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IAM so glad to find an increasing number of readers belong to the Hobbies I eague, because it shows enthusiasm and keenness. The joining fee is only 6 d . and the only test is cutting quite a simple panel. This is shown in the booklet which not only tells you all about the League as well but provides the necessary Entry Form for you to fill up. If any reader who has not yet joined would like this free booklet I shall be happy to send him a copy.

IN this connection an interesting letter has come from S. A. Dickson a Belfast Leaguer who suggests that the Entry Test should not be sufficient! He says that should be the preliminary, and that a further and more difficult test should be available for those who care to undertake it. The ambitious worker, he says, wants to go a step further than he can at present. Quite right all to come in on the same basis, but surely, he suggests, fresh interest, and keerness would be provided by an additional step to be taken when the worker becomes able.

THIS is certainly a good suggestion, Dickson, but before going ahead I should like to have opinions of other readers. We could easily arrange to have an Advanced Panel to be cut from a small design supplied to those keen League Members who wanted to prove their ability. So now all you helpful friends in the I.eague, write in and let me know what you think about it.

IHAVE heard of carving being done in many compositions and haveseen examples in rock, metal, composition, wood, slate, stone, etc., but not until now, I think have I known of carving in coal. Anyhow, Stanley Skingle a miner who lives in the heart of the colleries near Chesterfield, undertakes some very nice specimens from "black

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diamonds." Given"a piece of hard coal, a penknife, file and other simple implements, he will fashion at leisure a sculptured head, a crucifix, an article of furniture in miniature, a ring, a medal, or almost any model that could be named. After seeing his work, the vicar of Barrow hill, has commissioned him to execute in coal a figure of Christ crucified for the Parish Church. The picture I saw was of a very nice head sculptured in coal, which certainly was a striking piece of work.

IT is always a source of delight to me to hear from my friends in India, because they are enormously enthusiastic in their work and must turn out hundreds of wonderful models. I wish it were possible to print all the photographs I receive but this would fill a complete issue very frequently. Now I hear of a Firetwork class for ladies being formed in Bombay. Mrs. B. Thulasi Bai, herself a gold and silver medal winner, is running a class where pupils are given expert and helpful advice, so they, too, may enjoy making up our designs. If any readers, in the district want to join they should ask Mrs. Bai for one of the interesting leaflets she has had printed. Her address is Varma House, r4th Road, IKhar, Bombay, 21 .

I$\Gamma$ may seem some time since the Maze Competition closed last month and I had hoped to put the result in this issue. That unfortunately is now impossible but the names of winuers will definitely appear next week. I can tell you I was delighted with the number of entries.

THEN, too, you have been waiting patiently for the result of the Coronation Medal Stand Competition. This, too, has been judged and I hope to find room for some notes next week. So be sure to get your copy early on Wednesday.

The Editor
Send your own
simple lips to The
Editor, Hobbies
Weekly, Dereham,
Norfolk. Keep
them shorl and
add rough pencil
skefches it possible.

## Galleon Models

IINI) that a simple way of making the stecring wheel for model gallcons, is to take a small cor wheel from a watch and cut

out every other tooth. This is then fixed to a small stump then glue the whole to the place in the deck. - (H.B.)

## Loose Valves

HERE is a tip which may be of use. If the base of a wireless valve should become loose it is often possible to refix it by immersing it in methylated spirits until the cement softens. The base and the glass are now pressed together and the cement allowed to harden.-(I). R. W.)

## Letter Box Alarm

HERE is an idea for notifying Hyou when a letter or other correspondence has been put into the letter box. The two metal contacts shown in the drawing can be madc of tin or brass.


When a letter is dropped into the box the two contacts touch thus causing the house bcll to ring. This method is useful when the letter box is attached to a front gate situated far from the house.-(M.O.S.)

## Camp Fireplace

POPLE who go out camping will find this gadget of great usc. Get thrce long strap hinges such as can be bought for 2 d . each.

## To Soften Putty

BREAK the putty into small pieces, add equal parts linseed oil and water. Boil for ten minutes in an iron vessel then pour off the water and you have fresh soft putty.-(W.G.)

## Rattle Preventer

HAVE found the following simple idea a very cffective cure for rattling sash windows. Its advantage that, unlike rubber wedges, it is always in its place. Obtain from the ironmonger a "rim latch spring," cut this in half by rubbing on the door step, hore holes as shown, then slide

top sash down to bottom, lift bottom sash a few inches, and screw in place on bottom sash. One side treated as shown is usually a success but both sides could be treated if necessary. -(M.A.)

## Broken China

TO mend broken glass and china, melt common alum in an old iron spoon over the fire, then apply to the picces of glass or china. When dry, these articles can be washed in hot water and the coment will not melt.(A.F.H.)

For original Tips publishod the sender will receiv: ${ }^{2}$ Hobbies Selffilling Fountain Pen. We canno acknowledge or print all tips sent
in:


Each hinge is bent outwards to form right angles and, then the three strips are held together by means of a flat bolt. This is arranged over the camp fire, the remaining tips are forced into the ground and you have a rigid support for holding on it such things as kettles and pans.-(C.H.)

## Puncture Indicator

WHEN mending a puncture put about two thimblefuls of powdered "blue" into tube and inflate. After a few seconds the spot around the puncture will go blue.-(H.E.C.)

## A Gluing Tip

AGOOD way to glue odd corners of your work, where a brush cannot be conveniently used for applying the glue is to

get an old tea-spoon and bend it to the shape shown in the drawing. This forms a holder which, when filled with gluc, can bc poured into any odd corner of the work. -(D.C.)

## A SIMPLE BEACH SURF BOARD

WHAT is a sea board ? It is a water gadget combining and assimilating a small raft, swimming float and a light surf-board. The buoyancy of the model illustrated, however, depends on two inflated bicycle air tubes, and for such reason, it is recommended only to the younger readers of this paper.

We thought of using car air tubes, but the size, shape and difficulty of joining the severed ends does not make them feasible. In any case, they necessitate the use of a car pump to inflate properly, whereas the other requires a bicycle pump which can be borrowed more readily-or one could be reserved specially for use with the board.

## Mind Yourself !

It must not be imagined, of course, that the board is a thing one can sit on in an upright position. It is merely a helpful support for one's body while learning to swim or to "ride the white horses" and frolic about generally in the sea very near the shore.

We stress that because it should also be understood that this rather frail craft would not save a life if need be-you just can't depend on it to that extent. It is a plaything meant to create fun in a swimming pool or at the seaside at a safe distance from the beach, and if you are thus reasonably careful, you will enjoy yourself immenselyparticularly on those incoming waves !

## Cutting the Board

The board itself consists of a piece of $\frac{1}{4}$ in. birch plywood the size and shape shown at Fig. 2. Plywood is used in the commercial articles, and


Fig. 2-Size and shape of board


Fig. 3-Connecting the air tubes


Fig. 4-How to affix bands at the back


Fig. 1-The Completed Float
as a special precaution against dampness and warping, are coated with a preservative such as creosote and given two coats of enamel paint or a good cellulose paint.

Having marked and cut out the board as detailed (with a keyhole or scroll saw) bore the eleven strap holes required, using a rin. centre bit. You now need two bicycle inner tubes, the size being 28 ins. by $1 \frac{1}{2}$ ins.

It is advisable to procure new tubes, same costing as low as $9 \frac{1}{2} d$. or $1 /-$ each. You could use old ones, of course, but the patches give the finished board a somewhat home-made appearance, and as the tubes are " ballooned" (much more than as shown at Fig. r), the patches tend to "drag" on the thin rubber and break away or tear the tubing or-if they do stick-cause a shapeless, bulbous mass.

## Affixing the Tubing

The tubes are affixed to the board in a manner that does not call for cutting and joining parts with solution. First of all, inflate the tubes sufficiently to alleviate fabbiness. Fold each in two to have the air valves near the end of the fold as in Fig. r.

You should have eleven strap bands handy to insert over the tubes to keep them folded. Incidentally, when folded, the full length should be about 39 ins. The bands for the "twin cylinders " can be cut from an old bicycle air tube, or better still, from a motor-bike tube which you could pick up cheaply from a local repair garage. A piece 1 zins. long would do, and this you might be given for nothing.

## The Bands

The bands are rin. wide and are easily snipped off with the scissors. Insert five and six on each folded tube at the approximate distances shown at Fig. 2, then connect the ends of both tubes (loosely) with a piece of sash cord, bringing the
odd or central band over the connection as seen at Fig. 3.

## Completing the Work

Before going further, paint the board with the preservative aforementioned, then after this has quite dried, colour with the enamel, allowing the first coat to dry thoroughly prior to giving the second (and even a third) application. The ends of the board, strap holes and hand-grip apertures should be treated specially with fairly thick paint. The usual colours of the board are yellow, red, green, blue and mauve, but of course, you are not limited to these alone

When the board has dried, set the tubes over it and bring the bands through their respective holes. They are affixed at the back with 2 in. pieces of half-round moulding as seen at lig. 4. Taper the ends of the moulding pieces, then fix them in
position with tiny brass screws long enough not to project through the reverse side of the plywood.

The board now remains to be blown up to its fullest extent and tested on water. After contact with salt water, always wipe the tubes dry and then deflate to less than the normal air pressure. Never leave the board on the sands with the tubes exposed to the sun. The lheat only ruins the elasticity of the rubber, making minute cracks in the surface and causing a " blow " when you least expect it.

## MATERIALS REQUIRED

1 piece birch plywood, 32ins. by 16ins. by din. thick. 1 piece No. 35 moulding, 22ins. by $\frac{1}{2}$ in. wide. 1 piece No. 25 moulding, 22 ,
1 piece band tubing, 12 ins. long.
2 doz. $\frac{1}{2}$ in. by 3 flathead brass screws.

# HOW TO MAKE A LEDGE AND BRACE DOOR 

THE construction of a panelled door is often beyond the abilities of most amateur joiners, but a door of this kind is easily put together. It is composed of vertical matchboarding held together at the back by horizontal ledges, and prevented from sagging by oblique braces let into the ledges. The boards may be $\frac{3}{3}$ in. or ${ }_{8}^{7}$ in. thick; the ledges and braces should be of rin. stuff, 6 or 7 ins. wide.

Assuming the door to be 3 ft wide and 6 ft . 6 ins . high, the boards should be 6 ft . 7 ins. or 6 ft . 8ins. long. As many boards will be needed as will give a width of 3 ft . when the groove of one outside board, and the tongue of the other have been removed.

Assemble the boards and square across them the positions of the
 ledges. The ledges look smarter and throw off water better if their edges are bevelled all round as shown in the drawing. The braces are bevelled on the edges only.

Each ledge is screwed at one end to one outside board. The boards are then cramped tightly together, and the ledges screwed at the other end. The door can then be turned over for the intermediate boards to be nailed to the ledges. The ends of the nails
should be clenched flush along the grain of the wood.

Now comes the making and fitting of the braces. To be effective, the braces must run in the correct direction, that is upwards, and away from the hinge edge of the door, so that they shall be in compression. Each end of a brace is squareended part way across and then sloped off to the edge of the ledge.

To mark a brace, lay the board out of which it will be cut across two ledges, with its edges not less than zins. from their ends. Pencil marks are made on the brace over the edge of the ledges; and it then has the ends shaped and is cut out. The ledges are marked off from the brace, and notches cut in them. Care must be taken that these are not too deep, as the braces must be a tight fit.

Any slack will allow the door to settle and get out of square. When the braces have been placed and nailed on through the front, the ends of the door are squared across, and sawn to their final length.

## Hinging and Painting

The hinges to be used are "cross garnets" which should be at least 15 ins. long. .

A door which is to be painted and will be exposed to the weather, should have all surfaces painted before assembling that will be inaccessible to the paint-brush afterwards ; these include tongues and grooves, and insides of ledges and braces. Whitelead paint is the best to use for the joints. If these are well sealed, water will not be able to find its way in.

Low doors of this kind, such as may be used for cupboards, need a ledge at the top and bottom only.

# A DWARF SEWING STAND 

ADISTINCTIVE little piece of furniture, this Sewing Cabinet should be made up for every home where the ladies are handy with the needle.
In the cabinet pictured there is a large size space designed for holding needlework, while above this there is a sliding tray for reels of silk or cotton, needles, buttons, etc.

The construction has been greatly simplified by the use of double grooved moulding into which the sides may be glued direct, making a sound and easily made up box. The moulding is Hobbies No. 45, and four pieces will be cut off square measuring 17 ins. long.

## The Box Panels

The main sides of the cabinet consist of $3 / 1$ 6in. plywood, and there is some simple shaping to them. This is seen in Fig. I where the dimensions are given for drawing in the outline.

First cut four panels of the plywood 17 ins. long by 12 ins. wide, and see that all angles are square before setting out the curved line which will only be done on one piece. The curves on the other three can be got by drawing round the first cut-out side.

Brush some glue into the grooves of the moulding and drive in the sides, making quite sure the full depth of the grooves is occupied by the plywood.

## Sides and Floor

The sides are shown as $\Lambda$ in the diagrams and pieces $B$, forming the supports for the floor, are next cut to length and glued and screwed on. Some screws may be put through from the outside as the heads can be lidden by the face strips 0 which are put on almost at the last.


The floor supports are kept $9 \frac{1}{2}$ ins. down from the top edge of the box.

The floor (C) is $12 \frac{1}{2} \mathrm{ins}$. square and of $3 / 16 \mathrm{in}$. plywood. After cutting round the edges, each conner will need to be cut away to the shape of the moulding inside. Drop the floor in place and secure it to the supports with flat-head screws.

The top edges of the box will next be fitted with mitred fillets D. The lengths are checked direct from the box itself. Underneath these fillets on two sides only will be glued and screwed the two strengthening tray guides E . To the lower edges of these again will be fixed the tray runners F . The positions of these and pieces E are clearly shown in the diagrams Figs. 2 and 3.

It will be found that the top fillets $D$ can be

strengthened further by putting through some screws into the pieces E and on the other two sides by gluing one or two blocks underneath on the plywood sides as in the Fig. 2.

The lid is formed by mitring four pieces, $G$ in the detail Fig. 4 and covering it with a panel of


Fig. 3-A sectional view of lid and side 3/I6in. plywood the edges of which should be carefully cleaned off and smoothed up before attachment. Four blocks of wood-the waste from the mitred ends of the pieces G-should be shaped with the fretsaw and glued into the angles of the frame as shown, this will materially strengthen the lid.
A pair of rin. stout brass hinges let into one side rail of the lid, and put on as the section Fig. 3 shows, completes the cabinet with the exception of the sliding tray.

The tray is shown complete in Fig. 5 and is made with $\frac{1}{4}$ in. sides and ends, $J$ and $K$ respectively, and a floor N of $3 / \mathrm{I} 6 \mathrm{in}$. plywood. The partitions $L$ and $M$ are also of $3 / 16 \mathrm{in}$. plywood the top edges of which are glasspapered off. All the parts are cut to the lengths and widths given in the table and are assembled as shown in the figure.

Round off the sharp edges of the floor piece so it runs smootlly upon the runners ( $F$ ) in the
cabinet. The wood suggested for this neat piece of furniture is oak, and it should be either stained dark and wax polished or stained a golden brown and varnished.

The accompanying table giving the lengths, widths and thicknesses of the various parts will be found useful and sufficient when making up the cabinet.

The decorative overlay on the front of the box should be cut from $1 / 16 \mathrm{in}$. wood and pinned on after the staining has been done, the face of the overlay being similarly finished afterwards.

A short piece of chain should be attached inside the lid and to the edging of the box to keep the lid at an angle as shown and to prevent the hinges becoming strained. A little loop of leather screwed to the lid will assist in the opening.

## CUTTING LIST

```
A-4 pieces 17ins. by 12ins. by 3/16in. plywood.
B-4 pieces 11}ins. by \frac{7}{n}in. by \frac{3}{8}in. stripwood.
C-1 piece 12\ins. by 12}ins. by 3/16in. plywood.
D-4 pieces 14ins. by 1fins. by tin.
E-2 pieces 11tins. by 1\frac{1}{4}ins. by 咅in.
F-2 pieces 11\frac{1}{2}ins. by i
G-4 pieces 13\frac{2}{7}\mathrm{ ins. by 2ins. by 青in.}
H-1 piece 13ins. by 13ins. by 3/16in.
J-2 pieces 11\frac{1}{2}ins. by 1\frac{3}{4}\mathrm{ ins. by zin.}
K-2 pieces 11 inins. by 13 ins. by tin.
K-2 pieces }5\frac{1}{2}\mathrm{ ins. by }1\frac{1}{3}\mathrm{ ins. by tin.
L-1 piece 5\frac{1}{2}ins. by 13,ins. by 3/16in. plywood.
M-1 piece 6ins. by 1\frac{3}{4}\mathrm{ ins. by 3/16in. plywood.}
N-1 piece 11\frac{1}{2}ins. by 6ins. by 3/16in. plywood.
O-4 pieces 1\frac{1}{1}}\frac{1}{2}ins. by \frac{3}{3}in. by \frac{1}{2}in. plywood.
4 pieces of No. 45 grooved moulding, 18ins. long.
1 \text { pair 1in. stout brass hinges.}
1}\mathrm{ piece of chain 12ins. long.
Wood is not included for the front overlay.
```


## HOBBIES LEAGUE CORRESPONDENCE CLUB

These Mernbers of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their fult address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

| NAME | ADDRESS | WANTS FRIENDS | INTERBSTS, Etc. |
| :---: | :---: | :---: | :---: |
| K. Speed. | 64, Allison Rd., Brislington, Bristol, 4. | Anywhere. | Stamps, Cig. Cards, Sport, Aeronautics. |
| A. F. Baker. | Public School, Nimmitobel, N.S.W., | Anywhere. | Stamp Exchanging. |
| G. B. Njaka. | The United Africa Co., Ltd., Onitsha, | Anywhere. | Anything. |
| R. Russell. | Nigeria. <br> Two Ways, 12, Long Lane, Ashford, Middx. | Anywhere except Baltic Lands, Britain and America. | Stamps and Gardening |
| I. P. Basopia. | 90, Jeewan St., Ramswami Quarter, | Anywhere. | Drawing. |
| A. Hampton. | Gozernor's Rd., Onchan, I. O. Man. | Anywhere except | Anything. |
| M. Obereha. | Govt. Lodge, Enugu, S. Nigeria, B.W.A. | British Isles. Anywhere. | Anything. |
| J. C. Anozie. | The Enitonna Book Shop, Rarracks Rd., P.O. Box 30, Port Harcourt, Nigeria. | England. | Anything. |
| E. J. Smith. | "Corona," Sandbrook Lane, Moreton, Wirral, Cheshire. | British. Empire. | Fretwork and Stamps. (especially Coronation). |
| O. Ryans. | 11, Park Ave., Carcroft, Nr. Doncaster, Yorks. | Anywhere except Gt. Britain. | Fretwork and Stamp Collecting. |
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|  |  | Dominions. | particular. |
| J. McKay. | 19, Whitley St., Rochdale Rd., Collyhurst, Manchester. | Anywhere. | Fretwork and Birds. |
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## NOTES

## Novelty and Speed

THEi speed contest held annually by the Society of Model Aeronautical Engineers can be relied upon to provide thrills, especially now that speeds are high enough to require new methods of timing. In previous years the two timekeepers have started their stop-watches when an observer on the starting-line signalled by flag that the model had crossed the line in full flight, and stopped them on receiving the signal from an observer on the finishing-line.

Last year Mr. H. I. White's low-wing racer Hornet ' won the contest at no less than 42.61 miles an hour, which meant that it took but 3 seconds to cover the course of 150 feet. A delay of a fraction of a second in dropping the flag would, therefore, result in the loss of several miles an hour in the recorded speed of the model.
'This ycar a stop-watch was fixed half-way down the course, started and stopped electrically by the observers on the starting and finishing lines, and recordings were much more accurate.

The flying of a speed model is certainly ' hit-ormiss ' aviation, since one fast landing may put it out of action.

This year's winner, Mr. R. I. Rogers, made one flight only, which took his machine over the course at 46.48 miles an hour, a perfectly straight flight about 2 feet above the ground, but ending with a high-speed landing, ground-loop, and damaged tail-unit.

The winning machine was a distinct novelty, a
low-wing monoplane with twin fuselages, the idea being to overcome the terrific turning tendency of a single fast-running propeller.
Each fuselage contained five skeins of thick ł.in. rubber, giving I horse-power at 4,000 revolutions per minute of the propeller, and weighing in all 15 ozs. The total weight of the model was 75 ozs., and the loading of the $1 / 6 \mathrm{sq}$. ft . wing no less than 64 ozs. per sq. ft.!

Mr. White's 'Hornet' again competed, but was put out of action by a damaged wing-stub.

## A Promising Flying-Boat

SOME time ago mention was made in these notes of a large flying-boat designed and under construction by Mr. White. A model flying-boat is in itself something of a novelty, and in this instance there was the added novelty of twin rubber ' motors,' each contained in a small covered-in " nacelle '-like a small fuselagemounted under the wing, with the propellers just clearing the hull of the machine.

This fine model, which has been named ' Ganda,' has recently made short hand-launched test flights, and exhibited a promising steadiness. It will be very interesting to see how it shapes when the time comes for trying rise-off-water flights.

## Wakefield Contest News

NEX'I Sunday, July i8th, will be a red-letter day, as the British team for defending the Wakefield Cup will then be chosen by eliminating trials at Fairey's Great West Aerodrome, Heath Row, Middlesex. The contest itself will be at the same place on August ist. Reliable news of the 1937 challengers is somewhat scarce.

Great Britain should have a stout champion in Mr. R. A. Copland, who secured third place in the 1936 contest at Detroit. His new ' shoulder-wing' model won the Wakefield Development contest in April, and showed excellent flying qualities.

Latest news at the time of writing was that the Americans are feverishly counting their dollars, and hoping they will be sufficent to pay their fares across the Atlantic!

New Zealand is sending six models to be flown by proxy, and South Africa is choosing two champions by elinwinating trials. Last year over 120 models took part in the British trials.


## Engine Rating

HYOW is the H.P. of an internal combustion engine calculated ? $I$ understand that two engines can have the same cubic capacity, yet develop different H.P.一 (W.P.B.)

THE Automobilc Association's formula for calculating the h.p. of an internal combustion engine is $D$ squared, multiplied by N , and divided by 2.5 -..if the measurement is in inches, and by 1613 if the measurement is in millimetres. The same rule applies to both two stroke and four stroke engines. If there are two engines which according to that rule give the same h.p., but one has one cylinder and the other two, the latter will in actual practice be the more efficient. To ascertain the real h.p. of an engine, fit some kind of a pulley on the shaft, over which passes a cord or belt, hanging down on both sides. Connect one side to a spring balance, and the other to a wcight, which is increased until the friction of the pulley on the cord just brings the balance back to zero. The actual h.p. will be found by multiplying the circumferential speed of the pulley by the weight attached, in pounds. If the speed is taken per second, divide by 550 , and if per minute, by 33,000 . The dividend is the actual h.p.

## Reports on Stamps

HrOW and where could I get a stamp examined for genuineness and also valued for price? I can get no information on this any-where.-(A.F.S).

YOU can get the stamp expertigad by sending it to The Expert Committee of the Royal Philatelic Society of London. Probably a letter to the Secretary first would tell what you have to pay for this. The address is, Capt. L: J. Gilbert-Lodge, 41 Devonshire Place, W.l. As to the value, they may tell you this, but it is very doubtful. After all, value is only what one can expect to get for the stamp if sold, but in the case of high value stamps such as this, the difficulty would be to find a
purchaser, and the Committee possibly would hesitate to give an opinion.

## Removing Wallpaper Stains

$A^{N}$$N$ accident at home caused some greasy furniture polish to be spilt on the wallpaper and, of course, there is a horrible stain. Could you advise me what to do for it? -(W.G.C.)
T is practically impossible to 1 get a stain out of ordinary wallpaper because usually it is too thin to be tampered with. You may try ironing the spot over with a sheet of blotting paper between the paper and the iron, but it is hardly likely to be successful. You may also try rubbing the spot over very gently with a piece of bread. The best thing to do is to secure a scrap of wallpaper the same as the original, and carcfully cut out a piece to cover the offending spot. It will be more effective than anything clse.

## Paint for Aquarium

TF I made an aquarium from a 1 tin would it be alright to paint it inside with Crusoe enamel, or leave it without paint or anything ? -(W.E.)
IF you do propose to make an aquarium from an old biscuit tin, by no means leave it without paint or anything as you query, for it would soon go rusty and rust quickly kills plant life and makes the water unfit for many creatures. Red lead or a waterproof dark green paint with enamelling over will do for a covering, but let it dry properly before you add water, and wash out before you use.

## Model Ship's Smoke

 IVILL you tell me of a substance zuhich when itburns will give off a dense smoke, and not much flame? I want to use it for a ship.-(R.D.R.)
A dense black smoke is ordinary camphor. Experience with this shows that the only drawback is it burns away fairly rapidly. Another very good medium for producing smoke is tow. If some
short lengths of soft thick string are soaked for twelve hours in a saturate solution of potassium nitrate, dried thoroughly, then ignited and placed inside a ball of tow, clouds of smoke will emanate. You could experiment on these two systems, and should soon discover the most satisfactory way of producing a suitable amount of smoke for your particular purpose. It would be as well to pack the smoke-box of your model ship with tow in the middle of which you have placed a few lengths of the prepared string above referred to, and several balls of camphor, or, better still, powder the camphor and mix it with the tow.

## Oilskin Dressing

M$Y$ work demands that I remain out in all weathers in oilskins. Can you tell me how to mix a good non-sticking dressing ? -(P.D.)
I KNOW of nothing better than linseed oil as a dressing for oilskins, but there is a special preparation which is quite satisfactory, sold by J. D. Williams \& Co., Dale St., Manchester, to whom you might apply if you wished.

## Oak Board Flooring

IPROPOSE taking up the present floor-boards and relaying with narrow oak planking or else parquet flooring.-(G.B.) IF you have not had very much lexperience of this type of work, I would suggest your using narrow oak boards and not parquet flooring. There are several types of the former on the market. You will require tongued and grooved flooring if the old boards are taken up. The only thing to be careful about is to make sure that the joints are up nice and tight. This can be donc by driving a screwdriver or a bar into the floor joist close to the nail, pulling it towards you and holding it in this position while the nail is driven in. If your existing floor is in reasonably good condition there is no necd to take it up, but only to cover it with 2 by $\frac{3}{8}$ tongued and grooved flooring. Any good book on carpentry and joinery will deal fully with this type of work.


TO judge"by the snaps we see, it would appear that most amateurs like to try 'shots' at moving subjects while away on holidaysand at other times, too.

Motor-car trials, railway trains, high divers and shore games are among the most popular subjects.

The great trouble found in taking these things with an ordinary camera is that the shutter moves so slowly that the image on the film has had time to move a certain distance while the lens is open. Hence the final picture is 'fuzzy,' instead of being sharply defined.

To obviate this, cameras made specially for speed work have a shutter of the 'focal-plane' variety. This is capable of giving exposures of one thousandth of a second or less, during which time the movement of the inage has been virtually nil and the result is a clear-cut picture.

## Some Examples

Under certain conditions, however, passably sharp snaps of speeding subjects can be obtained with slow shutters. Let us consider motor car racing?first.

Swing the camera for broadside
Broadside, that is passing right across the field of vision, is not the best way to take cars or motor cycles, as will be explained later, but often when watching from a stand it is the only angle that can be got on them.

Quite sharp results can be obtained, however, from this position by a nethod known as "swing ing the camera."

The idea is that you sight the camera along a b that is, as much 'up' the road as possible from where you are standing. The car

flashes on to the section of road a c, and as it rushes between these two points you follow it with the camera, i.e., keep the lens pointed at it.

This is not as hard to do as it may sound, and with a little practice it will be found no more difficult than keeping a finger pointed at any moving object.

The snap is taken by pressing the trigger while the camera is actually swinging between ' $a$ ' and c.'

If you have succeeded in 'following' the car fairly accurately, it will appear quite sharply defined in the print, but the background and spokes will be blurred, which gives a fine effect of speed.

The simplest way to get racing cars, however, is as they come towards you. A bridge crossing the road or track is ideal, as is a position on the far side of a corner.

A slow shutter-speed (say I/50 or I/Ioo second) can be used in these positions with virtually no blur.

These ideal positions cannot always be found, of

course, but by keeping the angle between the line of sight and the path of the car small, satisfactory results can be got.

Small angles can generally be obtained by getting to the front of the spectators.

The reason why 'dead' front or small angled viewpoints give sharper pictures than other positions is that moving objects appear to move
slower, the nearer the 'end-on' position one stands. Indeed, they are actually moving at a much reduced speed relative to these good points of view.

Hence the movement of the image on the film is reduced, as well as the danger of blur.

All that we have said about motor cars and cycles is true for speeding trains, but with railways you have a distinct advantage, as overbridges can usually be found from which 'end-on' and 'small angled ' shots can be made.


An "e end-on" view with plenty of smoke for train pictures
With trains, however, it is a curious point that unless there is plenty of steam and smoke about, they often seem quite stationary. Cars never appear to give this impression-probably due to some suggestion carried by the line of spectators, goggled drivers, etc.

When taking trains, therefore, watch for days when steam and smoke are particularly obvious. This will be found the case when there is a certain amount of moisture in the air.

Railway trains have another advantage, inasmuch as they are big, which allows of them being photographed from a good distance away. This (as it will be explained), is a very good point.

## Diving Subjects

High divers make very popular speed subjects, but they are extremely difficult to get satisfactorily with a slow shutter. In fact, it is impossible to get them sharp when well into the vertical drop.

Most divers who work from a spring board, it will be found, are thrown a little distance upward before gravity starts to pull them downward. 'The time to 'snap' is when they are just at the top of the curve.

Whether the subjects be cars, trains, divers or, indeed, any moving object, it should be noted that
the further away one gets to take the picture, the less chance there is of it being blurred. Although, of course, the image will be smaller. If fairly sharp, however, it can be enlarged later.

Actually, twice the exposure can be given at a range of roo feet as there can be at 50 feet, with no greater danger of blur appearing.

At all times use the very highest speed of which the camera is capable, and load with fast films to reduce any tendency to under-exposure that the quick snap might give.

When not trying any such scheme as 'swinging the camera,' hold it, if possible, against something firm while moving the trigger, as this will prevent 'camera shake' appearing. 'Swinging' is a case by itself, for here we are virtually making use of 'camera shake' to follow the subject and so are putting what otherwise would be a fault, to use.

## Wait for the Pause

In shore and other games like tennis where movements are irregular and in all directions, the best thing is to get well back and get a passable degree of sharpness by virtue of the long range, laving big prints made later.

Also it is good to watch and wait for the comparatively still moments. They will be found in all games. As for instance, the moment when everyone is waiting for the next 'pitch' in rounders, or while the batsman waits tensely for the on-coming ball in cricket.

Above all the getting of speed pictures needs a certain amount of patience and practice, but they well repay the effort put into their getting.

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A Flying Model LOW-WING MONOPLANE


legs and tenons to lock them. If the nail heads are objected to, file off and punch below the surface, the holes being subsequently stopped.

The end bars of the seat frame are cut Iin. shorter than the full width of the ends and when bolted to them will be $\frac{1}{2}$ in. in back and front (see Fig. 5). Place them against the seat rail, cramp together, and drill two $\frac{1}{4} \mathrm{in}$. holes right

AUSEFUL seat for the garden is always welcome and liere is one of strong and neat design. It has the additional advantage of portability as by withdrawing a few bolts it can be taken apart and stored away for the winter.
The best garden seats are made of teak or oak, but as these woods may be too expensive a good quality red deal can be used. Red deal is quite good stuff for outdoor woodwork, and if kept painted will last for years.

First make the ends shown at Fig. r. Here the main dimensions are given while the sizes of all timbers used will be found in the cutting list, allowance being made for the tenons.

The seat rail is of extra thick substance, $1 \frac{1}{2}$ ins. in fact, so that when tenoned into the legs its inner face will be flush, as in Fig. 5. This is to allow the seat frame to be bolted to as shown.

## Lower Rails

The lower end rails are tenoned into the legs, the arm rests are tenoned into the back while the fore parts are mortised underneath to fit a stub tenon (see Fig. 3) cut in the front legs. Glue and cramp up and drive 2 in . wire nails !through
through for the fixing bolts.
Now take apart and make up the seat frame by joining the ends to the long sides with corner joints shown in Fig. 4. This joint should be pinned by a long wire nail driven through the top.
Glue and screw in each inside corner a swall angle block and across the centre notch in a cross bar to support the seat midway.

## Angle Brackets

The angle brackets beneath the seat frame are cut $8 \frac{1}{1}$ ins. by 3 ins. and shaped up. The show part of the brackets is 6ins. by zins., the remainder being for the tenon which goes right through the legs. These brackets are best dowelled to the under edge of the seat frame first, then the tenons can be marked out and cut. By this means a more accurate joint can be assured.

Now the mortises for the tenons can be cut in the legs and the seat frame bolted to the ends. Brackets, by the way, are also fixed beneath the rear of the frame as well as the front.

A $3 / 16 \mathrm{in}$. hole is drilled through the legs and tenons, and a split pin tapped in to lock the joint. (Continued at foot of next page)


FIG. 3


FIG. 5


# MAKING A SMALL TENT 


are to go through these holes, so strengthen them by letting two small rings into the material, so as to prevent tearing

To complete the outer fly it is a good plan to strengthen it along the top and edges with a 2 in . strip of material taken from the piece put aside. Sew in some more brass rings-one at each corner, and others at intervals

ASMAIL tent adds to the enjoyment of many pastimes. To the garden it is an aclded attraction where tea may be served; to the hiker, cyclist, motor cyclist or motor tourist it is an addition to the outfit which gives pleasure apart from its practical value.

Here are the dimensions for making one of useful size. It can, of course, be made smaller or larger in proportion and according to your requirements.

## Material Needed

Eigyptian cotton is the best material to use, because apart from the fact that it is inexpensive, it is light, strong, and can be closely packed. The tent in the drawing is 6 ft . long, 4 ft . wide, and 3 ft . gins. high with an outer and inner fly.

You will need 18 yards of material, 4 Iins. wide ; two poles $\frac{1}{4} \frac{1}{4} n s$. in diameter ; 24 galvanised meat skewers, and a ball of good strong string.

Make the outer fly by cutting two pieces of the material each 8 ft . long and from one of these, cut a strip ioins. wide. Put this aside. You now have left two lengths of 8 ft ., one of which is 4 rins. wide, and the other 3 Iins. wide. Sew these together, making one sheet 8 ft . long, and 6 ft . wide.

Now 4 ft . from the end of this, and as close to the edge as possible, make a small hole. Repeat this operation from the opposite edge. The poles
of say, $18 i n s$. Now the outer fly is finished.
Make the inner fly the same way, except that two 9 ft . lengths instead of 8 ft . ones are cut off to commence with. The holes are made 4 ft . 6ins. from the ends, the length being 9 instead of 8 ft . Also instead of strengthening the ends as before, you sew a strip of the material a foot from the ends, so that you have a flap to hang down round your tent.

## End Patterns

For the ends, make a paper pattern first. Sew the pieces to the ends of the inner fly-two at the back and two at the front of the tent-sew the rear pieces together, but not the front ones, as they form the entrance, and are closed by tapes fixed in position.

Your poles should have a stout nail with a good head at one end. The holes of the inner and outer fly go over these, and also the string with which you stretch the tent taut from back to front.

The meat skewers make good tent pegs because they fix easily in hard or soft ground. Open the ends to form a hook instead of loops, thus allowing the looped cords to be slipped on and off.

Your string should be strong. Cut it into fourteen lengths of $\mathrm{I}_{\frac{1}{2}}$ feet, and two of $4 \frac{1}{2}$ feet. Attach them to the rings in the inner and outer flies, and loop the other ends to slip over the hooks in the ground.

## Garden Seat-(Continued from previous page)

The exposed ends of the tenons are chiselled to wedge shape to look neat.

Two boards are required for the seat. These are cut out at the comers to fit round the legs, back and front, and are spaced rin. apart. They are nailed or screwed to the seat frame only.

The back rest consists of two rails, halved as in Fig. 6 to vertical bars at each end and in the middle. The lower rail is bevelled off on its under edges to allow to rest to swing back to a restful slope, it is then hinged to the seat with 2in. back flap hinges, the hinges being screwed on a line zins. from the back edge of the seat. It is secured to the ends at the top with a bolt each side, the bolt passing through iron brackets screwed to the back.

This completes the seat which can now be
painted two coats of white or green paint as preferred. To take apart, remove the bolts and split pins, pull the ends away and fold the back.

| Ends- |  | No. | Length. | Width. | Thickness. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rear legs | ** | 2 | 2ft. 9ins. | 2ins. | 2ins. |
| Front legs | $\cdots$ | 2 | 1ft. 11 ins. | 2ins. | 2ins. |
| Arm rests | * | 2 | 1ft. 5ins. | 2ins. | 2ins. |
| Seat rails | ... | 2 | 1ft. 3ins. | 3ins. | $1 \frac{1}{2}$ ins. |
| Lower rails Seat frame- | ... | 2 | 1ft. 3ins. | 3ins. | 1 in . |
| Ends ... | ... | 2 | 1ft. 4 ins. | 3ins. | $1 \mathrm{in}$. |
| Long sides | ... | 2 | 4ft. 6ins. | 3ins. | $1 \mathrm{in}$. |
| Mid rail <br> Back rest- | $\cdots$ | 1 | 1ft. $2 \frac{1}{2}$ ins. | 2ins. | 11 n. |
| Rails $\quad .$. | .** | 2 | 4ft. 6ins. | $3 i n 8$. | 1fins. |
| Vertical bars | ... | 3 | 1ft. 4ins. | 3ins. | lin. |
| Seat boards |  | 2 | 4ft. 10 ins. | $8 \frac{1}{2}$ ins. | 1 ln . |
| Under brackets | ... | 4 | 8tins. | 3ins. | 118. |

FOR those fond of the sport of duck shooting, a duck punt is almost a necessity. Apart from the specific purpose for which the punt is designed, it is invaluable for boating in shallow waters or for such uses as a punt is usually put to. It should readily appeal to the amateur in boat construction on account of its simplicity, as any fellow reasonably handy with wood-working tools can hope to make a satisfactory craft.

Now study the drawings to get a clear idea of the general construction. Fig. I shows a side view with a portion of one side of the punt cut away to reveal the bulkheads, etc. Fig. 2 is a plan of the framework and Fig. 3 a section through the cockpit. Make a start with the bulkheads, A and B. These are rectangular frames of red deal, halved together and screwed at the corners. The bottom rails are 1 in. by $\mathrm{r} \frac{1}{2} \mathrm{in}$. stuff ; sides, 1 in. by 2 ins., and tops, in. by $3 \frac{1}{2}$ ins. When glued up, cut the tops to a curve, reducing the height of the sides to 1 rins., also curve the under edge of the top rails to suit, as in Fig. 4.

## Chines and Gunwales

At the corners cut out the notches, a, b, c, and d. These measure in . by ${ }_{8}^{5} \mathrm{in}$. and are to admit the chines and gunwale battens. No dimensions as to the width of the bulkheads are given in the drawings as they differ. Bulkhead A is 3 ft . rins. across and $B, 2 f t$. roins. across.

From rin. by $\frac{1}{2}$ ins. wood, cut the side bars of the cockpit, $\mathrm{C}, 3 \mathrm{ft}$. $6 \frac{1}{4} \mathrm{ins}$. long. These are notched $\frac{1}{8} \mathrm{in}$. into the bulkheads, connecting them together. They should be spaced to leave 2 ft . 5 ins. between them, as seen in Fig. 2. The joint should be glued and screwed.

The stem and stern posts are cut from $9 \frac{1}{8} \mathrm{in}$. lengths of 6 in . by 5 in . wood, preferably oak or elm. The shape of these is clearly shown in Fig. 5. The recesses either side are to receive the ends of the side planks of the punt and should be cut $\frac{1}{2} \mathrm{in}$. deep.

The side planks are of larch, nins. wide and $\frac{1}{2}$ in. thick, free from knots. Cut each to a length of r 3 ft . gins. and trim the bottom edge to a curve so as to reduce the width to gins. at each end.

Take the stem post in hand, coat the recesses generously with a thick white lead paint and screw one end of each
side plank therein with four 2 in. brass screws.

## Fixing the Bulkheads

Now place the bulkheads between the side planks, the foremost being 5 ft . 3 ins. from the stem, force the planks together and screw to the stern posts, luting the joint with the thick white lead paint. See the bulkheads are quite square across, then screw through the sides into them to fix.

The gunwale battens and chines are lengths of rin. by $\frac{5}{8}$ in. spruce. They are luted with paint and bent round the inside and there fastened with brass screws.

Turn the whole upside down and with a smoothing plane, set fine, trim off any excess portion of chine and bulkheads to make the bottom all smooth for the flooring to be nailed across.

Use ${ }_{4}^{\frac{3}{4}} \mathbf{i n}$. $T$ and $G$ boards for the floor, lute the tongues and grooves with paint, also the bottom edges of the sides, etc., and nail the boards across with 2 in. copper nails to the sides and chines. A few brass screws can be added, especially where owing to the curve the boards may be a bit hard to bed close.

A tight joint is necessary else the boat will not be watertight. Turn the boat on its side and trim off the edge of the floor flush with the sides. Now cut the strips of wood for the runners. (See Fig. 3). These are $\frac{1}{2}$ in. by zins., and are spaced as shown. Just trim them to length and leave for awhile.


With the boat right side up, measure off and cut the central deck bars, D. These are in. by 2 in. material. Notch these into the bulkheads and trim to fit over the stem and stern posts.

They should be slightly curved on their upper faces to conform with the curve of the bulkheads. They are supported about midway by struts E , of 2 ins. sq. timber, screwed to the floor from beneath and through the bars.

Between the sides of the boat and cockpit bars, C, two brackets are fixed each side. The shape of these brackets is shown in Fig. 6, they are glued and screwed in place.

Fig. 6 also shows how the bars C and D are notched into the bulkheads. The whole of the interior should now receive two coats of white lead paint or boat varnish before the deck is fixed.

## Coaming

The coauning, which lines the opening of the cockpit, consists of two side pieces, $3 \frac{1}{2}$ ins. wide and front and back pieces, cut to the curve from $5 \frac{1}{2}$ ins. wide stuff, all $\frac{1}{2}$ in. thick. They are nailed together at the corners and screwed to the bulkheads and bars, C .

A canvas deck is suggested, but to give it shape a foundation of three ply is first fixed across. A light grade of plywood, say $3 / 16 \mathrm{in}$. thick will do, and of a quality that will bend to the curve of the deck.

The fore and aft pieces are fitted to butt against the coaming and are copper nailed or screwed to the gunwale battens and sides of the boat. At the sides of the coaming a small strip of the

Fig. 1-Section giving dimensions and positions of parts


Fig. 3-A section showing amidships


Fig. 4-The curved top to the sides

Fig. 2-Plan of the parts with deck


Fig. 6-How the rails and bars are fitted


Fig. 5-Stem and stern posts

Fig. 8-Flooring edging



## CUTTING LIST


against the coaming. The side strips should overlap in. on the fore and aft deck canvases, the overlap being doubled and tacked with copper tacks.

Press the canvas down to stick without creases, trim the edges to within $\frac{1}{2} \mathrm{in}$. of the sides of the boat and there tack down. Cover the tacked edges with a $\frac{3}{4}$ in. half-round moulding, nailed along.

Round the four sides of the coaming nail a simall quarter-round moulding in the angle formed between coaming and deck. Lute the moulding well with thick paint and fix with copper nails. It will cover the edges of the canvas.

Give the outer woodwork a good glasspapering and along the edges of the flooring fix a in. halfround moulding, coating it generously with the thick paint before nailing. This (Continued at foot of next page)


Fig. 7-Side deck fixing


YOU will find that a calf is a most fascinating pet to keep, and as soon as it grows up into a cow or bullock, and becomes too large for you, you can easily sell it at a good price, and rear another.

Feed your calf on as much milk as he or she will drink, if you want a really healthy animal. Allow the calves, however, only three meals a day. Remember that boiled skim milk given just warm is quite good for calf feeding, if whole milk proves too expensive. It must, however, be strained after it has cooled, in order to remove skin, though there is not usually as much of this on skimmed milk as on fresh full cream milk.

## Meal and Milk

Calf meals are of many kinds, and most of them can be stirred into fresh milk, or into boiled skimmed milk to make it more nutritive for rapidly growing calves. You must study your calf, however, carefully for the first few days, and see whether it can stand these extra foods, and if not, continue with milk only for the time being.

Linseed meal makes an excellent jelly if treated with boiling water, and calves should have it in warm milk several times a week. They will enjoy it thoroughly, and will always be ready for your pail containing it, if you make a point of giving it to them for a particular meal, and on a particular day of the week.

## Solid Foods

Calves like carrots, and should be allowed them either fresh, or better still boiled. The smaller carrots are much better for very young calves, and may well be chopped up, or at any rate sliced at first, as some calves find difficulty in masticating them, especially when they are not softened by boiling.

A mixture of boiled chopped hay and sliced boiled carrots suits older calves admirably, but look into their mouths first, and see that the teeth are capable of masticating this mixture, otherwise it may be greedily bolted, and when it is returned later to be chewed properly, the calf may not find itself able to do so.

Remember also that turnips, like carrots, are best boiled for calves, and a mixture of them boiled and sliced along with warm boiled hay is much appreciated in cold weather.

When your calf is six weeks old, and not before, provide a wisp of sweet hay for him or her to pull at. This is best suspended on a piece of strong cord from a wall peg near the roof.

Don't be afraid of allowing each of your calves a lump of chalk to lick-in the pen or stall whenever she or he wants to. This is much better than round chalk or powdered limestone dust, although you will be recommended by some farmers to use that, and to mix it with their food. The chalk neutralises acids which are responsible for a lot of indigestion.

## Care of Calves

As regards the general care of calves as pets, rememher that each calf should have a pen or stall of its own, and that this is best constructed in a rather narrow style, in order to discourage the animal from the undesirable habit of turning round and licking itself.

Various flooring materials have been proposed, but concrete makes the best sloping floor for calf pens, though plenty of straw must be put on it, otherwise the calves feel it cold, and also find it uncomfortably hard.

## Cleanliness

Calf pens need to be cleaned, and indeed should be washed out every day, but do not throw a lot of water about, especially in damp weather, as the animals need to be kept as dry as possible if they are to thrive.
As an appetiser when the calf is off its food, try rubbing a bit of rock salt round the inside of its mouth. This is often extremely effective, and some farmers go as far as always to offer a lump of salt at the beginning of each major meal.

If you want your calf to get fat extra quickly, make a point of disturbing him or her as little as possible between meals, i.e take your friends to inspect the animal at feeding time, and not at other periods of the day.

Duck Punt-(continued from opposite page)
moulding is shown in section, Fig. 8. Now give the outside and bottom a coat of priming colour, also the runners. When dry, apply thick paint to the rumers and screw to the bottom of the boat.

The canvas deck should receive one or two coats of boiled linseed oil, to which a little driers has
been added, to make it waterproof. The final coating of white lead paint can be applied to finish.

A gun swivel, if required, is fixed at a convenient place on the deck. This article can be bought at a marine stores or sports dealer.

# SIMPLE FRETWORK PLAQUE 

Patterns on pages 372 and 373

THF centre pages of this issue contain patterns for a straightforward piece of work which many of our readers will desire to make up in this Coronation year.

As can be seen from the illustration herewith, the plaque is intended for hanging on the wall and contains the words " God save our King and Queen," and has beneath a lifelike realistic plaque of 'Their Majesties.

The whole thing is cut from a single piece of 3/r6in. wood and we can supply a board of very nicely grained suitable whitewood for iod. The plaque which goes in the centre of the pattern is very nicely embossed in metal, and has a realistic picture of King George and Queen Elizabeth in profile.

If necessary, too, we can supply a piece of cloth for backing up the wording and the ornamentation, both being supplied for $1 / 6$.

## Simple Cutting

The work of cutting is simple even to the beginner, but particular attention should be paid to the lettering. A good plan is to run a pencil line along the whole length of the top of the letters so that actually your saw may be cutting to this line. Thus they will all be quite straight and finish at the same point.

Nothing looks more odd than some of the letters being short, some long and the line above and below them ragged instead of straight.

Although the plaque is just over 12 ins. long, it can be cut with a frame of that length by approaching the various frets from either end instead of perhaps all from one direction. The grain of the wood, of course, is from side to side.

## Points to Note

Notice that the flowing curves of the leaves issue from a centre point below the plaque, and be sure to get them to balance up correctly from each other. A good plan is to cut out one small interior fret on one side, then to cut out the same fret on the other side. As you do it, notice that it balances up with the first one cut.

Each interior fret, too, can lhave two or three

## MATERIAL SUPPLIED

For this design we supply a parcel of whitewood for 10d. (pose free 1/1).
The embossed plaque of King George and Queen Elizabeth and sufficient linen cloth for backing cost $1 / 6$ post free. A complete parcel wood and fittings $2 / 3$ post free.
drill holes made in it to facilitate the turning of the saw. Here again make the drill holes first in one fret, then cut it out with the fretsaw and in doing it you will probably realise a better position where drill holes can be made.

Cut straight across to the similar fret on the other side of the pattem, and put the drill hole to the best advantage. This, by the way, is usually the widest point of an angle. In this way the sawblade can go down one side of the angle to the point, then be backed up into the drill hole, turned and taken down the opposite side.

There is, by the way, a very helpful chapter on this particular point in the fretwork book "The Art of Fretwork," and those who have not had a copy should certainly get one because it is full of useful information on many of those small points which take a long time to pick up if you have to find them out for yourself.

## Finishing Touches

When the cutting has been completed, scrape off all the paper remains with a coarse grade of glasspaper, finish up with a finer grade and be sure not to scratch the surface of the wood. Be sure, also, to use the glasspaper on a block of wood, or in a proper holder, and keep a flat even surface and pressure.

Finally, look over the whole design to see that there are no faulty sawcuts or indentations made. If so, wipe them out as much as possible with those tiny fretsaw files which will go into any angle or curve.

The metal plaque in the centre can be fitted either by gluing it in place, or by fixing with a couple of tiny fret pins. If fixing with glue, put a fairly thick coat of the adhesive over the whole of the back, and press very firmly in position on the wood. Hold it there under pressure until the glue has set, but do not weight it down too heavily or the embossed portion will get flattened out.

It is a good plan, too, to scratch the actual surface of the wood fairly deeply so the glue gets a better grip. In fixing it by fretnails or tiny pins, be sure first to drill holes. Use a very fine fretwork
(Continued at foot of next page)

## WOOD PICTURES IN RELIEF

THESE pictures in relief make charming decorations for the home, and they are also useful for advertising and general demonstration purposes such as illustrating travel and history lessons. They are, in fact, panoramas in little.

The drawing shows a typical scene to be so treated. It is, in fact, a reproduction from a photograph taken by the writer in Holland last year, but in every magazine you will find suitable pictures, and there is no point in giving a large, full-size one, here.

Having got a picture (which should not be too small, or contain too much small detail) to your liking, divide it into about six " planes," i.e. judge which objects are nearest to you, and which are the farthest away. For the sake of illustration we will refer to the Dutch scene here shown. The farthest plane is that of the clouds and buildings on the skyline. (The buildings on the skyline might well be in a separate plane but this would


## How the parts are built up

make the design too complicated for beginners).
Next comes the steamer, then the fishing boat, whilst nearer still are the mooring piles. Right in the foreground we have the jetty, and nearest


An example of a completed picture
of all we have the man and the dog. All pictures can be so analysed.

We therefore draw the farthest plane on a sheet of plywood, leaving sufficient margin for some moulding to be later described. The steamer is cut out of fairly thin ply, and the fishing boat out of ply a little thicker, and so we cut out all the parts.

## Mounting the Parts

These are then mounted in their right order and position. It is not always possible to mount the pieces flat, owing to irregular pieces underneath. In this case suitable small packing pieces should be used.

Square edges should now be rounded off (except in cases where the objects are supposed to have square edges, as, for example, in the jetty). A gouge may be used with great effect in hollowing out some parts (the sail of the fishing boat, for instance), whilst plastic wood is useful for moulding small details and smoothing out square corners.

The whole must be framed, and the grooved moulding to take the glass mounted on a stripwood packing the height of which will depend on the thickness of the picture. This moulding should be temporarily fastened whilst the frame is cleaned up, and then taken apart so the picture can be coloured (with various enamels, oil-paints or poster colours). The whole is then reassembled.

## Fretwork Plaque-(Continued from opposite page)

drill bit and work it rapidly on the metal. Do not press too hard on the top of the drill or you will either break the drill point or else press out the actual metal.

Do not attempt to hammer the nails through straight away, or you will make a nasty dent. Two of these pins should be sufficient, one on each side, but of course, if the metal happens to bend, then four can be put in, one at the top, one at the bottom, and one at each side.

The completed plaque can be left with the wood in its natural state, or stained and polished in the usual way, a fine brush being used to apply the colour and polish to the fretwood edges.

If the backing is being put on, finish the stain and polish before this is done. The backing itself can be of cloth or fancy paper, or leatherette paper or even a piece of thin fancy wood which will bring the fretwork portion out in strong relief.

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# INTERESTING NEW ISSUES 

WF. cannot possibly dismiss all the issues of the past month in one article unless we just state that such and such a country has made an issue of stamps. There are two sets at least which must have a fairly detailed account for they arc both more than worthy of passing notice.

To start we illustrate one of a
and the child to one side and to bring in the figure of an old man playing the violin. All is enclosed in a semi-circular frame, and the old man playing almost leads one to imagine the mother is singing.

Next we have the French Colonial Issue in sets of six stamps. One could not call them anything but curious for they are so terribly

set of four from Denmark, issued in commemoration of the Silver Jubilec of King Christian X. who came to the throne on May 14th, 1912. The values of the stamps are $5,10,15$ and 30 ore and are in three designs. The ten and the thirty ore are as illustrated, and you should notice the initial C with a x in it both below a crown. The five ore shows a nice picture of a sailing yacht. The 15 ore however is not a very pleasing design as it has a large statue of a mounted figure, and a building as a background.

Belgium, has issued another very pleasing picture to add to her already large portrait gallery. This is a picture of the late Qucen Astrid holding up the young Prince Baudouin. The set of eight stamps is again in aid of charity, the premium varying from 5 c . to lfr .55 c . on postage rates varying from 10 c . to 2 fr .45 c .

Czechoslovakia has also brought out some fresh designs. One stamp bears a portrait of $\mathrm{Dr}_{\mathrm{r}}$. Edvard Benes, while three Child Welfare Charity stamps have rather more unusual designs. The two lower valucs show a mother with her baby at the side of the cot, while the highest value is decidedly attractivc, although it is in part very similar to the lower values.

All that has been done is to place the figures of the mother
muddled. For instance, one valuc has a picture of three different types of native heads. Then in the background is the Eiffel Tower and another building, on top the words 'Exposition Internationale Paris, 1937,' and at the bottom the name of the Colony.

There are over 100 different stamps for all the colonies, six designs covering the lot.-It is somewhat after the style of our Coronation stamps-that is, one design doing for a number of places.

Firench Equatorial Africa has a new sct also but again the designs are not very interesting, with the exception of one of them, which shows a native logging. This certainly convcys an idea of conditions of life in the country from which the stamps come.

The Dutch Indies have issucd two "Scout Stamps," and scouts can certainly feel they are having their full share of the stamp album now.

Well, now we can get to the two sets which are absolutely brimming over with interest and for which space in the illustrations has purposely been allowed. One would like to illustrate some of the above but patience had to bc excrcised and space left for these.

Mozambique Company have already had a very attractive, if somewhat long, set showing native products. That was in 1918-1924,
and this month we have a set of nincteen stamps ninc of these being a very worthy addition to any zoo collection. Those readers who make such a collection should make a complete reference to a good natural history when they mount and write up this lot.

The onc cent shows a picture of a giraffe, and stamps on which this animal is portrayed are always very popular. Although a giraffe attains a height of 18 ft ., yet the number of vertebrae is exactly the same as other animals-namely five. Since the tongue can give another eight inches in length there is little wonder that the giraffe can reach the juicy shoots at the top of the trec.

Despite thair size they can run quite fast, up to 30 miles per hour.

The next specimen in this set which has a zoological subject is the 20 cents. On this we see the zebra. Although we have not seen these animals on the stamps of Mozambique yet they have appeared on the stamps of Nyassa, which is another Portuguese Colony.

The zebra, lives in herds of from 20 to 100 animals and its chief enemy is the lion. In captivity it can live for as long as twenty years, is tamed easily, and can be used for riding and driving. Unfortunately they are rather slow as draught animals.

Now we have four triangular stamps. The thirty cents shows a picture of a python, one of the constrictor family of snakes. These

snakes are fond of the water and will live in it and soak for days on end. True pythons almost all lay leathery shelled eggs, and exhibit some degree of parental care.
(To be continued)


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