Aug. 30, 1932. H. HENIG 1,874,008

AUTOMATIC SPOUT

Filed May 8, 1930

Fig. 1.

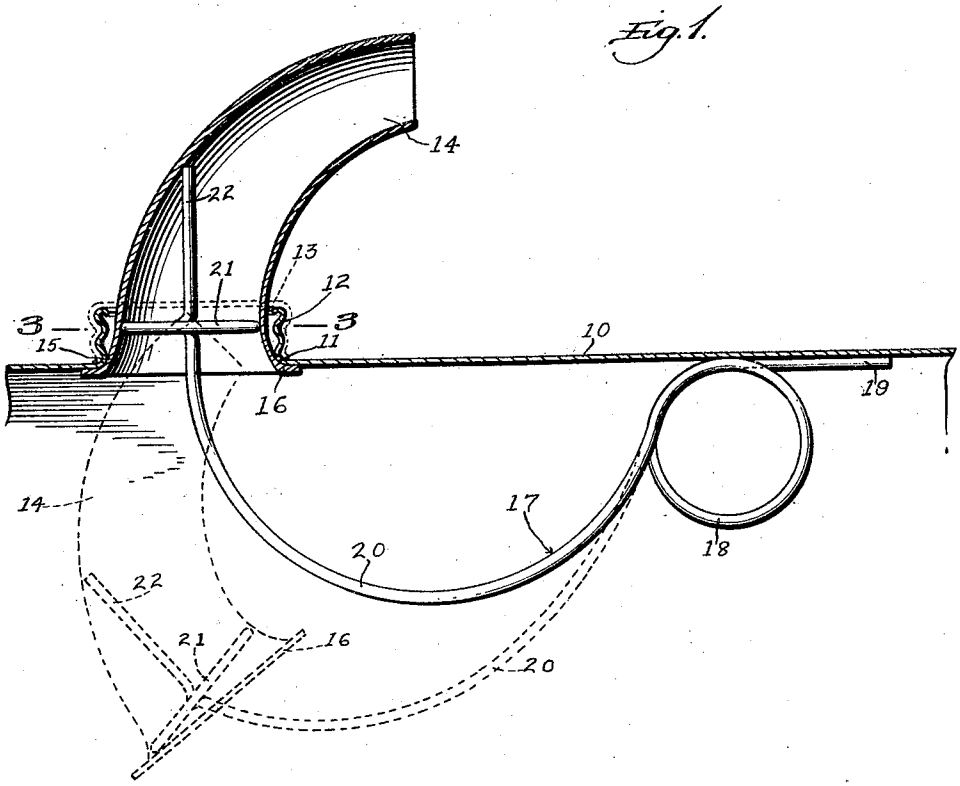



Fig. 2.

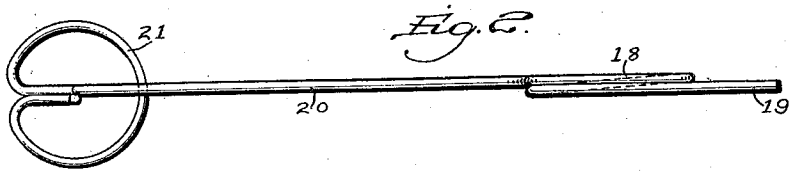
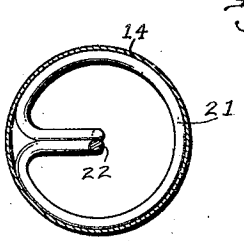



Fig. 3.




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Patented Aug. 30, 1932 1,874,008

# UNITED STATES PATENT OFFICE

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## AUTOMATIC SPOUT

Application filed May 8, 1930. Serial No. 450,808.

This invention relates to containers and particularly to a novel mechanical means for automatically moving the spout of the container into operative position whereby the contents of the container may be quickly poured therefrom.

An object of this invention is to provide a container having the usual opening therein through which the contents thereof is to be poured, to arrange a spout adjacent the opening whereby it may be movable therethrough and to provide novel spring means for automatically moving the spout through the opening upon removal of the cover, the means being operable without the assistance of the usual depending guide for the spout.

Another object is to provide a spring so tensioned that the free extremity thereof will serve to urge the spout into operative position and at the same time assist in guiding the spout during its movement.

A further object is to provide a spring so tensioned and having a portion adjacent its free extremity so formed that the said portion will extend into and loosely engage the inner walls of the spout whereby the spring will positively move the spout through the opening in the container without becoming disengaged from the spout, and whereby the said portion of the spring will assist in guiding the spout during its movement through the opening.

Other objects and advantages will become apparent during the course of the following description.

In the drawing I have shown a preferred embodiment of my invention. In this showing,

Figure 1 is a partial section of a container showing the operation of the spring and spout,

Figure 2 is a bottom plan view of the spring, and

Figure 3 is a section taken substantially on line 3—3 of Figure 1.

Referring to the drawing the numeral 10 indicates the top of a container such as is commonly used for holding lubricating oils and the like. The top 10 is provided with the usual opening 11 adjacent which is arranged an upstanding externally threaded annular portion 12 adapted to receive a threaded cap 13 in order to close the opening.

A preferably arcuate spout 14 is adapted to be moved from the interior of the container through the opening 11 upon the removal of the cap, into a position whereby the contents of the container may be poured through the spout. The spout is preferably tapered outwardly as shown at 15 and the bottom thereof is provided with an annular flange 16 which engages the inner face of the top of the container to limit the outward movement of the spout.

Novel means is provided to automatically move the spout into its outward position when the cap is removed from the container. This means comprises a spring indicated as a whole by the numeral 17 which is provided with a coiled portion 18 intermediate its ends whereby a short arm 19 and a relatively long arm 20 are provided communicating with the coiled portion. The short arm 19 is preferably secured to the inner face of the top of the container by welding or other suitable means, and the long arm 20 is bent downwardly to form a bowed portion substantially as shown in Figure 1. Adjacent its free extremity the arm 20 is bent to form a substantially annular portion 21 of a diameter substantially equal to the diameter of the spout 14 adjacent its lower extremity and the arm is then bent upwardly as at 22 whereby its free extremity will loosely engage the inner wall of the spout.

The operation of the device is as follows.

When the container is full of liquid or the like, the spout is in the position shown in dotted lines in Figure 1. In this position the spring is tensioned to move the spout forwardly through the opening 11 upon the removal of the cap 13. The annular portion 21 of the spring loosely engages the inner wall of the spout and the free extremity of the spring also loosely engages the inner wall at a distance from the annular member.

During its upward movement the spout is urged through the opening by means of the spring and the spout will be partially guided

therethrough by engagement with the wall of the opening. The annular portion and the free extremity of the spring are always in loose engagement with the interior of the spout and will assist in guiding the spout during its upward movement until the latter is in the full line position shown in Figure 1. The engagement of the flange 16 with the inner face of the top of the container adjacent the opening, is preferably a lose engagement and it has been found in practice that if a small portion of air is permitted to enter the container adjacent the flange, the liquid is more easily poured therefrom.

It will be obvious that I have provided a novel means which will positively urge the spout into its operative position and will assist in guiding the spout during its movement, thereby eliminating the use of depending guides commonly arranged adjacent the opening with which the spout is engaged to be guided in its upward movement. The provision of the annular portion 21 within the spout permits the free extremity of the spring to move to accommodate itself to the curve of the spout when the latter is forced downwardly, and at the same time continuously permits the loose engagement previously referred to. It will also be obvious that the spout may be freely turned in any direction when in its upward position so that it may be arranged to facilitate pouring the contents of the container.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. In a container having an opening therein, a tubular spout movable through said opening between extended and retracted positions, and a spring connected to the container and normally urging said spout through said opening, said spring having an annular portion projecting a substantial distance into said spout and loosely engaging the walls thereof throughout its range of movement to assist in guiding said spout in its movement through said opening.

2. In a container having an opening therein, an arcuate spout movable through said opening between extended and retracted positions, and a spring connected to the container and normally urging said spout through said opening, said spring including an arm bent to form an annular portion intermediate its ends adapted to extend into and engage the walls of said spout, the free extremity of said arm being directed a substantial distance into said spout and engaging a wall thereof, said free extremity and said annular portion being in engagement with the spout throughout its range of movement to assist in guiding said spout in its movement through said opening.

3. In a container having an opening therein, an arcuate spout movable through said opening between extended and retracted positions, and a spring connected to the container and having a portion extending into said spout and loosely engaging the walls thereof throughout its range of movement to urge said spout through said opening.

4. In a container having an opening therein, an arcuate spout movable through said opening, and a spring normally urging said spout through said opening, said spring being coiled intermediate its ends to provide a long arm and a short arm leading from said coiled portion, said short arm being secured to the top of said container, said long arm being bowed and being provided with an annular portion adapted to extend into and loosely engage the walls of said spout, the extremity of said long arm adjacent said annular portion being extended outwardly and into loose engagement with a wall of said spout in both its extended and retracted positions.

5. In a container having an opening therein, a spout movable through said opening between extended and retracted positions, and a spring connected to the container and normally urging said spout through said opening, said spring having a portion extending longitudinally into said spout and loosely engaging the walls thereof throughout its range of movement to assist in guiding the spout in its movement through said opening.

In testimony whereof I affix my signature.

HENRY HENIG.