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HOLIDAY PHOTOGRAPHY
An informative article is on page 264

Make this attractive

OWL BEDSIDE LIGHT

CHILDREN show a marked preference for articles if they have some resemblance to animals and birds, and for this reason the owl bedside lamp will have a special appeal. The small flashlamp bulb forms the eye, which lights up when the current is switched on. An ordinary double cell bicycle battery is the source of supply, and will last for weeks with nightly intermittent use.

The Box

The battery is housed in a small box which forms the base of the owl. Cut out the pieces (1), (2), (3) and (4) and assemble them as shown in Figs. 1 and 2. The small base (2) goes between pieces (4), and piece (3) is then pinned or glued on the end as shown. These four pieces are then pinned to the larger base (1), leaving the end facing piece (3) open.

Now proceed to cut out the two owl pieces. The thicker piece (7) can have the interior frets cut out with a fine grade fretsaw. If you glance at the design sheet you will see that the wire is led down between the two pieces (7) and (8). Cut two separate grooves in the piece (8), as shown by the dotted lines. Use a sharp pointed penknife and cut the grooves just deep enough to take the wire.

Drive the screw in position in the top and twist one wire in place, leading it down the groove and through the hole to the other side. The second wire will be loose at the top and will lead through the other hole. See that the hole in piece (7) is a tight fit for the bulb.

Now that the wires are in the grooves the piece (7) can be glued over them, leaving the top of the second wire to protrude through the hole as shown in Fig. 3. This wire will eventually lead to the switch. Glue piece (9) in position, placing a pin between it and piece (7). The head should show as in Fig. 3. A slight groove must be made to allow the two pieces to glue flat.

Fixing the Owl

The owl can now be fixed to the box and the wires connected, one to the switch and one to the screw as shown in Figs. 1 and 2. The screw in the centre of the box will make contact with the battery when it is placed in position face downwards.

The switch can be made from a piece of springy brass as shown in Fig. 4, or you can buy a tiny switch specially

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

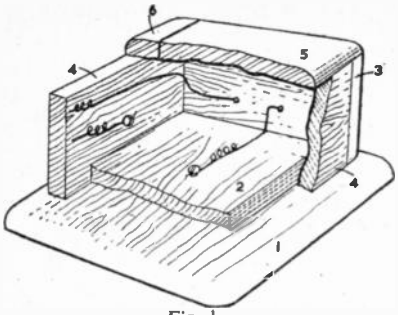


Fig. 1

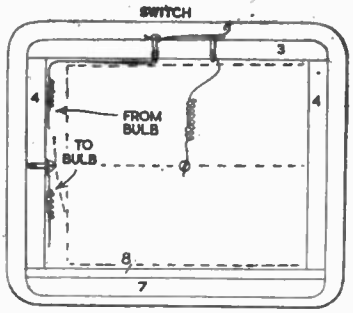


Fig. 2

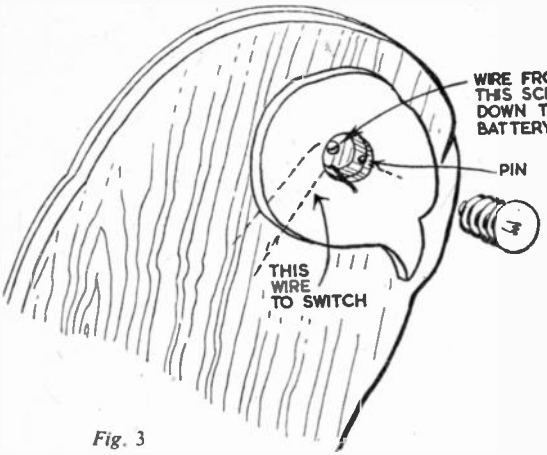


Fig. 3

These drawings will help to make construction clear

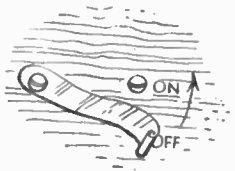


Fig. 4

made for the purpose. Your local radio shop or multiple stores will supply you with one of these.

The lid is now fitted, being hinged at the top as indicated on the design sheet.

The 3·5 volt bulb should be screwed in place so that the wire from the switch touches the side. Screw it in far enough for the base of the bulb to touch the screw. If the parts have been cut properly the bulb will be a tight fit, and the head of the pin will act as the thread of a screw and will hold the bulb in place.

Carving

The finished article will look well if painted in natural colours, but some workers may first like to chip away some of the wood to represent feathers. This would give the model a very life-like appearance and would be well worth the extra trouble taken. When painting the box, pay particular attention to the switch and connections, keeping them entirely free from paint.

The bulb can be painted to represent an eye. A round black spot in the middle and a little orange brown paint round the sides would look quite well. Don't overdo the painting, however, or the light might be obscured entirely.

GET A KIT

For making the Owl Bedside Light from this week's free design, No. 2960, a Kit of Materials can be had from any Hobbies branch, or post free from Hobbies Ltd., Dereham, Norfolk, price 7/5, including tax. Kit includes wood, hinges, screws and wire.

WORKSHOP NOTES AND HINTS (11)

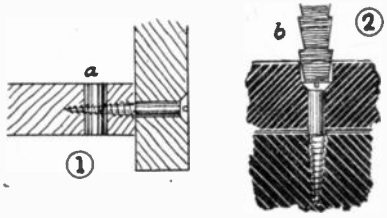
More Useful Tips on Screws

SCREWS do not hold very well in end grain and if such a construction as in Fig. 1 is anticipated, it is a good idea to put a hardwood dowel through as at *a*.

'Plugged Look'

Where screw heads have to be hidden, the countersinking is, of course, done fairly deeply and the hole filled with plastic wood. But excellent as this material is, and convenient, too, holes so treated have, despite subsequent staining and polishing, a 'plugged' look. In most cases this does not really matter, as the plugging looks neat, anyway, but if one is repairing, for example, a beautiful old piece of furniture, especially an antique, an old-time technique might well be revived. This, shown in Fig. 2, consists of plugging the hole with a wooden 'pellet' usually made in sets of three or four, turned from a piece of wood of the same kind and tone of the main article, the grain going *across* the pieces, not from end to end.

The pellet is glued and hammered in and when set, is cut off flush with a chisel. Care is taken to see that the grain in the pellet runs the same way as that on the main piece. It is often very difficult to detect these pellets if the job has been well done and repolished.



Especially when working with oak, brass screws must be used, as the acid in oak will corrode iron and not only weaken the screw but stain the wood. It is a good idea to drive in, first, an iron screw of exactly the same size as the brass one, remove it and then drive in the brass screw, taking care to use a screwdriver whose head fits the slot of the screw.

Easily Spoiled

Brass screws are very easily dubbed over in the slot and then look cheap and unsightly. Brass screws also have a tendency to snap in the shank if forced too hard. If you are unlucky enough to have a brass screw snap off flush with the surface of the wood, drill a hole down its centre and then drive in a square-headed punch, subsequently using this like a screwdriver. (319)

Details for making

A 'RUNNING MAN' TOY

LIKE kittens, children love anything that moves, so this simply-made novelty, which looks like a man running when it is pushed along, will cause endless delight.

Needed for the making are two small bits of thin plywood 6ins. by 5ins., another 4ins. by 4ins. and a piece of scrap about ¼in. thick to go between the sides as described.

On the 6ins. by 5ins. rectangle sketch the man as shown (Fig. 1) and then cut out—if possible with a fretsaw. Leave the painting till later—at the moment just work to the outline.

Now from the square, shape a 4in. diameter circle and from the third piece

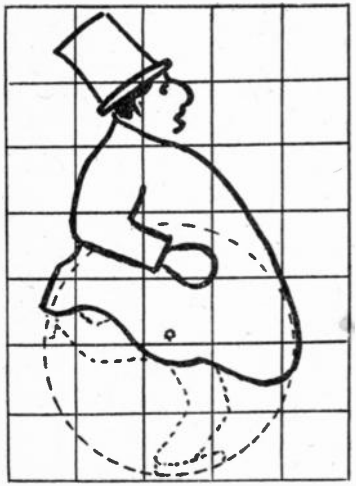


Fig. 1

of wood cut the spacer (a) which need only roughly follow the outline of the upper body. The spacer is to keep the two halves of the running gentleman at such a distance apart that the disc just cut from the square will rotate comfortably when set in position between as shown by Fig. 2.

Next sketch in and paint legs on both sides of the disc as (E) after first giving it a coat of grey or white so that the limbs will stand well out. Colouring has to a great extent to be left to your own artistic ability, but use gloss paint both on the legs and for the rest of the body, which is not dealt with till the sections are assembled.

The legs nicely finished, put them on one side for a moment and fix the two cut-outs together with the spacing piece between, using small screws for the purpose and taking the heads well home. Having done this, fill in any gap between the halves (round the top of the figure) and up to the spacer with good plastic wood. This gives a solid edge round the upper part and when quite dry a certain amount of shaping can be done on it at various points with a file and glasspaper.

Thus the face can be rounded in front—and the sharp edges taken off the back of the head. The hat can also be rounded, indeed it is almost possible to produce a circle here, or at least a well curved ellipse. Back and front of the coat can also be given a circular finish.

Painting

The painting of the figure should be on fairly broad lines, the main thing is that the whole effect must be certain and bold. Give the face first a coat of pink

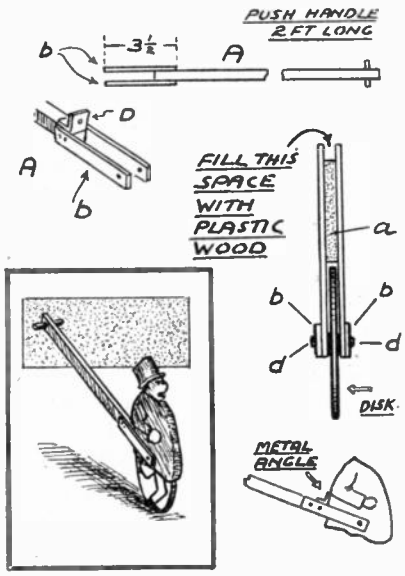


Fig. 2

and then pick out the eye, ear and hair with black. The hand will be the same pink as the face. Bright blue or green will do well for the coat. If desired, all the colouring can be done with a flat paint, a high gloss being obtained later with one or two applications of clear varnish. In many ways this method of painting is the better, as flat paints 'cover' well and look rich, gloss paints often seem to have too much of the glossing medium and too little actual colouring pigment.

The push handle (A) is 2ft. long and about ¾in. square section and has two thin strips of wood (b) screwed on the end which just fit round the figure and reach to the pivot (d). Their distance apart depends on the final width of the figure and they must be set in the handle recessed if necessary to this width. The two strips are finally camouflaged by painting the same colour as the coat.

The handle is completed by a short piece of dowel run through at the top to form a grip and a brass or tin angle (D) at the lower end to hold the figure in position. Set the handle at about 30 degrees, which means that when being pushed by the average toddler, the man is upright.

Finish the handle also in some bright colour (not the same as the clothes or

E

Fig. 3

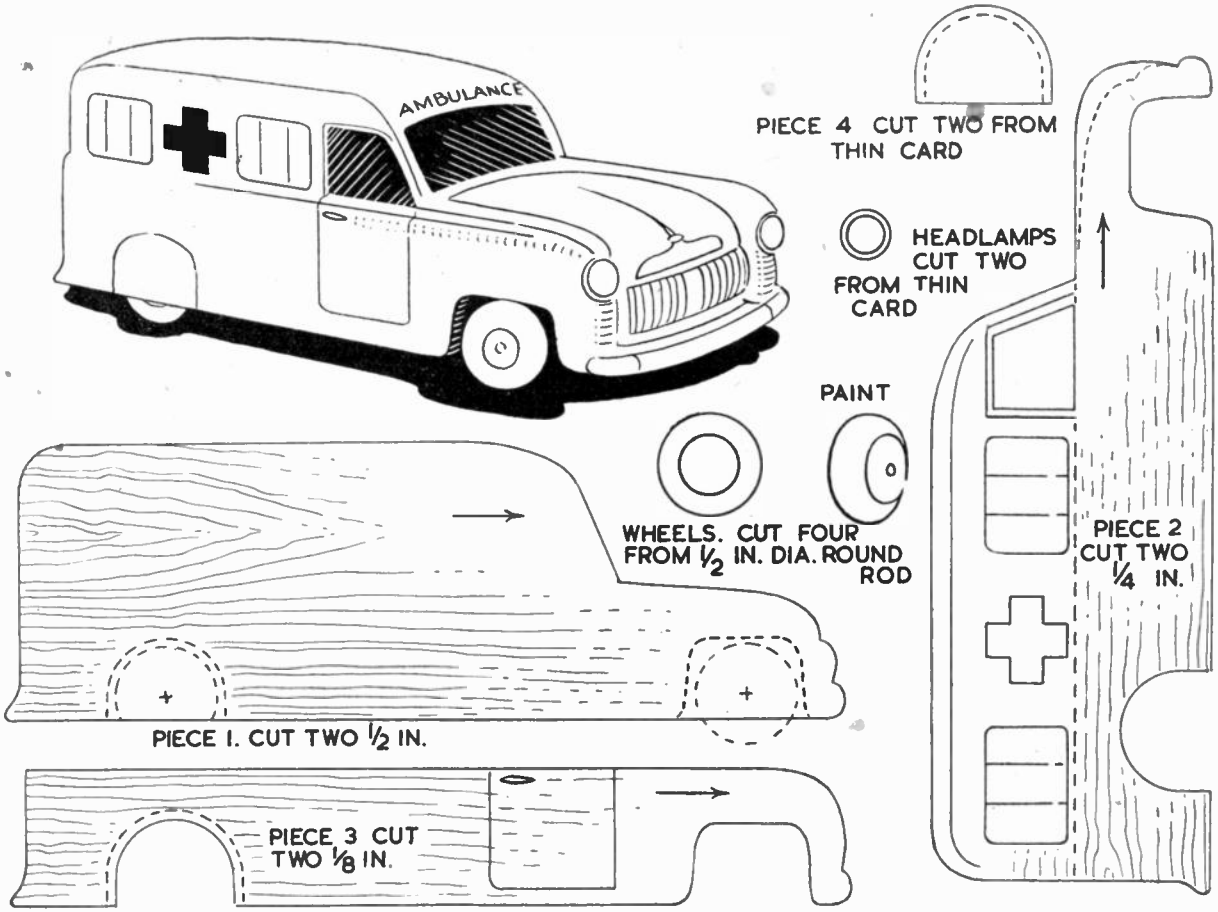
legs) and give as with the other paints, a coat of varnish.

All that remains now is the pivot which runs through the body and disc at (d). If this can be something threaded so that a nut can go on either side, so much the better, if not a piece of copper wire must be used as it will be found impossible to bend anything stiff at such a small length.

Another and very satisfactory way of making the pivot is to solder a very small washer on each end of a short length of wire, or on one side of a cut nail, the head of which acts as a stop on the further side. The soldering method is really the best way of completing the pivot.

In all cases, when assembling, put a very thin washer on either side of the disc, between it and the halves of the figure. The washers need only be of wafer thickness but they help easy running. (459)

A Miniature Toy Ambulance



WITH the emphasis today on accidents and road safety it is only fitting that we should include an ambulance in our miniature vehicle series. The type we have chosen is the modern streamlined ambulance which has an unusual turn of speed and can get to accidents with a minimum of delay.

Odd Wood

You will need some odd pieces of ½in., ¼in., and ⅛in. wood, and some ½in. diameter round rod for the wheels.

All the parts are shown full size and the first job is to transfer the shapes to the wood. You will need two each of pieces (1), (2) and (3). Glue the two pieces (1) together and then round off the bonnet slightly. Next glue pieces (2) on either side of (1), and pieces (3) on either side of these.

Shape the wings and bonnet exactly as shown for the shooting brake in a previous issue. Note that the windows and windscreen are painted in black.

The Wheels

Cut the wheels from ½in. round rod, in ¼in. lengths. Round them off as shown in the sketch. Paste the headlamps to the wings and you are now ready for the painting.

Cream is a suitable colour and you should give at least two coats to make it as shiny as possible. The Cross is painted red, and the markings are made in ordinary lead pencil. The radiator grill, headlamps and door handles are all painted light grey or aluminium.

Paint the wheels to match the body colour, and the tyres grey. Secure the wheels to the body by means of ½in. round head screws.

Now cut out pieces (4) from thin card and glue them over the rear wheels in the positions shown. Paint them the same colour as the body.

The word AMBULANCE can be written in indian ink with an ordinary pen. (472)

PORTHOLES

Readers making ship models may find difficulty in painting in portholes, as the spots of paint may run downwards. If the ship is laid on its side, and the point of a thin paint brush used, the model maker will be delighted to see the spot of paint expand to the size required, and evenly shaped.

Practical advice on

Making Your Bicycle Run Easier

HAVE you ever had a vague feeling that your bicycle is not running quite as easily as it should? Possibly not—on the other hand you may have noticed that companions seem always able to free-wheel longer after down grades than you. Or, perhaps, you have actually been conscious of a slight sense of 'heavy going' and possibly put it down to being out of trim yourself.

The free-wheeling test leaves the question of ease of running open to no doubt. For if, starting on a grade side by side, a companion (still free-wheeling) is soon forging ahead and does not have to pedal for a much greater distance when the flat is reached, then your machine is not running as freely as it should and needs some attention. The factors, however, that accumulatively cause heavy going can be very subtle and often requires a bit of digging out.

Check first for obvious retarders. Test for too tight cones, both on the front and back wheels, for these can bring about a definite drag. Adjustment of these vital parts should be so that if the wheel is held up, with the valve at the top, the weight of the valve causes it to rotate till this air inlet is at the bottom. Start with the cones taken up too tightly, and then ease off till the correct freedom has been secured.

Dry Bearings

It is amazing, too, what a drag can be put up by too dry bearings. The retarding effect of dryness can most clearly be noted in pedals which sometimes almost refuse to turn with the feet, for no other reason than that their ball-races lack oil.

Lubricate the wheel bearings then, and after that treat the pedals the same way. By taking off the end caps it will be found possible to adjust the small cones which support these on the horizontal spindles. Put in the oil first and then adjust till there is no obvious slackness, yet the rubbers will twirl round rapidly at the least flick of the finger.

It has been the writer's experience that stiff running pedals are a common but often unnoticed cause of a faint sense of 'heavy going', but, of course, they will not account for a shorter free-wheeling run. For the cause of this we have to look to the wheels and other parts.

To find the reasons (other than the cones) for general sluggishness, now look at the tyres. Bad treading can bring about drag, as can tyres which are wearing thin and going into 'lumps'—even big patches of repair canvas inside a cover can cause unbalanced running. Bad treading and the other things mentioned produce drag because they waste power doing work that is not helping the machine forward. Poor treading, i.e. the centre of the cover not coming along the centre line of the rim, makes the wheel wobble slightly from side to side, although you may not feel it. This action is absorbing energy, hence its special contribution to sluggishness. Although a badly treading tyre may not be noted at slow or medium rates it can generally be discovered at speed, so examine closely the 'feel' of your bike when next descending a hill at a good round pace.

Adjusting a tread means turning the cycle upside-down, letting out most of the air and then rolling the cover with

the hands till the centre of the pattern agrees exactly with the centre of the rim right round. To do this well, stand at the back of the machine—it is almost impossible to get good alignment from the side.

Repair canvas, as stated, can cause an unbalanced wheel and so can a twisted inner tube. For perfect running, therefore, it is really best to discard a tyre when it needs heavy canvas patches, and also be very careful when inserting a tube after having it out for a puncture. A tube cannot be satisfactorily put back with the machine leaning against a wall. Place it on its side and when the tube is roughly in position, pump up a little and then go round seeing that it is lying well before easing in the cover.

Worn brake-blocks can be a very subtle cause of 'drag'. Sometimes, without being noted, they become as shown in the sketch. This means that as well as coming up to the rim when the brake is applied the part (a) rides up the sides. After release, the main part of the block falls back but the side lips still remain slightly in contact and so cause some retardation. Get new blocks then, or at least turn the present ones round so that the raised parts come on the inside.

Chain Troubles

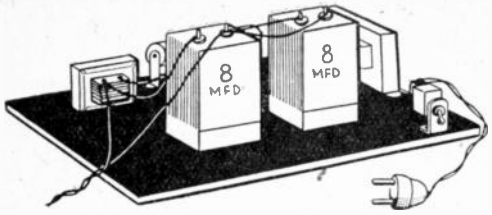
As a cause of heavy running we now come to a common offender—the chain. If it has become stretched (that is the wrong word, for it is really minute wear at each link), it does not meet the cogs on the free-wheel or driving-wheel correctly—there being a slight jamming effect as each link tries to settle into place. This can absorb a lot of internal energy and is somewhat like the waste of effort that goes on when you push against a wall.

This does not mean a chain must be discarded the first time a little slack appears, but if you have often taken up slack and now by looking sideways it can obviously be seen that the links do not really fit the cogs anywhere—buy a new chain. They are not very expensive and the difference the new one will make in increased ease of running will probably be a surprise.

And finally, three other things that can add their quota to sluggish running. A slightly out of trim wheel is one. There may be a small side-to-side distortion (which has the same effect as a badly treading tyre) or the wheel may, in the course of time, have become a trifle elliptical. In both cases it is best to let a professional cycle mechanic work on it for a few minutes with a nipple key. Wheel truing is a quick job, but can only be done satisfactorily by someone who has had a good deal of practice. The unpractised hand can easily make the last state worse than the first.

A too tight, loose or un-oiled bottom bracket (that is where the pedal crank goes through the frame) can also cause stiffness, while the lack of alignment of the back wheel in the frame can add to poor running.

If, then, you are having, or even suspect, trouble with your bike, go over all the above points carefully, and there is little doubt but that you will be surprised at the added 'pep' your machine takes on. (451)



Eliminate expensive batteries—

Make a High Tension Unit

THE purpose of this unit is to derive current from the mains in order that a high tension battery is no longer necessary. It may be used to work any ordinary battery-operated receiver or amplifier, or provide H.T. current for the simple type of mains receiver previously described. A particularly useful application will be found in employing it to provide H.T. current for the 'personal portable' type of receiver. These usually have very small batteries, which have a short period of life. Accordingly the H.T. battery can be disconnected when the receiver is being used for any length of time indoors, as may particularly arise in the winter.

The cost of the components need not greatly exceed that of a high tension battery. The unit should work for many years, and the mains consumption is exceedingly small.

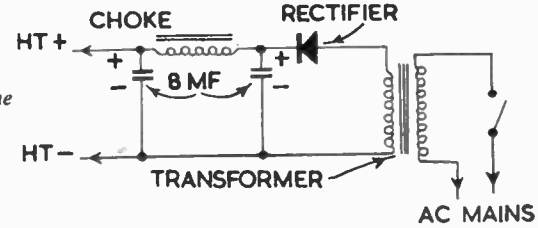


Fig. 1—The circuit of the high tension unit

Obtaining D.C.

A smooth source of direct current is necessary for high tension purposes, and the circuit, shown in Fig. 1, will help to make it clear how this is obtained. The A.C. mains supply will normally be from 200 to 250 V. This is reduced by the transformer, about 90 V. being necessary for all-dry midget portables, and about 120 V. for the larger battery sets. The output of the transformer is changed to direct current by the rectifier. After rectification the current must be freed from ripples, and this is accomplished by the two condensers and smoothing choke.

The transformer also serves a useful purpose in isolating the mains supply from the other parts in the unit, thereby avoiding dangers of mains shocks when handling the H.T. leads or other bare connections.

Wiring Plan

All connections are shown in Fig. 2, and wiring is so simple that little comment is necessary. The leads to the mains should be of good quality flex, and fitted with a plug to insert in the power-supply socket. The full mains voltage will be present in these leads, and in the primary of the transformer, and the switch. Normal precautions should, therefore, be taken, here, and the completed unit housed in a box. (The latter should have two rows of holes, for ventilation).

It may be preferred to take the H.T. positive and H.T. negative leads indicated to two sockets. The plugs fitted to the receiver H.T. leads can then be plugged into these sockets with ease.

These points being clear, it is proposed to give details of the actual components, for guidance. In this direction a great deal of latitude is permissible.

The Smoothing Condensers

These may be of the metal type, with tags, or of the cardboard kind, the latter usually having flexible leads emerging from one end. The polarity is indicated in Fig. 2, and it is absolutely essential that the condensers be wired up in the correct polarity. With condensers having leads, red will indicate positive.

Some of the metal cased types have fixing feet. If these are absent, a suitable retaining band can be fashioned from thin metal. This will almost certainly be necessary with cardboard condensers,' which normally have no feet by means of which they can be screwed in position.

One double condenser is suitable, if to hand or easily obtainable. This should be of the 8 plus 8 mfd. type. It will only have one negative tag or lead, because the condensers are already wired together internally.

The condensers can have any voltage rating which exceeds that of the high tension voltage used. Many condensers are rated at 350 V. and these can be used, though the condensers rated at lower voltages will be a little cheaper. The capacity can also be varied to some extent, 4, 6, or 8 mfd. being satisfactory, unless the receiver is large, when the smaller capacities are best avoided.

Smoothing Choke

For the ordinary battery set any small smoothing choke is satisfactory. Many such chokes are not marked. If it is, its inductance may be about 10 Henrys, but this is not critical. The larger the inductance, the more effectively will it smooth the current passing through it.

It may have wire ends or tags, and can be connected either way. A choke able to carry a large current is not required, and would be more expensive.

The Rectifier

A metal rectifier is used, and it should

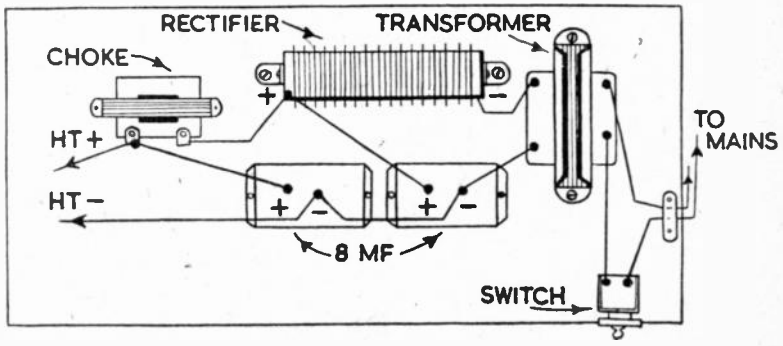


Fig. 2—A wiring plan of the parts

be rated at the high tension voltage required, or a *higher* figure. For example, a 150 V. rectifier could be used with any voltage under this figure. It is not necessary that the rectifier be supplied with the full voltage for which it is rated—the figure merely indicates that it *could* handle such a voltage, if required to do so. The same applies to the current rating of the rectifier—any current *less* than the maximum may be drawn.

For small portable battery sets, a 100 V. 15 milliamp rectifier will be amply large. If it is intended to use the unit with a larger set, then a 150 V. 25 mA. rectifier would do. If the unit is only intended to supply one receiver, then the smallest possible rectifier may be purchased, according to the current and voltage required. The larger rectifiers, naturally, cost a few shillings more than those rated at lower voltages and currents. It must be connected according to the polarity shown in Fig. 2.

Mains Transformer

The primary may be for 200 to 250 V. mains, or have tappings to enable an exact voltage to be selected, with the more expensive types. The secondary should deliver a voltage slightly more than that required, as some drop arises in the choke, etc. Normally, a 90 to 150 V. secondary will be required. If the voltage is too great, it can be cut down by wiring a resistor in series with the choke. As with rectifier and choke, the transformer may be rated at higher currents than that which it will be called upon to deliver. The very smallest type of transformer will do for any average battery receiver.

Using the Unit

Most battery sets are in no way critical as regards the high tension voltage, which may vary from 120 V. to 40 V. or less as the normal battery deteriorates. However, the valves used in ordinary sets using a 120 V. battery should not receive more than 150 V. maximum, while personal portable sets of the smaller type use only a 67½ V. battery. Therefore, more than these figures should not be applied.

Some old sets may have a plug which is normally inserted in an intermediate socket on the battery. This point can be supplied as shown in Fig. 3. The value of the resistor can be calculated from Ohm's Law, if the current flowing is known. Alternatively, use a value of 1,000 ohms for every volt to be dropped, with 1 mA flowing (e.g.—use a 60,000 ohm resistor to obtain a 60 V. tapping, if the maximum H.T. positive voltage is 120). Normally, matters are not critical.

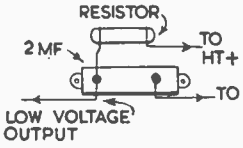


Fig. 3—Obtaining lower voltages

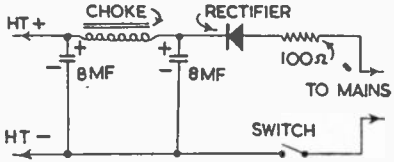


Fig. 4—A circuit without transformer

Without a Transformer

The circuit shown in Fig. 4 can be used, but has the disadvantage that H.T. negative is connected to the mains. As a result, the receiver chassis and everything electrically in contact with it, including accumulator tags and aerial, will be at mains voltage. However, this type of circuit is used in many commercial receivers of the cheaper kind, and can be employed if the constructor remembers the foregoing. Where the set is a totally enclosed cabinet model, no real danger arises. But if used by inexperienced persons, shocks may be felt, and it is, therefore, recommended that this circuit only be adopted by the experimenter who will take proper precautions. The output will be about 200 V. and will require dropping to a lower figure, as explained, unless mains-type valves are present in the equipment. No direct earth must be employed on apparatus driven from the circuit in Fig. 4. Its advantage lies in no transformer being required, which reduces cost. (467)

Obstinate Nails

THE woodworker is often confronted with the problem of removing nails which have the heads broken off, and he is at a loss to know how to do this without severely damaging the surrounding wood.

A pair of fine cutting nippers will sometimes do the job if there is not much broken off, but should the nail be rusty or too low to grasp, then some other way must be found.

The writer has on many occasions done the job effectively with the aid of a simple drill which can be made quite easily.

The idea is to cut away a very small portion of the wood immediately surrounding the nail, with the result that the nail will then practically drop out of the hole. This method is helpful when repairing furniture and it is not wanted to damage the woodwork more than is absolutely necessary. There is, in fact, no damage and the neat hole left is only slightly larger than the nail which has been extracted.

The drill is made from a piece of thin tube, preferably iron or steel, but brass may be used, although it will become blunt much quicker. Select a piece that has an internal diameter of the same size as the nail to be removed, or it can with advantage be just a shade larger.

The shank of an old key is an ideal substance for the job, provided it is not too thick and the hole is deep enough, and, while it is quite hard enough, it can be easily cut to the necessary shape.

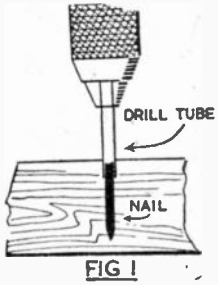


FIG 1

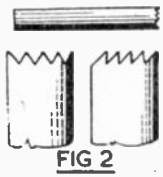


FIG 2

If possible, use a tube made of thin material so that only a thin layer of wood is cut away. Do not, however, go to the extreme over this matter, otherwise the cutting teeth will not stand up to the work demanded of it.

With a triangular file cut a number of saw shaped teeth on one end of the tube—about six or eight will usually be found sufficient, and the particular shape or angle of the teeth is not important. Either of the shapes shown in the drawing is quite suitable and will cut very well.

When drilling it will be necessary to take the tube out of the wood from time to time to clear the cuttings, as no provision has been made for this.

It may sometimes happen when operating on a large nail that the drill stock will not open sufficiently to take the tube. This difficulty may be overcome by soldering a piece of rod in to the end of the tube and using it as the drill shank.

Occasionally a small amount of lubricating is an advantage, more especially when the tube fits the nail fairly closely. A spot of thin oil can then be applied inside the tube, so that it makes contact with the two metal surfaces and not with the woodwork.

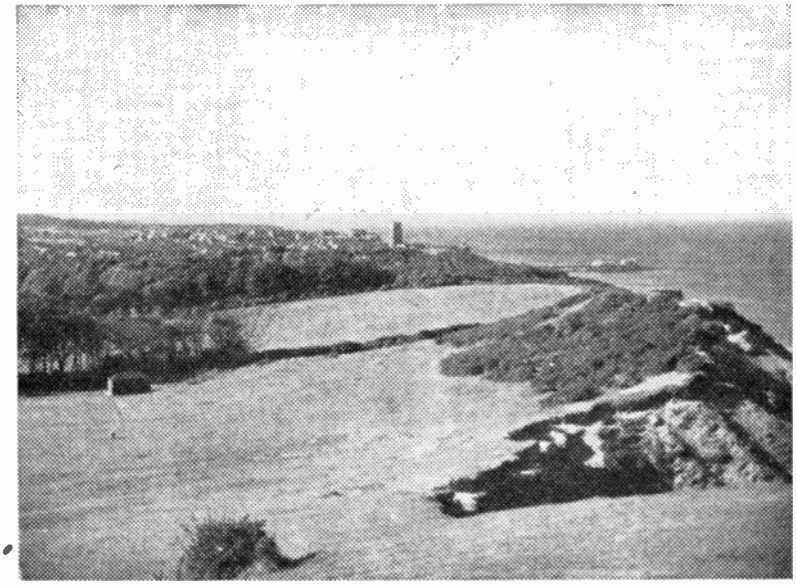
Only a light pressure, combined with a slow speed, is necessary when using this type of drill. (416)

Hints and tips on the subject of
HOLIDAY PHOTOGRAPHY

MUCH has already been written about camera work on holidays, and, doubtless, there is still room for much more, and, as July happens to be the time when the majority of us are counting the days to the time for relaxing for a couple of weeks in different surroundings, it will not be out of place for me to try to give you a few hints which I have found by long experience to be extremely useful.

For several years I have been able to spend holidays in various parts of the country, staying at fairly large guest houses where the company has numbered from seventy to one hundred and twenty individuals, and in almost every instance, quite a good proportion of these folk have possessed cameras.

Of course, I am never without mine, and, like the proverbial birds of a feather, have very soon found myself in conversation with some who are as keen as myself, or, perhaps, just beginners or, unfortunately, simply holiday photographers. In these conversations one gleans quite a lot of experience of what other people do or do not do, and it is regrettable to think that so much is done that should not be done because the folk have not taken care or thought beforehand, with the result that a lot of films are wasted.



This pleasant view, taken at Cromer, is the sort of photograph to enter in any competition organised by the town

Before You Start

Before going off for our holidays, there are three hints which every one of us should very definitely put into practice. The first is to get a supply of films *now*. On no account should this be left until your arrival at the town or village where you intend to stay. Your local dealer is more likely to have a stock and to be able to let you have some of the particular brand you require.

Secondly, be sure that your camera is functioning satisfactorily in all its parts, and so give it a gentle spring cleaning. And please do not forget to turn the camera case inside out so that it receives a really good stiff brushing; it is positively staggering how much dust and grit can hide in the corners, and if this is not removed you can rely on some particles of sand, or other similar causes of trouble, eventually finding a resting place in the shutter or the interior of the camera—and finally on to the film. And you can be assured that that film will be the one you particularly want to be a good negative, because you are not likely to be able to duplicate it, and so another disappointment arises because that little bit of dust was not removed.

Now for the third of the preliminary tips. It is one which may seem quite unnecessary to most, but I have found many folk do not take sufficient care when loading a film. It is most necessary to see that it is fed 'foursquare' with the spool, otherwise when you wind it for changing after each exposure, the film and backing paper gradually overlap the discs at one or other end of the spool so that eventually, and before the whole film is exposed, it is impossible to turn or change it, and a visit to the chemist's darkroom is essential, for the film has to be removed, rewound and replaced correctly. If such trouble happens to come your way, you must not attempt to use force. It is of no use, and may lead to other and more serious difficulties.

Try It Yourself

Should it not be convenient for you to take the camera to a chemist or professional photographer in the neighbourhood, then the only course open to you is to try to remedy the trouble yourself. You will have to do it in the dark, but with care and concentration you should succeed.

With all white light excluded from the room, remove the back of the camera and make a very small cut or tear in the cover paper just where it has reached the spool on which the *exposed* portion of the film has been wound, and where it is jammed. Now remove the unexposed spool and start rewinding back until the cut or tear is reached. Keep this spool in one hand while you remove the other spool, then carefully rewind all the exposed film and the cover paper back on to the original spool. When you reach the end, rethread it into the slit of the spool, making quite sure that it is 'foursquare' this time.

Replace both the spools in their sockets and you should be able now to rewind the exposed portion back on its spool until the cut in the edge of the paper is noted. When that reaches its original place by the side of the spool you can replace the back of the camera and make further exposures. If when the trouble occurs there are only two or three exposures to be made to complete the film, or if you are at the end of the holiday, then it might be worth while leaving it till you get home, and are able to get your local dealer to put the matter right.

Treat your camera with respect. I have quite frequently seen young amateurs swinging their apparatus by the shoulder strap or allowing it to lie on the sand or carelessly among the

THE ARROWS INDICATE
THE DIRECTION
OF GRAIN
OF WOOD.

9

SHALLOW GROOVE

HOLE FOR WIRE

THE OWL 7.
CUT ONE 1/4in.

THE
HE
CUT O

LID 6.

4

SIDE 3

4

KING 8.
/8in.

NOTE — This design sheet is only presented free with the current issue of Hobbies and not with back numbers. Further copies may be obtained.

END 4.
CUT TWO
1/4in.

2

SCREW
(CONTACT)

SCREW

BASE 2.
CUT ONE 1/4in.

Hobbies DESIGN

No. 2960 23-7-52

SUPPLEMENT TO HOBBIES No. 2960.

A NOVELTY

OWL BEDSIDE LAMP

FOR USE WITH A TWO CELL BATTERY

SIZE—9ins. HIGH.

PANELS OF WOOD REQUIRED FOR THIS DESIGN

ONE H4 ONE Q4 ONE Q2

Materials for making this design are supplied by HOBBIES LIMITED, Dereham, Norfolk.

Price on application.

OWL
AD 9.
NE 1/8in.

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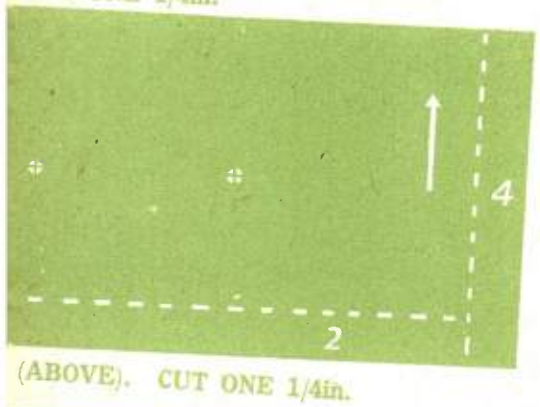
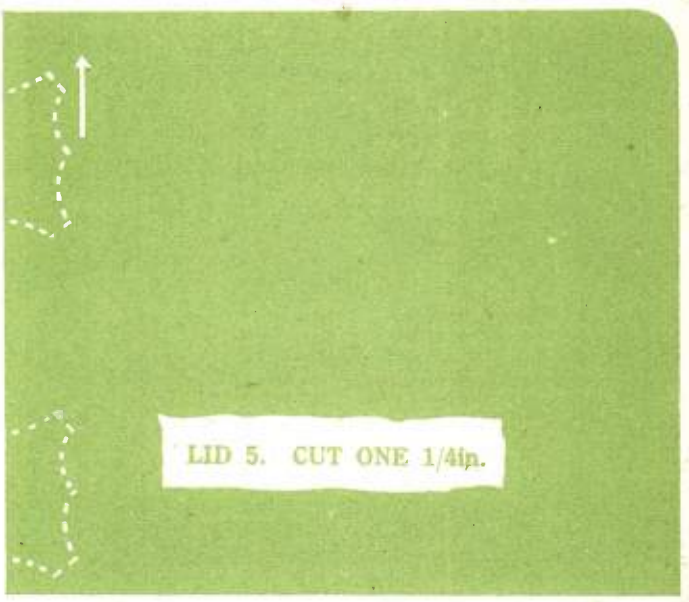
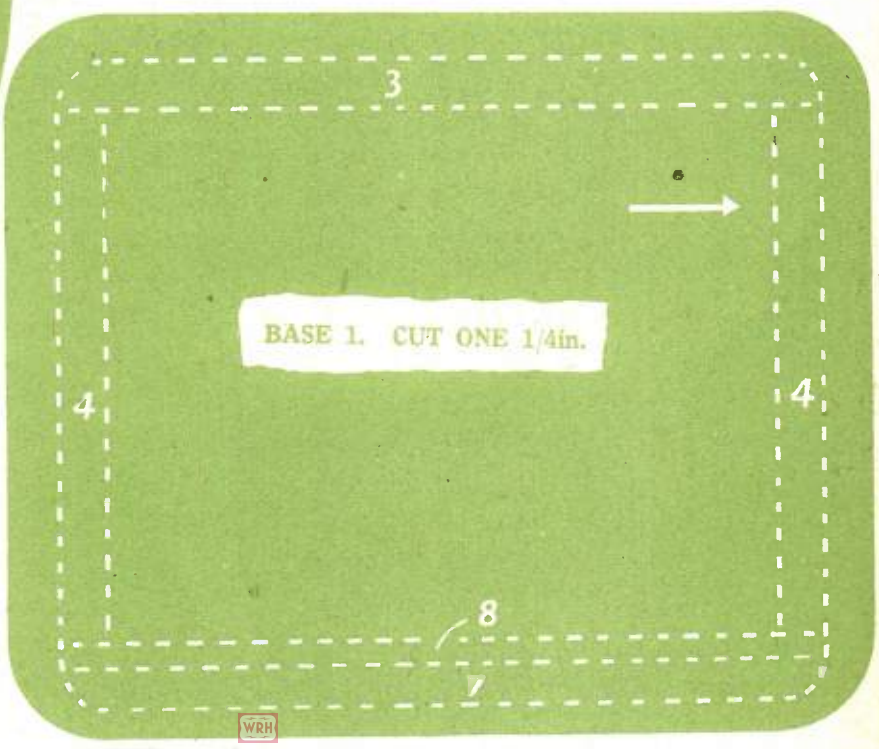


(ABOVE). CUT ONE 1/4in.





PRINTED IN ENGLAND.

other kit or picnic equipment. This may be all right for some cameras and some folk, but it just won't do for the more expensive apparatus with its many small but valuable gadgets. It is so easy to give such apparatus a nasty knock which might put it out of action—and you have already been warned about particles of sand or dust which can do so much harm to the shutter and the film.

Competitions

A few of our holiday resorts are again appealing to photographers to enter some of their shots in their photographic competitions. If it so happens that you are visiting such a place I would most strongly urge you to get particulars and to compete, for there is no better means of improving the general snapshotting of every one of us. The very fact that you are attempting to beat the other chap is the finest incentive to producing something of which you will be justly proud.

Usually, the promoters of this type of competition are anxious to get views that are distinctly typical of the town or neighbourhood, and which can be used in their publicity. They are particularly keen, too, on finding out just what appeals to visitors most. It, therefore, follows that it is not necessarily the most beautiful or picturesque scene that will capture a prize. At the same time, one must not expect that the common or garden snapshot of the pier, the pleasure boats or a bathing party will be a winner.

Read the directions and note what subjects are mentioned, and try to introduce the pictorial into one or other of these. You will be well advised to make yourself familiar with the most popular parts of the beach or town, and to do this try to make a tour early in the morning before the crowds gather and when, perhaps, the sun is in the best position for securing a really effective result.

Children are Popular

Studies of children playing on the sands are much favoured, but do not overdo the number of kiddies. A lucky angler on the pier just landing a fish is a good subject, but remember to include some recognisable section of the pier. If there is a pond for model yachts do not hesitate to spend a few minutes on its banks, but watch the sun. Do not forget those ancient buildings, especially the parish church—and some of those old fashioned streets with the junk shop and its tray of oddments—which make excellent and interesting prints.

If you do compete, let your entry be carefully and attractively finished so that it cannot fail to catch the judge's eye. It should be mounted on a white card without any ornamentation, and the space at the base should be at least half as wide again as the top space. Do not attempt to print a title. It should be done in script by a good writer.

Any results which you may collect for competition will, you can be assured, give you greater satisfaction than most of your other pictures, and will, undoubtedly, make you more enthusiastic. The author has also found that pictures prepared for exhibition or competition have proved very helpful in remembering special features connected with a holiday.

Another view of Cromer which is typical of the town

On several occasions when talking to a group of amateurs, the subject of exposure times has arisen, and it has been apparent that quite a number of the 'casual' users have not gripped the actual function of the 'stops' of the diaphragm in relation to the speeds of the shutter. As both are of paramount importance in obtaining successful results, let us try to clarify their actual work for the benefit of any readers who are using a camera for the first time on holiday.

Every lens is fitted with what is termed a diaphragm. Sometimes it is in front and with others at the back of the lens, while in the more expensive type it can be between the lenses. It contains a device for making the hole in the centre larger or smaller at will, and the various sizes of the hole are known as 'stops', through which the light travels to the film every time an exposure is made. If your camera has four such stops they are possibly numbered 1, 2, 3, 4, or they may be *f*8, *f*11, *f*16 and *f*22, and they are related in their size. For 2 is half the value of 1, and 3 a quarter of 1 and half of 2, and so on. In other words, and this is what you should grasp, No. 1 passes twice as much light in a given time as No. 2 and four times as much as No. 3.

Example

You set the shutter to a given time of, say, $\frac{1}{50}$th of a second for use with the stop *f*8 (or No. 1). Now, if for some reason you decide to use *f*11, then because that stop permits only half the light of *f*8, which will not be sufficient for the exposure, you must double the time and so you must alter the shutter to $\frac{1}{10}$th of a second. Now consider this from another angle. If about 10 o'clock one morning the light is only moderate, an exposure would need, say, $\frac{1}{10}$th of a second with No. 1. But, say, the sun is shining brilliantly at 12 o'clock, then $\frac{1}{10}$th would be far too much and so you would either use a faster speed of $\frac{1}{50}$th for No. 1, or use a much smaller stop such as No. 3 or 4 at $\frac{1}{10}$th.

Normally it is advisable to make use of one of the factors only. By this is meant alter the stops or change the speeds. I have found that where folk get mystified is when they attempt to alter both stops *and* speeds before they have really grasped their function and relationship. If you have any doubts now, please read through this again and put the theory into practice at the first opportunity. (480)

Try making these pieces of

MATCH BOX DOLL'S FURNITURE

IT is really surprising how useful the ordinary match box is, and a book could certainly be written about the vast number of things that can be made with it.

It is, however, the making of doll's furniture with which this article deals. Once you get started on the job you will probably be amazed at the number of ideas that will occur to you.

Match boxes are easy to collect, and with the aid of a few odds and ends to be found about the house, some very attractive furniture can be made, to the delight of the owner of a doll's house.

An Easy Chair

The easy chair shown at (A) is made by cutting a match box drawer in half and cutting a piece of card with a shaped top for the back, which is glued in on the slope. The feet are made of ½in. lengths of ¼in. dowel rod, or, if a more ornamental type is wanted, from ball or twist beading. Arms may be added by gluing on pieces of flat stripwood, or a piece of dowel cut in half would look quite nice.

The settee (B) is made on similar lines but the match box is used lengthwise and a double back cut. Make two easy chairs and a settee to form an attractive suite, and they can be covered with wallpaper or some other ornamental paper to look like the real thing. Tiny cushions filled with cotton wool will complete the suite.

A small occasional table is also made from the drawer of the match box. Cut the curved edges as shown at (C) and glue into the corners four 1½in. lengths of square wood for legs. These can be the same size at top and bottom, or they may be made with a slight taper.

Tea Trolley

Two trays turned up the other way may be made up into a tea trolley like that shown at (J). Each of the legs are made up of two 1in. lengths of wood and the bottom ones can have small cardboard wheels attached if desired.

By using only one tray and fitting crossed stripwood for legs you can make the butler's tray (K).

A bookcase is quite a simple affair and can be made by using a match box tray either upright or horizontal. That shown at (D) is the upright type and is fitted with two cardboard shelves.

A piece of wood ¼in. thick is glued to form a base and projects slightly on the front and sides. Books are made from thin pieces of stripwood cut with rounded backs and painted gay colours.

No room is complete without a clock and the grandfather type illustrated at (E) is an excellent one to make. The entire match box is needed and the drawer is slid out rather more than half way and glued there. Cut out the bottom of the drawer so that the pendulum will swing easily. The pendulum itself is made of a small brass ring suspended by a piece of cotton from the top of the case. Cut a hole in the front of the case to show the pendulum and cover with a piece of cellophane.

The dial is marked out on a piece of thin card and glued in position, or an old watch dial can be used instead. Hands are made of card or tin, unless a pair of real hands are available, and are fastened with a tiny paper clip. An arched top, and ornaments cut from card or wood and glued on, complete a really attractive model.

Bedroom Furniture

Turning to bedroom furniture, (F) shows the simple construction of a bedstead. The two sides are cut down somewhat, and a shaped headboard made of cardboard, is glued in position as are the dowel rod feet. These can vary in height according to whether you want an old-fashioned or a modern-type bed.

The cot (G) needs little description and the end view shows how the crossed stripwood legs are fitted. A pin bent over is quite sufficient fixing and a spot of glue will make the whole secure. A hood of bent cardboard with a back glued in is removable, and adds to the charm of the model. The cot should be covered inside and out in a delicate shade of pink or blue paper or paint.

A Pram

The pram shown at (H) is another simple article to make and never fails to please. Two ¼in. square bars are glued under the ends of the match box tray to form supports for the wheels, which can be cut from cardboard, tin or thin wood.

If the bars are allowed to project slightly, the wheels will not rub on the sides of the pram. Fix the wheels with small round-head screws. A piece of wire bent to form a handle is glued into the inside corners of the back of the pram.

Paper the Models

It is always advisable to paper the models both inside and out, as this not only greatly strengthens them but also adds considerably to their attractiveness. The paper may be ornamental or plain, in which case it can be painted.

This article has only touched the fringe of the subject and the keen worker will, doubtless, be able to evolve endless other designs with the simple match box. (468)

MODEL GRAVEL PATH

To make a model gravel path, first cover the wood where the path is to be with glue or paste. Then sprinkle it with small cork chippings and shake off all loose chippings and let your paste or glue dry. Finish off with a coat of light grey paint.

Make These Moving Toy Novelties

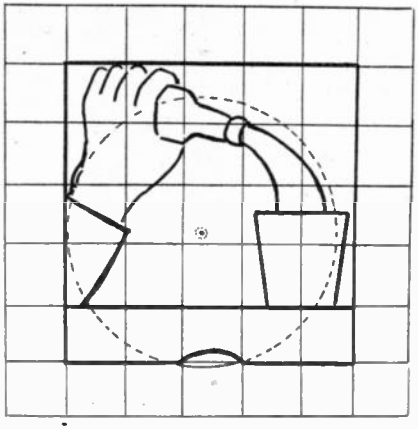
CHILDREN love toys which can be made to go into action and here is a kind which certainly does this. We might call it the 'moving wheel' toy, for action is secured by rotating a disc. There are many varieties possible and the handicraftsman, once he gets the idea, will probably be able to think of quite a lot himself.

'Pop Pouring'

However, to take a typical example, let us consider the 'ginger pop pouring' toy shown in Fig. 1. Here on turning a disc (by means of the finger slot at the bottom edge), ginger pop immediately begins to pour out of the bottle into the tumbler in a most realistic manner.

Materials required are two pieces of plywood, the one a rectangle 5ins. by 5ins. and the other a piece from which a disc of 2¼ins. radius can be taken.

On the first piece draw the hand, bottle and tumbler as shown and then paint. The better this is done the nicer the finished novelty will look, but quite broad treatment only is necessary. That is, the hand can be coloured with a flat wash of pink and the outline then put in with black. The bottle and glass can be green—again outlined, while the foreground below the hand and tumbler may be any bright tint.



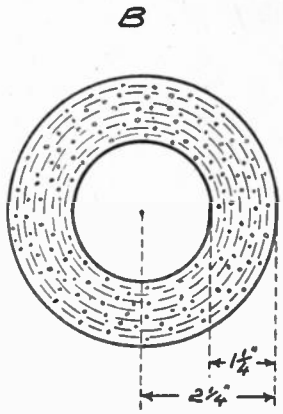


Fig. 1—The design and disc for the 'pop pouring' novelty

The background must also be filled in with something rather dark, or at least contrasting with grey, and finally the whole is given a coat of clear varnish.

Now take out the section between the bottle neck and glass as indicated by the dotted line in Fig. 2. Use a fretsaw or sharp chisel for the job and then bevel down the edge at both sides of the opening in toward the centre. Touch up the cut edge with the paint used for the background. The idea of the bevel is to camouflage where the disc (which goes at the back) and main pieces meet and help to give the illusion that they are flat with one another. At the bottle and tumbler a little suggestion of depth is an advantage. With some toys of this kind it is good to bevel all round the opening and a certain personal judgment must be used on this point.

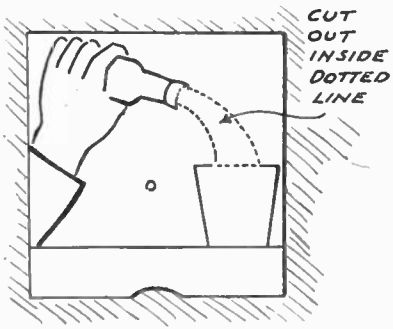


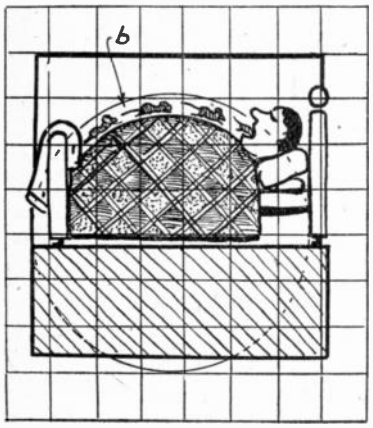
Fig. 2—The cutting out

Preparing the Disc

The disc is prepared by painting a grey bevel 1½ins. deep round the outside and then marking in short lines all round either with a fine brush or using a pen and indian ink as (B). Add here and there a few small circles to look like bubbles.

Attach the disc behind the main piece with the centre at a point 2½ins. from the bottom edge and rather to one side of the middle the other way. A very

(*Continued on page* 268)



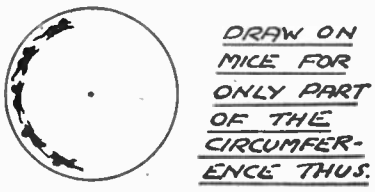


Fig. 3—The 'Sleeping Man' variation of the novelty

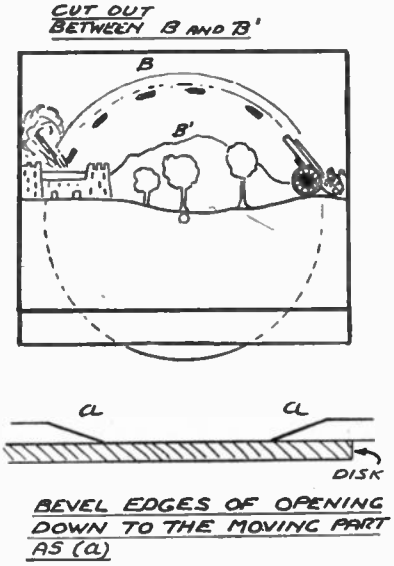
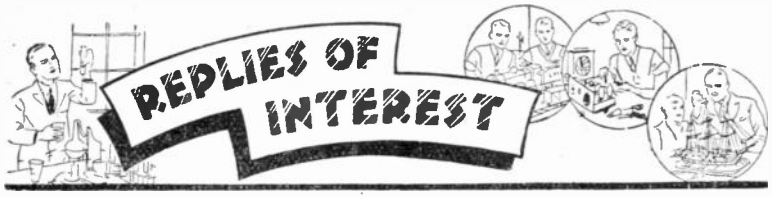


Fig. 4—Yet another variation—a gun firing shells into a fort



Scraperboard Drawing

I AM very interested in the art of scraperboard, but cannot gather any information on the subject. I should like to know if there is a book I can acquire describing the various instruments and methods. (*K.M.—Gateshead*).

YOU will be pleased to know there are quite a number of good books on this subject, ranging from small handbooks for some half-a-crown or so, to such books as 'Scraperboard Drawing' by C. W. Bacon, published by Studio Publications at 21/-. The technique of scraperboard is fairly straightforward and once the principles have been mastered, the rest is a matter of practice. If you do not feel disposed to spend a lot of money on one of these books, why not enquire at your local public library who will be only too pleased to obtain you a copy which you could borrow.

* * *

Loudspeaker Repairs

IS there a way of repairing a loudspeaker that has a rip in the cone and reduces the volume severely? (*P.B.—Luton*).

A DAMAGED cone can usually be repaired fairly successfully. First ensure that the centre is not distorted so that the speech-coil is fouling the pole pieces of the magnet. If necessary, the position of the coil can be adjusted, in most speakers, by loosening the nut or nuts holding the flexible member which keeps the speech-coil central. The cone should be formed as carefully as possible into its proper shape, and the edges joined with a high-quality adhesive. Rubber solution, as used for attaching puncture-patches, may be used, applied sparingly. The speaker should not be used until the adhesive is absolutely dry. Distortion, weak reproduction, or scratching noises will show that the coil is fouling the magnet poles. It is possible to have new cones fitted, as repairers who undertake such work exist, but this is only economical when the speaker is a very expensive one.

* * *

Watermarks and Grindstones

PLEASE tell me how water-marks are made on paper. Also how many kinds of sharpening round stones are there, and which is best to use for hairdresser's tools such as razors, scissors, etc. (*D.G.—Malta*).

THE watermark is shaped up from wire or thin metal, and fixed to the dandy roll over which the partly finished paper must pass. It impresses the soft pulp and removes a tiny portion of it, so when the paper is dry the impression can be clearly seen. Referring to your second query, the grinding wheels you enquire about are made in three grades —fine, medium and coarse, and usually of carborundum or emery. For your purpose the first two would suit, but a coarse wheel is useful for grinding heavier tools and when a tool has not received attention for a long while. When ordering, you should specify the diameter of the spindle hole and the size of the wheel.

* * *

Camping Sites

I WONDER if you would tell me whether there is a book on sale with camping addresses? I know of the Camping Club of Gt. Britain and Ireland, but do not wish to join a club. (*M.W.G.—Wolverhampton*).

WE do not know of any recent book or complete list giving particulars of sites for camping. 'Camping & Outdoor Life', the magazine of the Camping Club of Gt. Britain & Ireland (price 9d.) usually gives a short list of camp sites in each issue. The Handbook of the Youth Hostels Association (price 7d. post free) published by the Y.H.A., Welwyn Garden City, Herts., contains a comprehensive list of hostels in England and Wales where members who bring their own tents may camp at certain of these hostels which are indicated in the list, upon payment of 1/- per person (juveniles 6d.). This charge covers the use of hostel facilities except beds and blankets. Campers are subject to the rules and regulations of the Y.H. There is a wide choice of hostels scattered over the country where these camping facilities exist. Why not join the Y.H.A. and enjoy the many privileges afforded? Membership fees are very reasonable. Junior membership 5/- a year; Senior membership 10/-.

Have you a problem you'd like advice on? We are always pleased to help readers to the best of our ability — and there is no charge.

MOVING TOY NOVELTIES

(*Continued from page* 267)

small bolt will do for the pivot, or even a strong paper fastener, cut off and with the stubs of prongs tapped over. In either case put a small metal washer at the back of the disc before bending over the prongs or fitting a nut. The disc must, of course, turn quite easily.

All is now complete and the youngster by causing the disc to rotate can make ginger pop pour into the glass.

A variation of this toy is given in Fig. 3. Here we have a sleeping man in bed who is evidently a snorer—at any rate he apparently does not breathe through his nose. His house, too, must be infested with mice, for they appear from the foot of the bed and run over the coverlet into his gaping mouth—at least when the disc of this toy is revolved.

Here the area (b) is cut away and again the colouring must be strong and treatment broad. The mice are drawn in silhouette on the border of the circle and their background (on the circle) must be the same paint as the background behind the bed. Again pivot with a small bolt or fastener. Some care must be taken here to get the mice exactly entering the open mouth or the effect is lost.

Another Variation

Another variation of the whole idea is the gun firing into an enemy fort as Fig. 4. This also is quite simple to make, but, perhaps, more than others depends on the colouring for effect. Also bevel down well and at a good angle the sides of the opening through which the shells appear, so that the sky and background of shells merge as much as possible. Only paint shells on part of the circle so that they come round in bursts.

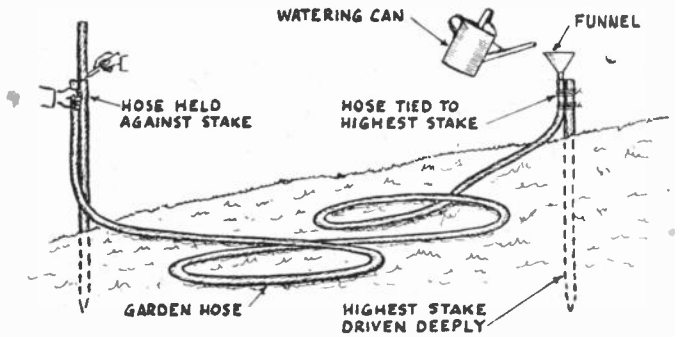
Thus it will be seen that this type of novelty toy is open to a good number of treatments, the basic idea, however, being the same throughout. Soldiers can be made to march over a hill, birds to fly through the air, or players to throw a ball from one to the other. In every case the bigger the disc, the flatter can be the curve through which the moving items go, but, of course, the more foreground there must be to hide, the larger the circle.

Young garden lovers might like to know

How to Level a Lawn

MANY people prefer an undulating lawn, conforming to the natural contours of the land, and in an informal garden this can be both pleasing and effective. There are occasions and purposes, however, which call for an even and level patch of grass. An example of this is the tennis court.

The levelling of a patch of garden, preparatory to seeding to grass or turfing, is quite an easy proposition apart from a healthy exercise. A spirit-level is not necessary and certainly there is no need for a theodolite. Except for the tools of excavation, only a few stout stakes, a rule, a length of garden hose and a watering-can are required for the job.



Deciding the datum line

Marking Out

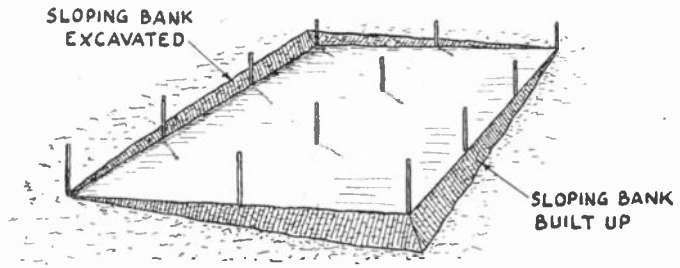
The area to be levelled should first be marked off and stakes driven in at each corner, and at convenient intermediate positions. The stakes at the higher points should be driven deeply and it is important that the tops of all stakes should be above the highest ground level contained in the patch.

The surface soil should first be removed to a spot clear of the plot, as it must be replaced on top of the subsoil when levelling operations have reached the final stages.

The next procedure is to mark a datum line on the stakes, or to saw them to an even datum height. One end of the garden hose should be securely tied to the stake situated at the highest point, so that its extreme end is level with the top of the stake. It is necessary to have an assistant whose job it will be to pour water into the hose from the watering-can or a jug. The assistant having taken up his position, the free end of the hose should be taken to each stake in turn. Placing the hose against the stake to be marked, a signal should be made to the assistant, who will then pour water into his end of the hose. You will then manoeuvre your end until the water overflows it at the same time as it overflows the other end. A mark should then be made on the stake at this level and the same procedure should be carried out at each stake in turn until all are marked. The principle that water finds its true level is understood, and the result will be that all the marks on the stakes are on the same level. These marks now form a datum line from which the lawn level will be set. The stakes may be sawn off at the marks.

A truly level lawn would lie at an even distance down from the stakes, but it is best to arrange a camber so that water will run off and not lie in any depressions to cause mud-patches. To this end, marks on the stakes should be raised 1in. or so higher as they progress towards the centre.

Earth should now be moved from the higher portion and deposited at the lower end until the site is levelled. It is advisable to build the lower end a little higher than the top, as it will settle slightly before it becomes firm. To avoid subsidence, both the built up and excavated banks should be sloping, and if stones are available, these may be used in the form of a dry wall, which will look effective if packed with earth between the stones and sown with rock plants. (441)



The actual process of levelling

Another 'Memory Man'

ONE would have to have a superlatively good memory to copy the hobby of a Mr. Smith, of Yorkshire. For many years he adapted the usual boyish hobby of collecting motor-car registration numbers in a new direction. Instead of just noting down new numbers in a book, he actually memorised the names of the owners and the registration numbers of 600 different cars. Although this naturally took some time, Mr. Smith eventually knew them so well he could reel the whole lot off at will, or could quote any one of them without a moment's hesitation. Never once did he write down either the name of the car-owner or its number, relying entirely upon his memory. During the recent war, the scarcity of private cars on the roads led this hobbyist to turn his feats of memory to people's birthdays. Again he remembered hundreds of names and dates. In his locality it was said that Mr. Smith knew the birthday dates of almost every person, and could quote them with ease, and without once making a mistake. Several attempts to catch him out by asking him the dates of birthdays he might not be expected to know were all failures. (280)

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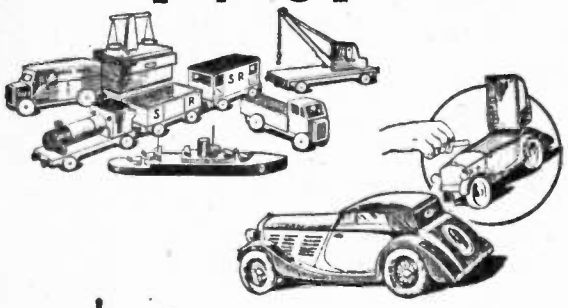

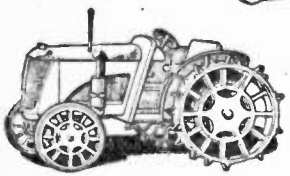

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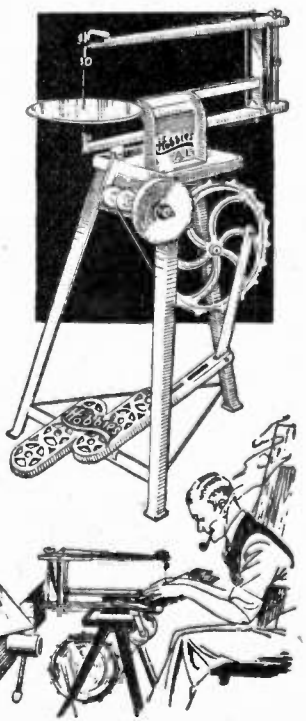

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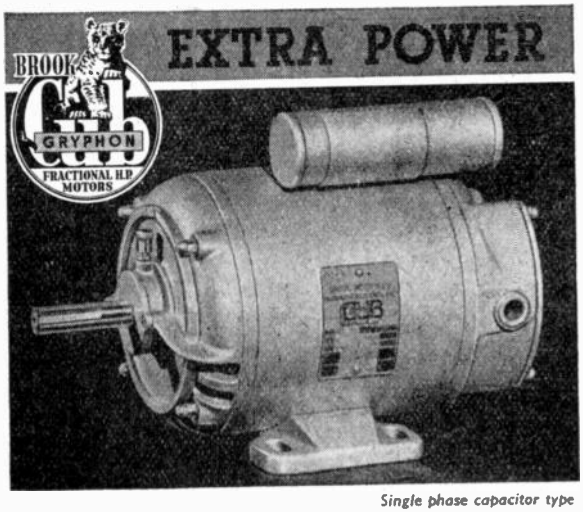

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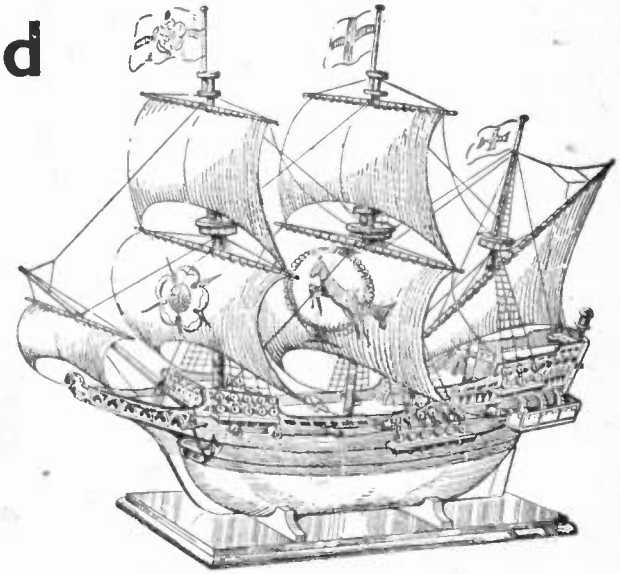

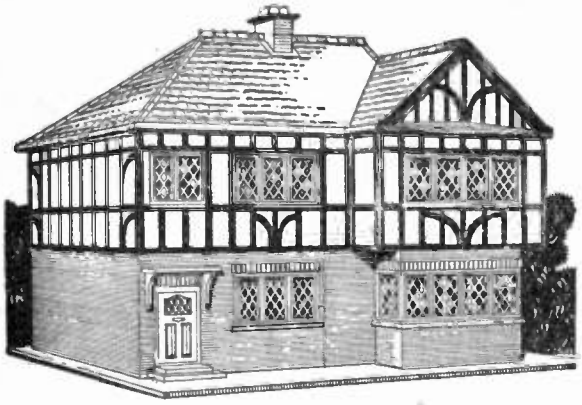

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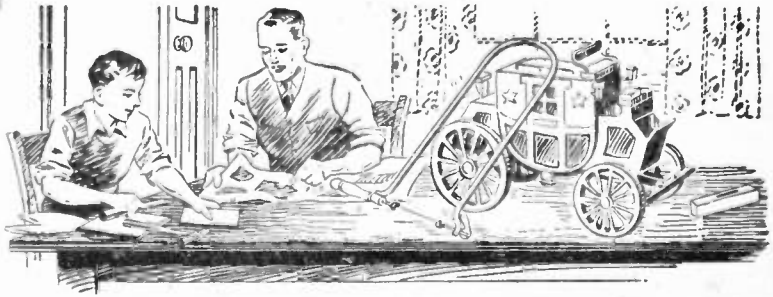

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