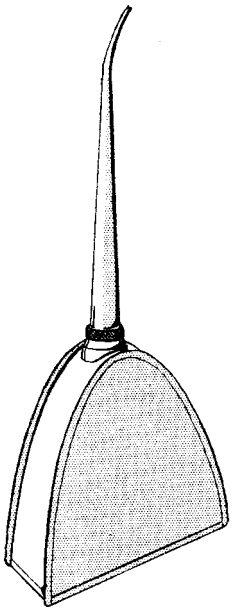
Novices' Corner

Making an Oilcan



THE following description is of an oilcan which is easily made in the home workshop by the beginner, and one that will be appreciated by all who use it, for it is so designed, that any oil trickling down the spout, will not come in contact with the sides handled when in use, so keeping both the can and the hands clean.

The only materials needed are, two empty condensed milk tins, and a small piece of brass rod. The top and bottom are taken off the tins and a cut made along the join, and then opened out flat.

First, cut two pieces of tin (or to be correct, tinplate) to the size and shape of Fig. I. Now place them one at a time on a flat and solid surface-an old flat-iron is as good as anything-and stretch the middle part by hammering gently with a light hammer, so as to bulge out the centre a little. It does not need a lot, but just enough to enable you to compress the sides to force out the oil. Now make sure that both pieces are exactly the same *size.* If they are not, then clamp them together in the vice, and file the edges, not forgetting that there is a right- and left-hand side, so be sure to have the bulges facing outward.

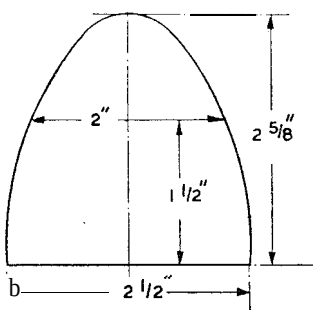


Fig I

Next, you will need to cut a piece as Fig. 2. This is just a little longer than is necessary, to allow it to be trimmed later. Mark out as dotted lines (Fig. 2) and bend along lines A, and bend back at lines *B.* The end view will now look like Fig. 3A. All this can be done in the vice, even if it is only 2½ in. wide, by working along from one end. Tap down the edges, over a piece of sheet-iron about twice as thick as the tinplate. The thickness is not important so long as it is thicker. The end view should now look like Fig. 3B.

It is best, to bend the whole to a rough " U " shape, and finally to the shape of Fig. I so that the sides are a good fit in the grooves already made in the long piece.

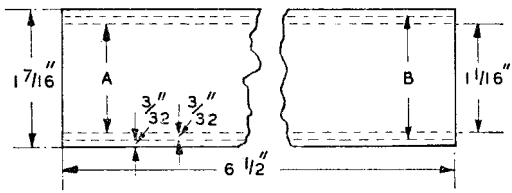


Fig. 2

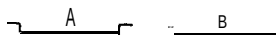
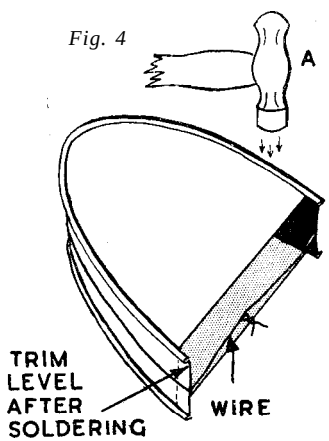


Fig. 3.

Next is needed a short piece of 3/4 in. square iron or mild-steel. Place this in the vice so that about 1/4 in. extends beyond end of jaws, and tap down the edge, to form a tight seam all round, which need only be wired up as Fig. 4 so that it will not come out of place whilst it is being soldered. A soldering iron is not needed for

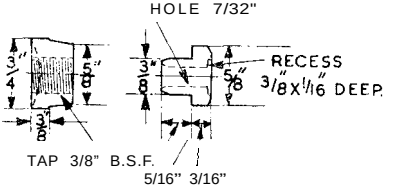
Fig. 4



this job, a clear flame, from either gas or a methylated spirit lamp providing a better method. To solder, take a 4 in. or 5 in. length of steel, or preferably copper wire and flatten the end with a few sharp blows from a hammer, and this will be your iron," which is only needed for guiding the solder. If copper wire is used, it will have

to be poked into a small piece of wood for a handle, as it gets hot much quicker than steel.

Baker's soldering fluid is as good as any flux for this job, and the " iron " need only be dipped into the fluid, and applied to the joint on the *inside.* Cut off two or three nobs of solder, and drop in ; now apply the gas flame to the outside, and when the solder runs, guide it along, with the " iron," moving the can along so that the flame is always where you want it. Of course,



Figs. 5 and 6

you will have to hold the can with a pair of pliers, so use your oldest, for the fumes will probably make them rusty. The solder should run right round the join, and just show on the outside. If it does not, then you either have a dirty joint, or not enough heat. In any case, run in a little more solder and " Baker's" (be careful this does not splash into your face, if the can is still hot) afterwards guiding it through by applying the " iron," with a little Baker's fluid on it, to the outside. This should draw the solder right through. Any surplus solder on the inside can be guided to one corner, and, with a sharp tap on the bench, it will drop out, leaving a neat and clean joint. Do one side at a time, and then put to one side to cool. Remember, a tightly hammered joint before soldering is the best. The solder will run right through however, tight it is.

Now take a bit of brass 3/4 in. diameter, chuck it in the lathe, and turn as Fig. 5. Bore and tap 3/8 in. B.S.F. and part off. Now file to dotted line to a perfect fit on top of the can. Push the tang end of a file through the top of the can, and

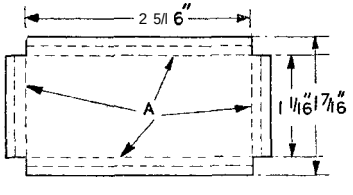


Fig. 7

open out with a half round file to about 7/16 in. diameter. Tin all round this hole on the outside, also the brass where it is to butt on, and wire it firmly in position on the can, afterwards soldering from inside as before. Make sure that a good bead of solder shows through all round the outside.

If you see any gaps in this bead, close it in with the " iron " whilst still hot.

For the nozzle, chuck another piece of brass, and turn as Fig. 6. Thread outside 3/8 in. B.S.F. and knurl largest diameter. Bore a 7/32 in. diameter hole right through, part off, reverse, and chuck by thread. It is a good plan-to save turning a nut for holding this in the chuck-to turn this part first, put to one side, and then turn part Fig. 5, which before parting off can be used as a chuck to hold part Fig. 6. Now hollow out recess 3/8 in. diameter by 1/16 in. deep (see Fig. 6). If you do not possess a lathe, perhaps a friend will turn these two parts for **you.**

To fit the bottom first trim the ends of the sides so that all is level. Cut a piece of tin as Fig. 7, first checking measurements on can in case the seams are not in tight. It will be necessary, in this case, to cut the bottom a little longer. It should be a tight fit in the bottom of the can, even if it has to be tapped in with a light hammer Close the seams in the same way as the sides, by hammering tight over the piece of 3/4 in. square iron. Now put a few drops of Bakers

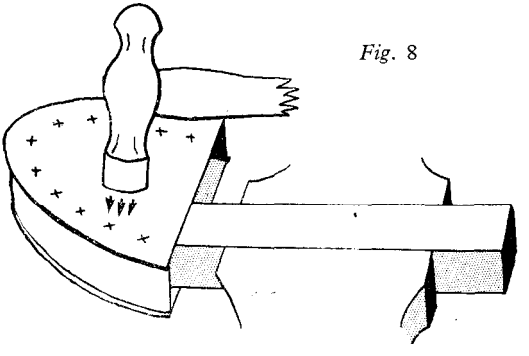


Fig. 8

inside, with two or three bits of solder, and hold over the flame, starting at one corner. When you see the solder just showing on the outside, tilt the can a little, so that the solder runs slowly along, moving the can along the flame at the same time. When cool, you can test for leakage by filling with water, putting your thumb over the top and compressing the sides. Any small leak will show up at once.

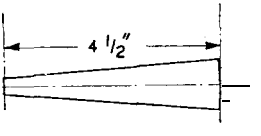


Fig. 9

It is advisable before soldering the bottom, to try the sides by pressing them in, and, on release, they should come out without any help. If they do not, it usually means that you have stretched the centre part too much. If this is the case, remove the bottom, and place can over the 3/4 in. bar in vice, and tap all round with light taps, as shown in Fig. 8 at spots marked with an x. However, it may only need the seams tapped down by placing the can on a solid flat surface? and tapping with a small hammer, as at A Fig. 4. If all is correct, carry on with the soldering.

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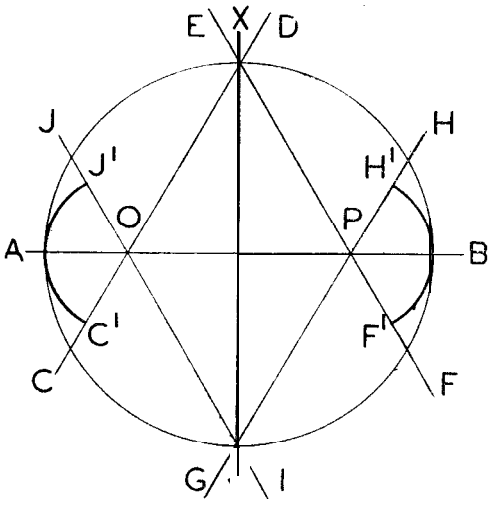

Fig. 16c

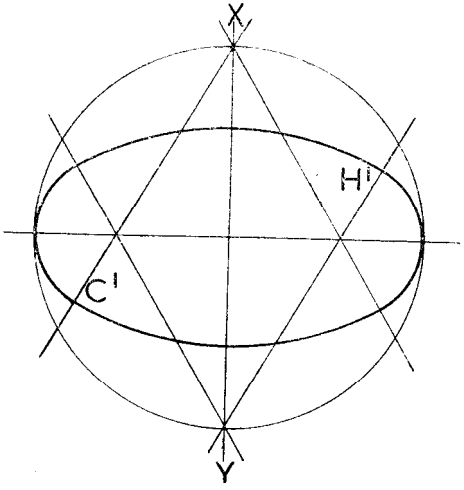

Fig. 16D

ellipse relative to the rest of the drawing sometimes causes difficulty to those unfamiliar with the procedure. If it is remembered that the major axis is always at right-angles to the projected centre-line, no trouble should be experienced. Thus, in Fig. 15B, the projected centre-line is shown at 30 deg. to the T-square on the drawing board, whilst the major axis is at right-angles to this centre-line.

By using ellipses and positioning them correctly any engineering component can be built up isometrically from an orthographic projection.

The foreshortening referred to in connection with Fig. 14B is, of course, applied to all parts of a component as it is drawn. Thus, supposing that attached to the cube shown in Fig. 14B there was a stud projecting from a side face and that stud projected for a distance of 29 in., the length of the stud as drawn would be 0.8 of 29 in., that is 2 in. This measurement would be the distance apart of the centres for the two ellipses.

The point at which the stud merges into the cube is found by measuring the two distances *a* and *b* and subjecting the dimensions found

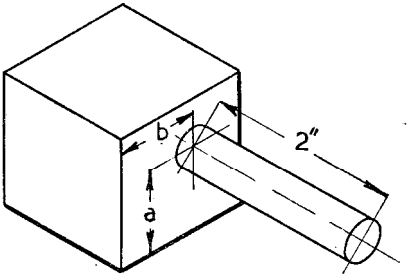

Fig. 17. *The application of foreshortening to the location of components*

to the foreshortening previously mentioned Fig. 17.

(To be continued)

Making an Oilcan

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All that remains now, is to make the spout. You will need to shape a piece of wood for this, about 6 in. long and 1/2 in. diameter, tapering to a sharp point. Roll a piece of paper around this, and, with a very sharp knife, cut along the centre. Trim the ends, and you have your pattern from which to cut the tin, as Fig. g. Bend the tin around the wooden former as much as possible with tigers, and follow this up by putting on a solid. surface, and tap edges of tin until it is wrapped tightly around the former. The largest diameter of spout should be a little less than the recess in brass nozzle, into which it fits.

Tin the recess of nozzle, and end of spout, put one into the other, and fill with solder. Now solder the seam of spout, and for this a soldering iron is best. When cool, slightly bend spout about 1 in. from top, with fingers.

Cut a leather or cork washer to fit over thread of nozzle, and after filling with water to try for leakage screw home. The can only needs a coat of paint, leaving brasswork and spout polished, and you have a good oilcan which will last for years. Don't forget to wash in running water immediately after soldering, and dry quickly in front of a fire to stop it rusting.

--S. G. ACKERMAN.