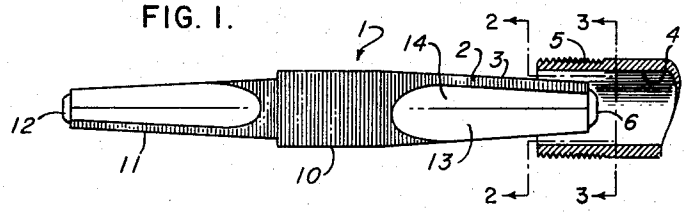
July 12, 1960 P. J. BREWINGTON 2,944,453

PIPE FITTING REMOVAL DEVICE

Filed March 28, 1958

FIG. 1.



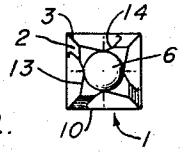


FIG. 2.

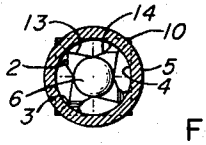


FIG. 3.

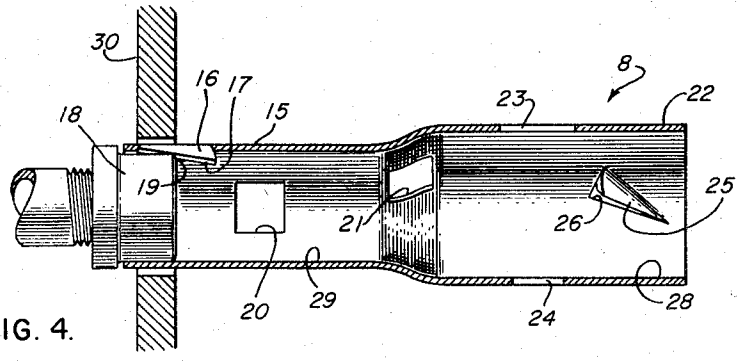


FIG. 4.

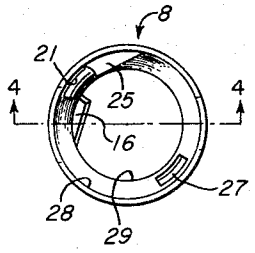


FIG. 5.

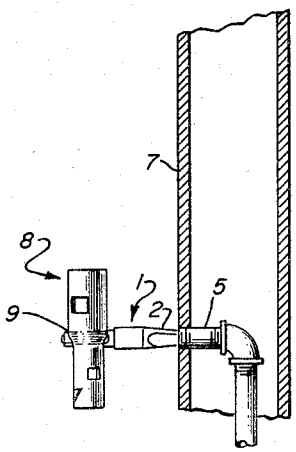


FIG. 6.

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PIPE FITTING REMOVAL DEVICE

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2 Claims. (Cl. 81—121)

This invention relates to pipe fitting removal devices and has for its object the provision of a two-piece device of this type in which each piece serves as the handle for the other when unscrewing a pipe fitting located in a position where access is quite limited.

A further object of the invention is to improve on each of the two pieces of the device to make same more efficient in carrying out its function.

A still further object of the invention is to make it possible to use either end of the solid tool so that the two ends may be used with pipes of different internal diameter.

It is very convenient for a plumber or similar workman to have a single device which can do more than one job that is commonly met. The present device assembled in one way can remove broken pieces of pipe in pipe fittings or can take out nipples which do not protrude through the wall to a sufficient distance to enable them to be removed by the conventional Stillson wrench. When assembled another way, the device easily removes such objects as a cap which is located flush with or even back of the wall finish line.

In the drawings:

Fig. 1 is a side elevation of the solid tool entering a nipple;

Fig. 2 is an end view of the tool;

Fig. 3 is a section on line 3—3 of Fig. 1;

Fig. 4 is a view partly in vertical section of the hollow tool removing a cap;

Fig. 5 is an end elevation of the hollow tube; and

Fig. 6 is a view similar to Fig. 1 but on a smaller scale.

In Fig. 1 the solid tool **1** has a central section **10** square in cross section and has extensions protruding from the central section **10** in opposite directions, each extension having a cutting edge **3** extending radially from the center to a corner of the four-sided tapered pyramid. This cutting edge leaves a portion **2** in pyramid shape while the cutting edge **3** is joined to a smooth face **13** extending to the boss **6** and then turning an angle of 130 degrees ending in a curve and forming a relief face **14**. The left hand or opposite extension is numbered **11** and is exactly like the first extension except that it is preferably smaller so as to be used with a somewhat smaller pipe. The boss in this case is numbered **12** to better distinguish the two ends of the tool.

In Fig. 4 the hollow tool **8** is illustrated in central section, it being composed of a large cylindrical tube **22** integral with a smaller coaxial tube **15**, the junction portion being of any shape but preferably conical and having a pair of square holes **21** and **27** to receive either of the two extensions of the solid tool. Each of the coaxial tubes **15** and **22** similarly have a pair of matching holes of different size, holes **23** and **24** being one pair and hole **20** having directly opposite it a similar hole a slight bit larger on each edge.

In each tube of the hollow tool I provide an inwardly extending lug **16** or **25** having a cutting or gripping edge **17** so that either end of the hollow tool may be forced over a piece of pipe fitting such as the cap **18** and when turned in a clockwise direction the lug **16** will ride nicely over the cap **18**. When the hollow tool is turned in the opposite direction, however, the resilience of the steel tube **15** will cause the edge **17** to bite into the cap and therefore make a firm connection so that the cap **18** can readily be removed.

In Fig. 6 I have shown the device in full form. In this case the solid tool is being pushed into the nipple **5** just as in Fig. 1 and the hollow tool in this case becomes the handle. The end **9**, which in this case would be the end of the extension **11**, projects through the hole **27** in the mid-section of the hollow tool. In Fig. 4, for example, the solid tool **10** would usually be placed through holes **23** and **24** and where some object prevented easy turning of the solid tool **10** as a handle, it could be withdrawn and placed in either of the other two holes, **20** or **21** for instance.

The operation of the device should be apparent from the foregoing description. The bosses **6** and **12** are essential to the particular form illustrated as this tool must be driven in and hammer blows on the blade on the tool in its present commercial form would chip and destroy the efficiency of the tool. With the round end or boss projecting past the end of the blades this boss, either **6** or **12**, will receive the hammer blows and thus entirely protect the blades as seen in either Fig. 2 or Fig. 3. The hollow tool, being in a one-piece tubular form, can be manufactured very cheaply and with very little machine work as the cutting edges **17** are formed in the single operation of stamping out the lugs. Obviously the more force that is used in turning the solid tool as a handle the tighter the blade **16** or **25** will bite into the object to be removed. No matter which tool is the handle of the device it forms the handle at exactly 90 degrees, thus making it very easy for the operator to aline the device.

What I claim is:

1. A tool for unscrewing a pipe fitting located in a position of limited access, comprising a hollow resilient steel tube of two coaxial cylindrical end portions of different diameters joined by an intermediate integral portion, each cylindrical portion having near its open end an angular struck-out lug with an inwardly projecting cutting edge to grip the fitting when the tool is turned in one direction and to slip on the fitting when the tool is turned in the opposite direction about its axis, each of the portions having a pair of diametrically opposed holes for reception of a handle serving member to rotate the tool.

2. The tool of claim 1 in which the holes are square and one hole of each pair is larger than the other hole of that pair, and the intermediate portion is conical and of shorter axial length than either cylindrical end portion.

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