Oct. 20, 1931. S. C. ERTOLA 1,828,106

TOOL

Filed April 23, 1930

Fig. 1.

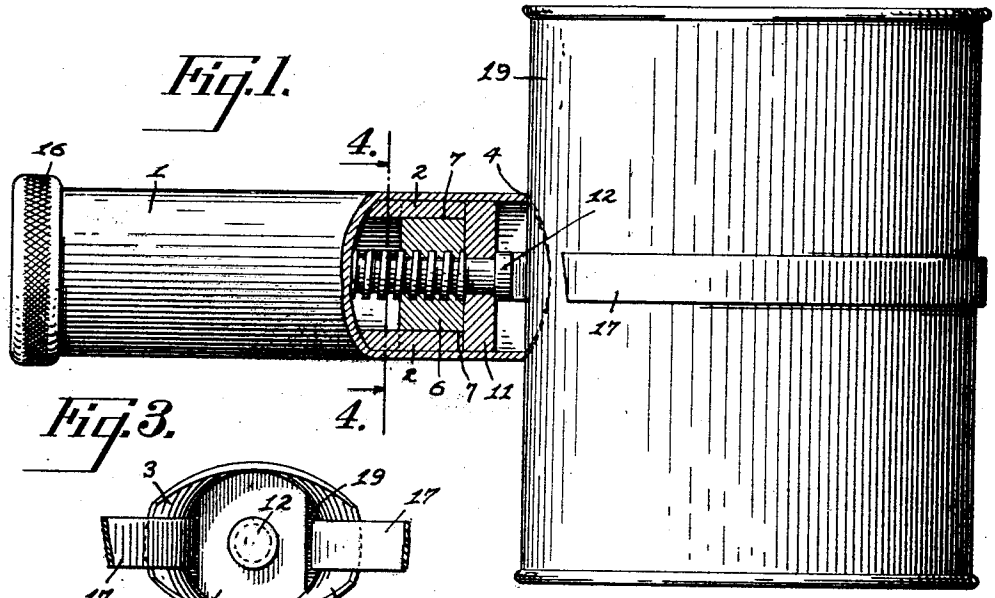


Fig. 3.

Fig. 2.

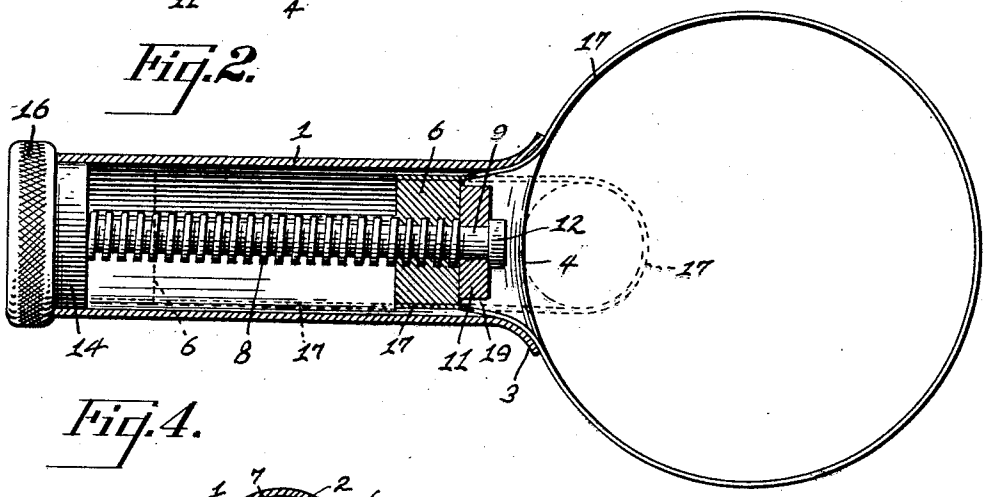
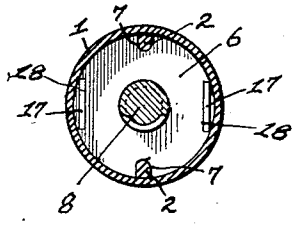


Fig. 4.



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UNITED STATES PATENT OFFICE

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TOOL

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My invention relates to improvements in tools for lifting or turning objects such as cans, jars, covers, and the like, wherein a flexible band is mounted with its ends secured to a nut slidably movable within a tubular handle, said band extending outwardly from the handle in the form of a loop adjustable by means of the nut to fit various objects to be engaged.

The primary object of my invention is to provide an improved tool for lifting and holding objects such as hot cans, jars, or the like.

Another object is to provide an improved tool provided with a flexible loop band adjustable to various sizes for engaging objects to be lifted or turned.

A further object is to provide an improved tool of the character described having improved adjusting means and an increased range of adjustment.

Another object is to provide an improved tool which may be quickly and easily adjusted and which may be tightened into efficient binding engagement with the object to be engaged.

A further object is to provide an improved device of the character described of rugged, compact, and efficient construction and which can be manufactured and assembled economically.

I accomplish these and other objects by means of the improved device disclosed in the drawings forming a part of the present application wherein like characters of reference are used to designate similar parts throughout the specification and drawings, and in which—

Fig. 1 is a side elevation, partly in section, of my improved tool as fitted to an object to be engaged;

Fig. 2 is a longitudinal section of the device, shown at right angles to the position occupied in Fig. 1;

Fig. 3 is a broken front end elevation of the device; and

Fig. 4 is a transverse section taken upon the line 4—4 of Fig. 1 in the direction indicated.

Referring to the drawings, the numeral 1 is used to designate in general a handle formed preferably from tubular material and having longitudinally extending inwardly disposed rib 2. One end of the handle 1 is outwardly flared as at 3, and the edges of the flaring end of the handle are curved as at 4 to form a concave seat upon the end of the handle.

A nut 6 is slidably mounted within the tubular handle 1. Grooves 7 are formed upon the sides of the nut to engage the ribs 2 to prevent rotation of the nut within the handle. An adjusting member 8 is mounted axially within the handle 1 in threaded engagement with the nut 6, one end of the member 8 being provided with a reduced bearing portion 9 engaging a fixed bearing 11 secured within the flared end of the handle 1, and the member 8 being secured in rotatable engagement with the bearing 11 by a suitable retaining member 12. The opposite end of the member 8 is provided with an actuating knob 14 secured upon the end of said member 8 and rotatably engaged within the adjacent end of the handle 1 to form a bearing for the end of the adjusting member 8. The knob 14 is provided with an outwardly extending knurled portion 16 whereby the member 8 may be rotated to move the nut longitudinally along the adjusting member to desired positions within the handle.

A flexible band 17, formed from spring steel or other suitable material, is mounted with its ends secured within notches 18 formed in the sides of the nut 6. The band extends outwardly through recesses 19 formed at the sides of the bearing 11 and spreads outwardly past the flared end 3 of the handle in the form of a loop.

The loop formed by the band 17 is adjusted to fit a desired object 19 to be engaged by turning the knob 14 to move the nut 6 longitudinally to a desired position within the handle 1. As the nut 6 is moved away from the flared end 3 of the handle, the ends of the band 17 are moved into the handle and the size of the outwardly extending loop is correspondingly reduced. Thus, when the nut 6 is moved to its extreme outward posi-

tion as limited by the bearing 11, the band spreads into a relatively large loop, as shown in full lines in Fig. 2 of the drawings. As the nut is moved inwardly, the ends of the band 17 are moved inwardly and the size of the loop is gradually reduced until the nut reaches the extreme position indicated in dotted lines in Fig. 2, thus leaving only a very small outwardly extending loop.

My improved tool is particularly useful for engaging and lifting heated objects, such as cans, jars, or the like. In this connection, the loop is extended until it will readily slip over the object to be engaged, and the knob 14 is then turned to tighten the band around the object. As the band is drawn tight, the object 19 is drawn against the curved seat 4 formed by the flared end of the handle 1, thereby causing said object to be rigidly engaged and held upon the handle whereby the object may be conveniently lifted and held by means of said handle.

The device is also highly useful as a wrench for turning objects to be turned or for holding objects against rotation while a cover or other member is turned relative thereto. Thus, by tightening the loop to engage the cover of a jar or the like, the band is held in frictional engagement with the cover and as the handle is pressed toward either side, the band is cramped against the cover whereby the cover may be loosened or tightened as desired. In like manner, the device may be applied to the body of such jar whereby the jar may be held against turning while a cover is applied or loosened manually or by a similar tool applied to the cover as above explained. In this connection, the flaring portion 3 of the handle is pressed against the adjacent portion of the band 17 to effectually clamp said band upon the object engaged.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the device, of course, may be modified in numerous details of construction without departing from the spirit of my invention. I therefore desire to avail myself of all modifications which may fall within the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

1. A tool comprising a hollow tubular handle provided with a flaring end; a nut slidably mounted within the handle; a bearing rigidly mounted within the flaring end of the handle; an adjusting member mounted within the handle in threaded engagement with the nut and having one end rotatably connected to the bearing and provided with means engaging opposite sides of the bearing to hold the adjusting member against longitudinal movement in either direction within the handle; an actuating knob mounted upon the opposite end of the adjusting member and extending outwardly from the handle, said knob being provided with a bearing portion seating within the end of the handle to form a bearing for the outer end of the adjusting member; and a flexible band having its ends extending inwardly past the bearing and secured to the nut, the intermediate portion of the band extending outwardly in the form of a loop, said ends being movable inwardly and outwardly along the handle with the nut to vary the size of the loop to fit a desired object to be engaged, the flaring ends of the handle being movable to seat against the surface of an object engaged.

2. A tool comprising a hollow tubular handle provided with longitudinally extending inwardly disposed ribs and having the edges at one end of the handle outwardly flared; a bearing bar rigidly mounted transversely across the handle within the flared end of the handle; a nut slidably mounted within the handle and grooved to engage the ribs to prevent rotation of the nut within the handle; an adjusting member mounted longitudinally within the handle in threaded engagement with the nut and having one end rotatably secured to the bearing, said end being provided with means seating against opposite sides of the bearing bar to hold the adjusting member against longitudinal movement in either direction; an actuating knob mounted upon the opposite end of the tubular handle and secured to the outer end of the adjusting member, said knob having a reduced bearing portion seating within the end of the handle to rotatably support the outer end of the adjusting member therein and said knob being provided with an outwardly extending knurled portion whereby the adjusting member may be rotated within the handle; and a flexible band having its ends secured to the nut, the portion intermediate to said ends spreading outwardly past the flared edges of the handle in the form of a loop, said ends being movable longitudinally of the handle to vary the size of the outwardly extending loop to fit a desired object to be engaged.

In witness whereof, I hereunto set my signature.

SYLVIO C. ERTOLA.