THIS picnic table, which when closed takes the form of a very presentable attache case, should prove quite popular with motorists. Equipment such as plates, cutlery, etc., can be packed inside the case, which is placed in the boot of the car. On arrival at your favourite spot, the case is opened and upturned and stands squarely on four legs to provide a comfortable setting for your meal.

Such a table is particularly handy where a sandy spot is chosen, as it helps to obviate contamination of food by sand. A table surface measuring 36ins. by 24ins. is provided, giving quite a good area for the accommodation of food, plates, etc.

The attache case-cum-picnic table is quite simple in construction and can readily be completed by a handyman in a few hours. A box is constructed of wood and hardboard, simple halving joints being used, and this is sawn in two, giving identical halves, which are in turn joined by hinging. To make it even more simple, the sides of the case can be butted together instead of using halving joints, but if this method is employed, modifications will have to be made. Pieces (A) will be butted inside pieces (B) and their lengths cut to 23ins.

Hobbies kit of materials contains a carrying handle, streamlined fastener and three special case hinges.

Make up the box from 4in. by ½in. stripwood and hardboard to the measurements given on the design sheet, where details of the lapping joints are shown inset. The hardboard top and bottom pieces (C) are pinned and glued in position. A halving line is now drawn all round the sides of the box as indicated by the dotted line on the design.
sheet. Cut right through the box round this line with a tenon saw. Start at one of the corners, making sure to keep exactly to the lines, and when a large enough cut has been made to take the sawblade, continue round the box in one direction, taking particular care at the corners. Accurate cutting should produce two identical halves.

**KIT FOR 27/6**

Kit No. 3256 contains all the wood, hardboard, hinges, handle and other materials for making the Attache Case Picnic Table. The kit costs 27/6 from branches or Hobbies Ltd., Dereham, Norfolk (post free).

Clean up the sawn edges with a glass-paper block, but do not take off too much, so that gaps are left when the halves are placed together.

Four wooden blocks (D) to take the legs (E) are glued in the outer corners inside each section, being flush up against the hardboard. Each of these blocks is made up from three pieces of 4in. material cut 4ins. square and glued together as shown on the design sheet. In the centre of these made-up blocks, bore a 3in. diameter hole to take the legs before fixing the blocks in the corners.

The four legs consist of 13½in. lengths of ½in. diameter round rod. Mark off 14ins. at one end of each leg, and shape this end down to ½in. diameter with a sharp knife, thus forming a shoulder which will secure the legs when inserted in blocks (D).

Now place the two case sections squarely together and hinge in the positions indicated on the design sheet. The use of roundhead screws with the hinges is recommended, as these will form solid contacts and thus prevent sagging in the centre of the table when it is fully opened. Finally screw on the catch and the carrying handle. When erected, the table, of course, stands on the four legs inserted in the corner blocks.

Fig. 1 shows how webbing and stripwood can be used to form racks in which to carry plates, etc. Webbing can be purchased separately from Hobbies Ltd., Dereham, Norfolk.

Punch down all pins, fill up the holes and finish by painting.

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**Interesting Locos – No. 8**

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This week our subject shows an interesting 2 cylinder 4-4-0 type compound express locomotive designed by Mr H. A. Ivatt for the Great Southern & Western Railways of Ireland in 1894. This engine No. 93 was originally built previously as a 2 cylinder 'Simple', and was converted on the 2 cylinder compound system with 18in. and 26in. by 24in. inside cylinders during experiments carried out by Mr Ivatt in 1894. The engine had 6ft. 7in. diameter coupled wheels, the original boiler working pressure of 150 lb. per sq. in. being retained.

About that time the 2 cylinder compound engine was being adopted in Ireland, Mr B. Malcolm on the Belfast & Northern Counties Railway having built several examples from 1890-1908. The Belfast & County Down Railway also had several 2 cylinder compounds in service at that time, the design for these being made by Beyer Peacock who built the first specimens in 1890. They were of the 2-4-0 type with 6ft. 9in. diameter coupled wheels.

Mr Ivatt's engine was given an extensive trial on all types of work on the Great Southern & Western Railways, but it appears that no outstanding results were obtained, and in 1901 it was re-converted back to its original form of 2 cylinder simple with 18in. by 24 in. inside cylinders. It was, nevertheless, a bold experiment and the engine remained in service as a compound for some seven years.
**For fretwork designs**

**A SUBSTANTIAL FOLDER**

To keep designs in good condition, ready for any future use, a good substantial folder is necessary, one that will hold them securely and flat — not creased up.

The folder illustrated is of simple construction and cheaply made, needing only two panels of fretwood, ¹⁄₂ in. thick, and a few items which may be found about the household. Plywood or even hardboard will serve the purpose quite as well.

From the material, cut two covers to size given at (A), smooth the edges just enough to remove the sharp angles and very slightly round off the corners. At ¹⁄₂ in. from the back edges and approximately 1½ ins. distance from the top and bottom saw out the two slots shown. These are ½ in. wide and long enough to admit as an easy fit, the straps which afterwards tighten the covers over the designs which are stored between. Exactly opposite these slots, saw out the notches shown on the opposite side.

The covers can now be covered with any suitable material the household can furnish. A wide choice is given here, paper, bookbinders' cloth, American cloth are all suitable. Cut the material ½ in. larger all round than the covers, then glue or paste one side of each cover and lay over the material. Rub well down to smooth out creases and with a sharp knife clear away the stuff from the slots and notches. Cut away a portion at each corner, as at (B), paste the rest and fold over to the cover. Now cut two pieces of white or coloured paper a trifle less in size than the covers themselves and paste these over the inside, as at (C). Again rub well down and clear any covering slots and notches.

For the straps, one of which is shown, in position in figure (A), upholsterers binding could be employed, or good quality black tape about ½ in. wide. Other materials may occur perhaps to the reader if strong enough to stand a reasonable strain. These straps should be long enough to embrace both covers, with ample surplus for increasing numbers of designs which may accumulate in the future.

For each strap, a common buckle must be provided. These can generally be bought at most craft shops, or ironmongers but search amongst unused household stuff may well produce something from which the buckles can be obtained. The straps are fitted through the slots, as shown, with buckles stitched on, to complete the article.

A little improvement can be added, if the reader cares to go to the trouble, by fixing on the back cover a pair of loops as in (D). Any strong stuff will do for these, and narrow slots into which the ends of the loops can be drawn through and glued underneath, are cut for fixing them. This should, however, be done before the paper inside lining is added, as the lining will cover the glued ends to ensure a neat finish.

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**Small Hand Mirror**

This small hand mirror is made from three pieces of ¹⁄₄ in. fretwood. The mirror is sandwiched between pieces (A) and (C) as shown by the small detail on the pattern page.

Cut out the three parts with a fine grade fretsaw and clean up before gluing together pieces (A) and (B). Paint a pastel shade and use a slightly darker colour for the overlay (B).

The mirror can be cut with a circular glass cutter, price 6/9 from Hobbies Ltd., Dereham, Norfolk. This little mirror is such an ideal subject for making up in quantity for church bazaars, etc., that the outlay for the cutter is well worth while.

Position the mirror after cutting and then glue on piece (C). (M.p.)

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How radio constructors can make a versatile power unit will be described next week. Also kite making, Collectors' Club, and projects for the handyman and fretworker.

MAKE SURE OF YOUR COPY

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Look-out, teacher!

DARTS AND PLANES

MOST of us inherited a paper-modelling disposition. There are few who cannot call to mind many happy hours spent fashioning things from paper and card, with the aid of glue and a pair of scissors.

Older readers will remember making and flying paper darts. Today the Delta-shape form of these paper darts is much used in the design of aircraft.

To guide junior readers in the making of 'Delta Darts' and simple card 'planes, we give sketches showing step-by-step stages of folding and cutting.

To make the paper dart, follow diagrams 1, 2, 3 and 4 at (A). Take a piece of paper about 6ins. by 5ins., and fold as shown. The size of finished darts depends, of course, on the size of paper used. Water colour paints can be used to decorate, and strips of transparent adhesive will hold your dart firmly together. A simple winged aeroplane is suggested at (B), and here again adhesive tape may be applied for strengthening.

At (C) we have a plane of more elaborate design. Thin card is best used for this. The card is folded in the same way as at (A) and (B), but this time an outline of one half of a 'plane is cut out. Bend back the wings and add a cardboard fin to the rear. Hold the fin and body of plane with tape. Colour the toy with water-colours as before. Aircraft transfers make a finished job.

Make a card or balsa-wood propeller for your model, fixing in place as shown with balsa wood block, glass beads and a pin. Twist the propeller slightly at blade tips. The propeller will revolve as plane glides. Weight the nose of all planes if necessary with paper clips or modelling clay, and adjust this to get a gradual glide when launched. (T.S.R.)

SENSE WITH KEYS

KEYS of outhouses, etc., are less liable to be mislaid if tied on to a large wooden label, painted a bright red, which will show up on the ground or grass. A bulky piece of wood attached will prevent a key being pocketed and forgotten.

Where several large keys are kept on a bunch, it is useful to paint the shank of each a distinctive colour, which is also applied to the keyhole plate of the lock to which it belongs.

Barrel keys — those with hollow shanks — give trouble if the barrel becomes partly filled with pocket-fluff or other rubbish. This is quickly removed by a red-hot wire or a twist drill.

When suitcases, etc., are stored away, their keys should be tied to them with a loop of string, not left in lock. (R.L.C.)
A MODERN SINK UNIT

In this 'do-it-yourself' age a modern sink unit is a top priority for the housewife. The reasons for this are obvious, for in the kitchen one wants everything clean, neat and hygienic-looking.

The old-fashioned sink, with all its naked plumbing and supports is a positive eyesore. One can easily remove this eyesore, from sight at any rate, and provide instead a modern spick and span kitchen unit of which every housewife will be proud.

By A. Fraser

The main requirements are a few battens and some hardboard and only a modicum of handicraft skill. No special tools are necessary. The task is well within the capacity of anyone who can use a saw.

No dimensions are given because these will depend on each individual sink and its particular placing in the kitchen.

Some sinks are placed with one side very close to a wall and others are far distant from either wall. The reader must decide the extension of the unit. He may prefer a unit of only short extension. Or he may extend it completely from one wall to the other, right across, as in many modern kitchens.

In either case, the principles of construction remain the same. The basis is the framework which forms the skeleton of the unit. This is seen in Fig. 1. It is made of batten, the size of which is not very important so long as it is strong enough; 1\(\frac{1}{2}\)ins. to 2ins. by 3ins. to 1in. will do quite well.

The first thing to do is to set up the frame (A, B, C, D), seen in Fig. 1, for it is on this, and the companion one on the other side of the basin, that the front, top and bottom rails are fixed.

The top batten (A, D) is adjacent to the sink side and level with its top. The batten (D, C) is fixed on the wall and here Rawlplugs are recommended for proper fixing, especially if the plaster of the wall is in bad condition. Where the wall is extremely bad it must be re-plastered.

The batten (B, C) lies on the floor. (This can be 3ins. square or thereabouts.) See Fig. 2a.

The batten (B, C) is attached to the bottom of the wall batten as shown at Fig. 2c, and provided the height of (D, C) is correct, both (B, C) and (D, C)
can be attached by fixing to the wall with the screws (P, P).

The other side of the basin should be treated similarly, and also the far ends of the unit whether they come up against a wall or not. However, take note that these frames at the extreme ends of the unit should be slightly higher than the inside ones to produce an incline for the bench tops so that the water drains towards the basin. Only a slight inclination is necessary. Note Fig. 2A circle inset.

When the battens have been tried out experimentally for correct size and fitting, then the whole framework can be assembled permanently, using thin nails and glue as well, if desired, for firmer construction.

A piece of hardboard, say \( \frac{3}{4} \) in. thick is next sawn out to cover the inside frame (A, B, C, D). This is seen in Fig. 3 and Fig. 2A. Don't forget to saw out the shoulders at top and bottom front. Half-way up the hardboard nail on a length of stripwood \( \frac{3}{4} \) in. by \( \frac{1}{2} \) in. for the shelf to sit on.

Prepare a similar piece of hardboard for the other side of the sink; in reverse, of course.

Where the sink unit extends to a wall, then the stripwood for the shelf support should be fixed to the wall. Otherwise another piece of hardboard is necessary with the stripwood fixed on the inside of it.

The shelves and doors are left for the time being, while the bench tops are made. Details of these are given in Figs. 4 to 6.

Hardboard of \( \frac{3}{4} \) in. thickness is used as the base. Along the long sides of this are nailed strips of plywood (or hardboard) about 1\(\frac{1}{4}\) ins. by \( \frac{3}{4} \) in. thick. (A, B and C, D in Fig. 4.) These are to prevent water swilling over the front or back. The edges should be chamfered off as seen in the circle inset sectional view.

We now need a method of shedding off the water cleanly into the basin. This is seen in Fig. 5. A strip of \( \frac{3}{4} \) in. thick plywood, \( \frac{1}{2} \) in. wide, is sawn out and attached by glue and pins to the under side of the bench top which overlaps the basin (see M, Fig. 5), leaving about \( \frac{1}{4} \) in. projecting.

On to this ledge is glued a length of stripwood, coming somewhat lower than the top of the hardboard. This is rounded off with a glasspaper block. A strip of thin aluminium sheeting (L) is then bent to a rounded form and fitted in over the rounded stripwood (F). It is fixed with small screws, later filed down flush with the top surface of the headboard. The drip edge of the aluminium is rounded off with a fine file.

The whole board is now covered with a waterproof and good wearing material such as 'Fablon', or 'Con-tact'. These are plastics materials obtainable in various shades. They already have adhesive on the under surface and so application is easy.

Cut the covering material much bigger all round than the board to be covered, to allow for turn-overs on all sides. Apply the material as shown in Fig. 6. The outer edges are held far up, dropping the centre down first and smoothing it down along the middle (A, A) of the draining board. Then gradually work to right and left, smoothing firmly and carefully. Special care must be taken when the ridge (S) is encountered. The material must be pressed in precisely to make a neat job. It is then smoothed over and turned over the edge on to the under surface of the board. When the two long sides have been so treated the front (drip) edge and back edge should have the covering smoothed over them and tucked in to the under surface. With the aluminium drip edge, the covering is turned over the edge carefully and smoothed up on to the convex surface of the metal.

The completed draining board can next be fixed to the unit top by means of angle pieces or brackets attached to the horizontal battens. See (G) in Figs. 4 and 5. This is a simple and highly convenient method, for, should occasion arise, the board can easily be removed and recovered.

The doors of the unit are easily made from hardboard, strengthened with stripwood round the edges. See Fig. 7. Small brass hinges are used to hang the doors and the handles should be of the vertical bar type of some attractive plastics material.

The shelves, if they are not to support very heavy items, can be merely hardboard. For heavier things, some stripwood to strengthen the hardboard should be used.

Two last improvements remain. First, the appearance of the unit is enhanced if

*Continued on page 423*
A Bed Table and Book-Rest

Whether one is ill or just plain lazy, a table on which meals in bed can be served is useful. By means of a small attachment the one described can be converted into a book-rest so that even heavy books may be enjoyed in bed without discomfort. A piece of 3/4 in. plywood about 22 ins. by 14 ins. is shaped as shown in Fig. A, supports will open.

The book-rest is shown in Fig. D. The one illustrated was made from two pieces of plywood fastened to a strip of 2 in. by 1/2 in. wood at the back, leaving a 2 in. gap between them. This was then covered from behind by another strip of plywood and a rest fitted to the lower edge. The middle recess so formed accommodates the back of the book, but it is not essential and the rest may be made from one piece of wood. Two wooden pegs from a piece of doweling are fitted to the lower strip as shown, and these fit into the top of the book-rest, of such a height to stop against the edging of the tray.

Continued from page 422

Modern Sink Unit

The wall section above the basin (where the taps are), is covered with a rectangle of hardboard treated with the waterproof material as used on the draining boards. The fitting of this depends on the particular way the taps and pipes are fitted. In some cases it is possible to fit the board directly behind the taps, concealing the pipes. The water is run off and the taps removed. The board (with holes sawn out), is then fitted, and then the taps replaced.

The other improvement is to screw a strip of aluminium along the front of the unit immediately over the front edge of the basin. The edges of the metal are rounded off, and the screws are countersunk. Fig. 8 shows a sectional view of the method. (S) is the basin wall, (F) is the front batten above the centre door of the unit, and (L) is the aluminium strip. This improvement is desirable, otherwise any liquid will slop down in between the basin and the first batten (F), and a filthy trench will rapidly result.

The completion of the unit consists of painting it in the modern kitchen style. Use flat paint followed by one or two coats of gloss or enamel paint. Remove the draining boards while this is being done, also the door handles. Two-colour schemes are popular, such as bright red for the doors and white surrounds, but one must use one's own taste in this matter. Light cheerful colours are best.
GUIDE TO MAKING NESTING BOXES

HANG FROM BRANCH

END PIECES PINNED AND GLUED

CORD THRO' HOLES IN END PIECES

LOGS

HOLE HOLLOWED OUT BY SAME METHOD AS DESCRIBED ON RIGHT

MAKE THE BOX TO YOUR OWN DIMENSIONS
NC BOXES

- Tin Cap
- Small Branch to act as a perch

- Top
- Log
- Hole hollowed out with brace bit and chisel
- Dowel
- Bottom

- Fix on to post
WITH scrap copper sheets and wire, interesting experiments can be carried out, including the preparation of copper compounds, which will be useful for your laboratory stock.

Let us start by watching the action of heat on copper. Bend a thick copper wire. You will note it is reasonably stiff. Straighten it and plunge it into a glowing fire. Withdraw it when it is red hot and quench it at once in cold water. Now bend the wire. It is very soft and pliable. Heat up the wire again and let it cool slowly. You will now find it has regained its stiffness. These properties are the opposite of those of iron. Red hot iron hardens on quenching and softens on slow cooling. This behaviour of copper is worth remembering in case you should at some time wish to bend thick copper. By softening it in the above manner bending will be easy and the metal can be made to resume its former stiffness by slow cooling.

The corrosion of copper is interesting. Moist air contains three substances which affect the metal — oxygen, water vapour and carbon dioxide. These three are responsible for the green coating which copper acquires over a period of time. This is common verdigris, or basic copper carbonate. The striking green appearance of the roofs of some Continental buildings is due to their having been sheathed in copper sheet.

There is another lesser known verdigris which is produced for use as a colouring matter by the action of acetic acid on copper. Partially wrap a sheet of copper in white cotton cloth and place it in dilute acetic acid (one volume of the strong acid to one volume of water) in a beaker as shown in Fig. 1. Note that the ends of the copper are bent so as to raise the metal just to the surface and that the cloth should trail. This ensures that the air essential to the process reaches the metal and that the acid rises by capillary attraction to keep the copper always wet. Let the whole stand a few weeks and make small additions of dilute acid to replace any lost by evaporation. A blue solid forms on the copper, part crystalline, part powdery. This is verdigris. When a good quantity has formed, remove it from the metal and dry it on a porous brick. It is chemically different from common or corrosion verdigris in that it is composed of basic copper acetate. It has found considerable use in oil bound paints.

A fine green pigment is also obtained from copper by letting ammonium chloride (sal ammoniac), water and air act on the metal. This pigment is known as Brunswick Green. Chemically, it is copper oxychloride. This, too, is easy to prepare. Make a solution of 10 grams of ammonium chloride in 100 c.c. of water. Put a bundle of thin copper wire into a beaker and pour in enough ammonium chloride solution partially to immerse the metal. Leave the whole exposed to the air for about a fortnight.

The ammonium chloride solution slowly becomes blue and a blue-green solid forms, usually crystalline. When this changes to a bright blue, carefully pour away the clear solution from it and replace it with fresh ammonium chloride solution and leave the whole until the solid again becomes blue-green. Now remove the copper, first rinsing off any adhering pigment into the liquid by means of a jet of water from your wash bottle. Filter off the copper oxychloride and wash it well on the filter until the wash waters are no longer coloured blue. Dry the substance in a warm room.

You will be left with light blue-green copper oxychloride. This is genuine Brunswick Green. The Brunswick Green now sold is usually a mixture of Prussian Blue, Chrome Yellow and barytes.

Despite its apparent commonness, copper is not a cheap metal. At a laboratory furnisher's you will pay about eight shillings per pound for it. Because of its being relatively dear it follows that its salts, which are so much used in the laboratory, are rather dear, too. Therefore it pays to prepare your own from scrap copper. Two of these we have already made. More useful are soluble copper salts.

The best solvent for copper is nitric acid. With this we can make up a stock solution of copper nitrate for the preparation of other copper compounds, or for use in particular reactions. Make some dilute nitric acid by stirring it into an equal volume of water, contained in a beaker or a jam jar.

Set the vessel in a safe place in the open air and add some copper. Effervescence starts at once. Red-brown vapours of nitrogen dioxide are given off. These are harmful if breathed in any quantity. This
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**Cactus Gardens in Bowls**

Before the soil is put in the bowl, a layer of crocks must be placed in position. A satisfactory compost consists of two parts John Innes potting compost and one part sand. The potting compost may be purchased by the pound from most seed merchants.

Once the bowl is filled with soil, it is necessary to decide whether the garden is to contain plants only or a small glass 'pond' and other ornaments. If the latter, the position of the ornaments should be marked. Once this is done the plants may be bedded out. A layer of coarse aquarium gravel placed on the surface gives a finished appearance.

I gave my first gardens to a bazaar, where they sold very quickly. As a result of this, I received a number of orders. Even without the aid of a bazaar, it should not be difficult to market miniature gardens. A local florist could be approached, or an advertisement placed in a local paper.

Before selling, or even making the garden, it is essential to have some plants to put in it. The types of stock plant to buy are those that produce offsets prolifically. Fortunately these plants are also the cheapest. I would suggest for small cushion-shaped plants: Mammillaria prolifera, Mammillaria erythrosperma, Echinopsis multiplex, and Chamaecereus sylvestrii. For the 'prickly pear' type of plant, Opuntia microdasys has many small pads which may be removed as cuttings. Opuntia are very easily raised from seed; seed sown in the spring will produce useable plants by the autumn.

So far the plants mentioned have all been cacti, but many other succulents have attractive forms and will grow happily with cacti. The Mesembryanthemum group has many shrubby members: Aridaria splendens, Lampranthus roseus, Oscularia deltoides, and Delo- sperma echinatum. Cuttings from these make delightful small bushes.

With the above plants and a couple of packets of mixed seed, there should be enough plants to stock a great variety of gardens.

(P.R.C.)

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*Continued from page 426*

**Experiments with Copper**

The antique green patina seen on articles of copper or bronze (which is, of course, a copper alloy) can easily be imitated with the aid of your copper nitrate. Dissolve 8 grams of copper nitrate in 80 c.c. of water and add 2 c.c. of acetic acid. This solution will keep indefinitely in a closed bottle. When required for use, heat it and swab the metal sparingly all over. Let it dry on and 'age' a few hours, when the green antique finish will be produced. The treatment may be repeated should a very intense effect be desired.

We saw early in this article the physical effects of heat on copper. What of the chemical effect? Screw up a bundle of copper wire, place it in a crucible or in a tin lid and heat it strongly over a gas flame or on a glowing fire until the wire is red hot. Keep it at this temperature for about a quarter of an hour, remove it from the heat and let it cool.

You will find the wire is covered with a black coating. If the wire was very fine it will probably have crumbled to black powder. This is copper oxide mixed with a little cuprous oxide. Detach it from the wire and heat it up again, well spread out, on a tin lid and you will obtain fairly pure copper oxide, which will come in handy for many laboratory purposes.

If you have been doing experimental chemistry for a year or two it is a sign your interest will probably be a lasting one. A tip for the future may therefore be timely. Unless big new deposits of copper ores are found, there will be a grave shortage of the metal as the years go by. This means a big rise in the price of copper compounds for the laboratory. The moral is obvious. Save all scrap copper. You may need it for producing your own copper compounds by the methods detailed in this article. (L.A.F.)
GARDEN TIPPER FROM MOWER

If you cannot afford a wheelbarrow, convert your mower to do the same work, using its 'free-wheel' mechanism.

Make up a strong box of 1 in. deal to a size of approximately 24 ins. by 18 ins. by 9 ins. deep. Underneath fix two shaped supports 'A' as shown, in one of the following two methods: (1) Spaced apart so that they can be held through and between the adjustment links of the mower roller ends (see detail X), by means of a wing-nut and bolt traversing a hole drilled through the support.

By E. Capper

Or use method (2), viz: By cutting a semi-circle in the support bottom to fit snugly over the roller (see detail Y).

If using the wing-nut and bolt method the box has the added advantage of being a 'tip-up' container. Naturally the nut and bolt must not be tightened so hard that it prevents the mechanism from working.

By using method (2), while the 'tip-up' mechanism will not work, it is quicker to fix the box, for no nut and bolt have to be fitted. Instead the box just drops into place.

The iron angle-brackets (B) are fitted so that the mower handle fits snugly between them. They are screwed only to the underside of the box — the other side of the angle piece being free (detail Z).

Hobbies' Crossword No. 14

Note: Figures in parentheses denote the number of letters in the words required.

ACROSS:
3. Punish with a round of sport! (4).
7. Two-way direction finder (5).
8. Woeful comment found in the map-book (4).
10. Just the medicine when thumb is dislocated! (7).
12. Dash for drink (4).
15. 17th March is a great day for them (5).
19. Estimate falls short, the fools! (4).
22. A better half to incite (4).
23. Spiral (5).
29. Trust me! (Anag.) (7).
30. Ghastly end of old traveller (4).
31. A number of planes or part of one (4).
32. Gibe (5).
33. A belt for the window (4).

DOWN:
1. Quick! Here's a gunner, turned pickpocket! (5).
2. Story by Scott (7).
4. Halls staggered by wooden strips (5).
6. As a coot? (4).
11. Heep bad man! (5).
16. I bath — it's a custom I've picked up (5).
17. A drop of autumn (4).
18. Just one in a hundred (4).
20. Equipment for getting a fresh angle on things (7).
24. Time is up, Bob! (5).
27. A bull, but not the 15 kind! (4).
28. No bar on beggars! (4).

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DETAIL SHOWING HANDLE AND METHOD OF FASTENING.

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HANDLE BROKEN TO SHOW FASTENER.

DETAIL SHOWING HANDLE AND METHOD OF FASTENING.

HOBBIES STREAMLINED FASTENER No. 6228

LEGS E. CUT FOUR FROM 1 in. DIA. ROUND ROD.
CUT TWO PIECES A 23½ ins. BY 4 ins. BY 1½ in.
CUT TWO PIECES B 18 ins. BY 4 ins. BY 1½ in.

HANDLE BROKEN TO SHOW FASTENER.

DETAIL SHOWING UNDERSIDE OF OPEN TABLE WITH CORNER BLOCKS D IN POSITION.

CORNER BLOCKS D MAKE FOUR. EACH BLOCK IS MADE UP FROM THREE 1½ in. PIECES GLUED TOGETHER AS ILLUSTRATED.

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