

AM sure every reader will be delighted with the novel Football Game provided on this week's sheet. It is both simple and ingenious and the mechanism of the working players is easily put together from the full size patterns and the fully illustrated instructions on how to make the game.

NEXT week, too, will provide another excellent toy to make—a train set in wood. The patterns will be given for an engine and two parts of a goods train. The other wagons will follow so the worker will be able to provide any youngster with a complete working toy set. I know how popular railways are from the various articles published from time to time, so I am quite sure there will be a big run on this issue.

WHICH reminds me! I am delighted to tell you more and more readers are buying this paper every week and whilst it is pleasing for me to know, it may be a little disappointing to those casual purchasers who are unable to obtain

their copy when they call at the newsagents. There is only one remedy—and that is to tell the shopkeeper to save you a copy *regularly*. In that way you can be sure of not missing a single issue—and everyone will be pleased. So in view of the increasing demand I want every reader to be sure by reserving a copy at his usual shop.

THE winner of the No. 3 Crossword Competition was C. F. Clark of Norfolk Street, Leicester, whose entry was both neat and correct. The opportunity of another Machine as prize is given in the No. 5 Crossword printed on page 426 of this issue.



THIS week's picture is a little unusual, but I give it to show how versatile some of our readers are. The quaint oscillating cylinder type of steam engine may not be good looking, but it does its work. Which, perhaps is the more surprising because it was constructed entirely from

odds and ends. The cylinder, for instance, is a piece of bicycle pump plunger, the boiler a 1lb. paint tin, and the water filler a screw cup and nozzle from a shaving cream tube. The picture shows a blow lamp in position to provide the heat, which has generated the steam seen issuing from the exhaust port. I am afraid I do not know the name of the maker, but he was aided by B. T. Denne of Thundersley, Essex. who

kindly sent me the photograph.

F any reader has a design of the Grand Oriental Overmantel he wants to dispose of will he get in touch with A. T. Husband Jnr. at I Greenwoods Row, East Hill, St. Austell, Cornwall. That worker is wanting one badly and at the moment

cannot get one from Hobbies Ltd., as their existing supply has temporarily run out. I keep a list, of course, of old designs which readers have for sale, but not one appears to have this particular pattern sheet.

S OME of my new readers may not know that back numbers of the Weekly are obtainable. They are essential when making up some of the design sheets, but 4d. design chart is not given. Another big reason for getting your Hobbies regularly.

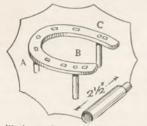
The Editor

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

HUNDS AND DIDS.

A Simple Ironstand

 A^{LL} that is required for this useful article is a horse or pony shoe (preferably the latter) and a piece of copper tube $7\frac{1}{2}$ ins. long by $\frac{3}{2}$ in. diameter.



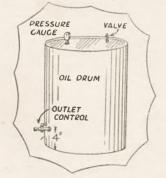
Drill three in. holes at A, B and C and saw the piece of copper into three parts 2 ins. long. File the ends till they are a good fit in the holes and then rivet over.

A Cleaning Hint

I^F a little quantity of paraffin and the same quantity of methylated spirit with some coalash is added, you will find when mixed this makes an excellent cleaner for your tools.

A Compressor

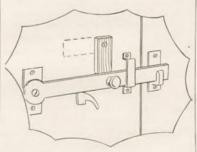
TO make the small air compressor shown the only components required are a 5-gallon oil drum, a pressure gauge (0-50 per square inch), a motor or motor cycle inner-tube valve, and one



outlet control tap, with end to suit rubber tubing. These cost about 2/- altogether from a garage. To complete the compressor first seal up the hole in the top with a picce of strong thick tin. Then bore two small holes in the top for the valve and the gauge and solder in. Another hole has to be made about 4ins. up the side to solder the outlet tap into this. A special connection can be bought for the motor valve which enables you to blow in the pressure with an ordinary cycle pump. As a welding plant it is invaluable and to complete the welder, the addition of a carbide generator is all that is needed.

A Safety Catch

A SIMPLE tip to make an ordinary door latch into a lock is shown in the sketch. Simply screw a piece of wood shaped as illustrated above the latch so it



forms a movable arm. The sketch explains how the part is dropped when the latch is to be fixed, and turned horizontal when not in use.

Dahlia Plants

TO attain better results with your Dahlia plants, place them in a wooden box, the bottom of which should be covered 3 or 4 inches with fine ashes. Then put them in an outhouse, where they should be kept until it is time to reset them, that being about the beginning of April.

To Re-enamel Cycle

WHEN you are about to reenamel your cycle the best results are obtained by first scraping all the old enamel off and then giving it a coat of wood paint. When this is quite dry it may be enamelled, preferably two coats.

A Bicycle Stop-light

For original Tips published the sender will receive one of Hobbies Self-filling Fountain Pens. We cannot acknowledge

or print all tips sent in.

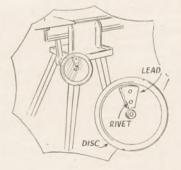
A SMALL bulb-holder is fixed on the mudguard and one end of the flex from it is attached to the battery which may be kept in the saddlebag. The other end is



soldered or fixed to hang in position just above the brake. From the second battery terminal a short length of flex is led to the brake so that the end may be fixed on the brake just behind the piece already in position. The brake being applied, the two terminals are brought together and the circuit is completed, so illuminating the bulb fixed at the back.

A Balance Weight

O^N the Hobbies fretmachines a simple balance to counteract the kick of the small pitman can be made and fixed if desired, a piece



of lead is riveted to the side of the disc opposite to the pin to which the pitman is attached. The addition is shown herewith in the sketch and it will be found to reduce the vibration when being used at a high rate.



A S promised in last week's Editorial news page, we are presenting with this current issue only, a large supplement 4d. Design Chart (No. 2049) giving all details for making the entirely new mechanical model Football Game illustrated herewith.

No doubt many of our ardent "fan" reader enthusiasts will have already cagerly scrutinized the full size working drawings shown on the chart, and consequently, have concluded that as far as model games are concerned, this one, at least, is a true replica in miniature of our ever-popular national winter sport.

Life-like Manipulation

The working mechanism hidden beneath the "field" board is all that could be desired for its simplicity; and vet, it is surprisingly effective. the whole contrivance working similar and not at all unlike the "penny-inthe-Slot " machines.

It is just a matter of each participant manipulating the various projecting control buttons, and hey presto !—the statuette figures respond immediately, each moving and kicking in a quaint, if not natural, fashion (with right and left feet) as prompted !

The movements are rather humorous to watch at times, and the thrill and excitement of the game is keenly felt as each player gradually becomes proficient and accustomed with the manipulation of the eight "men" which, in a way, are really small marionettes.

Wood and fittings Supplied

Being only a model, it was, of course, really impossible to include on the field the full amount of eleven men each Team as is required in Association

MATERIALS REQUIRED

5 pieces birch plywood ... 18ins. long, 12ins. wide, ½in. thick. 1 piece birch plywood ... 6ins. long, 6ins. wide, ½in. thick. 2 pieces No. 302 corner moulding ... 18ins. long. ½in. sides. 2 pieces No. 24 moulding (mahogany), 18ins. long. 2 pieces No. 24 moulding (mahogany), 18ins. long. 7 pieces 10. 24 moulding (mahogany), 18ins. long. 1 pieces 1in. round dowel rod. 9ins. long. 1 piece triangular blocking fillet. 12ins. long. ½in. strip. 1 set rubber feet, (spiked). 1 No. 14 ball toe, ½in. diameter. ½ doz. ¾in. by 3 brass flat head screws.

Football. This would, in any case, have made the novelty too complicated and involved a terrific amount of unnecessary work. Excitement everywhere this week over the 4th Round of the Cup. Here is a mechanical game with working figures which you can make from the Gift Design Sheet.

Simplicity is the initiative success of all things, and incidentally, in order to reduce inevitable difficulties that may arise, Hobbies are supplying a parcel (No. 2049) which contains all the necessary materials required, costing 4/3 or 5/3 post free.

The Boards

To incorporate the full size working drawings on to the pattern chart, it was found necessary to show only a half section of each pardetail. ticular However, as the opposite half is exactly the same, this should be sufficient to enable the worker to just complete both sec-

tions together and cut out in one whole piece.

The pattern at Fig. r shows a half of the "field" board and how it should look when finished. A good idea is to first square up a suitable board of kin. thick birch plywood to the dimensions as given, and then with pencil and set-square, refer to the pattern and carefully mark out the different slots on the board as shown.

The bottom piece is cut exactly similar, with the exception that it must have an $\frac{1}{8}$ in. wide margin all round as indicated by the dotted lines, thus making it measure $17\frac{1}{4}$ ins. long by $10\frac{3}{4}$ ins. wide.

Gluing up

The side and end pieces of the case are planed and squared from the $\frac{1}{3}$ in. thick plywood, the complete overall size of the former being $17\frac{1}{3}$ in. long by $1\frac{2}{3}$ in. wide, whilst the latter is

The Football Game-(continued)

shown in full. Mark out the correct positions of the in. spindle holes, and drill these or cut out with the fretsaw.

The parts are glued and lightly nailed together, having the end pieces between the sides and being extra careful to see that all the holes are in proper

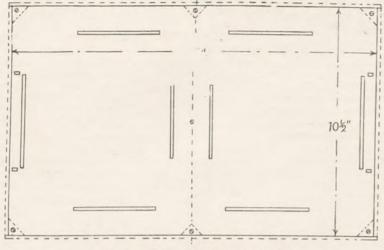


Fig. 1-A plan of the field, with dimensions.

alignment with each other, i.e., having all top edges to the top.

The bottom piece is glued and nailed underneath. and the whole tacked temporarily down to some wooden flat surface to overcome any likelihood of the case possessing a slight twist. Drive the nails through the bottom (at a good distance from the corners) into the surface. Cut six pieces of ³/₄in. triangular blocking strip to exactly a 1/16in. less than rin. long. Glue these to the inside at the case bottom and allow the glue to thoroughly dry.

The Statuette Mechanism

With the mechanism parts, it will be observed there are many repetitions to be made. So to work systematically, these should all be cut as instructed before the actual assembling takes place. These

picted at Fig. 4

The tenons of the supporting pieces are glued to the plate mortises of this and the goalkeeper plate as shown. To ensure extra smoothness in working, grease the movable parts with candle wax.

The statuette Figures

As all the statuette figures are constructed almost the same, a detailed description of one would also serve for the others. We shall, therefore, choose one of the wing "men" as there is a slight difference here from the rest.

With carbon or tracing paper, carefully pencil around the outline of the figure (leaving out the

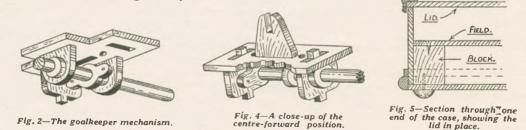


Fig. 2-The goalkeeper mechanism.

parts are all cut from \$in. thick plywood, and it is advisable first to cut out one of each and use as templates for marking out the number of repeats on the wood with a fine hard-pointed lead pencil.

The goalkeeper mechanism is built together as explained by the bottom view detail at Fig. 2. Select the top plate (A) and glue the plate spindle ends (D) into their relative slots as shown, the

Fig. 4-A close-up of the centre-forward position.

limbs), the dotted lines giving the combined body and support alone. Copies should now be taken of the arms and legs separately, not forgetting to mark the dots for the pivot pins on each, including the body parts. Mark the small slots on the supports for the leg stops or rests as shown.

When the various parts are marked out on the wood, cut out neatly, and like the mechanism parts,

plain ends (C) being inserted to the other mortises.

The spindles are cut from 4 in. round rod, each measuring 24ins. long. These should be permitted to revolve freely in the holes. Round the ends and push one end through the allotted hole, inserting on one of the cam movements (F) before pushing

through the opposite one. The cams and washers are adjusted and glued to the spindle, the distances being determined with reference to the chart.

The wind and forward Mechanism

A general detail of the wing mechanism and its construction is shown at Fig. 3. This is assembled similar to the parts just described, the only difference being the spindles which are about 8ins. long. The centre forward parts are assembled practically the same, excepting the dowel spindle in this instance is approximately 8¹/₂ins. long. It has two separate cams (E) glued on directly beneath the plate thread holes as de-

The Football Game—(continued)

use as templates for marking out the three other wing players only. When all are cut out, pencil in the head features, shirt, pants, etc., on both sides of each piece, and then colour with crayons, or preferably, carbon pastels.

It is not advisable to use paints, as it is essential that the surfaces must be smooth for easy movement. When colouring same, do not forget to have one set of statuettes distinct from the other to clearly indicate the rival adversaries.

Assembling the figures

At this juncture, reduce about 16 ordinary household pins to $\frac{1}{4}$ in. long, retaining the heads. Pierce tiny holes for these opposite the pin pivot holes at the leg loins, and tap one into each, allowing the head to project an $\frac{1}{4}$ -in. for the thread loops.

Be sure to do this so the legs are made rights and lefts. These are held loosely to the body with longer pins, having an $\frac{1}{2}$ in. projection to be bent down on the other side. The pivot holes are drilled for the pins to ensure absolute freedom in swinging when the figures are inserted temporarily to relative mortises of plate.

Thread connections

The threading up is clearly shown by the chart drawings and the detail at Fig. 3. Cut 16 pieces of strong black cotton thread to about 6ins. long. A tailor's knot is tied at one end of each, same being inserted through the cam and plate holes. Have the cams resting horizontal before making the loops on the threads. The loops, of course, must fit taut over the pin heads and to also allow the legs to hang in close proximity with the supports or stops. A twist to the right or left should swing the legs accordingly, each leg kicking with evident vigour and ease as shown.

Completing the game

The "field " board is drilled and countersunk for the six screws, and the line "layout" of the pitch marked out, and then if desired, the board coloured green, but leaving the lines shown white.

Disconnect the statuette figures and the threads. Push the button spindle ends through their relative holes of case sides, after which, the field board is set on top, the small plywood pin projecttions thus engaging with the top and bottom slots.

Before finally screwing down the board to the blocks, have all the threads through the slots and tie loosely together. When the board is screwed in place, the figures are again inserted in position, this time through the slots into the mortises of plates and the threads connected as previously described. The spindle buttons are glued on the ends of the rods as shown.

Finish

In order to have the article as compact as possible, the figures, goal posts, etc., are all detachable, and thus must be held temporarily in position by the various tenons only. A suitable covering lid is made to fit loosely, but neatly on top, one half of the corner moulding (No. 302) that is mitred around the edges keeping it in place (see sectional detail at Fig. 5). The case moulding (No. 24) is also mitred to the base sides, then the rubber toes, of course, nailed to bottom at the corners. The "football" itself is made from one of Hobbies wooden balls (No. 14) $\frac{1}{2}$ in. in diameter.

THE FOOTBALL GAME RULES

Norre :- This miniature Game is played practically in a similar principal observed in Association Football. There are, however, several necessary exceptions that must be strictly adhered to. These are arranged below, and thus in the event of dispute or disagreement arising between the opposing Teams during play, it is essential that all participants refer to same and unanimously abide by their conditions as set out.

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1. Not more than the limited number of eight players (four evenly each side) may take part in the Game, or four players and two evenly each Team.

evenly each Team. 2. Each rival Team must be governed by a Captain (the two eldest opponents) who select their players alternatively and choice of play by tossing a coin.

play by tossing a coin. 3. The centre-forward (Captain's position), goalkeeper and the extreme forward wing players take their respective places at the control buttons. The Captain (who won the toss) centres the ball and kicks-off as usual.

4. The adversaries should each strive to intercept the ball, either moving back and forward or kicking with right and left feet in an attempt to send the ball in the opposite direction, this also applying to the other players concerned.

5. Should the ball be kicked across the field by any of the players, and consequently, enters between the goal posts, a goal is allowed—even if kicked by the opposite goalkeeper, etc.

6. There are no penalty kicks and all corners are disallowed.

7. Should any opponent accidentally knock bis colleagues' ball into bis own goal, two goals are duly made to the rival Team.

8. No goal is considered should any player "push" the ball into his opponents goal with the feet closed down together, or with the body support of his statuette figure. 9. Should this happen, a penalty of one goal is added to his rivals' score. In view of this proceeding, the goalkeeper (to whom the ball has been sent) must not contrive to stop the ball entering through between the posts.

10. If during play, the ball comes to rest against the case sides or any other place out of reach of the men, it may be set before the nearest goalkeeper and accordingly kicked into the field of play.

11. The Game is divided into two balf sections, i.e., the first balf lasting 15 minutes, then an interval of 2 minutes, during which the Teams change over field positions.

12. The last or final half also has a period of 15 minutes, and when this has been reached, the Teanu possessing the highest number of goals, of course, wins the Game; if both sides are equal, the match is a draw.

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In a recent page of Notes mention was made of some of the early methods of fixing used in woodwork, and it has since occurred to me that readers of this page might be interested in a few brief notes, from time to time, on the historical side of woodwork.

Early Woodworkers

N early days woodworkers were divided into three classes known as King's Craftsmen, Church Craftsmen, and Common Craftsmen.

The King's Craftsmen were the pick of the country selected by the "master" craftsman, personally. Service in this class was compulsory and a defaulter was liable to imprisonment. At first sight this might seem rather hard, but it seldom caused any trouble, however, as they received a slightly higher rate of pay than the other workers.

The Church Craftsmen were the only ones exempt from service in the previous class. These did not receive any pay at all, but were supplied with food, lodging, and clothing in return for their services. This largely accounts for all the

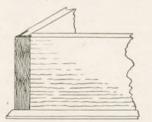


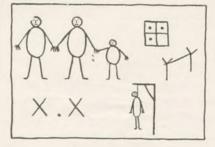
Fig. 1-A simple inlaid corner.

excellent church work which could thus be done at a very low cost.

The Common Craftsman really had rather a rough time of it. They were not allowed to move away from the town in which they were born, or served their apprenticeship, unless they obtained permission in writing from the lord of the manor or their Trades Guild. They were then allowed to make journeys from place to place and thus originated the term "journeyman" carpenter, etc.

An Old Bill

Some time ago I saw a copy of an old bill, and a receipt, issued at a time when many people were unable to write, which struck me as being rather original. It was crudely drawn in outline and I



have endeavoured to reproduce it as near as I can remember.

It reads "Two men and a boy,

a day, food and ten and tenpence, settled."

Ideas for Box Corners

WHEN making small boxes of a decorative character, it will

improve the look of the work if the corners can be made to form a decorative feature instead of just showing the joints. Three simple ways of doing this are shown.

In Fig. 1 a strip of wood, of a contrasting colour to the rest of the box, is glued into a rebate cut on the corners. The width of the strip will, naturally, depend upon the size of the box but the thickness should be from $\frac{1}{2}$ to 3/16 in.

Fig. 2 shows two suggestions for a similar idea, only in this case, the corners are not let into the sides of the box but are glued on the surface and, if necessary, pinned with fine vencer pins.

In the last example, Fig. 3, a rebate is cut round each of the sides, and a strip of $\frac{3}{2}$ or $\frac{1}{2}$ in. banding glued in the rebates, thus giving a panelled effect.

By carefully selecting the bandings many very attractive results can be obtained. The rebating is quite simple if a metal rebate plane fitted with a stop is used. If, however, you only have the ordinary wooden type in your centre, all you have to do is to cramp a strip of wood across the work, as a guide, and the job becomes almost automatic.

Oxidize Your Copper Fittings

THERE are a good many articles made in handicraft centres that are all metal or a combination of wood and metal. If copper is used, the appearance can frequently be tremendously improved by oxidising the surface of the copper, and rubbing over the high parts. Strictly speaking a film of sulphide is formed on the copper but the finish is always referred to as "oxidised."

The work should first of all be thoroughly cleaned with a scouring agent, such as "Vim," to remove any grease and then wiped over with Ammonium Sulphide. This immediately turns the surface black. Next make a small pad of

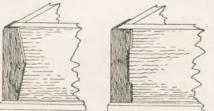


Fig. 2 and 3-Suggestions for corners of the overlaid type.

rag and dip it in knife powder, or a very small quantity of metal polish, and rub over the high parts very lightly until they are bright.

If the metal is now given a coat of lacquer it will form a protective covering, and the oxidised finish will last for a good many years without any further attention.

The Craftsman

MAKE A PAIR OF SKIS

T^F you would like to know the joys and thrills of soaring through space over the surface of a snow-clad land, just build yourself a pair of skis and learn how to use them. The first thrills of flying in a plane are nothing compared to slipping down a snow covered incline on your two feet and then suddenly to leave terra-firma and sail through the air like a soaring bird.

A Question of Weight

Any old pair of skis will not do, however ; they must be built to suit the weight of the person who is going to use them, so work them out to suit your own particular requirements from the following details. For instance, a person weighing roughly roo pounds would require his skis to be about 5 feet in length ; 120 pounds, 6 feet or so, whilst a man of 150 pounds would need an increase of length up to 8 or 9 feet. If you work this out, you will find that for every 20 pounds increase in weight, 1 foot or so must be added to the length of the ski.

Carefully selected wood must be used in the construction, free from knots, cracks and shakes,

The space E to C is left full $\frac{3}{4}$ in. thick and the length of this space a trifle over the length of the ski boots. Midway along this space cut out a notch zins. Snow may be upon us any day ! Be prepared with a pair of skis so you can enjoy the thrills of a mountaineer—even on small hills.

wide by $\frac{1}{4}$ in. deep on each side so the fixing strap may be accommodated. Mark off line B 12 ins. from the front end of the length and draft the shaped toe-piece from the squared diagram at Fig. 2.

Plane and Bend

The variations in thickness of the length are all to be worked on the upper face of the ski as shown at A, Fig. I. A finely set smoothing plane should be used for the job and the variations smoothly run into each other so that no unsightly cross ridges are in evidence on the finished surface.

The bending of the toe is the next operation to take in hand and some form of steaming apparatus will be required in order to make the end of the timber sufficiently pliable to take the bend.

One of the simplest forms of steamer is shown at



Fig. 1-A side and top view of the ski showing shape and dimensions.

and fairly straight in the grain. The variety of timber does not matter to any great extent as ash, spruce, birch, pine or cypress, are all equally suitable for the job.

In planning the overall dimensions, arrange for the necessary length as outlined and aim for the finished width to work out a shade wider than the boots that are normally worn. It is advisable to procure a pair of fairly heavy boots and to keep them solely for use during the winter sports season, you may then make the width of your skis to suit them and be assured of a perfect fit at all times. The manner in which the boot fits the ski has a great deal to do with the successful performance of the rider.

For the Strap

Plane up the lengths of wood to the required finishing width, and having smoothed both sides, lay out the varying thicknesses as shown at A, Fig. 1; this figure shows the amount of turn-up of the toe, and you must carefully plane the upper side to the required thickness. B, Fig. 1 shows the plan view of the ski, and detailed layout; E being the centre line of the length. Fig. 3, and as will be seen, consists merely of a large pail filled with well dampened sand packed around the ski ends. The pail is raised upon a number of bricks so a fire may be built underneath it, the operations, of course, taking place in the open air.

Forming the Shape

It will most likely take about two hours of steaming before the ends are pliable enough to bend easily, and during this time the fire must be kept going and hot water added to the pail occasionally, or the sand will become dry and the wood roasted instead of steamed.

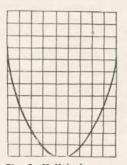
A former, around which to bend the length, will have to be constructed, and this should resemble that shown at Fig. 4 and built to the dimensions given. Make the foundation of the former from a stout piece of board and along one edge screw a stout strip of wood about 6ins. wide. At the end firmly screw down the shaped pieces around which the timber is to be bent.

Following the curve of the form, bore a number of $\frac{1}{2}$ in. holes with their inner edges spaced at the correct distance from the edge of the curved

Making a Pair of Skis-(continued)

pieces to accommodate the tapered toe-piece length. Fig. 4 makes this quite clear.

Have ready at hand a number of short pieces of hin. gas pipe ; these are to be placed into the holes as the bend is made to keep the length close up against the bending form. Remove one ski from the steaming pail, place the extremity of the toe hard up against the side strip of the former and



close to the shaped piece. Some assistance will now be required to pull the ski around and to drive in the pieces of pipe as it clears the holes during the bending.

Continue pulling the length and driving in the pipes until all the holes are filled and the toe-piece has taken the required bend. The lengths may be bent one at a time, but if a for marking out the front double former is made, a considerable amount of

Fig. 2-Half inch squares curves.

time will be saved. The skis should be allowed to remain in the formers for a week or so, so they will become thoroughly dry and set to their curves. After removal, they should be thoroughly glasspapered all over, first with a coarse grade of paper and then finished off with the finest until they assume a smooth and glossy surface.

Varnish the Tops

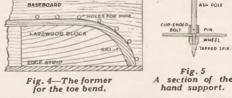
Treat the top side and the edges with three coats of good oil varnish, allowing each coat to dry, and lightly smoothing it down with the finest glasspaper before applying the next. Varnish should not be used on the undersides, but these should be coated with hot tallow and well rubbed in.

A length of leather strap 2ins. wide by 1in. thick is secured into the prepared notches by driving in three 2 by $\frac{1}{4}$ washered wood screws. The straps should fit tightly over the instep of the boots when they are thrust into them, and if this point is

Bathroom Mirror—(continued from next page)

The overlays are cut from in. wood and the central opening must be ³₃in. smaller all round than that in the back. Lay the back on to the overlay piece and mark the size and shape of the oval cut in it, with a sharp pointed pencil. Then take the back away and draw another oval on the overlay 3in. smaller all round. Mark this out carefully, and then cut with a fretsaw.

When all parts have been cut and cleaned they are fitted together. The shelf and brackets are glued and screwed to the back and the overlay glued securely



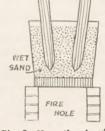
carefully attended to, no other form of attachment is necessary.

A pair of hand supports, as shown in Fig. 5 will be necessary to complete the equipment, and these may be constructed as follows. To the lower end of a round ash pole of suitable length to suit the individual, is fixed a cup-ended bolt, as

shown in detail. An aluminium wheel of about 8ins. in diameter is slipped over the bolt and secured in place by screwing on a spiked nut.

Light Castings

The bolt, spike and wheel. should all be cast in aluminium, and this should present no great difficulties to the home worker. Suitable moulds may be made from fireclay, and as small amounts of metal such as required for these parts may be melted in an iron ladle over the kitchen range, the casting should not prove to be as difficult as the Fig. 3-How the band



SUPPORT

WIRE

is steamed (in section). amateur may at first imagine.

Pour the metal and allow it to cool slowly, remove the casting and clean it up by machining or filing. The cup-bolt is secured to the end of the pole by pinning, and the bolt screwed with any available large sized thread. Tap the spike-nut to fit, screw into position, drill a hole through both nut, bolt and pin, securely riveting the ends so that there is no chance of its working loose.

Follow the instructions given to make up your equipment and you will be watching eagerly for the first signs of snow to enable you to make a

start with the greatest of all winter sports. Watch some expert with the skis and try to follow his movements, that will teach you more of the correct procedure than many pages of written insection of the structions.

with an equal overlap round the central opening. Fix the mirror in from behind, pad it out with card,

> Details of the other overlay.

and finally place a piece of brown paper over to keep out the damp and dust.

The frame can be hung by means of brass hangers either at the side or at the top, and the whole article, should, of course, be painted white as previously mentioned.

The size and shape of the shelf.

A BATHROOM MIRROR

USERS of the fretsaw are often looking for an odd job to do, and yet want to make something useful. Here is a suggestion which will appeal and provide a practical piece of work which can be utilized in the bathroom.

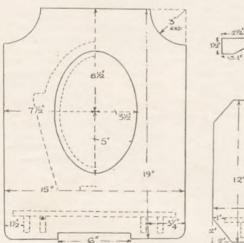
The Mirror illustrated is made with glass No. 5741, supplied by Hobbies Ltd., and is just the right size for the job. It is oval in shape, roins. long and 7ins. wide, with a nicely bevelled edge and cut from thick plate glass.

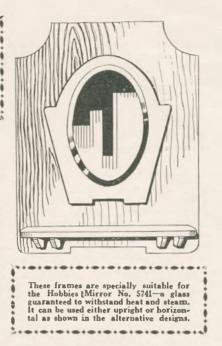
It must be remembered there is a big difference in mirrors and those which have to withstand the heat

and steam of the bathroom must not be of inferior quality. The one shown is specially silvered and backed so the dampness will not affect it. The cost of 4/- is well worth while when we consider that a cheap and inferior glass is likely to be useless within a very few weeks.

Two Styles

Two suggestions for a suitable frame are provided, and the diagrams illustrate clearly how to cut out the parts. The wood is in §in. material, for the main parts and §in. for the overlays, and a cheap quality can be used if it is going to be painted or enamelled white afterwards. Here again it is advisable to use good enamel which can be wiped clean and which will not turn cream or a dirty white with use.



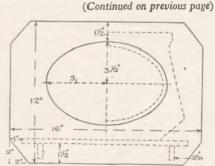


The back board is purposely kept simple, but in each case two lines must be run across to mark the position of the mirror. The upright line is halfway between the sides, but the horizontal line is the distance marked to provide a suitable space for the shelf below.

From the centre point put a pencil mark 5ins. along one side and $3\frac{1}{2}$ ins. along the other. Lay the mirror on and mark round it carefully with pencil before cutting out the opening for it with a fretsaw. The shape and dimensions of the fancy overlays are also given and these can be either traced off on to the wood or on to a piece of paper. The squares have 1in. sides and the curves and lines must be copied carefully.

The Shelf

The shelf along the bottom is 14ins. by $3\frac{1}{2}$ ins, in both cases and it is supported by two little shaped brackets cut as shown in the diagrams. One at each end of the shelf should be sufficient, but two can be used to make it more artistic. The effect is shown in the case of the drawing of the upright frame.





The outline of the backs, bracket pieces and positions of the shelf and overlay.

The overlay shape.



Novel Reflector

THOUGH efforts to enforce the use of a lighted rear lamp in place of the red reflector are made from time to time, the reflector type of rear lighting remains lawful for cyclists. New



ideas to make these reflectors more efficient are introduced occasionally, however. A new one just

on the market has the red lens of this reflector suspended within a metal circle, and the result is that it swings slightly with the movement of the bicycle. It follows that the mirror inside the gadget is more likely to catch the light thrown forward by the headlights of overtaking vehicles. The article is retailed at 1s. 6d., and the reflector carries the approval of the authorities.

Storing Cycle Camp Gear

DURING the last summer cycle camping has been very popular, and every rider who has experienced this pastime will be, planning to enjoy it again this year. But if the season's camping is to be equally pleasant, the gear must be stored correctly through the winter.

The tent should be thoroughly dry, for although no harm will arise from bringing it home from the site in wet condition, prolonged damp will deteriorate the fabric. The easiest way to ensure that it is perfectly dry is to erect the tent in the garden on a fine breezy day, and leave it for 24 hours. Then it can be stored without harm.

Before storing, however, a careful examination will not be amiss. While it is still erected, tears in the fabric can be repaired, and, perhaps, the fitting of new tapes and guy ropes will be wise.

Here, too, is an improvement to adopt—either now or before the beginning of the 1935 season. It is a little-known plan to obviate the need to slacken the guy lines each night or when rain arrives. In effect, it is an automatic rope shortener and lengthener !

Take an old inner tube, slice it across so that you obtain several rubber bands, and attach one of these to the end of each rope. The other end of the rubber band is slipped over the hook of the tent peg when the tent is erected, and you will find that the rubber allows for the shrinkage of the rope, being sufficiently strong to withstand any amount of stretching.

Emergency Repairs

UNEXPECTED mishaps on the road occasionally happen to cyclists in out-of-the-way spots, and a knowledge of "get you home hints" may obviate a lengthy walk to the nearest repair shop.

Sometimes a lost bolt or nut disables the entire machine. A bolt that can do this is the one to be found on either side of the rear wheel of most machines, quite close to the spindle nuts. lts purpose is to attach the back fork stays-the parts of the frame that run obliquely from beneath the saddle to the centre of the rear wheel. The sketch shows the bolt in position. If it is lost, the rear forks develop side-play, and the rear wheel may be drawn so far from true that it rubs on the inside of the forks.

If this mishap occurs and no new bolt is available, it is wise to know that on many bicycles a bolt can be taken from another position and used in the vital place. Often, a bolt from the

carrier of the machine can be used.

Tyres are so reliable in these days that trouble may catch a



rider unprepared with a repair outfit. If the puncture is small, it can sometimes be vulcanised in a makeshift way with a lighted match; a piece of adhesive tape may serve; or a stamp or stamp edging may seal the hole.

A lost chain bolt can also entirely disable the bicycle, but a short nail (turned over at the end after being inserted) will do for a temporary repair. Even a tiepin has been made to serve, and a few ordinary pins inserted in a bunch and then turned over at the end is a workable idea.

Electric Lamps

S many different types of electric cycle lamps are now on the market that choice is rendered difficult to cyclists whose experience of these accessories is small. Broadly, they may be classed as (1) those using batteries, and (2) those generating their own current. The point to remember is that self-generating lamps cost nothing to maintain, but their first cost is considerably greater than that of battery lamps.

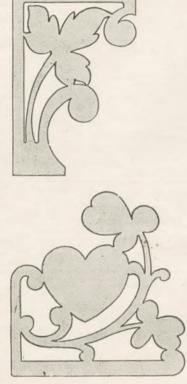
The tendency for the coming winter is to offer cyclists more powerful battery lamps than hitherto. Until fairly recently, the majority of these cycle accessories required only a 3½ volt pocket-lamp battery, costing about 3d. Nowadays, however, lamps of 8 volts are available, and naturally they give a much more powerful beam. At least one manufacturer is offering a twin headlamp outfit—two large headlamps side by side lighted by a battery.

side by side lighted by a battery. In choosing from these many patterns, it is wise to bear in mind that the greater the light the greater is the cost of upkeep. Unless you desire a powerful lamp as a novelty, or for occasional riding in country districts, the low voltage type are quite serviceable. An alternative plan is to buy a powerful lamp with a dimming switch, and to use it at the "dim" position except on infrequent occasions.

Unless care is taken, the upkeep of a powerful battery lamp becomes a burden, and that is why many experienced riders are still favouring the oil or acetylene pattern.



SIMPLE PANEL D





THE illustrations shown herewith are specially designed for cutting out in wood or in ivorine, xylonite, celluloid composition, or any similar fancy material with the fretsaw. They are particularly suitable for simple decoration for a large number of articles. Readers have very often written for a small decorative panel to add to what would otherwise be a plain piece of work, and these designs exactly fit the case.

They should not, of course, be cut from thick material, nor added with other overlays on any particular fretwork design. They are just sufficient in themselves to add a touch of artistic effect to any piece of work.

They can be glued to the plain lid of a box or to a simple piece of wood with a metal knob, or again, even applied to doors or pieces of furniture such as wardrobes, sideboards, etc. The patterns shown are actual size, and should be pasted down to 1/16in. wood before being cut out with the fretsaw.

If it is intended to leave the wood plain or just polished, some nice grained and colourful timber should be used. They can also be cut from thin plywood and then painted a jet black to make them stand up in strong contrast to the actual wood to which they are fixed.

IF one wants a striking white glossy effect, the decoration should be cut from ivorine or the best jet black material which requires no further staining, and has a brilliantly polished surface.



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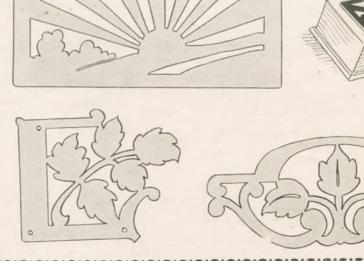
p

The xylonite sold by Hobbies Ltd. being suitable. Both the ivorine and xylonite are

Both the ivorme and xylonite are sold in sheets 12×6 at a cost of 1/6 and 1/3 respectively.

The fancy sheets of mottled bakelite or celluloid are also suitable, and can be cut equally well with the fretsaw. As the material is so thin it is quite simple to operate on three or four at the same time by nailing the material together and turning the fretnails underneath.

THE design pattern is pasted down to the composition, and the



ECORATIONS

s of Work



mains can be wetted off damping the paper oroughly. Do not attempt glasspaper or the brilliant rface will be scratched. Another method is to nail e composition to a piece jin. board, then paste the attern on top of this. The attern in the wood and the papesition at the same me, and when completed be composition is taken by and you have the

completed decoration.

In nailing the parts together, one or two long thin fretnails should be used and driven in round the outside of the pattern. The interior work must be undertaken first, and then the outline afterwards.

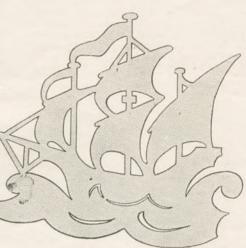
A fine saw must be used in order to prevent any roughness on the cut edge of the material, and a very light rubbing of glasspaper must be given if there is any burr on the edges where the saw has been cutting.

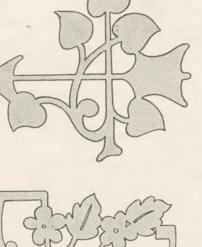
The completed decorations are glued to the work on which they are affixed, or can be held with little round headed screws if one prefers.

IF one wishes to preserve the copy of Hobbies Weekly, and not mutilate it by tearing the patterns out, it is a simple matter to transfer it to the wood or material without cutting the paper. This is done by a piece of tracing paper or greaseproof paper being laid over the top, and a pencil outline being made of the complete design. This can be reversed on to the wood and redrawn, going over the lines on the wood with pencil afterwards to get a true regular outline.

Another method is to lay a piece of carbon paper on the wood, and then put the pattern over it. Then by going round the lines of the design with a sharp pointed hard pencil, the pattern is transferred by means of the carbon paper on to the wood itself.











CARPENTRY SETS

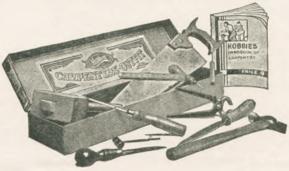


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No. 1 CARPENTRY OUTFIT This is just the set for a beginner. What a difference to the ordinary "toy shop" sets ! Here are tools which are usually found only in much higher priced outfits. Price 7/6. Post 9d.

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A popular set at a popular price. Has a wider range of tools than the No. 1. Not another tool could be added for the money, otherwise the quality would suffer. A 16in. handsaw and ten other tools make this set a real worth while Investment. A 64-page book of instructions is also included. Price 11/6. Post 9d.





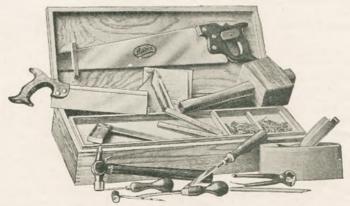
No. 3 CARPENTRY OUTFIT

You can tell at once this is a first-rate tool set. How much better to buy a good set than one filled with cheap tools which in most cases are utterly useless for the job intended. Here then, is a comprehensive outfit including 18in. handsaw, smoothing plane, gouge and eleven other tools. And, of course, an instruction handbook of 64 pages.

Price 25/-. Post 1/-

"BRITANNIA" TOOL CHEST

With a tool chest like this the handyman can tackle almost any carpentry job. A complete set of tools housed in a handsome wooden chest, 22ins. long by 8ins. wide—fitted with sliding tray. At 35/- the value is outstanding. Each tool planned to do the job for which it is intended. Tools like these will serve you faithfully year after year when cheaper ones have long been forgotten. Price, complete tool chest, **35**/-. Carriage forward.



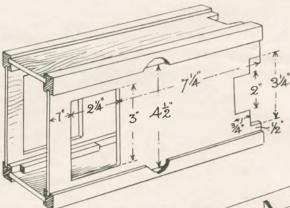
You can buy these sets from Hobbies Branches and leading ironmongers and stores everywhere. Or you can order direct from Hobbies Limited, Dereham, Norfolk. Insist on Hobbies carpentry sets to get the best value in good tools.

A MODERN CLOCK IN MAHOGANY

Quite straightforward to make, because Hobbies Ltd. supply all the wood cut to size, as well as a suitable, good looking clock movement for fitting in the frame shown.

THE home craftsman would find it difficult to select a more pleasing gift for a friend or relative or, come to that, a more attractive piece of furniture for the home, than the neat little clock shown in our illustration. Clock movements with square dials are now very popular, and they lend themselves well to the rather severe square-cut type of case so much in prominence.

The construction of the case shown is greatly simplified by the use of the Hobbies corner moulding (No. 36), as sold at $1\frac{1}{2}d$. per foot. All that is necessary is to cut the panels of wood (3/16in. thick), to the particular sizes required, and glue them in the grooves of the moulding.





Then to cut and fit and glue on the pieces forming the top.

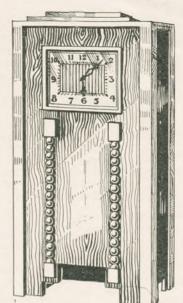
For the sake of those who have not yet had any, or much experience with the making of simple clock cases, we propose dealing in detail with the actual marking out, cutting and assembling of the one shown in the sketch.

While oak would, perhaps, be preferable from a point of view of finish and appearance, we suggest that the beginner use mahogany as it is easier to cut and glue.

The first thing to do is to take in hand the four pieces of corner moulding and cut them all off with perfectly square ends to 10½ins. long. Next, prepare the front and back of the case. These two pieces are identical in size, being 10½ins. long by 4½ins. wide. Therefore mark out one piece to this size (taking care to get all four corners at perfect right-angles), and after cutting round with the

fretsaw, use it as a template for drawing round to produce the second piece.

The piece chosen for the front will then have the openings marked on it according to Fig. r. The top square'opening is to take the clock, the polished rim of which fits



around this opening and projects an $\frac{1}{8}$ in. or so beyond. The simple shaping at the bottom of the front is marked out from the measurements and cut with a fine fretsaw.

The opening in the back gives access to the winding key, and should be cut to the sizes given in Fig. 2.

The sides of the case are 10¹/₂ins. long by 2ins. wide, and they are simply plain pieces with, perhaps, just a single piece cut away at the bottom to match the shaped portion of the front.

When all four sections of the case have been cut and glasspapered up, the grooves of the corner moulding are brushed with glue and they



Fig. 3-Testing the angles with a square.

are pressed into place. It is very necessary at this point to see all the angles are rightangles, and, therefore, a proper test must be made before the glue has a chance to set and harden.

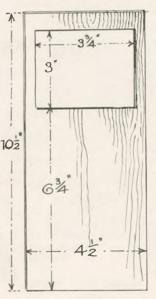


Fig. 2-The Back.

A Modern Clock-(continued)

Fig. 3 shows the simple method usually adopted. The case is laid upon a flat board and a square stood against each side and end alternately. Any slight inaccuracy can then be put right. When this has been done, glue some small squared fillets of wood in the angles inside to give additional strength, as seen at the left of Fig. r.

To support the back of the clock movement a 3/16in. thick partition must be cut and fixed at a distance of 14ins. from the front of the case, and Fig. 4 gives a detail of this. The partition measures $4\frac{3}{4}ins$. square, and the opening for the clock will be the same size as that cut in the front. Slide the piece into position and put in some pieces of squared fillet to hold it in place.

The Case Top

The top of the case is formed of three pieces each cut to the sizes shown in Fig. 5. The larger piece forms the actual top of the case, and should be put on first. The edges where it meets the corner

corner moulding are cleaned off flush with the latter as will be noted in t h e sketch of theclock.

In gluing on the two upper pieces on

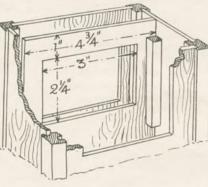


Fig. 4 - The inside partition.

the top, see that equal margins are kept at the front and back and at the sides. That is, see they are laid on and fixed centrally each way.

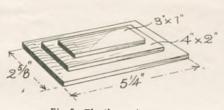
The decoration to the front consists of four small blocks of 3/16in. wood with pieces of halfround beading (No. 53) glued on between them. Glue on these blocks at the foot of the case first. Then glue on the pieces of beading $5\frac{1}{4}$ ins. long. Finally, stick in the top blocks, carefully checking the distances between the beading at the top and the bottom.

A Suitable Finish

In finishing the case, french polishing should be done before the blocks and the beading are put on. If, however, it is to be stained and waxed, this can be done quite well after the beading is fixed.

To put the movement into the case, remove the three knurled screw cups which hold the metal back-plate on and the winding key, and then gently push it through the openings of the front and the partition. Replace the back-plate and put on the screw caps, tightening these latter sufficient to make the whole rigid.

A special parcel of wood (No. 272) has been prepared by Hobbies containing planed boards of Mahogany and lengths of corner moulding, and beading for the front. Clock movement No. (5513)



sold at 6/6. A complete parcel of w o o d and fittings for 1/9 post free 2/3.

Fig. 5 - The three-piece top.

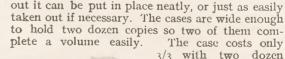
Bind your own copies of Hobbies !

ERE is a new and novel binding case in which to keep your Hobbics Weekly. Each copy is easily put in and fixed so it can be opened to lie flat at any page required. The cover is of attaug aged bound

is of strong card, bound in imitation leather with a solid back.

The books are held in place by ingenious wire staples. All you have to do is to open the book to the centre pages and press two of the staples through the hinge into the solid cork back of the binding case.

As each issue comes



3/3 with two dozen staples, (extra staples 3d. a dozen). Ask for the "Azabook" Binder at any Hobbies Branch or send P.O. for 3/6 for one to Hobbies I.td., Dereham, Norfolk.

The binding cases are strongly made and bound in handsome brown imitation leather with mottled effect. The back is squared rigid.



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HOW TO SKIN AND PRESERVE SMALL BIRDS

OWADAYS, when increasing interest is being taken in Natural History, there must be many who would like to start a small collection of the various birds which from time to time you come upon lying dead. Properly skinned and preserved, they would become a source of continual interest and knowledge, to your friends as well as to yourself.

At first the method of preparing a specimen, directions for which follow, may perhaps appear somewhat complicated, but you will find that with care and practice, you will soon become proficient.

It should, however, be clear that a bird skinned



Fig. 1-The first cut is from A to B.

in this way is not intended to be set up in a glass case, which is expensive and occupies a great deal of room. For convenience in handling and also for storing in any drawer or mothproof box, it is simply made to look much as it did when lying dead, before you began to skin it.

The only implements required for the work are a pair of sharp-pointed seissors, needle and cotton, and a thin knitting needle for use in stuffing the bird. For drying the skin and any morsels of flesh that may have been overlooked, a preservative of some kind is needed; alum or boric-acid powder are the best and both can be purchased very cheaply from any chemist.

The First Job

Now for the actual skinning. First plug the bird's mouth and nostrils with cottonwool to

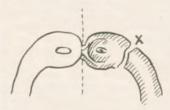


Fig. 4-The skin turned back to the beak. The neck is severed at X.

prevent blood escaping and spoiling the feathers. Then lay the bird on the table and parting the feathers on its right side, with the points of the scissors make a cut down the side

from the shoulder to about half its length (see Fig. 1). Do not cut too deep. Then with the points of the scissors, feel for and cut the wing bone close to the body, and separate the flesh from the skin.

The wing now hangs loose, held only by the skin. Next work the folds of the skin over the shoulder towards the neck, which, once reached, should be severed from the body from the inside (see Fig. 3) Continue to work the skin over the bird's shoulders till you come to the other wing, which should be separated from the body in the same way as the first. Remember to go slowly and carefully and try not to cut or tear the skin.

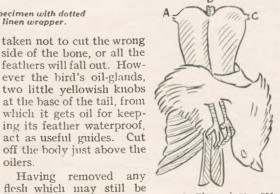
Skinning

The two wings, the head and neck now hang completely separate from the body, held only by the skin.

Next, begin to peel the skin downwards towards the tail. In most birds the skin comes away easily enough, but in some the muscles holding the skin to the back have to be cut. Peeling downwards, the skin will now be gradually turning inside out and soon you will come to the legs. These should be cut off at the " knee," which can be reached by

pushing up the leg from outside.

Finally you will come to the root of the tail. A bird's tail feathers actually grow into the bottom of its spine, so care should be



clinging to the skin, scrape the lcg-bones clean, but the base of the reck shown the base of the tail, taking care to remove the oil glands, and Garlier of the schown the skin start glands, and finally, after rubbing the skin with preservative. gently turn the skin right side out again.

The Wings

oilers.

Now you are ready to deal with the wings. Peel

Fig. 2—The complete specimen with dotted lines indicating the linen wrapper.

To Preserve Small Birds-(continued)

the skin down as far as the "wrist" and scrape the bones clean, and having treated them with preservative, tie the bones of the two wings loosely together and pull the skin back over them.

And now for the head.

Holding the end of the neck where you severed it from the body, turn the skin of the neck completely inside out, peeling downwards towards the beak. With most birds the head slips through the neck quite easily. On reaching the head itself, go more carefully, working the skin with the thumbs past the eyes down to the base of the bill (Fig. 4).

The Head Work

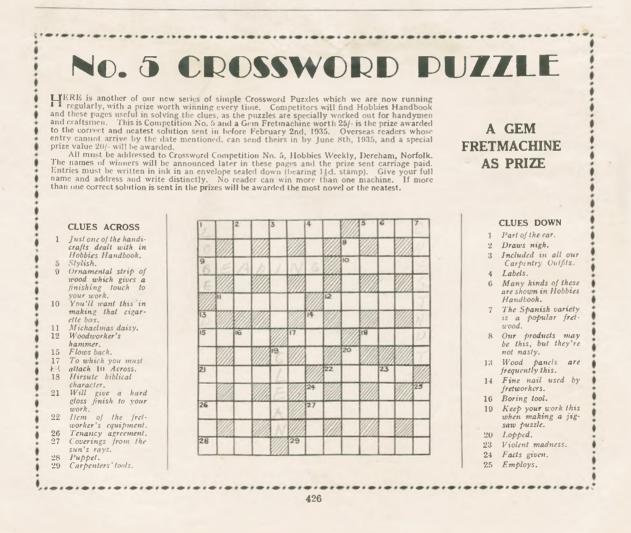
Next remove the eyes and making a triangular cut at the base of the skull (Fig. 4) remove the neck and a piece of the skull itself, which will enable you to reach the inside of the head; clean this thoroughly till nothing but the bone remains and cover plentifully with alum. Now put a small pellet of wool in each eye-socket and turn the head and neck back again. Open the bird's beak and remove its tongue and palate. With your needle push out the wool from inside to fill up the eye-holes and having cut a thir straight stick about half the length of the bird's body, push it down the neck and thrust one end firmly into the base of the beak. Using the knitting needle, fill out with cotton wool to its natural shape the neck, head and chin and sew the beak together.

Next tie the bird's feet together below the tail and fill out the body to its natural shape, shortening the neck slightly into the shoulders.

Leave to Dry

With little birds it is not necessary to sew up the cut; simply fold the wings along the sides as they are in life, when the right wing will hide the cut completely and having smoothed and arranged the feathers generally, pin a piece of linen round the shoulders to keep the wings in place and put the bird aside, lying on its back, to dry Fig. 2.

In a week or so when the skin is dry, remove the linen and the specimen will be complete.



PRODUCING A MAGAZINE

BEFORE you entertain the idea of editing and publishing a magazine, you must ask yourself one question. Do you love writing? Have you that feeling that you were born with ink in your veins? If you have, carry on. If not, then think twice before setting out on such an enterprise. It is a great hobby, and a useful one, but one that entails a great deal of hard work.

There are three kinds of magazine, for us to consider: (1) The written magazine. (2) The hectograph (and other types of duplicating machines). (3) The printed magazine.

Profit and Loss

The first is the simplest kind, of course, and usually there is only one copy written by one person. This is generally for a form or club, and the fellows pay 1d. a time, and have the magazine for two or three days. The drawback to this idea, is that after it has been read by half the subscribers, it becomes rather the worse for wear, and the latter half of the subscribers begin to grumble. Now this is a thing that all aspiring editors should guard against. Always pamper to the wishes of your readers. If they begin to grumble, find out what is displeasing them, and rectify it, at once.

Make a Hectograph

The second method, of duplicating, is a much better one. Although certain duplicating machines that print about a hundred copies can be bought for ten to twelve shillings, one can easily make a hectograph for just under two shillings. This apparatus prints from forty to fifty copies.

First obtain a shallow toffee or biscuit tin lid. Then from the chemist, buy :

- I oz. of gelatine.
- 1 oz. of brown Demerara sugar.
- $2\frac{1}{2}$ ozs. of barium

sulphate. 6 ozs. of glycerine. Break the gelatine up into small pieces, the smaller the better, put it in a saucepan, add three ounces of water, and allow it to steep there for at least twelve hours. It is a good idea to break up the gelatine and add the water at night, and to leave this in the pan until the next morning.

Then add the glycerine and warm over a fire. When this has thoroughly mixed, add the sugar, being very careful to keep the mixture warm, until the sugar has dissolved. Now pour an ounce of water into a cup, and mix the barium sulphate with it. Stir well, and then pour it into Why not produce a bright little magazine for the school or the club? It is simple if you follow these helpful instructions.

the pan and allow it to mix with the other contents, helping the process on, by heating.

Finally, pour the whole lot into the clean tin lid, and leave the mixture until it hardens. When this stage is reached the substance will look like smooth, white india-rubber. The hectograph is then ready for use.

Hectograph Ink

As we have made the hectograph, we may as well finish the job, and make the ink. We shall need :

2 drachms of methyl violet aniline.

2 drachms of spirit.

Obtain a one ounce bottle, and pour in the two liquids. Fill the bottle with water, and shake well, until the aniline has dissolved. The ink will print the magazine in blue-purple colour.

How to Use

The hectograph is very easy to use. First write the required article, on highly glazed or hard surfaced paper (on no account use paper of an absorbent nature) and then dry quickly in front of a fire. Write the article with a perfectly clean pen. When it is finished, put the original face downwards on the hectograph jelly, taking great care that the paper is not creased. Move the hands slowly over it, pressing it firmly on to the composition.

Taking Copies

Allow the paper to remain in position for about seven minutes, and remove carefully. You will see



that the hectograph has taken an impression of the script and as soon as the original has been removed, begin to take copies. The first of these should only be left on the hectograph for a few seconds, and then the speed gradually reduced, so as to obtain uniform copies.

Roughly, forty duplications will be obtained before the ink becomes too faint to be read. The writing will darken after it has been left for a little time.

When we have finished taking copies, the

Producing a Magazine—(continued)

hectograph should be immediately cleaned. To do this, wash it thoroughly with water mixed with an eighth part of hydrochloric acid, and then with pure water.

The hectograph should be left, at the least, ten hours, before it is used again. This method, as you see, is a great improvement on the handwritten magazine, and also gives the publication a more official appearance.

A Duplicator

The true editor, however, will still be far from satisfied. He will save his profits, and when enough money has been obtained, he will procure one of the duplicating machines which are sold in shops. The great advantage of this apparatus, is that more copies can be taken, and the original can be erased merely by wiping it off with a clean, damp sponge.

Another advantage is the the composition can be used again, inunediately after it has been cleaned and dried.

"Copy"

Now we turn to the printed magazine. The number of pages will have to be a multiple of eight, or a four and an eight. If you wish to have two extra pages, say fourteen or twenty-two, it would be very expensive. It is best to have eight, sixteen or twenty-four pages, in the publication. When you send your copy to the printer it will come back as long strips of paper, containing a single column of type. These are known as "galley proofs."

When you have in your possession, proofs of all the articles that are going to appear in that issue, you are ready to "make up." Obtain some large sheets of paper and mark on them the exact size of the pages of your magazine. Then stick each article in the position you want it to appear, when the magazine is finally printed.

Printer's Instructions

All titles, authors' names, etc., must be clearly indicated. Show also how much space is required for these. If there are any corrections to make, make them on the proofs before you make up. Printers have special signs for the correction of proofs, and these will be found in any reputable encyclopedia.

After the printer has received your make-up, he will send you the page proofs. All you have to do is to read them, and if everything is correct, pin them together, and write "Passed for Press" in the corner. Underneath this put the date.



Then you just sit back and wait patiently, and in due time a bundle of neat, clean copies will be delivered.

That is all very well, you say, but what am I to put in the magazine ? Shall I edit a humorous paper, or a serious one ? The first idea is the best. Edit a humorous paper, but for goodness sake don't label your articles as, "Willie Comes Back" a humourous story, by Tom Jones. If the story is humourous, your readers will not need telling; if it is not, then nothing you say will make them believe otherwise.

A "Bright Production"

Keep your articles short and to the point. Make the magazine look bright. Do not have page after page of print; break it up with sub-headings. In a magazine of this type, no article should take up more than a page to a page and a half. This means that stories are barred, as a good tale must be at least, 2,000 words long.

If you are writing for a club or a form, it is an excellent idea to include, "Society Chatter."

Correspondence

This is generally one or two jottings about ones friends; not dry bits, but something like this.

"Tom Jones complains that he gets toothache, every year, in October and November. He 'autumn ache' an appointment with his dentist!"

Another feature which always goes down well is "Answers to Correspondents." Here are two examples :

- H. W. A. "The time is coming when every man will have his own bit of land." That is, of course, unless he is going to be cremated.
- Doctor. "Germs could not live in a form-room, with all doors and windows open." No, neither could we !

Remember to bring in, as many of your friends names as possible. All fellows like to see their names in print. However, be witty, but do not be personal.

Illustrations

If you have an artistic friend, who is willing to help you out in the matter of illustrations, by all means let him do so, but warn him that he must

All from a Coconut!

THIS amusing string holder started life as a coconut. The top cut off makes the stand to which the other piece is bolted. The three holes make eyes—with the addition of white rings and black beads, and the the mouth has a scarlet rim. A cotton scarf is tied round the top, black hair and large swinging gold earrings and a bead necklace complete this clever novelty. keep his subjects simple. If he attempts complicated drawings, the hectograph will become clogged.

Do not make any rash promises as to when you are bringing the magazine out. Once a fortnight. or once a month, is ample.

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WANT to devote the whole of this article to one picture only, because I firmly believe that it will make British screen history. I refer to "The Iron Duke," the Gaumont-British production that is costing a mint of money to make.

The most important feature of this picture is that George Arliss, who many filmgoers consider is the greatest actor of modern times, has the leading role in what is his first picture in this country.

It is always thrilling to watch a scene which will later be shown to millions of people all over the world, but to be present at the first shot of an epoch-making film is a never-to-be-forgotten experience.

THE first day's work which Mr. Arliss put in at the Gaumont-British studios on "The Iron Duke" included a scene from the middle of the story. The locale was the Duchess of Richmond's ball on the eve of Waterloo. Imagine a studio floor at 9.30 on Monday morning; to say there is an air of expectancy is putting it mildly. Electricians, studio and technical staff were all on the qui vive. The players,. dressed and made-up, were standing about in groups. At the end of the studio floor was a gallery with George Arliss as the Duke of Wellington spurs on his musicians in Guards' uniforms troops on the field of Waterloo in "The Iron Duke." looking down on an imposing staircase leading off to the right. Dozens of handsome men in soldiers' uniforms were chatting to pretty girls in Empire gowns. Away on the right side of the ballroom was a vista of nine french windows with several columns near, and overhead hung the gaily coloured standards of the Allies-France, Spain, England, Russia, Netherlands, etc. These with their elaborate coats-ofarms, the wallpapers and curtains were all specially designed in the studio and were correct in detail of period and history.

MANY of the girls were knitt-ing, and the men's uniforms were so tight that it was difficult for them to stoop; the process of sitting down had to be very carefully manoeuvred indeed ! A few minutes after 9.30, the buzz was suddenly hushed and with one accord all eyes turned towards George Arliss, entering No. 4 Stage resplendent as the Duke, in the uniform of the Guards; he wore several Orders, but chief among them were the Order of the Golden Fleece and the Order of the Garter. Jenner, the actor's famous valet, portly and dignified, followed, bearing a plumed hat and the incvitable monocle All was set for the first shot-a few rchearsals, and the parquet floor was uncovered, and candles in the candelabra were lit.



"ACTION" was called and down the stairs, striking in black, came the "Duke of Bruns-wick," accompanied by two of his Hussars, whose Death-or-Glory sabretaches (bearing the skull and crossbones) moved gracefully as the wearers swung down into the scene. A pause-and the announcement, "The Duke of Wellington."

Musicians halted, the dance stopped, people on the staircase bowed low, and George Arliss, small of figure but with a personality which impressed itself on each one present, stepped down and faced the ballroom. The English star had made his first shot. The make-up man approached occasionally to dab the shininess from the actor's face, to use a spot of spirit-gum on his

PIECE HISTORY

side-whiskers, to adjust his orders or his cravat. Press photographers crowded round and turned the battery of their cameras upon him. The marvellous film camera slung up on a movable platform, a sort of tubular crane which moves up and down and sideways, took all sorts of shots. Victor Saville gave directions, "stills" were taken, and the general routine of a film in the making took place.

SUCH a picture as this in-volves the Studio Department in an immense amount of work. Here are some of the bafiling questions to which they had to find the answers :---

How old were the sons of Wellington during Waterloo? What did Wellington smoke and drink ? Did newspaper boys shout in the streets in 1815? What regiments fought at Waterloo? What was the height of Wellington ? What flag flew above the Duke's headquarters ? What did the exterior of the House of Lords look like in 1815? Did they use spy-glasses during the battle ?

A ND believe me, chaps, I've never before seen those "tough guys," known col-lectively as the Production Unit, take a picture so much to heart. The other day a scene was played out that was vivid in its drama, poignant in its bitterness. The battle was over and won, and Wellington, the victor, came weary and travel-stained back to a cattle-shed from whence he had issued a day or two before to rout the dangerous Napoleon. He lay fatigued and weary on a rough bed, and contemplated the futility of it all. His comrade, Lord Hill (played by A. E. Matthews) arrived with the first casualty list. Arliss sat with his head in his hands. As the long grint list of the slain was read over to him, his eyes filled with tears. In this great struggle for European peace, why was it that his greatest friends were fated to be struck down in battle?

The Cinefan.



IN the previous article on this subject, one illustration served to give us a considerable number of terms, but we cannot expect to be as fortunate as that every time. Now we have to take more isolated cases.

Acknowledgment of Receipt

The stamp to show this term comes from Montenegro, though Chili, together with other states in Central and South America, have



from time to time issued them. The part of the stamp which shows that a separate fee has been paid so that the sender of the letter may have notice

Receipt Stamp.

sent to him to the effect that the letter has been delivered, is the two letters "A" and "R."

Of course, though we have not a separate stamp for this in England, one way of making certain that a letter has been delivered is to register it. Then if there is any doubt, the post office has a receipt for it and this can be inspected if necessary.

Alphabet Letters

These are the letters which are seen in the corners of the old English stamps and were put on to the die by hand. They were there to prevent forgery, or at least to make it far more difficult for a

person to forge stamps.

They are on a d c fin it e plan, which is distinctly interesting. The sheet consists of 240 stamps arranged in twenty horizontal rows of



With Letters On.

twelve stamps in a row (vertical). All the stamps in the top row had an "A" in the bottom left-hand corner of each, all the stamps in the second row had a "B" in the bottom left-hand corner, and so on down to the twentieth row all with a "T" in the same corner.

Again, the vertical rows had letters in the bottom right-hand corners, "A" in the first row, "B" in the second and so on to the twelfth vertical row in which the letter "L" appeared. The two upper corners were

The two upper corners were filled in at first with crosses, but later in order to make the work of the forger harder still, these were filled in with the same letters as at the bottom, only in this case the letters were reversed.

Now we can reconstruct what a sheet would look like, but space prevents the formation of a complete sheet, so we must be content with just the first few rows at the top of a sheet.

A A	ВА	C A	D A	EA
ΛΑ	A B	A C	A D	A E
A B	вв	СВ	DB	ЕВ
ΒA	ВВ	вс	ВD	ΒE
A C	ВС	сс	DC	EC
CA	СВ	сс	CD	CE

And the last stamp of the sheet would be-

L
т

L

Now we can decide where the stamp illustrated came from. "J" is the tenth letter of the alphabet so that it comes somewhere in the tenth horizontal row. "L" is the twelfth letter of the alphabet so that it is the twelfth stamp of the tenth row, or the last stamp of the tenth row.

Now you will be able to work out exactly from where in a sheet any stamp which you have in your collection came. Remember, the letter in the bottom left-hand corner, gives the horizontal row, while the letter in the bottom right corner, gives the vertical row.

SOME MORE CATALOGUE TERMS

Continued from our issue of Dec. 15th.

Should the postmark have covered these letters then use those in the top corners but reverse them.

Adhesive

The term adhesive is so simple that it is not illustrated. Any



Embossed and Cut Square.

stamp which has to be gummed or stuck on to a letter or parcel is an adhesive. The term is really of use in distinguishing such a stamp from an embossed stamp or one which has been printed directly on to the card or envelope. The two illustrations given show (a) an embossed stamp and (b) a printed stamp.

They also illustrate two other terms. The first is "cut square" (actually it is a rectangle but the term for this is the same) and the second is "cut-to-shape." Both these have been badly cut on purpose. The first has not



Printed and Cut to Shape.

sufficient margin and the second is worse still. As a matter of fact, these stamps are not of great importance because few people collect stamps like this. They are not "adhesive," but the terms are

Stamp Catalogue Terms-(continued)

important in connection with imperforate stamps.

The next term shows the



A " Bisected " Stamp.

importance of not cutting to shape. This is a "bisected stamp"—that is, it is actually cut

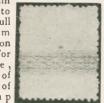
in half by the postal authorities and the half is sold over the counter.

The stamp shown comes from Macau. The whole stamp was of the four avos value, but the supply of the two avos being exhausted, the four avos was bisected and each half sold to defray the postage on a letter which needed two avos. Now if this was "cut-to-shape" the part of the postmark appearing on the white paper would be missing with consequent loss of interest.

Burélage

The back of the 1894 issue of Queensland shows what is meant by this term where there is a distinct network pattern across the back. A stamp having a burélage (pattern) is said to bc Burélé. The importance of a stamp cata-

logue is again obvious to o b ta in full value from any article on philately. For e x a m p l e, mention of the date of the st a m p issue was essential in



essential in The Burélage.

what the stamp was like. Unless you can look up the reference then you miss part of the value of the description.

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The small "to sell" or "wanted" announcements appearing below are accepted from readers who want to sell anything except tretwork goods, or from usual advertisers of bargains of interest. The advertisements are inserted at the rate of 2d, per word. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Orders and Stamps must accompany the order. We cannot guarantee any date for these to appear, but they will be inserted in the earliest issue.

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The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. Mhile every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

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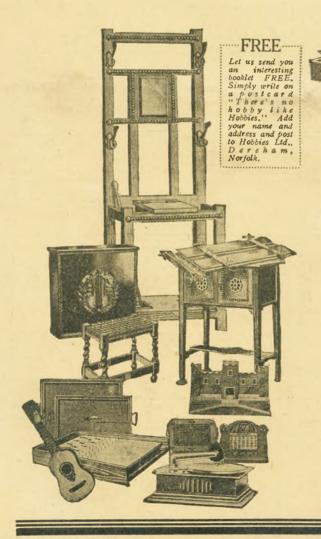
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THINGS WE HEAR

"...saw FRED last night-

Hadn't seen him for weeks ! Fred always was a fellow who did things properly and without a lot of fuss. But what a surprise ! Took me home to see some of the things

he has made in his spare time. I was amazed ! There was a loud speaker cabinet, a trouser press, a radio table and—well I've lost count ! And he said he made them all from Hobbies designs and materials with an A.I outfit and one or two other Hobbies Tools. I'm glad I met Fred, from now on I'm going to see what I can do."





This is Hobbies A1 Outfit, costs only 12/6 (postage 1/-) and contains a wide range of useful tools. Tools you will be proud to own.

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