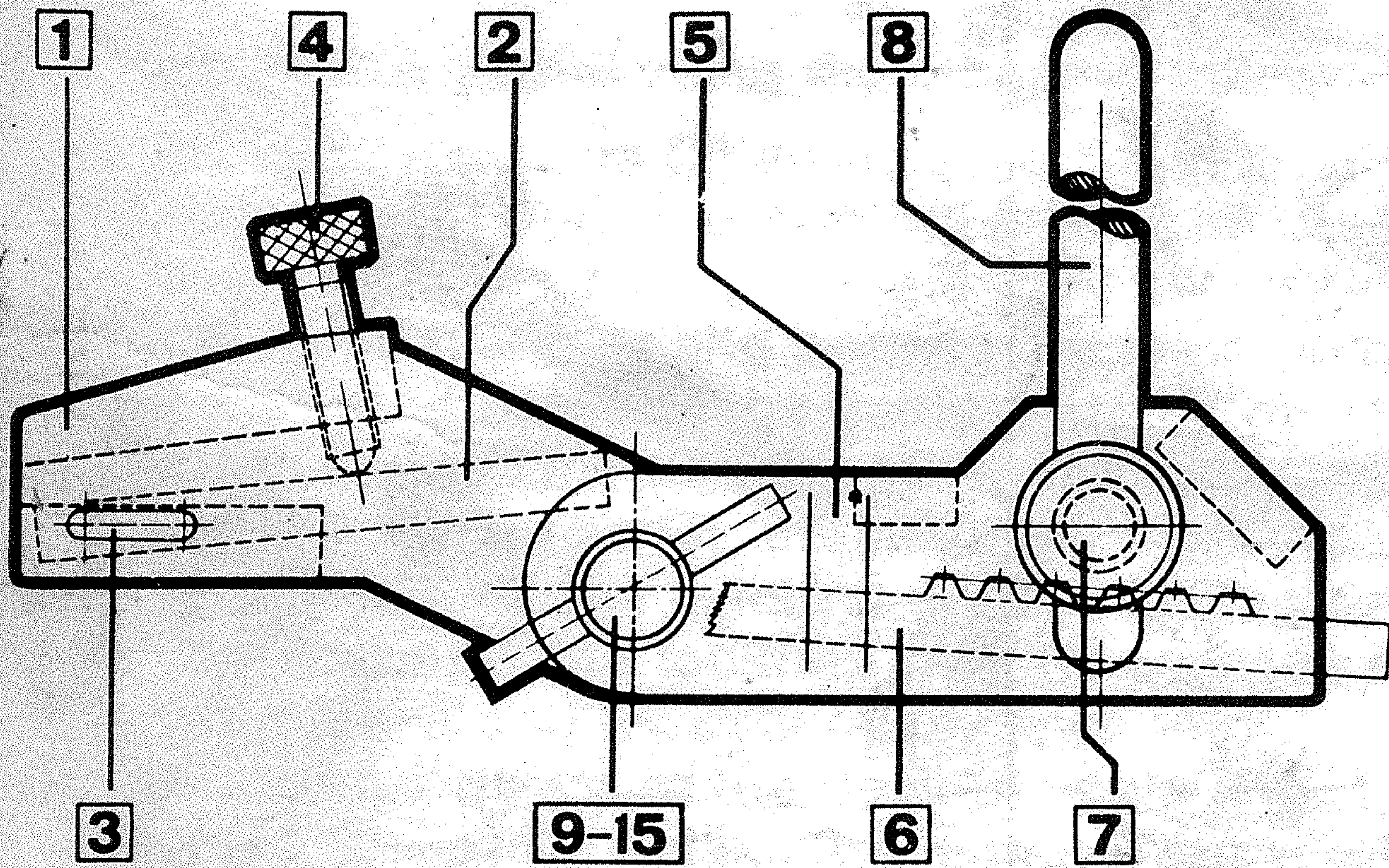


GROZ

METAL BENDER

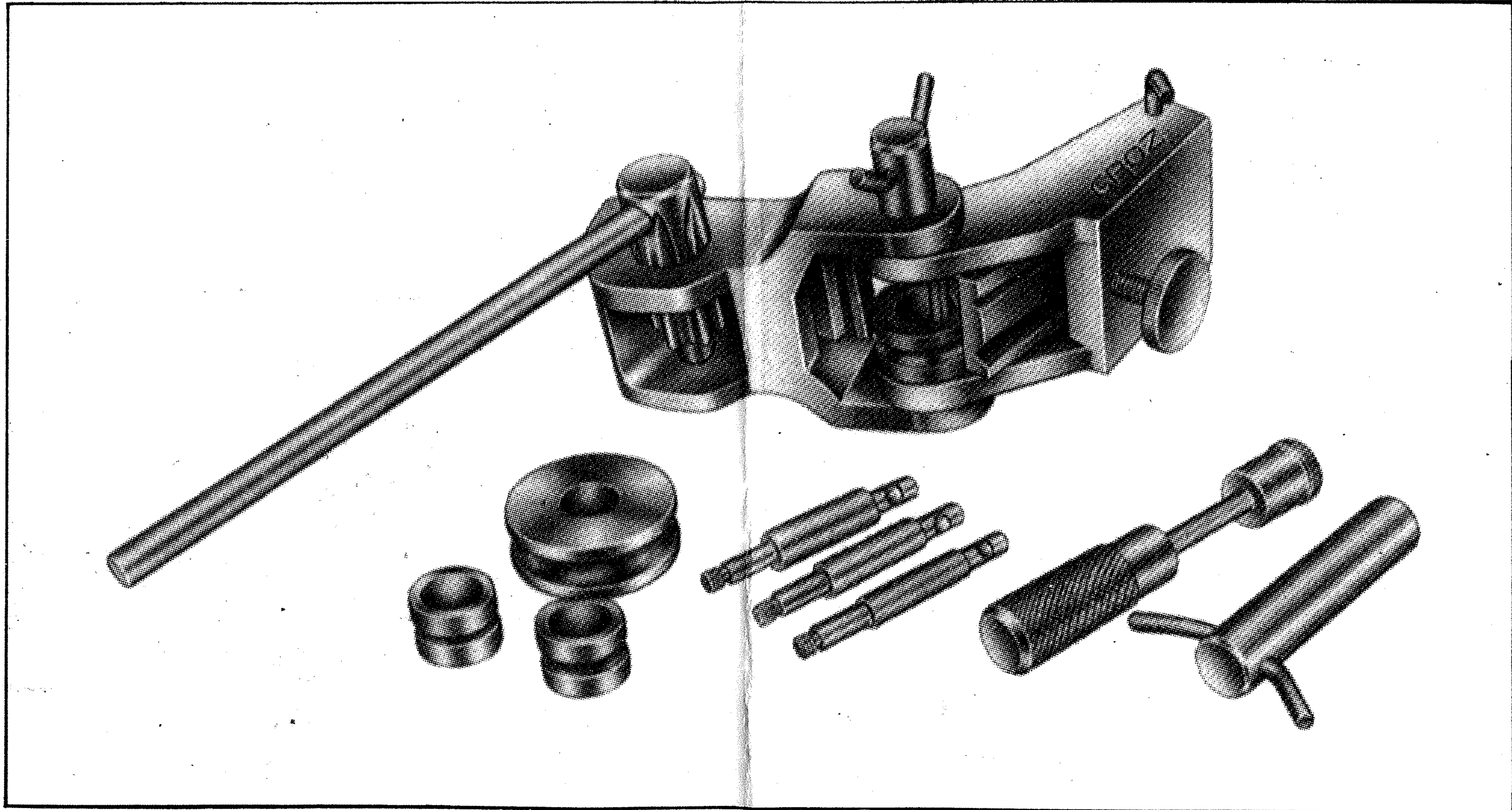
INSTRUCTION MANUAL



- | | |
|------------------|-------------------------------|
| 1. Body | 9. Standard mandrel |
| 2. Guide plate | 10. Quarter mandrel |
| 3. Angle pin | 11. Interchangeable arbor set |
| 4. Knurled screw | 12. Locking Bush |
| 5. Pivoting arm | 13. Arbor handle |
| 6. Toothed rack | 14. Threaded pin |
| 7. Pinion | 15. Grooved roller |
| 8. Handle | |

GROZ

THE MULTI-PURPOSE METAL BENDER-IDEAL FOR INDUSTRY, MODEL ENGINEERS AND D.I.Y. ENTHUSIASTS



This unique tool will shape sheet metal up to 40mm wide and 4mm thick, will bend pipes of 4, 6, 8 and 10mm external diameter and solid bar up to 10mm diameter.

The mini-bender comes ready-to-use, complete with an assortment of mandrels, grooved bending rollers and instructions to enable the operator to achieve the desired shape.

This small-scale metal bender has many applications in the home, garden, garage and workshop, and is ideal for shaping:

- hinges • brackets • wrought-iron • chain-links
- hooks • clamps • tubing and much more.

METAL BENDER

INSTRUCTIONS FOR USE

1. Setting up

- a) Clamp the tang on the underside of the body (1) in a vice. If desired, the tang can be drilled and thereafter screwed to a workbench.
- b) Insert the pinion (7) into the bore provided in the pivoting arm (5) so that the handle (8), after inserting the material, points approximately in the same direction as the pivoting arm. The unit is now ready to use.

2. To bend material using the standard mandrel (9)

Fit the guide plate (2) so that the flat is next to the mandrel. Turn the pivoting arm (5) to the rear so that it nearly forms a right angle with the guide plate (2) and permits the material to be inserted between the guide plate (2) and the standard mandrel (9) (Fig. 1). Then by turning the knurled screw (4), the material is pressed gently towards the mandrel (9). By pulling on the handle (8) the toothed rack (6) presses on the material and by continually applying pressure it bends to the desired angle (Fig. 1). It is not necessary to take the mandrel out when bending to an angle of less than 180° - when bending in excess of 180° this must be done. (Care must be taken when changing the mandrel as the pivoting arm becomes detached from the body).

3a Using the interchangeable arbor set

If sheet or material is to be shaped with a small radius, one of the four interchangeable arbors (11) may be used. The standard mandrel (9) must be removed. The interchangeable arbor

FIGURE - I

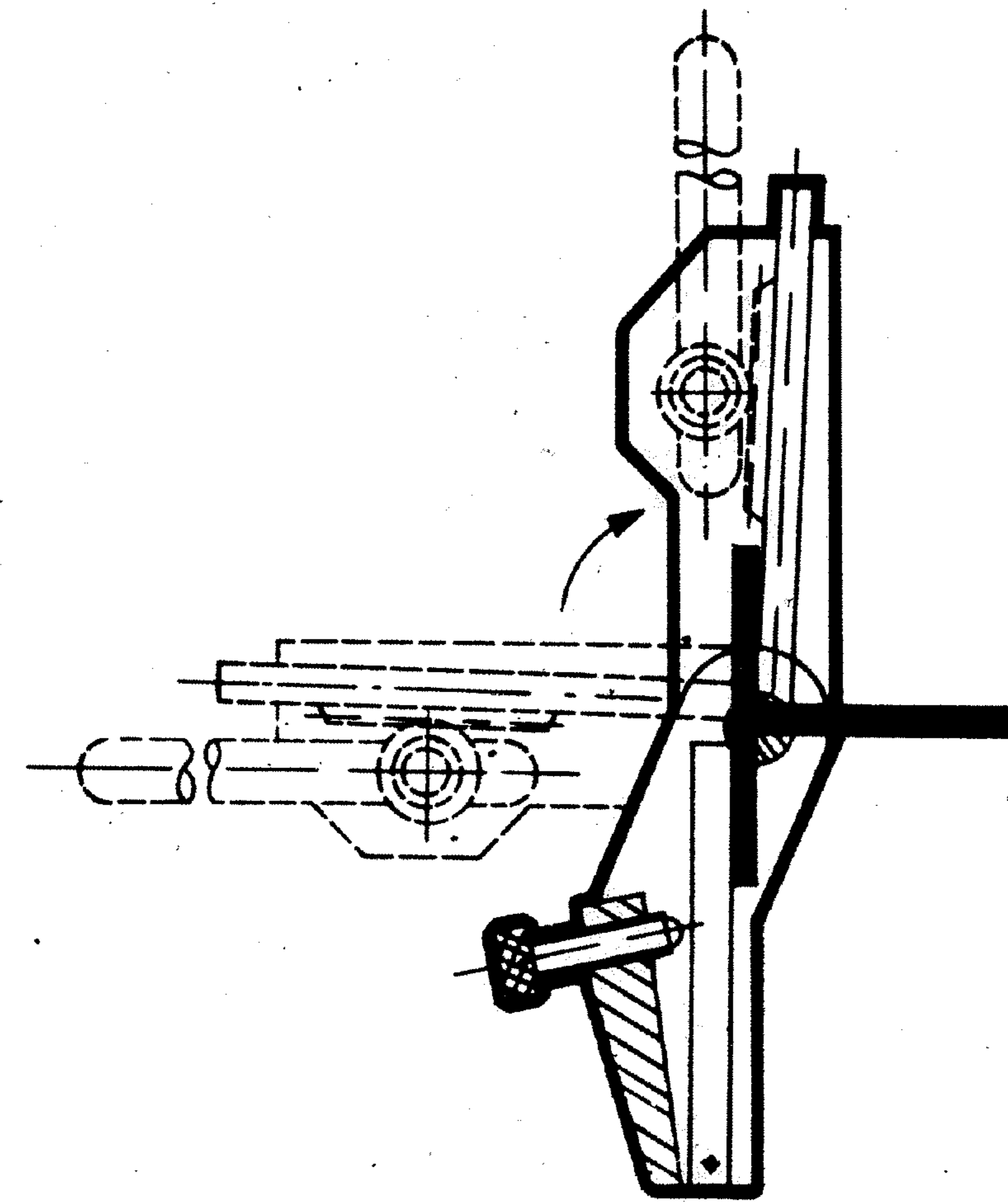
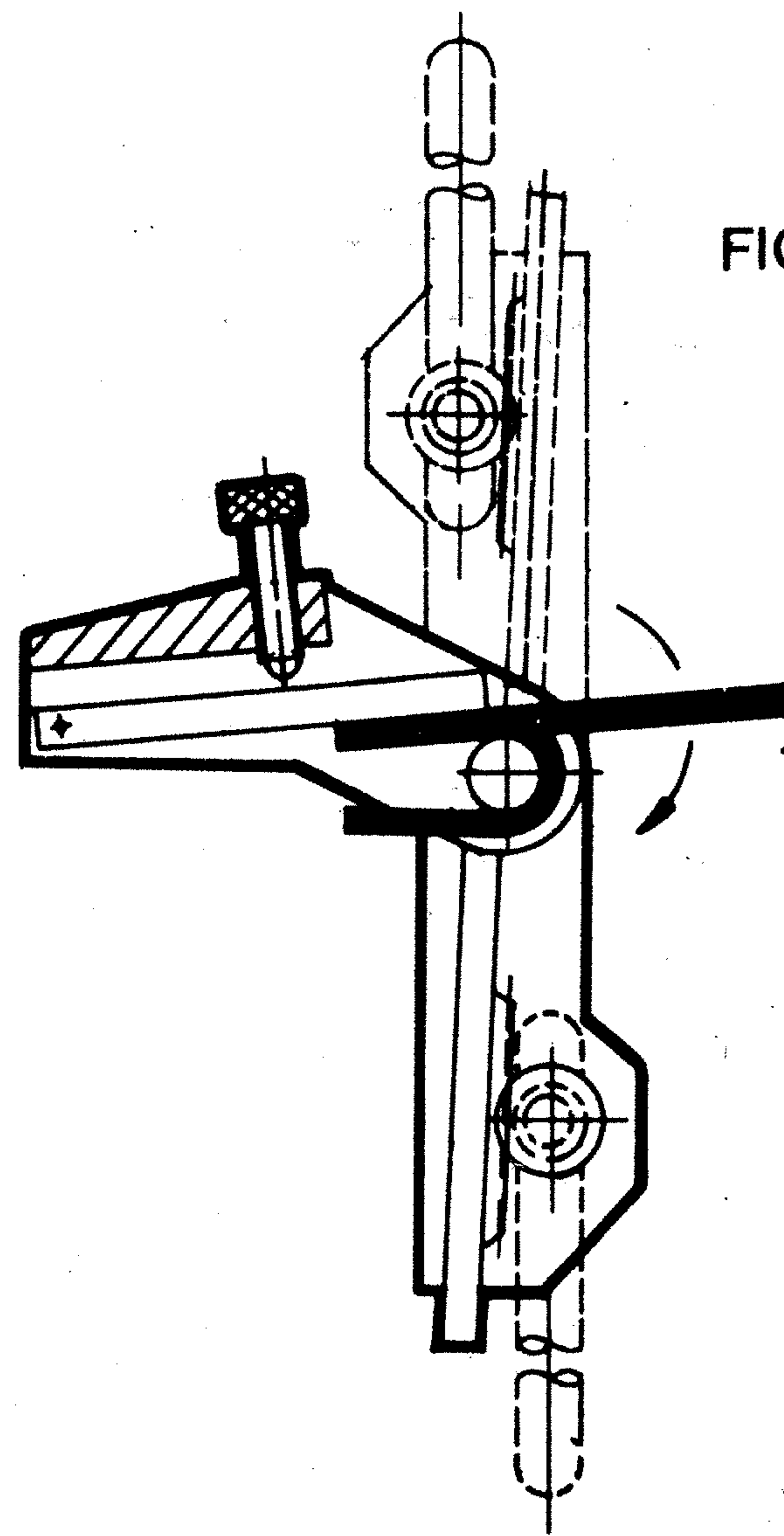
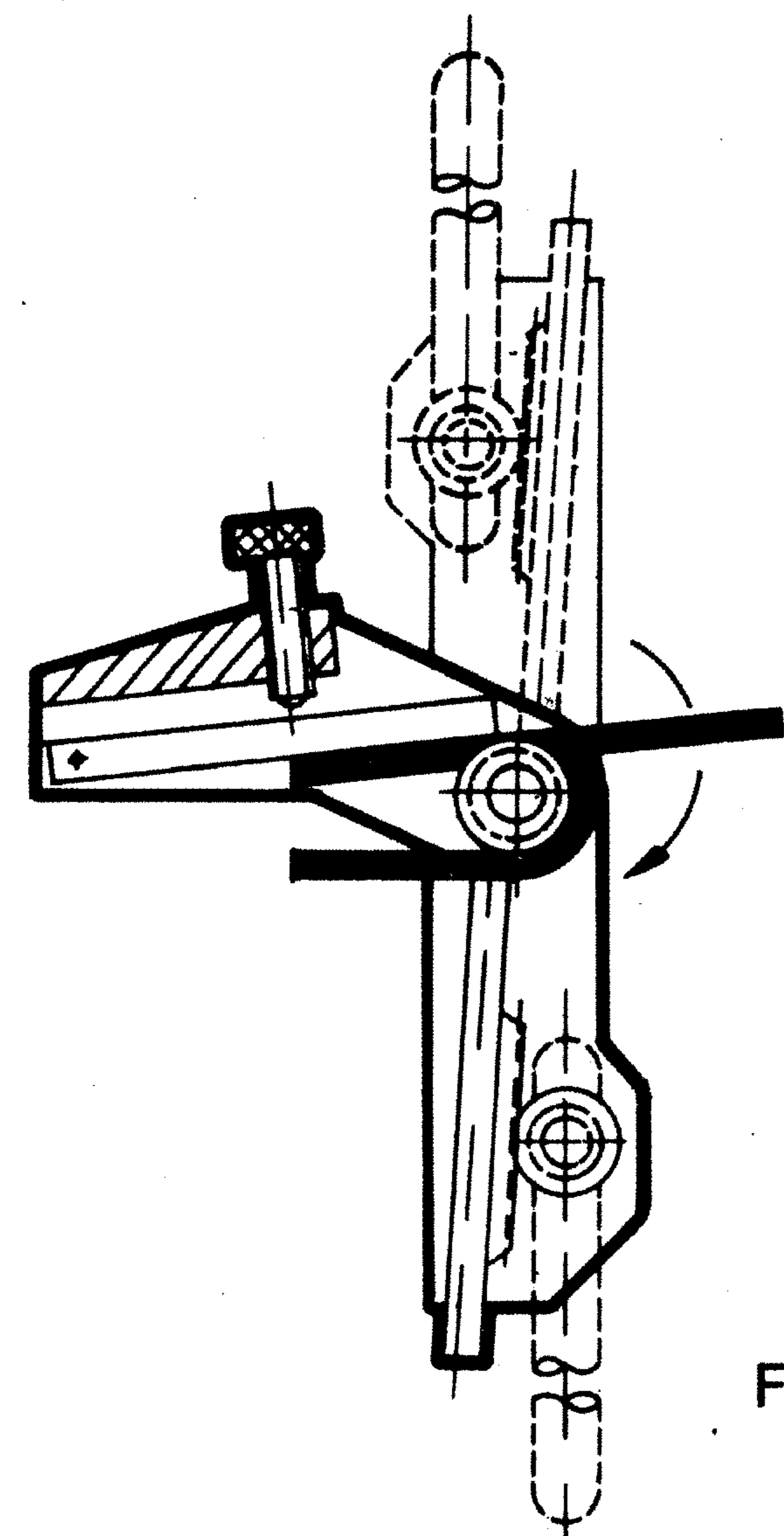


FIGURE - III

FIGURE - II



set consists of three parts; – arbor handle (13) locking bush (12) and four arbors threaded at one end.

After selecting the arbor with the desired diameter (8, 10, 12, or 14 mm) push it into the handle, tighten the grub screw, insert into the bores and screw the locking bush onto the lower end. Proceed as per para (3).

3b Using the quarter mandrel (Fig. 2)

Follow the instructions in para (3). Care must be taken not to bend material thicker than 3 mm.

3c Bending of tube or bar (Fig. 3)

For bending tube or bar, the standard mandrel (9) is used in conjunction with the appropriate grooved roller (15). The grooves on the toothed rack must match up with the roller grooves (15). Tube (pipe) can only be bent to a maximum of 180°.

4. Maintenance of the “Universal”

Keep all moving parts clean and lightly greased. The guide plate (2) should also be greased to minimize the effort required and the strain on the “Universal” metal bender.

A FEW EXAMPLES OF THE METAL BENDER'S VERSATILITY

