Sept. 21, 1937. R. C. OLSON 2,093,526

BUNG

Filed June 9, 1936

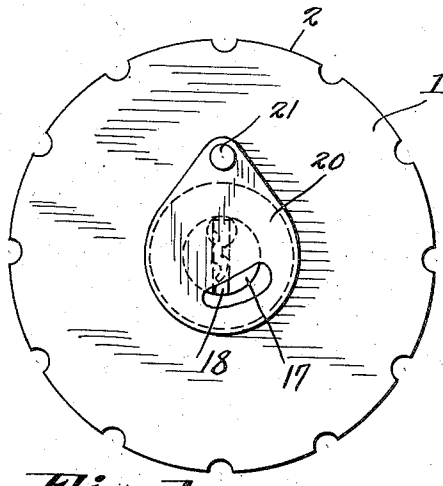


Fig. 1.

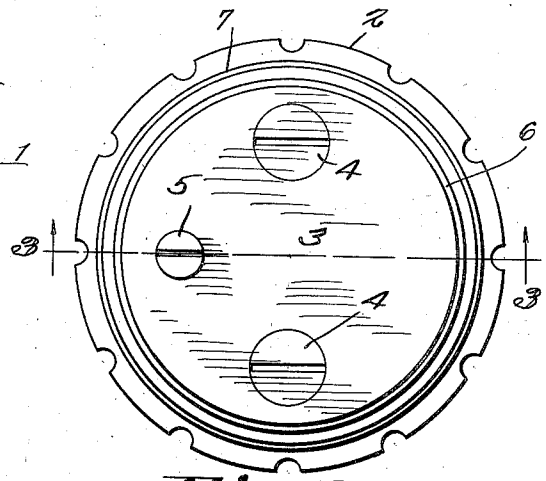


Fig. 2.

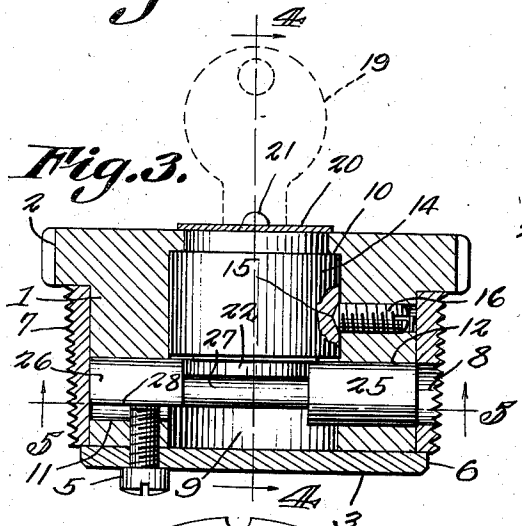


Fig. 3.

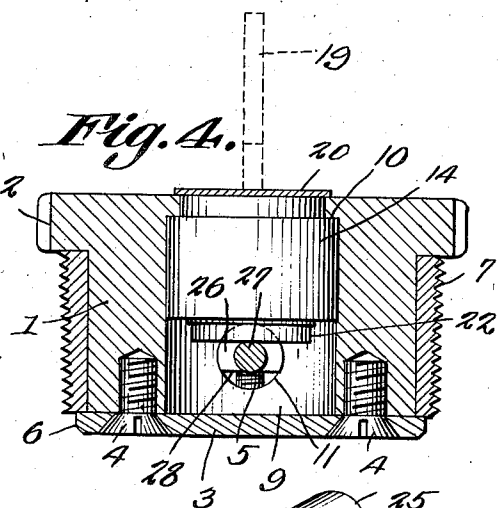


Fig. 4.

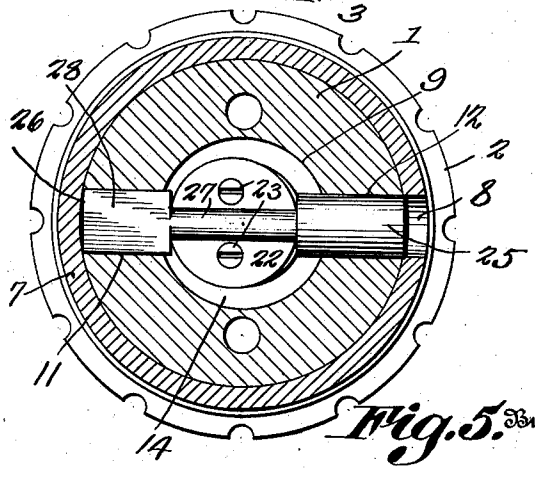


Fig. 5.

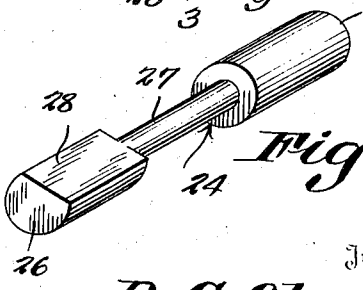


Fig. 6.

Inventor

R. C. Olson

By C. A. Snow & Co.

Attorneys.

Patented Sept. 21, 1937 2,093,526

UNITED STATES PATENT OFFICE

2,093,526

BUNG

Robert Carl Olson, Waukegan, Ill.

Application June 9, 1936, Serial No. 84,377

3 Claims. (Cl. 217—106)

The device forming the subject matter of this application is a bung. The body of the bung turns in a threaded collar. The invention aims to provide novel means for connecting the body of the bung to the threaded collar, and for disconnecting the body of the bung from the threaded collar, at the will of an operator. Another object of the invention is to provide novel means for mounting the collar on the body of the bung rotatably. A further object of the invention is to provide novel means for holding the parts of the device assembled. Another object of the invention is to provide a locking bolt of novel form, novel means being provided for actuating the locking bolt and novel means being supplied for holding the locking bolt in proper position.

In the drawing:

Fig. 1 shows in top plan, a device constructed in accordance with the invention;

Fig. 2 is a bottom plan;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is a section on the line 5—5 of Fig. 3;

Fig. 6 is a perspective view of the locking bolt.

The device preferably is made of metal throughout. It includes a body 1. The body 1 has an outer flange 2. A plate 3 is attached by securing elements 4 to the inner end of the body 1. A securing element 5, such as a screw, also is used to attach the plate 3 to the body 1. The screw 5 has an additional function which will be brought out hereinafter. The periphery of the plate 3 forms an inner flange 6.

An externally threaded collar 7 is journaled on the body 1, between the flange 2 and the flange 6. The collar 7 has a keeper hole 8.

The body 1 is provided with an axial chamber 9. The chamber 9 is reduced in diameter, near its outer end, to form a shoulder 10. There are radial guideways 11 and 12 in the body 1. The guideways 11 and 12 lead laterally from the chamber 9 to the collar 7. The guideways 11 and 12 are in a common plane with the keeper hole 8 in the collar 7.

A lock casing 14 is located in the chamber 9 of the body 1. The lock casing 14 abuts against the shoulder 10. There is a seat 15 in the outer surface of the lock casing 14. A securing device 16, such as a screw, is threaded into the body 1, radially thereof. The inner end of the securing device 16 is engaged in the seat 15 of the lock casing 14, to hold the lock casing in place. The outer end of the securing device 16 is housed and covered by the collar 7.

A key barrel 17 is journaled in the lock casing 14. The key barrel 17 has a key hole slot 18, adapted to receive a key 19. A closure 20 is pivoted at 21 to the outer end of the body 1 and covers the key hole slot 18 in the barrel 17, to keep out water and dirt. The closure 20 can be swung to one side, from the position of Fig. 1, to permit the key 19 to be put into the key hole slot 18 of the key barrel 17.

An eccentric disk 22 is located in the chamber 9 of the body 1 and is connected to the inner end of the key barrel 17 by securing members 23.

The numeral 24 marks a locking bolt. The locking bolt 24 includes a head 25 and a head 26, connected by a reduced stem 27. The head 25 is cylindrical. The head 26 has a flat side 28. The head 25 slides in the guideway 12 of the body 1. The head 26 slides in the guideway 11 of the body 1. The inner ends of the heads 25 and 26 form shoulders, with which the eccentric disk 22 on the key barrel 17 coacts, to impart longitudinal movement to the locking bolt, in a way which will be understood readily from Fig. 5.

In assembling the device, the locking bolt 24 is rotated on its axis 180 degrees from the position of Fig. 3, the flat side 28 of the head 26 then being uppermost and enabling the head 26 to clear the disk 22, when the locking bolt is shoved into the guideways 11 and 12. The locking bolt 24 then is turned 180 degrees on its axis, to the position of Fig. 3. The disk 22 now is in the way of the head 26, and the locking bolt cannot slide to the right, in Fig. 3, out of the bung. The screw 5 is advanced until it is close enough to the flat side 28 of the head 26 so that the locking bolt cannot turn on its axis. Therefore, after the device has been assembled, the locking bolt retains the position of Fig. 3, subject to longitudinal reciprocation by way of the eccentric disk 22.

The operator swings the closure 20 to one side, uncovering the key hole slot 18 of the key barrel 17. The key 19 is put into the key hole slot 18 and the key barrel 17 is rotated. When the key barrel 17 is rotated, the eccentric disk 22 is rotated also. The eccentric disk 22, engaging the inner end of the head 25 of the locking bolt 24, advances the locking bolt until the end of the head 25 is in the keeper hole 8 of the collar 7. The collar 7 then is attached to the body 1 of the bung, and the bung may be rotated out of the article into which it has been threaded. By a reverse process, the locking bolt 24 may be retracted with respect to the keeper hole 8 of the collar 7, into the position of Fig. 3. Then the body 1 of the bung can turn in the collar 7 and it will be impossible to thread

the collar 7 out of a tank or other container, and remove the bung.

The form shown in the drawing embodies a satisfactory and acceptable structure, but a mechanic who keeps within the scope of what is claimed can make changes in that structure without departing from the spirit of the invention.

I claim:

1. In a device of the class described, a bung, a collar held for rotation on the bung and having a keeper, a locking bolt slidable in the bung, transversely thereof, and a lock carried by the bung and including a rotatable part engaged with the bolt to advance and retract it with respect to the keeper, the rotatable part being an eccentric disk, the bolt having spaced heads and a reduced neck connecting the heads, the neck admitting the disk between the heads, and the inner ends of the heads forming shoulders with which the disk coacts, to throw the bolt with respect to the keeper.

2. In a device of the class described, a bung, a collar held for rotation on the bung and having a keeper, a locking bolt slidable in the bung, transversely thereof, the bolt having spaced heads and a reduced neck connecting the heads, a lock carried by the bung and including an eccentric disk, the neck admitting the disk between the heads, the inner ends of the heads forming shoulders with which the disk coacts, to throw the bolt with respect to the keeper and to hold the bolt in the bung, one head having a flat portion, and means carried by the bung for engaging said flat portion and thereby keeping the locking bolt from rotating, with the disk between the shoulders, said means being movable out of engagement with the flat portion, thereby to enable the bolt to be rotated and to dispose one shoulder out of the way of the disk, whereupon the bolt can be removed from the bung or inserted into it.

3. A device of the class described, constructed as set forth in claim 2, and wherein the bung has annular flanges, between which the collar is held for rotation, one flange being removable, and said means constituting a retainer for the removable flange.

ROBERT CARL OLSON.