NOVEL BRACKET DESIGN FREE INSIDE

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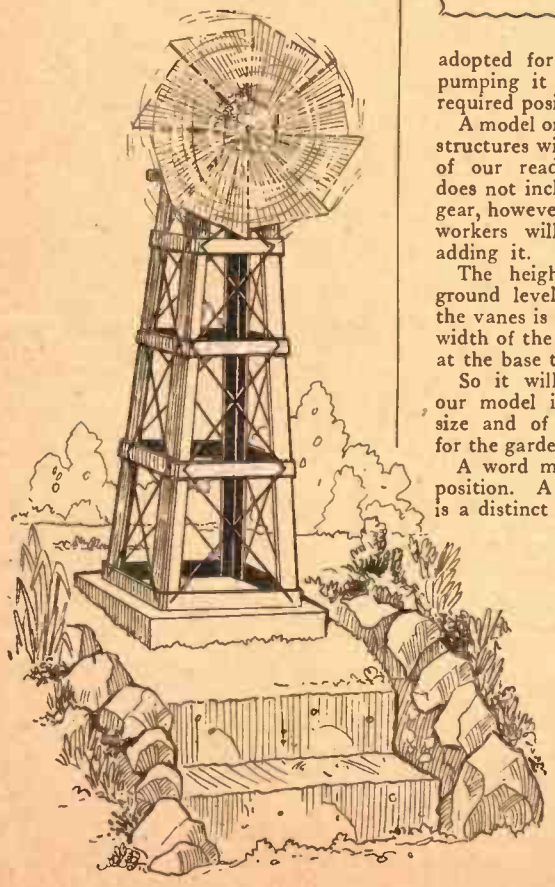
A WATER MILL
Model for The Garden

ONE frequently sees during a run round the country, and usually away from the town, such a mill as depicted here. Many large country houses have their own water supply from a deep well, and this is the type of wind power adopted for raising the water and pumping it along the pipes to the required position in the house.



A model on the lines of one of these structures will be of interest to many of our readers and modellers. It does not include the actual pumping gear, however, but some enterprising workers will soon find a way of adding it.

The height of the model from ground level to the extreme tip of the vanes is just over 2ft. 9ins. The width of the sails overall is 12ins.and at the base the tower is 8ins. square.

So it will be acknowledged that our model is to be of fairly large size and of picturesque appearance for the garden.

A word might be added as to its position. A raised site in any case is a distinct advantage, so the vanes catch all the wind available. In our sketch we give the suggestion of a built-up bank of earth with an opening made step-wise and bordered each side with large stones making the whole when tastefully planted out a real feature of the garden.

A foundation is needed for the model, and it will be at once obvious that a good-substantial one must be made. It can be constructed in concrete and set well in the earth. To this end, therefore, obtain a shallow box about 12ins. square inside and about 4ins. deep.

In the centre of the box erect and fix a thin iron rod of sufficient height for it to stand about 1in. higher than the sides of the box. The top of the rod, too, should be cut with a thread to fit a bolt.

The Foundation

Mix sufficient concrete of gravel, sand and cement to entirely fill the box levelling off the mixture neatly along the top and bedding it well round the centre rod which, by the way, should be "cranked" at the lower end so it will not pull out of the concrete block when this has set.

A square of tarred felt should be laid over the top of the concrete before the model is finally bolted down, to help preserve the flat wood base of the model.

A lattice-work tower or pylon 24ins. high supports the windmill at the top, a separate platform being provided so the whole sail section turns to meet the wind. A pin is provided behind the sails to assist in this turning movement.

The Tower

The tower is quite simple to make and very little wood is required. A base board and a top platform board (both ½in. thick) must first be

marked and cut. The base board is 8ins. square while the top board is 4ins. square.

Bore a ¼in. hole in the centre of each piece, one hole being for the fixing wire of the base, and the other for the spindle round which the upper loose platform will revolve. Lay these two sections aside and proceed to make the four lattice-work sections as shown in Fig. 1.

Each section consists of two uprights and five cross bars all of the same section wood, viz. 1in. by ¼in., a few lengths of ordinary builders' cut laths will suit admirably. Cut the two long laths rather more than

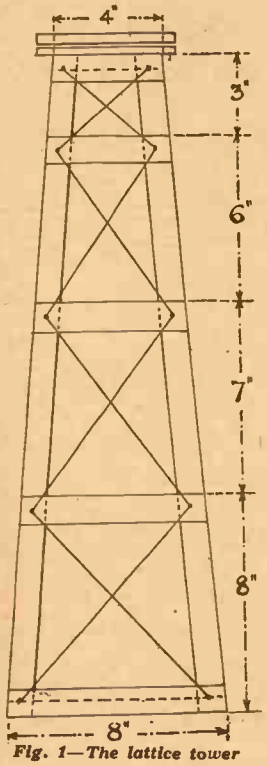


Fig. 1—The lattice tower

2ft. to allow for trimming off at the bottom and top.

Wire nails ¾in. long are best for securing all this woodwork together, the nails for the cross bars being turned over and hammered flat at the back.

Having the two uprights fixed to their respective cross bars be sure to see that the slope of each is the same so a symmetrical figure is made before the remaining cross bars are attached. Set off on each upright the measurements shown in Fig. 1 and then lay on the cross bars to these lines and nail up securely. Trim off the ends of the bars finally.

Make four sections up like this, and then nail them to the ½in. pieces for base and top (see Fig. 2). The four diagonals on each side of the tower are formed from pliable wire, small screw-eyes or even tacks being used at the ends of the cross rails for securing the ends of the wires.

Make a firm fit of the short piece of round rod which goes into the top platform and through the ½in. top tower square of wood.

The Top Platform

The top platform will be 5ins. square and ¼in. thick, as also will be the platform above it which revolves round the spindle. Between the two platforms a metal washer should be added to make for freedom of movement.

The top platform has two uprights (see Fig. 3). Screw the pieces on and add a centre cross rail with a ¼in. hole in the middle of it for the passage of the vertical spindle. The

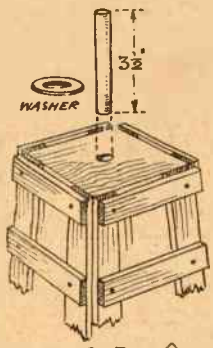


Fig. 2—Base and top

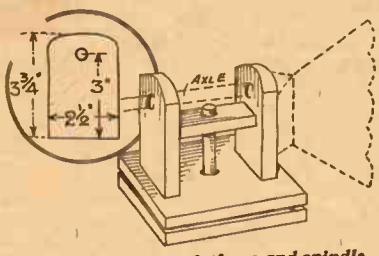


Fig. 3—The upper platform and spindle

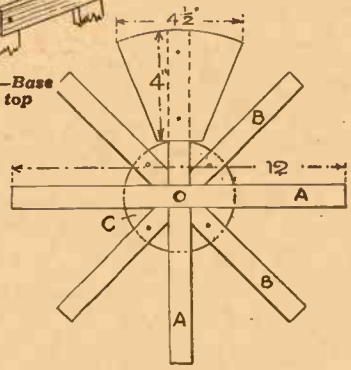


Fig. 5—The mill sail arms

position of the sails axle is shown dotted in the diagram.

Making the Vanes

The method of making a vane is shown in Fig. 4. Two pieces of sheet metal will be required. The shape for cutting is given in the lower diagram, while above is seen the finished vane ready for screwing to the rear of the upright.

In addition to. or instead of soldering, four strong clips of the metal may be angled up and driven over the two thicknesses to make a serviceable and strong job and the required clearance for the spindle of the sails at this part.

All the metal work should be coated with paint or Japan-black to preserve it from rusting.

The sails consist of eight metal (tin) vanes mounted upon a framework of wood, ½in. by ¾in. in section and 12ins. long as seen in Fig. 5. The two main cross pieces A A, are halved in the centre and holed to take a ¼in. metal or wood spindle. A ¼in. disc of wood C is next cut and screwed to the two cross frames, its diam. being 4ins.

The four diagonal rails B of the frame must be cut accurately to fit into the angles of the rails A A and screwed to the disc underneath.

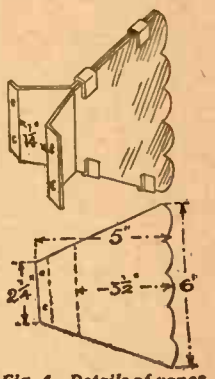


Fig. 4—Details of vanes

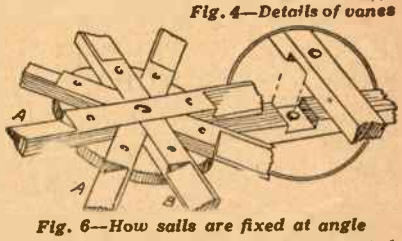


Fig. 6—How sails are fixed at angle

The rails are now all cut and bevelled (Fig. 6). Note the direction of slope of all eight "stems."

Coat all the parts with paint before putting them together, and add another coat after fixing.

The size for cutting the vanes is given in Fig. 5. The metal (tin) may be easily cut with an old pair of household scissors the edges being afterwards cleaned off and made smooth with file or emery paper.

Fixing the Vanes

Punch two holes in each vane for the screws which hold them to the frame work, and rest each "stem" solidly on the bench or table while running the screws in. See the frame with its vanes is securely held to the axle, and that sufficient clearance is allowed when cutting the axle to length, for the whole top to swing round.

Spacing washers and cotter pins will be used if a metal rod spindle has been adopted, while discs about ¾in. thick will be used if a wood spindle is installed. Fixing screws will be run into the edges of the discs where required.

The tower should be painted thoroughly to preserve the woodwork before the base is fixed down with the nuts to its foundation.

Overcome bell shortage by fitting up this
ELECTRIC CYCLE BELL

SINCE fitting an ordinary electric door bell to his bicycle—with rather novel, surprising, pleasing results—the writer has passed on the suggestion to a number of enthusiasts who, like himself, were badly in need of a new bell, but the brief instructions proved inadequate to most of them.

This article is, therefore, dedicated to all cyclists who are experiencing difficulty in obtaining a new bell, or even a second-hand one, and who, as a result, are running grave risks on the roads, for a bell is a necessity on bicycles—as vital as good brakes, or lights.

Now, while there is a plentiful supply of all types of electric bells and buzzers in the shops in most

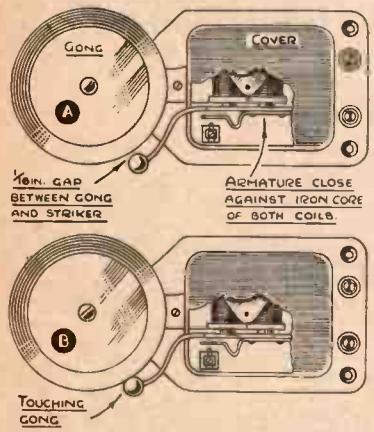


Fig. 2—Door bell adjusted normally (B) and as altered for a cycle (A)

districts, it may happen—as in the writer's case—that there is a discarded door bell somewhere in the house. A buzzer, incidentally, is not too effective; traffic noises deaden its sound. A bell is the more conventional, practical article, especially one having a gong about 2¾ins. in diameter.

If an old bell can be incorporated, so much the better as regards outlay. In any case, it is money well spent.

Adjusting the Armature

Having obtained an electric bell, its unorthodox use calls for an adjustment of the armature. If the bell is affixed to the bike (Fig. 1) with the armature still adjusted for ordinary domestic use (see B, Fig. 2), a sudden jarring on the roads, such as when traversing stony surfaces, crossing tram lines, etc., causes the striker end of the armature to vibrate and thus set up a tinkling over which one has no control.

The first thing, then, is to adjust the armature in such a manner that ground vibrations have no effect on the striker to the extent of ringing the bell, at least, whereas electric current will cause it to operate as soon as it is switched on.

The necessary adjustment is depicted at A, Fig. 2. It will be seen that the armature end of the striker is close against the iron cores of *both* coils, whereas the striker head is 1/16in. distant from the side of the gong. In the ordinary way, the metal ball touches the gong when the armature is held against the core of both coils, as at B.

Consequently, it is only a matter of bending the striker away from the gong slightly more than usual so there is a slight gap between the head and the gong. Under test, the adjustment gives excellent results.

If the bicycle is fitted with a metal

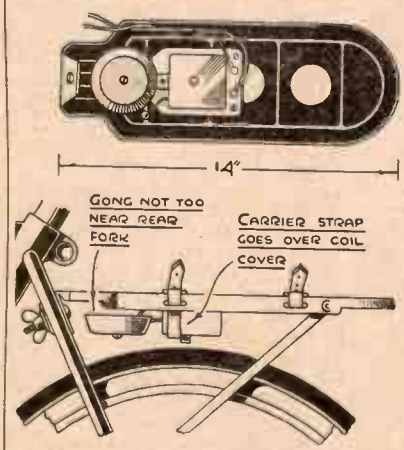


Fig. 3—Under and side view showing position

carrier and a soft saddle bag, the best place for the bell is beneath the fore end of the carrier. The battery, which can be a 9-volt G.B. type, is housed in the saddle bag. It is possible to fix a battery beneath the carrier by means of metal clips bolted, or riveted, to the underside.

The base of the bell is bolted to the carrier, as can be seen at Fig. 3. There are usually two screw holes already provided in the bell base, these being at one end, but it is advisable to drill an extra hole at the opposite end so the base, when attached to the carrier, will be more firmly secured.

However, almost any make of battery-operated bell can be incorporated. Those having conical-shaped gongs (sheep gongs, as they are

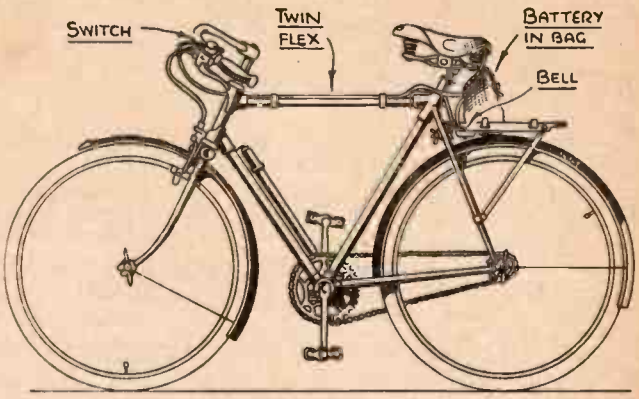


Fig. 1—Showing position of bell, battery, switch and wiring

called) are the only exception, because these gongs sit outwards too much.

A handlebar switch is required, including a couple of yards of twin flex wire. Attach the ends of the latter to the switch contacts, then screw the switch to the handlebars, either at the righthand side or lefthand side, whichever is more convenient.

The flex is brought along the bicycle cross-bar and held by means of small metal clips or by binding with adhesive tape (insulation stuff).

The circuit plan (Fig. 4) shows how the free ends of the flex are connected to one bell terminal, the other going

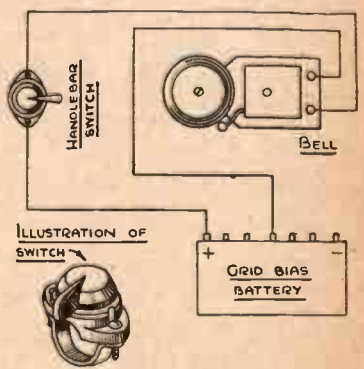


Fig. 4—Wiring circuit and specimen switch

to the battery. A third wire runs from the negative socket of the battery to the second bell terminal.

Remote control for your set cheaply made in this WIRELESS RELAY

HERE is a description how to make a useful unit for use with an Extension Speaker. Relays especially designed for switching a receiver on and off from a remote listening point can be purchased. They have one disadvantage—apart from their cost. They are operated by a large current momentarily applied.

This means that if the extension lines used with them are at all long they have to be of thick wire, or the relay will not operate. While if the battery used to operate the relay runs down during a period of listening it is not possible to switch the receiver off from the distant point.

From an old Cut-out

The relay unit here described has none of these disadvantages, and is also very cheap to obtain and simple to connect to the set.

The relay itself is an old cut-out and can probably be obtained from a garage for 2/6. Although the one used by the writer is a Lucas 6-volt unit, it will be found that almost any other type will serve perfectly well. It may be easily tested before being purchased.

If a small voltage from a dry battery (say 3 volts) is applied to the points marked on the cut-out D plus (Dynamo plus) and frame the armature should click down. The core of the electro-magnet has to pull against a spring and it should be seen that this spring is not too strong. It can be weakened if necessary.

Reference to Fig. 1, and to the circuit in Fig. 2, will enable the connections for any cut-out to be easily found. Most cut-outs have a fuse incorporated but this may be ignored, or the fuse-points may be bridged with wire.

The relay may be anywhere convenient by the receiver and the connections shown in Fig. 3 should be followed. It will be seen that provision is made for automatically silencing the speaker in the receiver when the distant point is switched on.

Three point-switch

This is done by using a 3-point switch in the receiver, and taking the leads from the secondary of the output transformer and from the speech-coil to earth and to the spare contact on the switch. The extension speaker is silenced by the switch at the distant point, so that the distant point, the receiver, or both together will function as the listeners at each end of the extension lines desire.

The relay is energised during the whole of the time of listening. As tests with a meter will reveal, it only consumes a few milliamps (it will be remembered that normally the high-resistance winding is permanently connected in parallel with the dynamo)—only a fraction of the current used from the accumulator by a normal receiver—this is of no importance. No additional battery is required to operate it, as with some relays.

The extension lines, three in number can be of almost any length and do not need to be of thick wire. The lead which takes the signal from the 1 or 2 mfd. condenser should preferably be kept spaced from the other wires, or a loss of treble will result.

The manner in which the relay works will become apparent from a study of the circuit shown in Fig. 3. When the double-pole switch at the extension point is closed the 2-volt accumulator used for operating the receiver is connected across the winding of the relay.

This draws down the armature and closes the contacts fitted; the L.T. circuit is then completed for the receiver through the low-resistance winding on the cut-out. This winding could be removed, but it consists of only a very few turns of thick wire (it may normally carry anything up to 20 amps.) and has no effect whatever.

Switch Operation

When the contacts close the receiver operates and the signal is heard at the remote point. Operating the switch in the receiver switches on locally in the normal manner. A receiver, with extension point and relay, may almost be likened to two separate and independent receivers.

When the accumulator is partially run down, and there is not sufficient voltage to operate the relay, the armature will automatically rise and switch the receiver off, if it was switched on from the distant point. This is an advantage not found in other types of relay.

The relay is not suitable for switching on and off mains-operated receivers. The extension speaker must be of the high-resistance type; it may be a model fitted with a volume control if desired.

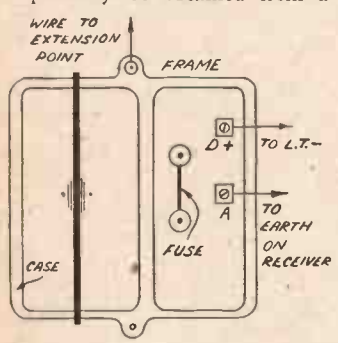


Fig. 1—Connections for cut-out as relay

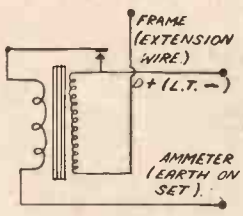


Fig. 2—The circuit of cut-out

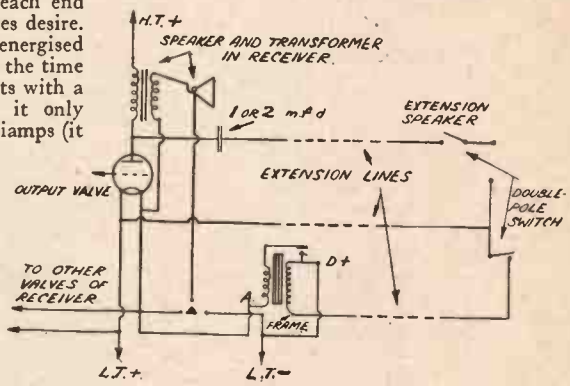


Fig 3—How the relay is connected to the receiver

Bird Scarer—*(Continued from opposite page)*

and come in contact with the soundbox.

An ordinary metal container about 3ins. in diam. and about 1in. deep will answer well for the soundbox fixed to the body of the mill (see Fig. 5).

Here a light angle plate is seen having two screws in it for screwing it to the wood back. The soundbox is held to the angle plate by a small screw and nut, much like those supplied with boys' constructional outfits. The finished mechanism in motion is shown again in Fig. 5.

Care must be taken to space the soundbox properly in relation to the "beaters" above. When stationary the latter should just rest to one side of the centre point of the box. Then when in motion both beaters will strike the edge of the box and clear themselves so no friction or difficulty in clearing is experienced. The true position for the soundbox is best found by trial before finally screwing the angle plate in place.

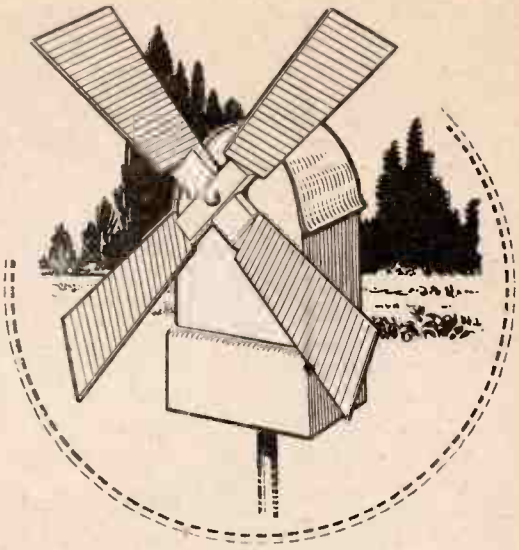
All the woodwork should be painted in bright colours and two if not three, coats laid on as a sound preservative to the wood.

A simple "rattle" mechanism helps to make an efficient BIRD SCARER

HERE is a distinct and interesting garden novelty which war-workers should put in hand at once. It forms a capital means of keeping the birds away from the precious seed beds.

The novelty takes the form of a windmill pivoted to turn easily to face the prevailing wind which of course provides the necessary power to drive the sails round.

The utility part of the mill however, is not seen in our sketch; this is arranged on the back of the structure. The spindle upon which the sails are fastened runs right through the "house" and projects beyond the back where a disc of wood is fixed. Loosely held to this disc are two "beaters" which are so spaced and pivoted that they come in contact with a hollow, and therefore noisy, "sounder" when the disc is rotated through the sails at the front.



The Mill

For the mill (Fig. 1) wood ⅜in. thick is used throughout, and a coarse fretsaw will be found to do the necessary cutting. In Fig. 2 an outline of the front and back is given with all the measurements.

When these parts are cut, mark out the sides, floor and the top, with the lower projecting pieces at the base of the body.

Fig. 1 shows the interior construction. In the floor and the top there is a central hole to take a ⅜in. diam. iron rod round which the mill will rotate. This iron rod is rounded smoothly at the extreme top, and on this rests the small iron plate which is screwed to the top of the mill. The dotted lines in Fig. 1 show the position of the plate; while in the circled diagram an enlarged detail of the rod and plate when contacted is clearly seen.

All the parts of the body are nailed or screwed together, and a curved roof formed from tin. Holes are punched in the tin and large-headed tacks driven in round the curved edges of the front and back of the mill.

It would be a good thing to preserve the grain of the wood round the curved parts with paint or creosote before the metal roof slopes are put on.

The Sails

The four sails may be cut from wood or metal the same as the roof.

In Fig. 3 the outline shape of one sail is given, and having drawn one out and cut it round it may be used as a template for outlining the remaining three. If the sails are of metal, it will be found that an old pair of household scissors will do the cutting satisfactorily.

The method of "hanging" the sails is seen in Fig. 3 where two 15½in. lengths of wood 1in. by ⅜in. in cross section are halved together in the centre and secured with wire nails or brads. The recess or sinking made in each length of wood should equal about 1/3rd of the thickness of wood, that is ⅛in.

Vane Shapes

At a distance of 1¾ins. from the centre of each piece measured each side, cut down on the slope with the fretsaw and afterwards pare away the wood to a true sloping surface.

Note from the diagram the "direction" of slope, for dependent upon this detail the sails catch the wind properly and are thus caused to rotate in one direction. The sails are holed in three places centrally and held to the cross supports by brass screws or nails.

The central hole in the supports is ⅜in. diam., and a piece of round rod of this size must be cut off about 5ins. long to take the completed sails. A wooden disc or spacing washer is put over the rod before the sails are added, to keep the latter clear of the roof when turning in motion.

The Beaters

A similar washer is put on the rod at the back of the mill before the larger 2in. working disc is fixed, see Fig. 4. This working disc is cut from ⅜in. thick wood, and two holes bored cleanly through it near its outer edge to take the two bent-up links of wires These in turn hold the "beaters" as seen in diagram Fig. 4.

The "beaters" may be of hard wood or of metal. They must swing freely so when the main spindle revolves they are thrown outward

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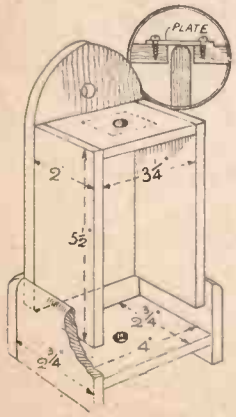

Fig. 1—Back view showing construction

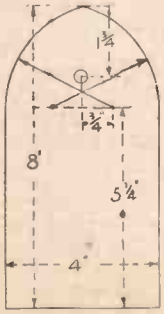

Fig. 2—Details of back and front

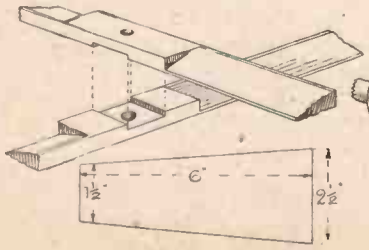

Fig. 3—The sail frame and a vane

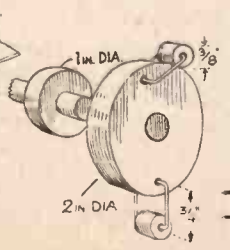

Fig. 4—Details of the rattle

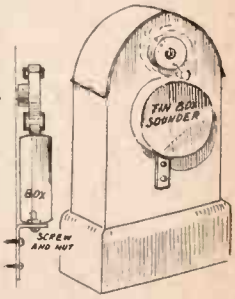

Fig. 5—Back view showing gong

Readers should realize the need for and method of

WOOD PREPARATION

IN these days of shortage of wood, it behoves every worker to ensure that the best use is made of every piece he has. In pre-war days it was a simple matter to obtain nicely planed finished boards which meant only cutting out and going ahead with the work straight away.

Now, unfortunately, we have to put up with much more unfinished material and undertake the work of making it suitable before we really start. This is a point which must be given considerable attention, and the worker will find it pays as much as any other part of the job.

We can understand the enthusiasm and impatience of anyone wanting to begin the actual work of cutting and construction, and that preparation beforehand may seem a waste of time.

Actually, it is far from that because if the wood is satisfactorily prepared it will save no end of labour later on in the finishing. Maybe, too, if you cannot purchase new, clean boards, then you can find up some odd pieces which have been used for other work, but which can be re-used now on something more important.

Fig 1—Use glasspaper flat on a block

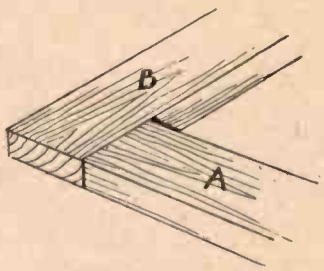

Fig 2—Cleaning a corner correctly

Preparation

These boards, if they have been at hand some years, are really likely to be more thoroughly seasoned and finished than recent material. At the same time, they will require a certain amount of preparation. If they have been stained and polished then this coating has to be planed or scraped off and the board made ready in the ordinary way.

If it is new wood, then it is possible it will want more thoroughly drying because much of the timber supplied nowadays has not had the chance to be properly seasoned in its natural state.

The surface of the wood, too, may be rougher than usual, and the use of the smoothing plane to bring it down perfectly flat is required. One of the troubles of the amateur in using this tool is that he is apt to leave the surface of the wood slightly wavy. You can feel this by running the flat hand across the surface lightly. You will then definitely feel the slightly up and down motion which has been left by the plane.

Cutting out "Waves"

If this is the case, you must overcome it by using the plane in a diagonal direction to obliterate the "waves," finishing off carefully parallel with the grain. A metal scraper is also useful and professional carpenters frequently use it to finish off the surface after the plane.

This is a strong piece of steel with a straight edge which is held across the grain and drawn down the wood to ensure a perfectly flat smooth surface.

Finally, of course, you come to the use of the glasspaper. This always should be used on a block of wood, or better still, on the special Hobbies Glasspaper Block which provides a suitable grip and a comfortable handle in use (see Fig. 1).

The block of wood can be about 5ins. long and 3ins. wide with the glasspaper wrapped round it. Keep a perfectly flat surface to it and hold firmly down to the work in hand.

A medium grade paper should be sufficient for the first rubbing, but the final surface is obtained by the use of a grade 0 or a fine paper.

Filling Holes

If you are using "secondhand" wood there may be holes or slight markings in it. If at all possible, get the surface flat beyond these and fill the hole up with plastic filler or with glue and sawdust.

The work should be done with the grain of the wood, but there are occasions when this may not be altogether possible. For instance, as you see in Fig. 2, you may have a rail joined to another one across the grain. In that case, undertake the part lettered A first which will, of course, bring the glasspaper block across the grain of the part marked B.

Get the surface of this piece A satisfactory, and then you can finish off with the grain on the other piece B, taking care not to overlap the first rail in doing so.

Watch the Edges

Another troublesome little problem in this glasspapering is that one is apt to bend over the block when coming to the edge of the wood. This is, unless you are careful, quite a natural procedure, and one which must be borne in mind as you are undertaking the work. To overcome it, you can lay another piece of wood the same thickness by the side of that being glasspapered, which will prevent the block turning over all.

Or, of course, you can take a steady stroke and when you come to the edge, maintain a pressure on the inner end of the glasspaper block so when the other end goes over the edge of the wood it remains perfectly straight and is not tipped downwards.

Two Holding Methods

Wherever possible the work should be held in a vice for glasspapering, but if you have a large flat surface then it must be laid firmly on the bench. Two simple methods of holding it are shown at Fig. 3.

One is to nail a strip of wood to the bench, against which the work in hand can be laid and firmly pressed during the operation of glasspapering. The other method is, of course, only possible if some slight markings do not matter on the underside of the piece of board.

Drive into the bench a few headless nails so they project slightly above the surface. The projecting parts can be filed to a point and then the wood can be laid on these. They will hold the board in place during the

(*Continued foot of opposite page*)

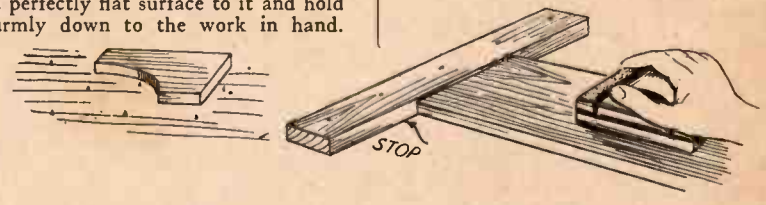

Fig 3—Two simple methods of holding work during glasspapering

The amateur photographer can add to his interest by

TINTING PHOTOS

IN a recent issue of Hobbies Weekly amateur photographers were given a few hints on how to tone prints to a sepia colour and were advised to make some first tests on some old prints or postcards.

It is now the intention to devote this space to more hints, suggesting that again old prints or postcards can be used for the initial work. Such experience gained will prove useful when papers are more readily obtainable for the making of new prints. This may come sooner than we expect for already the quota for dealers in photographic material has been increased by about 25% over that of last year.

A Pleasing Hobby

During the war period tinting of photographs has increased to a most extraordinary degree. Not only have amateurs turned their thoughts to it but also large numbers of men and women—especially in the services—who have never done any photography, have taken to the work and are devoting quite a lot of their spare time to it.

In the very near future it is probable that colour photography both as transparencies and prints may be within the reach of many more amateurs than it is today. Processing is being made easier and possibly the prices may be lowered to interest many more of us.

There is another reason which should be mentioned as a factor in making tinting popular and that is its simplicity and its cheapness. It is on these two points you should turn your thoughts while reading these few hints and particulars, and especially keep them in mind when making your first attempt.

The Set of Tints

A set of phototints consisting of nine of the most useful colours in concentrated solutions can be purchased for about 3/-, and can be obtained of almost any dealer in photographic goods.

Each colour can be diluted to a most extraordinary degree, down to a very pale "wash" and the colours can be intermixed to give other tints or shades. For instance, scarlet and yellow to give orange, green from yellow and blue, violet from blue and red. For making shades of grey, varying quantities of blue, yellow and crimson. Equal proportions of the three will yield a neutral grey but it will soon be recognised that by altering the quantities of one or other, a range of very charming shades is obtainable.

Perhaps it is as well to give a list of colours from the box which should be on a workroom bench—blue, brown, flesh, green, crimson, scarlet, orange, yellow and violet. Such a selection will give almost every colour, shade or tint required and as mentioned already, even these can be varied by diluting with smaller or greater quantities of water.

Points to Watch

Now there are certain snags which both the beginner and the experienced worker occasionally comes against, and it is as well to know about them and how to tackle them. With some papers it appears almost impossible to get the surface or emulsion to "take" the colour, even though the print has been very thoroughly soaked.

Here is the remedy. The emulsion is particularly hard and perhaps has received a special hardening in its processing. If that is the case then soak the print in hot water for 5 or 10 minutes at a temperature of about 100° F. That usually softens the gelatine sufficiently for the colour to be absorbed.

Sometimes the colour runs into little blobs instead of being absorbed. This may be due to the hardness, or it may arise as the result of finger marks—which are always greasy—on the surface. If it is due to greasiness then allow the print to dry again and then well rub it with a wad of cotton wool soaked in methylated spirits.

Now, whether old or new prints are being used, it is most essential to give them a thoroughly good soaking. Most of them want at least ½ hour, in clean water. After this lay the print on a piece of clean glass and remove the water still remaining on the surface with a piece of clean blotting paper. The surface is, or should be then, ready for colouring. The great secret is to keep the print moist.

Much Diluted

When applying the colour do not use it in the concentrated state. Take a drop or two from the bottle and add about 20 or 30 drops of water. Then apply this and use the blotting paper, but do not let the coloured solution remain on the print to soak in and dry. Blot it and repeat the brush work and blot again.

Continue to do this until you reach the desired depth of colour for it is by the adding of colour on colour that you will score the greatest success in this work and you will avoid any hard lines or edges to the pools of colour. Further, the weak washes are frequently all that is required on big expanses of the prints such as sky, sea, fields, trees and similar features to be found in most prints.

Be Sparing

Seldom, very seldom indeed, is it necessary to use the concentrated or full strength of any of the colours. They are useful in picking out flowers in a garden scene or ornaments on the dress in a portrait.

When tinting a foreground tree remember to use sparingly the brown on the trunk and among the branches. A touch of dark green adds a charm, if used judiciously on a blue sea.

Where there are white objects in the prints such as a sail or white-washed cottages do not attempt any colour but leave them white. By so doing you will enhance the tints placed on the surrounding objects.

Brushes should be kept clean and it is as well to have two or three very finely pointed ones. Numbers 0, 1 and 2 will be found most useful.

Wood Preparation—(*continued from opposite page*)

work of glasspapering quite firmly.

If you do not want to put the nails into the bench itself, they can be driven through a large solid board with the end projecting about ⅛in. to serve the same purpose. The whole board can then be clamped down to the bench or temporarily nailed in place for the work.

If you have work in hand which involves other parts than a planed flat board, they must be carefully cleaned for use and after the work is done, will finally have to be glass-papered again.

You may, therefore, require shaped pieces of glasspaper to get into the quirks and corners. Here again, the glasspaper wherever possible, should be wrapped round a little stick or tiny block of wood cut to a suitable shape to get easily into the particular curves or parts required.

When the wood is finally ready for use, run over it all with the fingers to ensure the surfaces are clean, smooth and suitable for cutting to whatever shapes or joints are required. This work of preparation will help in the construction and save much time afterwards in completing the work. It is worth taking care over right from the beginning.

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