Feb. 28, 1950 A. J. WEBB 2,498,934

FLEXIBLE BAND JAR CAP REMOVER

Filed June 22, 1946

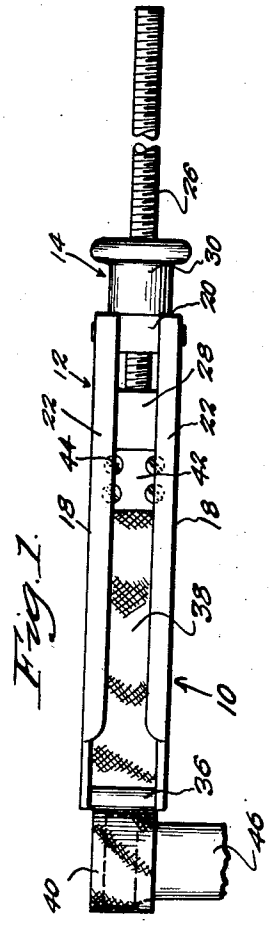


Fig. 1.

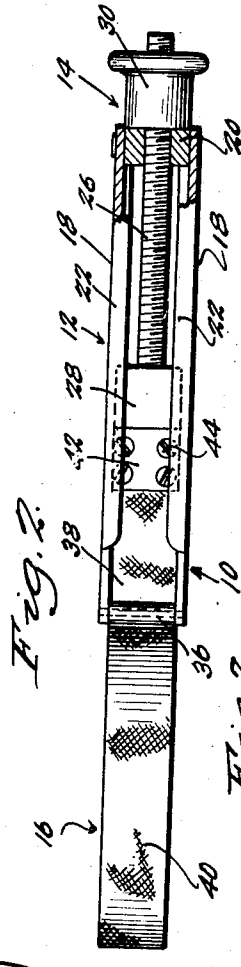


Fig. 2.

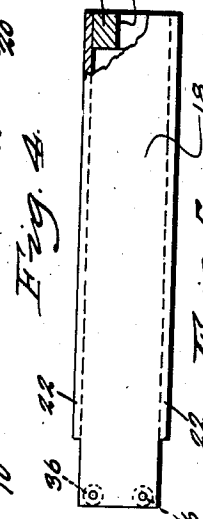


Fig. 4.

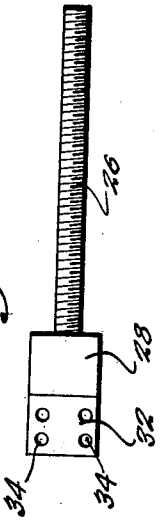


Fig. 5.

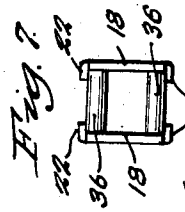


Fig. 7.

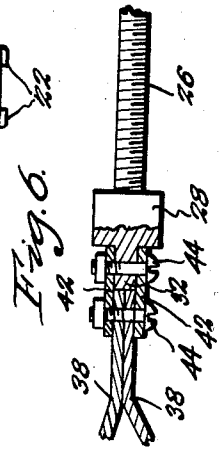


Fig. 6.

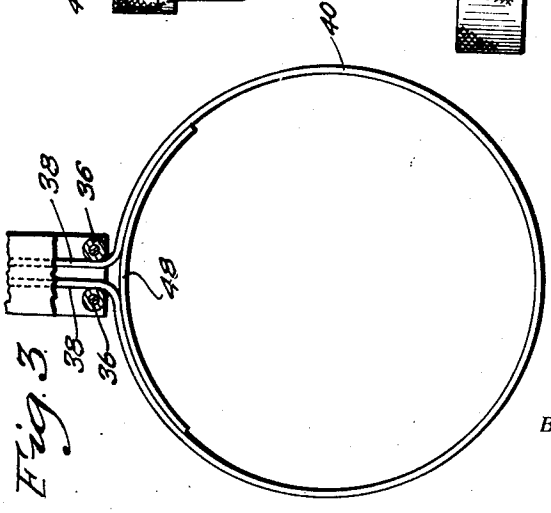


Fig. 3.

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## FLEXIBLE BAND JAR CAP REMOVER

Alton J. Webb, Williamsport, Pa.

Application June 22, 1946, Serial No. 678,622

3 Claims. (Cl. 81—3.43)

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My invention consists of novel and useful improvements in a jar and bottle opener and more specifically pertains to a more efficient clamping means for turning screw threaded tops of bottles and the like.

The primary object of the invention resides in the development of a clamping tool having a resilient clamping action upon a jar or bottle top.

An additional object of the device is to provide a positive gripping action which may be adjusted, and locked in any degree of adjustment.

Yet another object of my arrangement envisions the provision of an implement including the foregoing objects and which will not mar or crush the jar or bottle top.

These, together with various other objects which will later become apparent are attained by my device, one embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a side elevation of the opener in operative position upon a bottle top;

Figure 2 is an enlarged side elevation, showing the implement in a different position of adjustment;

Figure 3 is a fragmentary top plan view, parts being broken away, illustrating a manner of employing the tool;

Figure 4 is a top plan view of the handle;

Figure 5 is a side elevation of one of the adjusting elements of the device;

Figure 6 is a detail of a portion of the adjusting mechanism; and

Figure 7 is an end view taken from the left of Figure 4.

In the annexed drawings, 10 denotes generally my improved wrench, which consists of a handle 12, an adjusting means 14, and a gripping or clamping member 16.

As shown more clearly in Figures 2, 4 and 5, the handle is formed in substantial U-shape by a pair of parallel side walls 18 joined by or secured to a thickened plate 20. The side walls have longitudinal internal flanges 22 constituting in conjunction with the inner surfaces of walls 18 guide means as set forth hereinafter.

The plate or end wall 20 of the handle has a central aperture 24 therein for the free passage of a screw threaded rod 26 which is rigidly secured or integrally united to a slide block 28 adapted to slide in said handle, being retained in guided relation thereto and non-rotatably therein by said flanges 22. A knurled or notched nut or knob 30 is adapted to abut said end plate 20 and has screw threaded engagement with rod 26.

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The other end of the slide 28, as shown in Figures 5 and 6, has an integral rib 32 extending axially and medially therefrom, this rib having a plurality of apertures 34 extending tranversely thereof.

Adjacent their free ends, walls 18 are spaced by and have journaled therebetween a pair of laterally spaced anti-friction rollers 36 which form a narrow rectangular opening therebetween, as shown in Figures 3 and 7. The rollers constitute guiding and anti-friction means for the ends 38 of a sling or loop 40 of flexible material which may be of rubber or the like and is preferably in the shape of a ribbon or strap. After passing between rollers 36, the ends 38 are disposed side by side and abut the end of rib 32 as best shown in Figure 6. A pair of plates 42 are disposed in overlapping relation on the rib 32 and ends 38 and are clamped thereon as by bolts 44 or the like, passing through the bores 34 and through similar apertures in members 38.

It will be understood that the rib 32 is desirably of slightly less thickness than the ends 38, whereby the plates 42 will tightly clasp or embrace the latter, although in any event, the plates will be so shaped as to firmly clasp or clamp the members together.

In view of the foregoing, the operation of the device will be now apparent. The loop 40 is placed to encircle the top of a bottle or jar as indicated at 46 in Figure 1, and the knob 30 rotated, thus drawing the non-rotatable rod 26 through the bore 24. The resulting movement of slide 28 tensions the ends 38 and loop 40 tightening the latter upon the bottle cap. When the requisite tension has been applied, the handle 12 is turned to tighten or loosen the jar top. During this action, the rollers 36 draw the loop tangentially of the jar top to insure a maximum gripping action thereon.

In the case of relatively large jar tops, I apply a flexible metallic stiffening strip 48 within the circumference of the loop and adjacent the rollers 36 for preventing the application of sharp localized pressure upon the jar top by the handle during turning. The member 48 distributes the strain more evenly preventing marring or breaking of the top.

As will be understood, the soft material of the loop avoids damaging the top, yet firmly grasps with an evenly applied pressure any serrations or irregularities in the periphery thereof, facilitating thereby the turning of the same.

It is to be recognized that various modified structures may be employed to practice the prin-

ciples of my invention, and that I do not limit the protection except as recited in the appended claims.

I claim as my invention:

1. A device of the character described comprising a handle having parallel side walls united by a thickened end wall, a pair of parallel guides supported at the ends opposite the end wall between said side walls, a slide reciprocably mounted and guided between said side walls, said side walls having lateral flanges for retaining and guiding said slide, a slide adjusting means secured thereto and extending through a bore in said end wall, and a loop of flexible material disposed exteriorly of and adjacent said opposite ends of said side walls and having ends disposed between said parallel guides and secured to said slide, said parallel guides including rollers journaled in said side walls defining a narrow rectangular space therebetween, whereby the flexible material is spaced from said flanges when the material is tensioned by said adjusting means.

2. A device of the character described comprising a handle having parallel side walls united by a thickened end wall, a pair of parallel guides supported at the ends opposite the end wall between said side walls, a slide reciprocably mounted and guided between said side walls, a slide adjusting means secured thereto and extending through a bore in said end wall, and a loop of flexible material disposed exteriorly of and adjacent said opposite ends of said side walls and having ends disposed between said parallel guides and secured to said slide, said slide including a block having a medial rib extending therefrom axially of said handle, and a means secured to and spaced by said rib for securing the ends of said flexible material to said slide, said last mentioned means comprising a pair of plates embracing said rib and embracing and retaining the ends of said flexible material in abutting relation to said rib, said slide being mounted and guided between said side walls by means of lateral flanges on said side walls, the medial rib being spaced from the flanges, and the parallel guides and the medial rib spacing the flexible material from the entire length of the flanges when the material is tensioned by said adjusting means.



3. A device of the character described comprising a handle having parallel side walls united by a thickened end wall, a pair of parallel guides supported at the ends opposite the end wall between said side walls, a slide reciprocably mounted and guided between said side walls, said side walls having lateral flanges for retaining and guiding said slide, a slide adjusting means secured thereto and extending through a bore in said end wall, and a loop of flexible material disposed exteriorly of and adjacent said opposite ends of said side walls and having ends disposed between said parallel guides, a rib on said slide extending axially of said handle towards said opposite ends and having sides spaced inwardly from said flanges, means spaced from said flanges and securing said loop ends to said rib, said loop ends being spaced from said flanges and abutting the extremity of said rib, said parallel guides defining a narrow rectangular space therebetween, whereby the flexible material is spaced from said flanges when said loop is tensioned by said slide adjusting means.

ALTON J. WEBB.


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