut away the waste wood of the oblong shaped section in the middle of the base. What remains of the paper pattern can be now glasspapered off and the top surface made perfectly smooth with fine grade glasspaper.

The next thing to do is the shaping of the edges of the base and that of the cross feet. Use the file for getting off most of the unwanted wood, and then finish with coarse and fine glasspaper, taking care to get the shaping even and correct the whole length of the edges.

Now, with the countersink, clean out the screw holes on the underside of the base so when the flat-head screws are run in they will stand flush and neat with the surface of the wood. Clean up all surfaces with fine glasspaper and lay the pieces aside while the uprights are being prepared.

The spare piece of 1 in. thick wood left from the Gt patel will be used for the handle section shown on the middle left of the pattern sheet. Cut this out and round off the top edge with file and glasspaper. Clean away any raggedness left by the saw in the opening forming the handle, and again clean the surfaces each side ready for gluing and screwing the piece to the base.

## Fretted Ends

The two end uprights of the rack are the first to be made and the patterns can therefore be pasted down direct to the $3 / 16 \mathrm{in}$. wood, care being taken to see the grain of the wood runs in the direction of the arrows shown in the patterns.

## OUR R.A.F. DESIGN

The splendid design (No. 2498) given with this issue is for making a Pipe Rack or a plain Wall Plaque. The Rack or a plain wall plaque. necessary planed boards for it are ob-
tainable from Branches of Hobbies Ltd. for $3 / 7$ or by post from Dereham, Norfolk for $4 / 2$ post free.


## Full size parts shown on Cover IV

There is a reason, of course, tor having the grain running lengthways of each piece. If the grain ran upwards, the screws coming up through the base would have no solid hold in the uprights, and it is well known that screws should never run into the end grain of wood.

## Screw Fixing

Another thing too, glue will not hold well to end grain, so that these two facts must always be borne in mind when it comes to the gluing and screwing of wood parts together.

Use a fine fretsaw for all the interior frets which must, of course, be completed before cutting round the outer edges. Drill the holes carefully for the insertion of the saw, and do not force the drill, or the wood may easily split.

Next cut the plain upright shown at top left of pattern sheet, and use the finished cut-out as a template for marking round to produce the remaining four partitions. Round off the top edges of all the pieces and glasspaper the sharp corners and upright edges each side.

## The Partition Parts

Now for the fixing of the uprights. Two holes should be lightly pricked into the bottom edge of each upright in order that when the screws are run up through the base, so that they project about $1 / 1 / 1 \mathrm{iin}$. above the top surface, they will find their correct positions when the uprights are stood on.

The ends. of each upright for a distance of $\frac{5}{8} \mathrm{in}$. in only will be coated with glue. Then, when the screws are tightened up, a sound joint is made between base and upright. It will be found that screws $\frac{5}{2}$ in. long, No. 1, will be found best for the job.

A final rubbing up with fine glasspaper to all the exposed surfaces, after the feet have been put on, will leave the work clean. Plain wood, without any added finish, is considered best for such articles as these.

# There is an interesting pastime in learning about LOCO CLASSIFICATION 



HAVE you ever wondered how locomotives are classified? As a model-maker, it should be of interest to you. You sce, most locomotives are given names, such as " Pacific" and "Atlantic" and so on. These particular names indicate the wheel arrangement of the locomotives.
As you know, there are three types of whecls, these being called the leading, driving and trailing. The leading and trailing wheels are smaller than the driving wheels and may consist of a single pair of wheels or a four-wheeled bogie. Alternatively, there may be no leading or trailing wheels at all--just driving wheels, such as the "Centipede" class.

## Classes and Wheels

In all the other classes however, there is either leading wheels and driving wheels or driving wheels and trailing wheels. Thus, by knowing the classified name of a locomotive, you know the wheel arrangenment, or again, by knowing the wheel arrangement, you can tell which class the locomotive belongs to, whether Atlantic, Pacific, Baltic, Mogul, Prairic, Consolidation, Mikado, Mastodon, Mountain, Decapod and Centipede, etc.

The wheel arrangement is indicated by three numbers, such as $4-6-0$, 4-6-2, 2-6-2, 4-8-0, 0-12-0, etc., as you can see by chart provided. The numbers 4-6-2 means that a locomotive has two pairs of leading whecls (4) and three pairs of driving wheels coupled together (6) and one pair of trailing wheels (2). This arrangement means that the locomptive belongs to the "Pacific" class.

## Wheel Arrangement

When there are no leading or trailing wheels, their absence is indicated by an " 0 "--as in the "Mogul" and "Centipede" classes, thus: $2-(6-0$ and $0-12-0$. There are, for example, no trailing wheels in the model 1.N.E.R. locomotiveillustrated, so it is classified by the formula number $4-6-0$. Here is the chart showing how different locomotives are classified by their wheel arrangement:
lank engines are without tenders. Fucl is carried in bunkers and tanks built into the engine itself at the rean end, just behind the driver's cabin. Thus, they do not have to haul a heavy tender behind them-an "extra" load often weighing about 50 tons when fully laden with conl and water-everywhere they go.

## Tank Distinction

Therefore to distinguish tank locomotives from ordinary tender locomotives, the letter "T" usually follows the classification number, viz: $\because-4-\because \mathrm{T}$, or $4-4-2 \mathrm{~T}$, etc. Type names are not generall! used. incidentally, and while, moreover, the $1-4-2$ T engines are still in use, these are being superseded by treble-prired driving whel engines, so that the classification figures are now usually- 4-6-4 T, $4-6-2$ 'T, シ-1i-4 T, 10-(j-2 T, (9-1)-4 T and so on.

## For Heavy Work

There are, too, tank locomotives having eight-coupled driving-wheels, but these are used for banking, shunting in goods masshalling yards and other heavy work entailing short runs. Tank engines can run excellently backwards or forwards and are thus independent of a turntable all of which makes them invaluable and time-saving.

## How the Handyman can repair A Bicycle Pump Connection

DUE to the shortage of rubber. ordinary flexible bicycle punp connections are not now available in the shops. The only sort of connection supplied is a small, allmetal affair which, on account of its shape, one has to carry in one's saddlebag or pocket. There is one advantage with these connections-they 11 never break.

With the Alexible type, of course, it was the piece of cotton covered rubber tubing that frayed and finally. burst under extreme air pressure. It is possible to repair the tubing, whether the puncture is in the centre or at the ends. It means removing the covering of cotton. The latter must be removed without removing the metal connector fittings, by the way, or you may never join the tubing to the fittings in a proper manner again.

Find the break, or rip, in the tubing, rub in some rubber solution, then bind with adhesive rape. The uncovered tube should all be bound with the tape, for the tape prevents any likelihood of the rubber bursting.

## A Useful Addition

If desired, the metal fittings could be soldered to a short piece of $\frac{1}{4} \mathrm{in}$. diam. lead pipe, the latter being bent to right angles or in a slight curve that permits the fitting to be screwed on the value slecwe of the inner tube. In other words, it must not babrit so that it interferes with the spokes of the wheel.
Such a connection is not unlike the metal type now sold. It saves buying such a thing and it is possible to keep the lead tubing quite straight so that the whole thing fits into the top, of the pump in the usual manner when not in use

# Hold your own picture display by making A HAND PANORAMA 

THE panorama, a once popular model, is well worth reviving nowadays, with the addition of copical subjects, of course. A small hand edition is shown, both interesting and instructive, exhibiting a serics of modern aeroplanes to help in identification of the different types seen daily in the skies.

The subjects need not be confined to aeroplanes by any means. Anything of a topical nature could be chosen, and possibly would be equally welcome. 'The views can be illuminated by holding the panorama to the light-daylight or artificial, no separate lighting device being required.

There is no difficult work and it is quite inexpensive to make being so designed that all the parts can be cut from a 14 in . by 7 in . panel of 1 in . thick fretwood.

## General Construction

A view of the general construction given in Fig. 3, which shows the interior of the panorama, the front being removed. Fig. I shows back and front. Cut the two from the fretwood, mark out the rectangular openings and cut them out. The edges of the front opening are neatly bevelled-no need to bevel the back opening as its sole purpose is to admit the light.

Fig. 2 shows the remainder of the parts of the panorama, except the handle. The top and bottom parts, A, are cut to size. Run a pencil line down the middle, and on this, at the distance from each end shown, bore holes for the rollers.

## Rollers

These can be pieces of $\frac{1}{4}$ in. or ${ }_{8}^{3} \mathrm{in}$ dowel rod, the thinner rod being strong enough. If not obtainable the 3in. rod, which is curtain rod size, can be used. Two pieces, long cnough might be cut from a rod available and still leave it long enough for a curtain.

In the centre of $A$, at a distance of $5 / 16 i n$. from the back edge, bore a hole to take a fairly stoult $1 \frac{1}{4} \mathrm{in}$. brass screw, as at Al. This is to secure the handle of the panorama in place. As this is awkward to fix in later on, it might just as well be dealt with now.

It is a piece of round wood rod, 4ins. long, cut from a broomstick or

Fig. 1-Back and front pieces

similar rod, or a tool handle could be used for the same purpose.

Cut a disc of the fretwood تुin. dia., or a square of that size would do as well, and bore it in the centre to take the handle screw already mentioncd. Bore a hole in the top of the handle to take the threaded part of the screw. Now push the screw through the disc, then the hole Al and drive it into the handle and screw up tight. The inset in Fig. 3 shows this fixing.

Cut the end pieces $B$, to size and fix parts $A$ and $B$ together with glue and fine tretwork nails to make the case of the panorama. The back can also be fixed on at the same time. Parts C can now be cut.

These are fixed, also
 with glue and nails, between parts $d$, at lin. from the ends and so form a box at each end for the rollers to work in.

## For the Pictures

It will be noticed that parts $C$ are less in width than $B$ and if fixed to butt against the back of the panorama will then be $\frac{1}{8} \mathrm{in}$. short of the front to allow passage of the strip of pictures.

Cut two $\frac{1}{i n}$. wide strips of the fretwood, 4 ins. long, and glue these at top and bottom, level with parts $C$, as shown at F in Fig. 3. The space between these and the front of the panorama, ${ }_{8}$ in., allows ample room for the picture strip to pass along.

It is a good idea to glue to the face of these strips a narrow piece of velvet, also $\frac{1}{4} \mathrm{in}$. wide. 'These take up the surplus room in front, and not only push the paper strip in contact with the front of the panorama but act as a kind of brake on too free a movement. They are not essential, but are worth adding if a few inches of narrow velvet ribbon are available.

The front of the panorama can now be fixed on temnorarily with screws, so that it can be removed later for


Fig. 2-Other parts needed
putting in the rollers and strip of pictures.
Give the woodwork a good rubbing. with medium glasspaper and finish off with stain and varnish, inside and out, except the interior of the roller boxes which can be left plain. When the work is dry remove the front for fixing in the rollers.

## Roller Fixing

For these cut two pieces of the dowel rod already referred to, to length of I), and cut four 3 in. discs of the fretwood. Bore these to fit the rod, and in two of them, the two bottom ones to be turned by the fingers, cut the edges as shown at E , to provide an easier turning grip.
"The plain discs are glued to the tops of the rollers, then the rollers are pushed through the holes and the remaining discs glued to their bottom ends. Leave for a while for the glue to set, and in the meantime get on with the picture strip.

This should be prepared from fairly strong white paper, translucent enough to show up the picture against a light behind. The width of


Fig. 3-The interior construction
the strip is given in Fig. 4. Its length will be decided by the number of pictures to be drawn on it.

Allow 3ins. at each end for attachment to the rollers, and 4 ins , for each picture and divide the picture spaces by thick black lines, as shown.

## The Pictures

Too many pictures should not be attempted as the roller boxes may not be large enough to hold them. About ten will be enough.

As this will need a rather long strip of the paper, several pieces may have to be joined together to make up the length. It is as well to arrange for these joins to take place between the pictures-a joint coming in the middle perhaps of a view will show up as an eyesore.

The subjects possible, are endless, even those of topical interest make up a good total. It is suggested that a series of views of aeroplanes should be
provided-this is, of course, only a suggestion as readers may have other ideas to carry out.

If aeroplanes are chosen the necessary drawings can be done by simply tracing any transference through carbon paper on to the paper strip. The size of picture given will be found convenient for those illustra-


Fig. 4-The strip details
tions of model planes to be seen in Hobbies Handbook, and can be traced direct and transferred to the paper just as they are, needing neither reduction nor enlargement.

Convenient this, where the reader
perhaps does not boast much skill at drawing. The drawings should be carefully inked in and if possible, coloured with water colours or crayons. The names of the various types are neatly printed below each.

## Suitable Sources

Other pictures can be taken from magazines or papers. They can be reduced, or enlarged, to any desired size by squaring-a method familiar to most readers of " Hobbies Weekly."

When the strip is completed, the ends are fixed to the rollers with a little glue, and when that is set hard, and not before, the rollers are turned to take up the slack. The front is then fixed on again and the panorama is ready for use.
How to use it is self-evident. It is just held to the light and the pictures brought into view by twisting the rollers with the fingers.

## Hobbies Designs for MINIATURE SHIPS AND AEROPLANES

Packets of designs with full-size patterns for building perfect small models in wood. Easily made with a penknife and glue. Aeroplane Packet'No. 1 of 6 well-known planes. Packet No. 2 of 8 planes. Naval Ship Packet for complere Fleet and Harbour Base. Price 9d. each packet, postage 1d. extra.
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One of the stamps that you can get from THE WINDSOR STAMP CO. ABSOLUTELY FREE, has been issued by the British Crown Colony of CYPRUS, the historic little island in the Mediterranean, and shows of ruins of the Theatre at Soli as well as small portrait of H.M. King the ruins of the Theatre at Soli as well as smather interesting stamp to George VI. The MOROCCO stamp his another interink that neither add to your collection and another which we also think that nether you nor your friends will already possess. It is overprinted and surcharged and has been issued
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We will give you these stamps ABSOLUTELY FREE. If you want them you should send immediately and comply with all the following simple conditions: (1) Write clearly your name and full address; (2) Ask for Cyprus \& Morocco Free Packet ; (3) Ask to see our Approval Selections for Cyprice List ; (4) Enclose 3d. in stamps, and (5) post your application to: WINDSOR STAMP CO. (Dept. 12), Uckfield, SUSSEX

## MISCELLANEOUS ADVEIBTISEMENTS, ete. <br> The advertisements are inserted at the rate of 3d. per word or group of letters prepaid. Postal Order and Stamps must accompany the order,

 and the advertisements will be inserted in the earliest issue. Fretwork goods or those shown in Hobbies Handbook not accepted. Orders can be sent to Hobbies Weekly, Advertisement Dept., as below.L
ONELY? Then write Secretary LU.C.C., 5B.B. Hay St., Braughing, Herts. Genuine. Est. 1905.
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from 5/- to 30/-. Ask for particulars of stock available before ordering. Hobbies Ltd., Dereham.


THE reverse side of a stamp often affords a very interesting study. You may, for example, find an advertisement printed on the back. An example of this is the Great Britain $1887 \frac{1}{2} \mathrm{~d}$. Vermilion, which sometimes has "PEARS SOAP" on the plain side in orange blue or mauve.
These are quite scarce but if you keep your eyes open you may find that a friend has one in his "swops" which he has not noticed.

## Advertisements

A good selection of advertisements can be found in the New Zealand $1882-97$ set, perf. 10. Some of them are quite amusing. For example, " S . Myers and Co., Dentists, Christchurch. Nitrous Oxide Gas, Painless Extraction."; "Sunlight Soap is unequalled for Hounds " (sic !) ; "Use Kaitangata Coal, Cheapest and Cleanest "; "Every Dose of Bonnington's Irish Moss is effective" ; "Lockhead's Perambulators are the best." Stamps with advertisements are, of course, worth more than those without.

Another form of inscription on stamp backs was used by Oxford University. They printed "O.U.S." between two parallel lines in red on the backs of the 1858 Id. red plate numbers of Great Britain, presumably for use by members of the Oxford Union Society writing letters in the Society's rooms.

## Prayers Printed

Other interesting inscriptions on the backs of stamps can be found in Portugal, Spain, and Nicaragua. The Portugese issue of 1895 bears a Latin prayer on the back, and a serial number can be found on some Spanish issues.

From 1910 to about 1912, Nicaragua was badly short of certain values in the current issue, so a surcharge was printed on the back of some railway stamps which were already surcharged on the front.
A watermark is much easier to distinguish from the back of a stamp than from the front (when held up to the light). This becomes important when it is necessary to distinguish between two otherwise identical sets, such as the Gold Coast 1913-23 and 1921-25 sets.

The earlier set is watermarked Multiple Crown CA, and the later Multiple Script CA. One difference between these two watermarks is in the letters "CA". In the Crown type they are upright capital letters,
while in the Script they are sloping.
These two different watermarks were used on the King George V. " Key Types " in a number of British Colonies, so it is worth while distinguishing between them, because the earlier set is scarcer than the later.

A substitute for a watermark was tried in New Zealand in the 1925 issue of the $\frac{1}{2} \mathrm{~d} ., 2 \mathrm{~d}$., and the 1 d . "Lniversal" the watermark being lithographed on the back. That is to say, NZ and Star were printed on the back not produced by the usual watermarking method.

The normal colour of the NZ and Star is greenish-blue, but it is also found in jet black and colourless. The black is much scarcer than the greenish-blue, and the colourless (which has.rather, an oily appearance), is the scarcest of all.

## Quesr Paper Used

Numerous types of paper have been used for stamps, one unique Latvian issue being printed on the backs of old German War Maps. However, the more usual ones are wove, laid, thin hard, soft porous, and granite.

Wove paper has a soft opaque texture with a fine even mesh, and is the type most commonly used for books. L.aid paper shows dark and light lines alternately. Thin hard is transparent and brittle, and can be determined by flicking the corner of the stamp. Granite paper contains little coloured fibres.

An example of the granite paper can be found in the 8d. Black on yellow-buff of the Great Britain George V issue of 1912-22. It is somewhat scarcer than the 8 d . on ordinary paper, but you may easily come across one.

## The Ivory Head

You may have noticed that early Great Britain imperf. 1d. reds are printed on blued paper. This was not intentional, being caused by the chemical action of the colouring ink on the paper when the latter was damped for printing.

The variety known as the "Ivory" Head " is caused by the comparative lack of ink in the head portion of the design, with consequent absence of blueing. Various degrees of completion of the ivory head are fairly common, but the complete outline is quite scarce.

Stamps which, by some oversight, have been printed on the back as well as the front are rare varieties. Stamp with this error should be carefully distinguished from those which have

## ABOUT BACKS

 OF STAMPSmerely received an impression on the back from the stamps of the sheet underneath.

This occurs when the printers place wet sheets on top of each other. In the true "printed on backs" the impression is positive, that is to say, the right way round, but in the other type it is reversed and usually incomplete.

## Matters of Gum

Most general collectors do not take much interest in the gum of unused stamps. Usually they do not mind if they have no gum at all, so long as they are not postmarked.

There are, however, three different types of unused stamps. There are those that have full gum, in the original Post Office state (which are termed by collectors " mint"); those which have no gum ; and those that have been re-gummed. It is very difficult to get old stamps in mint condition, owing to their rough handling by early stamp collectors, or to other conditions.

Early printers used a very adhesive gum (" cement ", they called it ) and if the atmosphere happened to be at all damp, stamps stuck to the album page and had to be soaked off. Then collectors who did not know any better stuck mint stamps down by their own gum, and this caused damage on removal. And even if they did use hinges, they were not peelable, so when the stamps came to be removed, the hinge thinned the back.

## A False Gum

Early Cnited States stamps suffered badly from all those disadvantages. The majority had thick strong gum, and the paper used for most of the middle issues was very soft, with the result that many of them are thinned.

Stamp dealers have sometimes re-gummed stamps that have been floated off and sold them as mint, but these can be distinguished from the original by the type of gurm. The faked stamps have a thin white gum, while the correct type is thick and brownish.

Before you can discover if any of your stamps have advertisements or unusual inscriptions on the back, you will have to float them.

You should however, obtain expert advice before floating old stamps as they are frequently more valuable if left on the cover.

Another reason for cleaning stamp backs is to see if they are damaged in any way, because a thinned or torn stamp is worthless.

# Patterns for a TOAST RACK 

See page 171


