

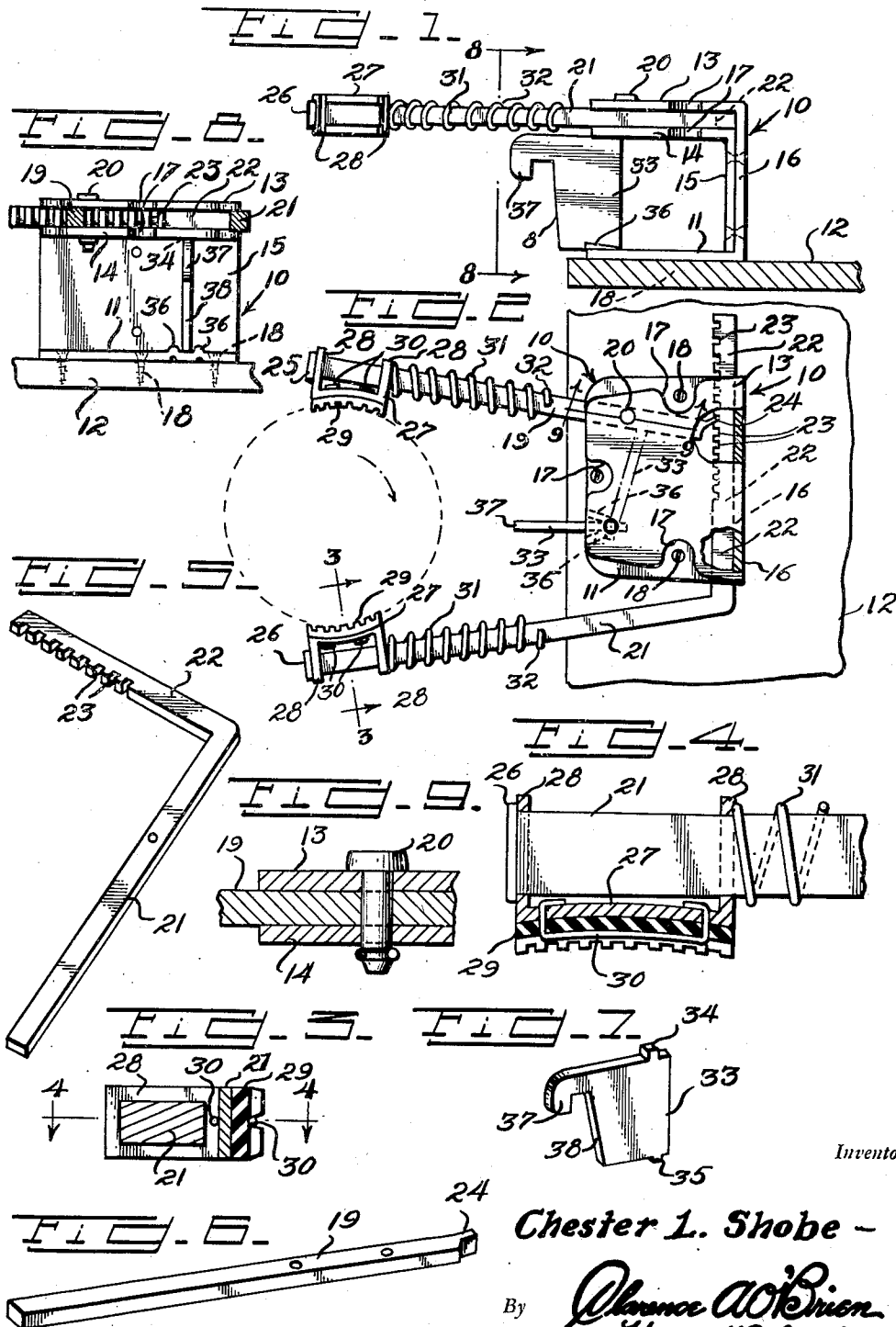
Feb. 21, 1950

C. L. SHOBE

2,498,185

JAR VISE

Filed Sept. 21, 1946



Inventor

Chester L. Shobe -

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,498,185

JAR VISE

Chester L. Shobe, Great Bend, Kans.

Application September 21, 1946, Serial No. 698,513

2 Claims. (Cl. 81—3.3)

1

The present invention relates to certain new and useful improvements in vises such as are used for applying and removing screw-caps from so-called fruit and similar jars.

More specifically, the invention appertains to a jar vise which is possessed of new and useful structural features and improvements such as serve, collectively considered, to provide a range of adaptability capable of serving the requirements of adjustability and simplified efficiency.

In carrying out the principles of the invention, I employ a simple and reliable twin bracket adapter and supporting fixture, this being provided with a pair of co-acting arms, the arms being adjustably mounted in the fixture, disposed in opposed relation for movement toward and from each other and being provided at their outer ends with spring pressed self-adjusting cap grips.

The improved twin-part fixture is characterized by a substantially U-shaped outer member and a co-acting L-shaped inner member, said members being inter-related to provide an attaching flange for connection with a table or other support, and a pair of spaced parallel flanges to accommodate the adjustable inner end portions of the aforementioned grip equipped arms.

The arms too, are believed to be novel, one arm being rectilinearly straight and having a detent and the other arm being L-shaped with the angular inner end portion thereof fashioned into a toothed rack to accommodate said detent.

Another advantage has to do with the provision of a bottle decapper, this being of a projectible and retractible type and being operatively mounted between the aforementioned brackets.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a side elevational view of a jaw wrench or vise constructed in accordance with the invention and showing the manner in which it is set up for use.

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged detailed section taken on the plane of the line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a horizontal detailed section on the line 4—4 of Figure 3, looking in the direction of the arrows.

2

Figure 5 is a perspective view of one of the arms.

Figure 6 is a perspective view of the remaining arm.

Figure 7 is a perspective view of the bottle cap remover per se, and

Figure 8 is a sectional view taken approximately on the plane of the line 8—8 of Figure 1, also looking in the direction of the arrows.

Figure 9 is a detail section of the line 9—9 of Figure 2.

Briefly summarizing the invention, structurally visualized, is characterized by an attaching fixture, said fixture embodying a U-shaped bracket including spaced parallel top and bottom flanges and an interconnecting web for said flanges, a complementary L-shaped bracket, said L-shaped bracket being positioned within the confines of said U-shaped bracket, the vertical flange of said L-shaped bracket being secured to the connecting web of said U-shaped bracket, the remaining horizontal flange being disposed beneath and in close-spaced parallelism to the top flange of said U-shaped bracket to provide a sheath, an L-shaped arm including coacting limbs, one limb being slidably positioned in said sheath and provided with outwardly facing rack teeth, the other limb projecting outwardly beyond said fixture and being provided with jar-gripping means, a second linearly straight arm having its inner end portion fitted and pivotally mounted in said sheath, said pivotally mounted inner end portion having a lateral detent releasably engaged with said rack teeth and serving to prevent the arms from shifting relative to each during the operation of the vise, the major portion of said second arm projecting outwardly beyond said fixture and being provided on its outer end with jar-gripping means, both of said arms extending divergently away from said fixture.

Reference is had now to the double bracket adapter and attaching fixture, this denoted generally by the numeral 10. The outer bracket is of general U-shaped form in cross-section, the lower flange 11 thereof being fastened to a table or the like 12. The upper flange 13, this of the top plan configuration seen in Figure 2, is disposed at a proper elevation above the table, the same overlying, in spaced parallelism, the top flange 14 of the L-bracket. The vertical flange 15 of the last named L-shaped bracket is secured to the intermediate flange 16 of the bracket 10 and is confined between the upper and lower flanges of said bracket 10. Incidentally, the marginal edges of the flanges 13 and 14 are provided with

3

suitably arranged clearance notches 17 to permit access to be had to the fastenings 18 which are used to secure the flange 11 to the table. That is to say, these notches serve to accommodate a screw driver and facilitate attachment of the fixture, as a unit, to the table 12.

The aforementioned rectilinearly straight arm 19 has its inner end portion located and pivotally mounted, as at 20, between the spaced flanges 13 and 14. The remaining L-shaped arm 21 is slidably mounted between said flanges. More specifically, the inner lateral branch or extension 22 is slidable between the flanges and against the vertical flange 16 as brought out in the drawings, and said extension is provided with rack teeth 23 to accommodate a suitably angled detent 24 on the inner cooperating end of the first named arm 19. It follows that the arms 19 and 21 are manually shiftable and adjustable to properly set apart and thus obtain the desired spacing between the free outer ends thereof. Incidentally, the outer ends of said arms are provided with stop shoulders 25 and 26 which serve to properly retain the jar cap jaws or gripping devices. The device is of the same in each instance, and the description of one will suffice for both. Each device comprises a U-shaped clip 27 whose apertured arms 28 are slidably mounted on the main supporting arms. The bight portion of the clip has a rubber toothed cap grip 29 mounted thereon and held in place by an assembling and retaining wire 30. The grip is held in its outermost position by a coiled spring 31 surrounding the arm and having its innermost coil 32 suitably anchored on said arm.

In using the structure shown, the fixture 10 is fastened rigidly to a suitable stationary support 12, in the manner shown. Although the arms 19 and 21 could be in vertical planes, they are preferably horizontal and thus parallel to a floor. Now, by swinging the outer end portion of arm 19 to the right in Figures 2 and 8, the detent 24 will disengage from the rack teeth 23. Therefore, with said arms disconnected, they may be set, by hand, to take the approximate positions needed, depending on the size of the jar cap to be removed. Then, the detent is re-engaged with the rack teeth and the arms are ready to function. It is to be noted, in this connection, that said arms converge and form a V-pocket for reception of the jar neck.

Next, place a rag around the jar so that it won't turn in the hands and then press and force the cap between the opposed grips 29. If said grips are not then ready to bind the cap, simply shove the jar and grips toward the fixture 10, against the expansion of springs 31. Obviously, as the grips ride in on said arms, they come closer together until the required clamping action is had. Thus set, the cap may be dislodged and unscrewed.

The spring pressed cap gripping devices constructed as shown and described are substantially self-accommodating and adequately and satisfactorily engage the jar cap in operation in an obvious manner. Thus, by having the arms adjustable on the fixture and the gripping devices adjustable and spring retained on the arms, appropriate facilities are consequently provided to achieve desired ends in a reliable and satisfactory manner.

The aforementioned bottle decapper comprises a plate 33 with lugs 34 and 35 securing the plate in place between the flanges 11 and 14 as shown in Figures 1 and 8. The flange 11 is provided

4

with keeper ribs 36 to hold the plate in a projected useful position. The outer usable edge of the plate is provided with a hook 37 and a shoulder or abutment forming the edge 38 cooperable with the hook. The capper can be swung out to full line position when in use, or swung to an out-of-the-way position as shown in dotted line position when not in use, as seen in Figure 2.

As before mentioned, novelty is predicated upon the simple adapter and attaching fixture, this characterized by an L-shaped bracket fitting within the confines of a U-shaped bracket, one flange of the L-shaped bracket being secured to the central or intermediate flange of the U-shaped bracket, and the remaining upper flanges of both brackets being disposed in spaced parallelism to provide sheath-like means to accommodate the cooperating slidably and pivotally mounted ends of the arms 19 and 21.

Novelty is thought to reside in the complementary arms, one of which is rectilinearly straight and provided with a detent and pivotally mounted on a fixture, and the other of which is L-shaped, the inner lateral limb thereof being fashioned into a rack to accommodate the detent and to thus provide quick adjusting and retaining means capable of rendering the arms readily useful in evident ways. Also, and added to the above, I desire to stress the fixture and arms assembly and the spring pressed self-adapting cushioned grips carried by the corresponding ends of said arms.

In practice, the vise may be suitably attached to and employed on a table or the like, or appropriately mounted on a wall or equivalent supporting surface. These points are made here to emphasize the range of utility of the form of the invention chosen to carry out my ideas.

Reference being had to Figure 9, it is the purpose of this figure to bring out a structural phase which is possessed of appreciable importance. That is to say, it is highly desirable that the arm 19 be detached from the sheath whenever necessary or desired for dismantling purposes. Therefore, and as shown in this figure the headed pin 20 is removable. The lower end of the pin is grooved and provided with a detachable snapping which is such as to serve to maintain the pin 20 in place after it has been pushed down and through the holes in parts 13, 19 and 14. The pin, by removing the snap-ring can also be slipped out and thus the arm 19 can be readily detached. Consequently since both parts 19 and 21 are detachable, expedient dismantling is provided for.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

I claim:

1. In a jar vise construction of the class described, an attaching fixture, said fixture embodying a U-shaped bracket including spaced parallel top and bottom flanges and an interconnecting web for said flanges, a complementary L-shaped bracket, said L-shaped bracket being positioned within the confines of said U-shaped bracket, the vertical flange of said L-shaped

5

bracket being secured to the connecting web of said U-shaped bracket, the remaining horizontal flange being disposed beneath and in close-spaced parallelism to the top flange of said U-shaped bracket to provide a sheath, an L-shaped arm including coacting limbs, one limb being slidably positioned in said sheath and provided with outwardly facing rack teeth, the other limb projecting outwardly beyond said fixture and being provided with jar-gripping means, a second arm having its inner end portion fitted and pivotally mounted in said sheath, said pivotally mounted inner end portion having a detent laterally directed away from said other limb and releasably engaged with said rack teeth and serving to prevent the arms from shifting relative to each other during the operation of the vise, the major portion of said second arm projecting outwardly beyond said fixture and being provided on its outer end with jar-gripping means, both of said arms extending divergently away from said fixture.

2. The structure specified in claim 1, said jar gripping means including coiled cushioning and projecting springs surrounding each of said arms, and spring pressed and cushioned cap grips

6

slidably mounted on the outer end portions of said arms, each grip being of U-shaped form and having its arms slidably keyed on the coacting arms, each grip having an arcuate bight portion provided with a correspondingly shaped compressible cushioning pad, the respective padded grips being opposed to each other and the gripping surfaces of the pads being provided with anti-slipping teeth.

CHESTER L. SHOBE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,049,277	Sharon	Dec. 31, 1912
1,764,071	Foulke	June 17, 1930
1,994,532	Ratzlaff	Mar. 19, 1935
2,431,550	Gary	Nov. 25, 1947

FOREIGN PATENTS

Number	Country	Date
680,905	Germany	Sept. 9, 1939