

Nov. 27, 1956

W. B. LEWIS

2,771,802

SCREW CAP WRENCH WITH FLEXIBLE STRAP

Filed March 11, 1955

Fig. 1

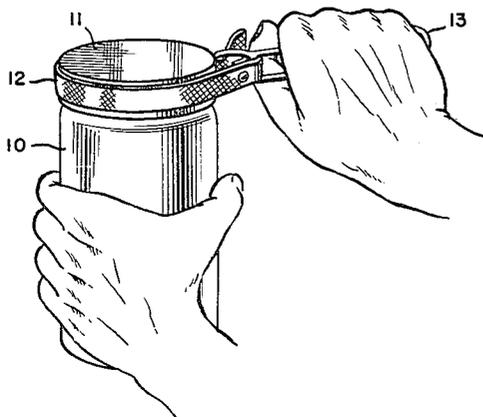


Fig. 4

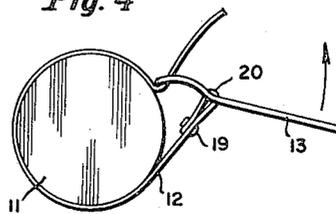


Fig. 5

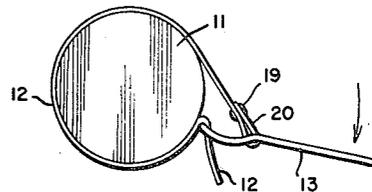


Fig. 2

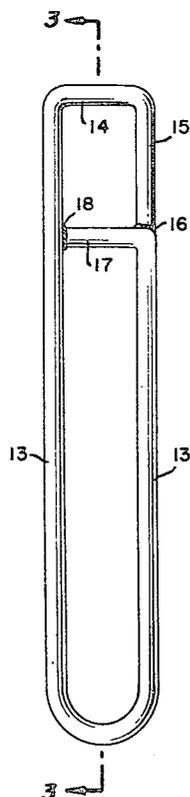
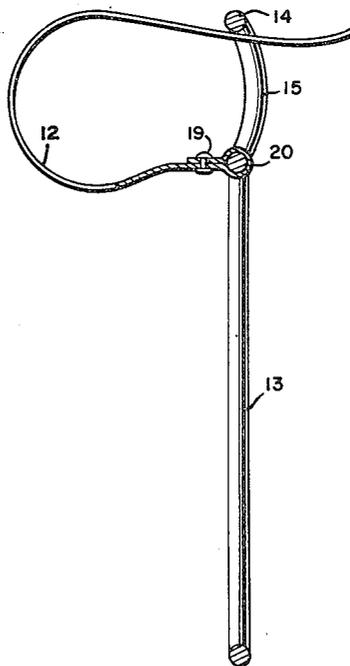


Fig. 3



INVENTOR
W. B. Lewis

BY

Hayes Dowell
ATTORNEY

1

2

2,771,802

SCREW CAP WRENCH WITH FLEXIBLE STRAP

Walter Benton Lewis, Tampa, Fla.

Application March 11, 1955, Serial No. 493,761

1 Claim. (Cl. 81—3.43)

This invention relates to a device for exerting force to rotate round objects such as for tightening screw caps in place and loosening such screw caps so that they can be removed, as well as for gripping other objects having smooth round surfaces.

The invention relates particularly to a device of the character indicated in which a lever and a strap or binding element are employed to provide a gripping action to produce rotation of screw caps, small pipes, polished shafting or plated tubing without marring the surfaces.

Various types of devices have been employed for providing a gripping action in order to remove bottle or jar caps or the like which have screw threads by means of which they are fastened in place. Such devices are subject to criticism for various reasons including that they are too complicated, awkward to use, or do not satisfactorily perform the function for which they were created.

It is the object of the invention to overcome the objections above enumerated and to provide a simple, inexpensive, handy device by means of which the desired amount of pressure can be applied about a circular or generally circular object for easily and efficiently producing the desired rotation of such object, as well as a device which is adaptable to objects of different diameters.

Another object of the invention is to provide a device for gripping a round object for producing rotation without injuring the same, which device consists of a relatively simple lever produced from wire or rod stock or of other construction and with a binding strap which can be adjusted to grip the round object and produce rotation of the same.

Other objects and advantages will be apparent from the following description taken in conjunction with the accompanying drawing wherein:

Fig. 1 is a perspective illustrating one embodiment of the invention in use;

Fig. 2, a front elevation of the lever or handle;

Fig. 3, a section on the line 3—3 of Fig. 2 with the clamping strap added;

Fig. 4, a top plan view of the device in cap loosening or unscrewing position; and

Fig. 5, a similar view with the device inverted so that the parts are in cap-tightening position.

Briefly stated, the invention comprises a strap for encircling and gripping a cap or other circular object and a lever for drawing such strap into gripping relation and for producing rotation of the object. The strap may be of any desired character, as for example, webbing, preferably with a rubber-like surface coating for gripping and preventing slipping of the strap when in contact with the circular object. One end of the strap is bent transversely upon itself and riveted to provide a loop in which an intermediate portion of the lever is disposed and with the strap extending through the lever in order that it may be adjusted and then the short end or fulcrum of the lever caused to engage the strap for gripping and holding it so

that when the lever is swung it will tighten the strap about the object and produce rotation. The lever may be of any desired character, as for example, of wire or rod stock, preferably U-shaped with legs of different length, the shorter being disposed transversely of the longer, and with the longer leg reversely bent and welded to the base of the shorter leg to thereby provide a pair of transverse members adjacent one end of the lever.

With continued reference to the drawing, in Fig. 1 is disclosed a jar 10 having a screw or other type cap 11. It is desirable at times to tighten this cap in place and at other times to loosen and remove the same. In order to do this a relatively strong flexible strap 12 is provided by means of which the cap can be gripped and rotated with the aid of a handle or lever 13 employed to multiply the force exerted upon the strap to adequately grip the cap or other round object for producing rotation of the same.

The lever or handle 13 may be produced in any desired manner, as for example, by the use of wire or rod stock. When thus produced, the lever will have a long and a short leg, with the long leg provided with a transverse portion 14 and a reversely turned portion 15, the end of which is preferably secured by a weld 16 to the base of the transverse portion or extremity 17 of the short leg of the U-shaped member.

The end of the transverse portion 17 is preferably secured by a weld 18 to the opposite leg of the U-shaped handle thereby providing a second transverse portion near one end of the lever, the end portion providing a fulcrum and the transverse portion spaced therefrom being movable by means of the longer lever arm to tighten the strap.

The strap 12 has one end bent upon itself and secured by a rivet 19 to provide a loop 20 disposed about the transverse portion 17 of the lever or handle, the strap being adapted to extend beneath the fulcrum end of the lever to bear thereupon and produce a gripping action.

It will be understood that the dimensions may vary in accordance with the requirements of the length of the strap and will necessarily be of adequate length to encircle an object desired to be gripped, and that the length of the handle or lever will also be proportionate and adequate for exerting the necessary force, and that in use the desired amount of pressure can be exerted, and small articles rotated as easily as large ones.

It will also be apparent that there are other uses and advantages such as rotating and holding small pipes, shafts, polished or otherwise, engaging their smooth surfaces without leaving marks or scratches. Also, great pressure may be exerted sufficient to crush plastic or thin glass if sufficient force is exerted. It will therefore be understood that additional leverage is afforded in holding round objects. It will also be apparent that pressure of the handle on the strap will cause it to engage tightly about any round object and by inverting the device and moving the lever away from the body the object or cap can be rotated, and by moving the lever toward the body rotation in the opposite direction may be accomplished.

Also, two of applicant's devices could be used together to remove or apply one object to another round object, such as a cap to a bottle or jar. One of the levers could be used to hold the bottle while the other lever could be mounted about the cap for removal or tightening of the cap.

It will be obvious to those skilled in the art that various changes may be made in this device without departing from the spirit of the invention and therefore the invention is not limited by that which is shown in the drawing and described in the specification but only as indicated in the appended claim.

3

What is claimed is:

A tool for encircling and gripping an object in a manner to apply rotative force thereto comprising a strap, a lever composed of a length of wire or rod stock and including spaced substantially parallel side portions with transverse connecting end portions and another transverse connecting portion intermediate said end portions but nearer one of such ends, and adapted to have one end of said strap attached thereto, and the remainder of the strap located around a device to be rotated, one end portion of said lever being adapted to bear upon said strap and hold the same against the object so that when the end of the lever is swung it will first cause a binding action

5

10

4

upon the strap about the object and thereafter cause rotational force upon said object.

References Cited in the file of this patent

UNITED STATES PATENTS

285,048	Liljencrantz -----	Sept. 18, 1883
1,516,240	Osterberg -----	Nov. 18, 1924
1,886,917	Pierre -----	Nov. 8, 1932
2,081,383	Rector -----	May 25, 1937

FOREIGN PATENTS

3,356	Australia -----	Aug. 19, 1926
-------	-----------------	---------------