

7 HEN you decide to keep a few rabbits, as most youngsters do at some time, make up your mind that you will never neglect them. Some folk start well at first, then other interests crop up, and what with one thing and another, the pets take a 'back seat'.

Before starting to keep such soft-eyed, gentle, and delightful pets, be sure to get acquainted with their simple needs. Be kind to them. And in being kind, it means proper housing in decent hutches, in light and clean surroundings, good feeding without overdoing it, careful handling, room for exercise, fresh water daily, regular changing of bedding, and scrupulous cleaning out of hutches at frequent intervals.

No one likes to see rabbit pets treated badly - perhaps no hobbyist intentionally does so; but unless a few simple and regular rules are adopted, pets are apt to get somewhat neglected - at times. Always watch your charges carefully for signs of ailments. Rabbits, as a rule, are healthly enough under sensible and kindly management, but minor troubles cannot always be avoided.

Comfort first

One of the first thoughts should be the comfort of your charges. Dampness and cold make them miserable, besides affecting their health. Let your hutch or

Hints on keeping a Pet Rabbit

hutches be weatherproof, light, wellventilated, and airy, and raised from the ground.

Clean out the hutches frequently, once a day if at all possible. Keep a supply of good clean bedding for them. There should be a dish of fresh water in each hutch, and a run should be provided whenever possible, so that the rabbits can exercise themselves.

There is nothing so pitiable about rabbit-keeping than to see rabbits kept in old and dirty boxes, piled higgledypiggledy in some dark and draughty backyard, where the poor creatures live in dampness and gloom. Do avoid such a state of affairs. Just ask yourself how you would like those conditions in which to spend a short life.

The hutch

Well, then, be sure you provide a proper and suitable hutch to ensure the comfort of your pets. If you have a good shed or outbuilding the hutches can be arranged around it, raised up from the floor or on shelves. If you have to keep the hutch in a corner of the backyard. choose the most convenient spot for it in good light, away from draughts as much as possible. Build it on short legs to keep it well off the floor.

If you are handy at amateur carpentry there is nothing better than to build a wooden hutch, or two or three hutches in tiers.

A useful size for a hutch is 3 ft. to 4ft. long, 2 ft. to 3 ft. in depth, and up to 2 ft. in height. Any good strong wooden box about this size can be adapted by the handyman. The box or hutch is better if made with a sloping roof, with a slight overhang to allow rain water to drip off clear if the hutch is in the open.

68

For the front of the hutch use 11 in. wire netting. Construct either a wooden door or a door half wood and half wire netting, or a frame with wire netting. Hinge the door and fix a suitable catch, so that it opens and shuts readily. One portion of the hutch can be built in with timber to afford seclusion at one end, or vou can build a separate chamber with a suitable hole cut in the partition for the rabbits 'to enter and leave it.

Outdoor hutches should be protected from rain by using felt, or other waterproofed material. But do not patch the roof with untidy bits of old linoleum, or bits of tin, etc. Nothing looks more unsightly in the yard or garden. For a little expense and trouble it is much more satisfactory to do the job properly.

Give your pets ample space in the hutch. For single rabbits a floor space of about 2 sq. ft. is sufficient.

Cleanliness is a primary consideration. and all hutches should have a thorough weekly 'scrub-out'. All soiled sawdust must be removed and replaced with fresh; hay used for bedding in the sleeping part should be changed. You will need sawdust for the run, and hay, sweet and clean, for resting quarters, and you will need to keep a stock of both by you.

Feeding

If you live in a town, foodstuffs obtainable are limited. The following are recommended — for morning feed; potato and bran mash fed lukewarm, three-quarters potato, one-quarter bran. Boil potatoes until soft, strain and well mix with bran by kneading. This mixture should be crumbly and not like porridge. For an adult rabbit, give as much as you can pick up in your hand. Any surplus left in the hutch at the end of the day must be removed, as it may turn sour. At the same meal give $\frac{1}{2}$ lb. of mangold or swede. For the heavier breeds of rabbits, half as much again will be needed.

For the afternoon feed, provide greenstuff such as turnip tops, kale, swede, Brussels sprouts, carrots. Also suitable kitchen scraps, including washed potato peelings, carrot peelings, and such like, and table scraps such as bread crusts and cooked vegetables. Make the meal 'crumbly moist' and not sloppy. Give such greens as turnip tops, kale, outside leaves of broccoli and carrot at least twice a week, if obtainable. Feed cabbage sparingly, and only if you have no other greens.

If you live in the country you can use green foods such as dandelion, groundsel. coltsfoot, plantain, milk thistle, clover, knapweed, shepherd's purse, and hedgeparsley when such are available. But take care what you gather as some plants are poisonous. So stick to those mentioned for safety.

It is a good plan to store foodstuffs for use during the winter, when supplies of





MODEL skittle alley, with automatic ball return and skittle re-setting, will give hours of amusement.

The basic structure is a long narrow box shape, 24 in. long and 6 in. wide on the inside, and 4 in. high. These dimensions can be altered to make a larger or longer model, if desired.

The two long sides are made from hardboard or plywood. Two $\frac{3}{4}$ in. square strips are screwed to the inside of each side, so that they touch at one end, and come within $\frac{1}{4}$ in. of the top and bottom By A. Liston



the short section and the end of the box.

A 4 in. high 'gate' with plywood or hardboard legs is screwed in place 1 in. in front of the hinged joint. This takes



at the other end A. The strips should end $\frac{1}{2}$ in. short of the edges of the sides to allow the $\frac{1}{2}$ in. thick end pieces to be fitted.

A 23 in. by 6 in. piece of hardboard is pinned and glued to the underside of the lower strips B. A 5 in. strip of wood is glued in place, as shown at C, on top of the hardboard, so that returned balls are directed to one corner, and out through a 1 in. hole cut in the 6 in. by 4 in. end piece which is then fitted.

The upper surface D, which rests on top of the supporting strips, is in two parts. The longer section is 6 in. by 19 in., and the shorter is 6 in. by 3 in.

Two 4 in. long blocks are screwed to the undersides of the sections at their join, flush with their edges. They are then hinged together as at E, so that the shorter section can swing upwards. The longer section is glued in place, but the shorter one is left free. There should be a gap of at least 1 in. between the end of the cord which raises the hinged section. The skittles are made from 1 in. lengths of $\frac{3}{2}$ in. dowelling. A notch is cut round each, and a wire frame made from

• Continued from page 72

PICTURE: 'THE MILI glasspaper block. Work down from time as a

glasspaper block. Work down from medium to fine grade until the surface is perfectly smooth. Be careful not to apply too much pressure with the scraper or glasspaper so as to damage the vencers.

When as flat a surface as possible has been obtained, the picture is ready for polishing. Apply white wax polish with the finger tips, rubbing well into the veneers. Then go over lightly with a duster and give a rub down with a fine grade glasspaper. Repeat this process of wax polish and glasspaper until such a paper clip is shaped as shown at F and glued in small holes drilled in each side of the skittle. The skittles are held to the hinged flap by small staples through the wire frame. These frames must be behind the skittles, so that when struck by a ball, they topple back. Different numbers may be painted on the base of each skittle.

A screweye is fixed to the rear corner of the skittle board. A cord from this is taken to a second screweye in the top of the 'gate', then through a third screweye in the side of the box. When the cord is pulled, the flap is raised, and the skittles re-set themselves in an upright position.

The number of skittles may vary between three and nine, and arc best set in a triangular pattern. The marbles used are rolled from a tinplate chute which swivels on its screw. Its position is shown on the finished illustration. The marbles drop through the gap behind the skittles to return to the player through the hole in the end piece. A small tin with a cut in one side can be screwed in place by the hole to collect the returned balls.

MILL STREAM'

time as a high gloss finish is obtained. Remember that the more work you put into this operation, the better and more lasting will be the finish.

As an alternative finish, the grain on the face of the picture can be filled, smoothed down and finished with two coats of clear varnish.

For hanging, use picture rings and a cord. If the picture is required to stand, glue a strut on the back, shaped at the bottom so as to allow the picture to tilt slightly backwards.

Out with a camera CAPTURING SPRING BLOSSOMS

THE arrival of spring brings blossom to many flowering trees and consequently a host of subjects for the photographer. And the same remarks apply whether your interest is in black and white photography or colour.

So a few successful blossom shots will make a good start towards the new outdoor season and believe it or not they are easy to capture provided you are aware of the few pitfalls you are likely to meet.

On first sight of a beautiful tree adorned with colourful blossom there is a great temptation to include too much on where you are working. In your own garden a clothes maiden covered with a sheet to form a shield is ideal but if you are in a public park it might be better to provide a shelter with your cape, raincoat or even your body. And if you keep it a secret you can often prune a bit of blossom and take it away for making a picture in some sheltered corner of your garden. Not all blossom pictures you see are photographed while still on the tree!

The blossom is arranged before a plain background or with the blue sky as a background. But let us now compare Sidelighting with long shadows is quite effective since there is a tendency for this to shine through the petals. Don't be frightened of getting up a little earlier on a fine spring morning when you will meet these desired conditions. Both early morning and late afternoon will yield striking pictures and it will be up to you to select which time is best according to the position of the trees.

Needless to say, exposure must be correct. Over-exposure or over-development will cause the lighter tones of the blossom to clog, with resulting loss of



Fig. 1—A near approach, but the background is clogged. 1/100 sec. f/16, FP3 film

Fig. 2—Here a background was introduced as mentioned in the text. 1/100 sec. f/16, FP3 film

in your picture. The result will be disappointing for you will only produce a shapeless mass of straggling branches with patches of white here and there.

So proceed a little more cautiously, watching the progress of the blossom to catch it at its best. Then search around for one subject and reject the remainder. You will have to keep your eyes open and remember that a part is often much better than the whole. For example, it is better to restrict your target to a single branch, a solitary blossom, or a small cluster of flowers than the whole tree.

Another difficulty you will encounter is the wind. Even a slight breeze will cause the dainty blossom to sway. And you have to consider the background to supply the necessary contrast for the flowers. You will need some patience on an exceptionally breezy day but one solution is to place your camera on a firm tripod, wait for a calm moment, and use a fast shutter speed — but remember that the exposure time must be sufficient.

You can defeat the wind by making a simple screen, although much depends

Figs. 1 and 2. In the former you will see that we have a picture of some apple blossom taken in the garden with the result that the background, composed of other branches and foliage, is quite dark. In Fig. 2 we have a light background which eliminates the mass of dark foliage to better advantage. This is achieved quite simply by placing a light toned background where required.

I have a large piece of plywood decorated with pale blue emulsion paint and it is quite easy to fix this between the branches. You can do just the same with a large piece of cardboard like an artist's ticket or poster board about 20 in. by 30 in., or even a roll of canvas — the latter being ideal for carrying around. Such a background is also a useful prevention against draughts.

You should aim at taking a few relatively large blossoms, going as near with your camera as possible. You may have to stop down the aperture to f/16 or f/22 to get sufficient detailand if necessary you are advised to employ a supplementary lens.

delicacy of tonal range. Under-exposure will produce empty shadows. If you use a meter hold it close to the blooms when taking a reading and note that you should double — or treble — that reading if the light is coming from the back in which case a lenshood is essential.

It is impossible to prescribe treatment for the numerous blossoms but we can distinguish the large and small. For example, it is better to seek out the larger blooms such as horse chestnut, laburnum or apple and reject the smaller ones like hawthorn. Moreover, however tempting pink blossom may appear in the sunlight it proves most disappointing in the black and white picture. At the same time the extreme close-up in colour will be just the reverse.

If a filter is used it should be a deep yellow or green one while the film should be of medium speed like FP3. But if you do include the sky as your background watch out for white clouds, for these can either merge in with the blossom or be rivals in interest.

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SHARP mowing machine is a pleasure to use, a blunt one can be a misery. Unfortunately it is not always possible to get one's machine sharpened immediately, and there is also the question of cost. The writer sharpened machines professionally in Canada by machinery. The following instructions describe a similar process, but done by hand.

If your mower is a fairly large one, with say 14 in. blades, you will require a baseboard of about 2 ft. 6 in. by 1 ft. 6 in. by about 1 in. This can be plywood. First cut two holes exactly 2 in. square to take two oak uprights as shown in Fig. 1. Before placing the uprights in position cut a narrow 'V' in the bottom of each to take a wedge. These posts must be very firm and are glued and wedged in position.

Now bore a $\frac{3}{4}$ in. hole through the post on the right-hand side when facing the machine. Bore it through the left post if you are left-handed. To find the correct height for the hole, place the mower on the board as seen in Fig. 2. Note that if you have a mower that has a roller and is driven by a chain, remove the chain and connect the handle direct to the axle of the cutting blades, but if there is no roller, remove the outside wheel casings, also the driving lugs and cotter pins, and attach your handle to the driving axle inside the wheel case.

When in position, see that the front rollers are pressed against and resting on the forward rest as shown in Fig. 2 and provide a permanent rest as shown in Fig. 3 to keep the mower sufficiently off the baseboard to allow the blades to run freely. Fig. 4 shows the back rest required for a mower without a roller but this is otherwise not necessary.

Fig. 5 shows a piece of tubing slotted at each end to connect the handle with the mower. It is important to remember that the closer the fit the less likelihood there is of breakage or distortion.

By F. Cordner

In commercial machines everything has to be adjustable to take different types of mowers. However, for your own mower it is only necessary to have one position and the rests should therefore be fixed permanently in place. Find the correct positions for the posts, handle and rests by placing your mower on the board. Put the first rest as far forward as possible and fix, then, resting the front rollers on this, mark for the back rests. Block up to the correct position, with the front slightly lower than the back, and mark for the posts and handle position in relation to the driving axle inside the wheel. Roller mowers do not require a back rest but should have a stopper to avoid movement. In this case it is not necessary to have the front of the mower lower than the back. For easy turning it is best to bush the handle hole. Brass tubing well greased will do nicely. An old car handle cut down makes a good iob.

Having cleaned and oiled all parts of the machine, adjust the cutting bar beneath the rotary blades so that it just touches without binding. Place the mower m^{*}position on the board, connect



World Radio History

the handle to the wheel axle (or direct to the cutting blades in one driven by chain from a roller) and rotate the blades in the opposite direction to that used when the mower is being pushed forward when cutting. Apply generously any form of liquid grinding paste (carborundum and gear oil) with an old paint brush. The best speed for turning is 145 r.p.m. After about one or two minutes test the contact of the cutting bar beneath the blades. Test for sharpness by placing a strip of newspaper between one of the blades and the cutting bar and rotate by hand in a forward cutting direction. If the blade is sharp it should cut the paper like scissors.

When the blades are sharpened satisfactorily, be sure to clean off all grinding paste with paraffin and wipe with a clean rag before using the machine. Replace wheels, driving lugs and cotters (or chain if driven by roller) and the mower should cut like new.

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WAS in luck when I visited our plumber recently, for he had just finished what he called 'a big sheet zinc job' and he told me that if I cared to clear the floor of all the zinc clippings and cuttings that were cluttering up his feet, I could have what I liked of them for my trouble. Well, he didn't have to ask me a second time and after I'd cleared the floor, I picked out (and took home!) all the biggest scraps.

You see, I have another friend, a gardener, and I knew if I made him a selection of 'tie on' garden labels he'd pay me for them — and he did. I made him four shapes — oval, triangular, square, and round. I first made cardboard templates of the shapes and sizes I wanted, and then copied these on to the pieces of zinc.

For writing on the zinc, first rub the surface of the metal with emery cloth and use a special 'ink' made by dissolving two heaped-up tablespoonfuls of copper sulphate (poison) thoroughly shaken up in a pint of ordinary writing ink. Half those quantities will do most people.

Remember to keep the bottle well corked, mark it 'POISON' and keep it in a safe place. Give it a good shake every time you use it. (D.M.K.)





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After-Dinner Balancing Tricks

N the days before recorded music, wireless and television sets, it was customary for party guests to entertain their fellows with 'party pieces' in the form of songs, recitations and other diversions of a novel and amusing sort. Consequently, countless clever and-cunning tricks employing common household items became well known.

By A. E. Ward

Seemingly impossible balancing feats featured largely in the repertoire and it was no coincidence that most of the stunts involved the use of cutlery, cups and wine bottles, all of which would be readily to hand after a meal. In the book 'Scientific Recreations', by the Frenchman, Gaston Tissandier, written towards the end of the 19th century, is a drawing depicting an exotic experiment with the head of a woodcock. The bird's head is seen resting upon a cork, into which dinner forks are pressed, on opposite sides, to resemble downward trailing wings. A needle is driven into the base of the cork and the whole arrangement is neatly balanced upon a coin laid upon the opening of a bottle. Text accompanying the picture comments upon the curious bobbing and pointing action of the long slim beak as the grotesque bird was caused to spin slowly, poised upon its precarious pivot.

Experiments of this kind will always work when the centre of gravity of the entire apparatus is below the point of total support. A less elaborate experiment may be demonstrated with a pencil and a penknife. Open out the longer blade to form an acute angle of about forty degrees and press the point into the pencil in such a manner that the heavy handle is suspended below the pencil point. You should now be able to balance and sway the pencil upon a fingertip.

A Walking Man will amaze and



intrigue both young and old. Form a little puppet, as illustrated in Fig. 1, by pressing two matches into the base of a cork to form legs and cut out a paper head to fit upon the 'shoulders' of the figure. Press the prongs of a pair of dinner forks into the 'sides' of the cork 'body', letting the heavy handles of the forks hang down, below the feet, on either side of the body. Support a ruler, in the form of an incline, between two piles of books and stand the puppet upon the miniature sloping 'plank'. Since the whole weight of the figure will act through a point below the feet, actually in space, the puppet will not topple over. Cause the figure to sway from side to side. If you persist you will be delighted to see your little man walk down the incline.



FIG.2. BALANCING A CUP

Can you balance a cup upon one finger? This is easy if you apply the elementary scientific principle which has been explained. Fold a small handkerchief into a tight wad or pad and stuff it through the handle of the cup. Obtain two identical table knives and jam the blades through the handle so that they will be gripped between the side of the cup and the pad at an angle of forty degrees, or thereabouts. It will now be possible to balance the whole structure upon one finger (Fig. 2). However, do not risk best chinaware when you attempt the experiment and perhaps you had better support the apparatus above a soft sofa or cushion. Try pouring wine without disturbing the cork of the bottle. Merely press a pair of dinner forks into the cork as 'stabilizers' and balance the cork upon the rim of the bottle whilst you steadily tilt the bottle and proceed to pour out the drink. The cork will not fall off.

To complete your entertainment balance a half crown upon a needle point. Begin by insert ing a needle, point upwards, into a cork which rests in the neck of a bottle. Bend a piece of stout wire to form a hook shape. Use pliers to bend the shorter arm of the hook to produce a sharp V which will clamp firmly half way across a half crown. Turn up the end of the longer arm to form a miniature hook. Fix the coin on to the wire device and hang a heavy nut



upon the small hook. With a little patience you will be able to balance the coin upon the needle. (See Fig. 3.)

You may present these effects as practical puzzles or as genuine scientific experiments, but take pains to accompany your demonstrations with brief amusing patter. Talk about defying the law of gravity and do not refrain from discussing the simple science upon which your entertainments are based. Clean corks and brilliantly labelled new wine bottles will greatly enhance your endeavours.

ANSWERS TO QUIZ (see page 70)

- 1. Bridle joint.
- 2. Sawn square-edge timber of 2-4 in. thickness, and 5-8 in. in width.
- 3. Holder bat.
- 4. Bead and Butt panelling.
- 5. Lavatory bib cock or valve.

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THE Zuyderzee does not exist any more. On 28th May 1932, the last gap was filled in the twenty miles long dam which sealed the fate of the old inland sea and its islands: the Zuyderzee had become Ysel Lake.

At that moment one of the grandest projects of land reclamation in history could be taken in hand. Ten years after the Zuyderzee had been closed a sea area of 262 sq. miles had been transformed into fertile soil, and fourteen years later another area of 193 sq. miles.

The Netherlands Welfare Stamps

When round about the year 1980 the whole project will have been completed no more than one-third of the original basin of the Zuyderzee, an area of 1,351 sq. miles, will be left!

It is quite comprehensible that the pattern of living of the population along the former coast and of the old islands is changing rapidly. Numerous traditional professions and customs characteristic of communities of fishermen and sailors are dying out, and are likely to disappear before long. Fortunately, in the Zuyderzee museum at Enkhuizen, housed in the seventeenth-century warehouses of the renowned East India Company, much of what was characteristic of former national life is preserved for posterity. There we find ship-models, craftsmen's and fishermen's tools, products of artistic handicraft and interior art, national costumes, paintings, old prints, etc. Unique in the whole world is the fleet of laid-up fishing-boats, cargoships, and pleasure boats, moored at the quay near the museum.

The Netherlands Postal Services, too, want to contribute to keeping alive the interest in this folklore by showing, on the new child welfare stamps, parts of the picturesque costumes which were until recently worn by the girls of five places in the Ysel Lake area or are still worn there.

In the island of Marken, which has recently been connected with the mainland by a dam, the traditional children's costumes are still worn. People who are not acquainted with the costumes find it difficult to judge by them whether the child is a boy or a girl, but to experts the differences between boys' and girls' clothing are certainly distinguishable. For schoolgoing children, however, the national costume of Marken is being abandoned more and more, and adolescents even dislike it.

Also in Volendam, which is situated hardly 31 miles from Marken, the

national costume is still worn quite a lot, especially by little girls. The beautiful white lace hoods with the protruding wings, however, which should be worn on Sundays and public holidays, are rapidly disappearing. On weekdays black caps, looking like goblins' caps, are worn, but the young Volendammers working outside their native place are rarely seen wearing them.

The Bunschoten local costume, too,

New child welfare stamps for the Netherlands, as described in the text.

***** Such is the volume of correspond-* * ence for this feature that we regret * * we cannot give personal replies * * unless queries and requests are * addressed to the Editor, 'Hobbies * Weekly', Dereham, Norfolk, and * accompanied by reader's reply * coupon and stamp for return. *****

is still maintained — notwithstanding the influence of industrialization. Bunschoten women are very much attached to this costume which is quite unusual but does little credit to the charms of women. Of course, this lack of elegance does not show so much in the little girls' dresses. When we compare the costume with those of Volendam and Huizen, we find several points of similarity, but some details of the dress are characteristic of Bunschoten.

The so-called 'old Frisian' costume, which was originally worn along the whole Zuyderzee coast of Friesland, was maintained longest in Hindeloopen. A more colourful dress would be hard to find. Flowery chintzes were worn by the women and teenagers, while the clothes of the younger girls were made of light, so-called 'Indian' figured fabrics. Typical of the Hindeloopen costume is the folded stiff cloth pinned in an ingenious manner round the actual head-dress.

The national costume worn by the children of Huizen was abandoned in the thirties. The starched, pointed cap with the wavy fan-shaped part at the back, which was worn on week-days, was exchanged for a funny black straw hat with a velvet pleated ribbon and a black ostrich feather on special occasions. Dress and apron are true copies of those worn in the latter half of the nineteenth century. The only difference is that the sleeves, consisting of numerous pleats, are even more stylized.

REMOVING STAMPS

An interesting point on stamps arose in a recent letter from a reader in Ireland. He had purchased a packet of 100 and was surprised that some of the postmarked specimens still had the adhesive intact at the back, and he was doubtful about their genuineness.

We were able to assure him that his stamps were indeed genuine. Possibly he was thinking of the old method of removal from envelopes by wet blotting paper, in which process the adhesive is of course, eliminated.

Dealers now use a patent stamp remover such as 'Benzine' as supplied by Stanley Gibbons, by which stamps in used condition are removed with the original gum intact. This new method is now the recognized procedure and by far the safest.





MAKING OUTDOOR GAMES

ERE are some suggestions for popular garden games which the home handyman can easily make up in good time for the fine weather days, when he will want to be out of doors enjoying the fresh air. Garden quoits

Choose a level piece of ground about 7 yds. long by 3 yds. wide. Fix five pegs of wood dowel or metal tubing at one



By T. S. Richmond

end; four at the corners of a square, and the other in the centre. The throwing line is marked about 5 yds. from the nearest peg by sinking a marker of wood in the ground.

The quoits used in play are a set of six rings of rope, rubber — or cut from

wood with a fretsaw. They should be from 6 in. to 8 in. across, and quite heavy in weight for throwing.

Each contestant is allowed six throws at each round, and the highest score wins. The score is made in either of two ways: (1) count one point for each ring that is thrown over a peg; (2) adopt the score method of having a numbered disc against each peg, as shown in the illustration.

Paint the set of pegs and quoits in bright colours.

Crazy golf

This amusing game requires a little do-it-yourself preparation, but is well worth the trouble; especially if intended as an attraction for a garden fête for charity.

The course is laid out, using your own ingenuity in arranging the hazards, on an uneven piece of grassed ground that is available.

Follow the sketches for building and setting up the various crazy hazards. See that the fairways do not interfere with one another. Holes should be numbered and arrows used to indicate direction of ball. Numbered pennants may be of tin, attached to metal stakes.

Well made and painted, the hazard units will provide enjoyable games of crazy golf; and can be stored and reused each season.

Clock golf

A tin can and a few oddments of hardboard, and, of course, the usual golf clubs (putters) and golf balls are the only apparatus required for clock golf. Prepare a square piece of level lawn, and sink the tin in the middle, flush with the surface. Tie a length of string to a stick, and, with the stick in the hole, mark a circle round it with the string as radius.

Mark out twelve positions around the circumference of the ring. Use pieces of hardboard (square or round), numbered 1 to 12, and space them evenly, like the hours of a clock. The object of the game is to knock the ball into the hole from each position in turn, taking as few strokes as possible.

Next week's issue will contain details for making an attractive hall seat. Radio fans will be shown how to construct a test meter, and there will be patterns for a model grandfather clock. Make sure of your copy of 'Hobbies Weekly'.

Easy-to-build Sailing Ships

MODEL full-rigged ship which sails is surprisingly easy to build if it is done in this unusual way. The hull is made first from a 15 in. length of 4 in. by 2 in. wood. The bow and stern are roughly shaped as shown at A with a saw, the cut for the bows extending back for 5 in. and that for the stern extending forward for 3 in. The bow, stern, and lower edges of the hull



ships' chandlers. Scissors are used for the cutting of the sails. All the sails carried by one mast are formed from one piece of metal. Two of the strips are 10 in. long, and the third is 11 in. long. All of



are rounded off with a file to the shapes shown in the finished illustration of the ship, and finished off with glasspaper. The bowsprit is a 3 in. long piece of thin dowelling, tapered off and inserted in a hole in the bows at a slight angle.

The masts are made from lampshade wire. Two of them are 8 in. long and the middle one is 9 in. long. The holes for them are 1 in. deep, one at the middle point of the hull and the others 4 in. on either side of this. The deckhouses are 1 in. squares of $\frac{1}{4}$ in. thick wood, and the two lifeboats are $1\frac{1}{2}$ in. long and $\frac{1}{2}$ in. wide, also of $\frac{1}{4}$ in. thick wood.

The keel B is made from a 9 in. \times $3\frac{1}{2}$ in. piece of tinplate cut as shown, with the top $\frac{1}{2}$ in. bent to form a flange by which it is screwed to the underside of the hull C.

The unusual feature is the sails. These are made of long metal strips. Thin tinplate or paper brass can be used. This latter is very thin brass sheet which can be bought from metal merchants or them taper from 4 in. at the bottom to 2 in. at the top.

The sides of the strips are cut in four curves to represent billowing sails D, and eight holes are punched in each strip, two to each section, $\frac{1}{2}$ in from its upper and lower edges. Each strip is lightly creased along the junction of the sails, and these are curved over a milk bottle to the shape shown at E. The set of sails is slipped over the mast through the holes. A washer soldered to the mast just above the deck prevents them from slipping too far down.

The jib sail is a 4 in. triangle of the same metal with wires soldered to each corner. These are secured to the mast, bowsprit, and a small eye screwed to the deck.

The angle of the sails is controlled by a linen thread running through holes in the three sets of sails as shown at F. A knot at each sail prevents slipping. A ring, rubber band and hook form a tensioner to keep the thread taut, so that all the sails move in unison (G).

The hull should be painted before stability trials take place. This model, like the real clippers, is not designed to sail in a gale with all sails set, so do not experiment with it when the wind is too strong. Any tendency to top-heaviness, however, can be corrected in two ways. Extra metal weights can be bolted to the keel, or a strip can be cut off the edge of each sail.

The sails look best painted with matt white, and a buff deck on a black, white and red hull looks very attractive.

• Continued from page 68

KEEPING PET RABBITS

table scraps can be slightly increased at each meal. Rabbits like something to nibble at throughout the day. 'Leftovers' likely to go sour should be removed from the hutch. All dishes and food receptacles must be kept perfectly clean, and a supply of fresh water always provided daily.

Follow these few hints regularly and you will have little trouble with your

World Radio History

rabbits. If the hobbyist wishes to go in for breeding and exhibiting, he should obtain a book on the subject and follow instructions given therein.

When purchasing stock always make sure that they are in perfect health. See that a rabbit is clean everywhere, that it has not a running nose or is subject to sneezing; and that its whole appearance is bright-eyed, alert, and lively. (E)

THE MYSTIFYING CROSS PUZZLE

THIS cute little puzzle will mystify your friends and unless they know 'the secret it is unlikely that they will be able to solve it. Being quite easy to make it is well within the accomplishment of the average handyman with a few simple tools.

The puzzle is made up of two pieces of

By A. F. Taylor

wood — the upright A, which has a cross piece B passing through a mortise in it (Fig. 1). The idea of the puzzle is to release and remove this cross piece. In Fig. 2 the cross is shown cut in half to indicate exactly how it works. The cross piece B is held secure by the plunger C and this in turn is kept in place by the ball D.

The ball D cannot drop down towards F because it is slightly larger in diameter than the tube in which the plunger slides. It can, however, move towards E on account of the larger diameter and when this happens the plunger C is free to drop down and therefore release the cross piece B for easy removal.

For the upright choose a piece of straight grained wood 5 in. long and 1 in. square, and for the cross bar a piece 4 in. long, 1 in. wide and $\frac{5}{8}$ in. thick. Cut a neat mortise in the upright so that the

cross bar will slide in. Do not make it a tight fit, nor should it be a sloppy job.

Drill a hole through the centre of the bottom part of the upright A, extending from F right into the mortise. Drill another hole near the bottom on the right side as shown in Fig. 2 marked E, but this must be slightly larger than the former hole, and goes only half way through the upright.

Both these holes must be quite smooth and the best way to ensure this is to roll up a strip of glasspaper and to push it up and down and turn it round until all roughness is removed.

The hole C must be extended about halfway into the cross bar and in order to make it easier to assemble the cross it can be made slightly larger in diameter.

The plunger C can be made from dowel rod, but a heavy metal rod such as brass would act much better. It is necessary to cut the plunger to the correct length and this will be found partly by measurement and partly by experiment. When it has locked the cross bar securely the ball should just fall into place with a very slight amount of play.

In assembling the parts first slip in the plunger, then glue in the plug F. Next put in the ball, which is a cycle ball-bearing, and secure the plug E.

The rest of the plugs are just fakes and of course add to the mystery of the puzzle. To dismantle the cross first gently tap the plug E on the table or other hard surface, then do the same with plug F, while holding the cross in an upright position. In putting it together again you just reverse the process.



Answers on page 78



Lead-free Humbrol

HUMBROL Plastic Enamel is now being manufactured fully lead free in all the 34 colours in the range, which adds further to the versatility of this product due to the extra safety factor, particularly where children may handle the finished project. The $\frac{1}{2}$ oz. tin costs 9d.





THESE NOTES REFER CHIEFLY TO MIDLAND GARDENS — DUE ALLOWANCE SHOULD BE MADE FOR CHANGE OF LATITUDE.



Pricking out Seedlings

Most bedding plants can be accommodated under cloches during the first week of May. Use large tent type with single sheets of glass, as shown in the illustration. Remove single sheets for watering.

Usually the small seedlings will only need watering about twice during the month. Harden off by removing first the single panes, then the cloches. Cloches should run East to West, and be shaded on the south side. (M.h.)

Economic Pest Controller

"CHOICE' Garden Spray aerosols, apply at the touch of a button a fine surface spray of insecticide that is lethal to green-fly, black-fly, caterpillars, aphids, capsids, thrips, and other species of common garden pest.

It can be used safely on all flowers and plants, except ferns. In addition, food crops can be treated with 'Choice' Garden Spray up to 7 days before gathering. Marrows, melons, and cucumbers are the only crops to which the spray should not be applied.

The 6 oz. pack, which costs 2s. 11d. has already played an important part in helping the gardener to get rid of these pests. Now a 16 oz. pack is available — a real economy buy at 6s. 11d.



ALTHOUGH May is a month of flowers and sunshine it is also a month of feverish activity in the garden. There is much to do in the way of preparation for summer bedding, and it is always a rush at the end of the month to lift and store bulbs in time for planting out.

Spraying, too, should be attended to regularly if crops are to be kept free of pests during the summer.

Do not be in too much of a hurry to plant out tender subjects such as dahlias, begonias, geraniums, etc. A late frost can do irreparable damage. Plants hardening off outside may be protected by newspaper or cloches if frost threatens.

In the vegetable garden potatoes may

be covered with newspaper or soil if they are not too high. Strawberries should be protected with small mesh netting, which is often enough to prevent loss of heat at night. Newspapers or straw will give added protection.

It has been proved during recent years that a continuous fine spray of water on plants will give complete protection against late frosts. The water freezes around the buds and flowers, sealing them in a thin layer of ice, and preventing the loss of heat, which damages the plant. This method is being used successfully in Norfolk, and it could well be tried by the amateur. It would not be very difficult or expensive to provide a spray by means of hose and sprinkler when frost is threatened.

ESSENTIAL WORK FOR THE MONTH

Lift bulbs of tulips and hyacinths.

Daffodils should be left in if possible. Replant bulbs in a trench, pack closely, and provide shade.

Lift, divide, and replant polyanthus in vegetable garden.

Harden off bedding plants.

Sow biennials and perennials.

Spray roses for mildew, black spot, and aphis.

Bait for slugs and snails.

Take cuttings of aubretia.

Dust raspberries with derris powder while flowers are open.

Thin out raspberry canes.

Remove unwanted runners from strawberries.

Thin out gooseberries.

Transplant brassicas.

Sow beetroot, lettuce, radish, turnip, runner beans and carrots, and cover with glass.

Prepare ground for tomatoes.

In the warm greenhouse

Sow primulas in variety for next year. Repot cacti seedlings and rooted cuttings. Inspect for pests. Water increasingly towards the end of the month.

Sow cinerarias.

Take cuttings of fuchsias and begonias.

Stop laterals of cucumbers.

Fumigate against white- and green-fly. Watch for red spider on tomatoes and cucumbers.

In the cool house

Pot on chrysanthemums.

Sow cinerarias.

Plant tomatoes and cucumbers early in the month.

Increase water for cacti except conophytums, which should not be watered until August.

Cold house

Plant tomatoes.

Plant cucumbers if weather is mild. Fumigate.



THIS delightful picture of 'The Mill Stream', a typical English scene, lends itself admirably to making up in wood. To give a greater variety of colours, artificially dyed veneers are used to good effect.

The completed picture measures 10in. by 8 in. and is intended for hanging on a wall. Alternatively, with the addition of a strut at the back, it would look very attractive standing on the sideboard. Our black and white illustration cannot, of course, do full justice to the lovely tones which are incorporated in this picture. As enumerated in detail on the design sheet, ten colourful veneers are used, including blues, reds, greens, etc, and workers will appreciate that a greater range of tones and shading can also be given by changing the direction of the grain of the veneers.

Hobbies kit for making the picture, consists of a plywood baseboard 10 in. by 8' in. and also a light oak veneer of the same size, which forms the background to the picture. Also included are all the coloured veneers, and veneers for adding the border frame.

It will be noted on the design sheet that in a few instances a particular colour has not been designated. This is because there is not enough room⁶ for indication and workers will use their own discretion of colours for such spaces by inserting veneers in contrast with the adjoining pieces.

Make a start by gluing the light oak veneer to fully cover the $\frac{1}{4}$ in. baseboard. Spread the adhesive evenly on the back of the veneer, using a straight piece of wood if necessary, to ensure that the veneer will lie entirely flat. Press it down on to the baseboard and weight with heavy objects, such as books, until thoroughly dry.

Now it is necessary to transfer all the details of the picture, including the border veneers, on to the light oak background. To do this, align the picture on the design sheet on to the wood, insert a sheet of carbon paper in between, and with a sharp-pointed pencilt trace all the details through to the wood. In tracing round the individual pieces do not mutilate the design sheet as this will be required later for transferring the individual shapes to the veneers.

Hobbies Kit No. 3412 contains all materials for making 'The Mill Stream', including plywood baseboard and all veneers. Kits price 9/9 from branches, etc., or from Hobbies Ltd, Dereham, Norfolk (post 1/6 extra).

In full colour THE MILL STREAM

A FINE ENGLISH SCENE PICTURED IN WOOD You can now commence adding the veneers, working from the top of the picture. From the guide sheet, trace the outline of the pink sky piece on to its appropriate veneer and cut out the shape with a sharp knife. Position this pink shape where it is outlined on the light oak, and using it as a template, cut cleanly all round through the background to the baseboard.

Place the pink veneer on one side and prise up the cut shape from the light oak veneer. When doing this, it is not advisable to use the sharp point of the modelling knife, as the blade tips have a tendency to break off, and they need to be kept in perfect condition for cutting. It will be found than an ordinary penknife is quite satisfactory for prising up the unwanted portion of light oak veneer. In its place glue the pink sky shape, which should be an exact fit. Press down well with the fingers, especially making sure that the veneer does not lift at the corners.

Carry on in like manner with adjoining pieces, cutting out the coloured veneers as indicated, and using them as templates each time before removing the light oak shape.

When working with extra small shapes it may be found difficult to hold them exactly in place with the fingers while using them as templates. It is then a good idea to secure the coloured veneer to the background with Sellotape as this holds it in position while cutting is in progress.

The small panels at the top and bottom of the picture which link the picture and the background, are added at this stage.

Then the border veneers can be added in a like manner. They are shown full size on the design sheet and are mitred at the corners after removing the correct portion of light oak veneer background.

Although when working it is advisable to ensure that each veneer is as flat as possible and perfectly adhered to the baseboard, the finished picture will, of necessity, be a bit 'bumpy' and uneven. To obtain an even surface when the glue is thoroughly dried, it is essential to scrape and glasspaper. A very satisfactory method is to use the edge of a piece of glass for careful scraping until a fair level has been attained. Then finish with a

Continued on page 73



Just like the real thing!

Believe it or not, the nearer one is the Airfix model of the Railbus, 00 gauge (Kit 3/-). Behind it is a picture of the real thing. That's how wonderfully realistic Airfix models are. Close attention to every detail gives them their faithful-to-the-original look—makes them true collector's pieces. And every Airfix series is to a constant scale. This means Airfix models look proportionally right, one against another, because they *are* right! You can't beat Airfix for realism—or value.

