July 6, 1937. R. BERNHARDT 2,086,348

SPRAYING APPARATUS

Filed Sept. 26, 1936

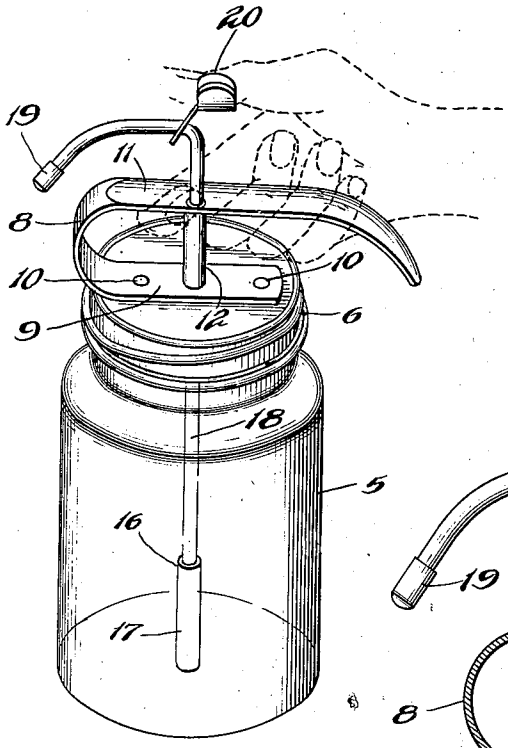


Fig. 1.

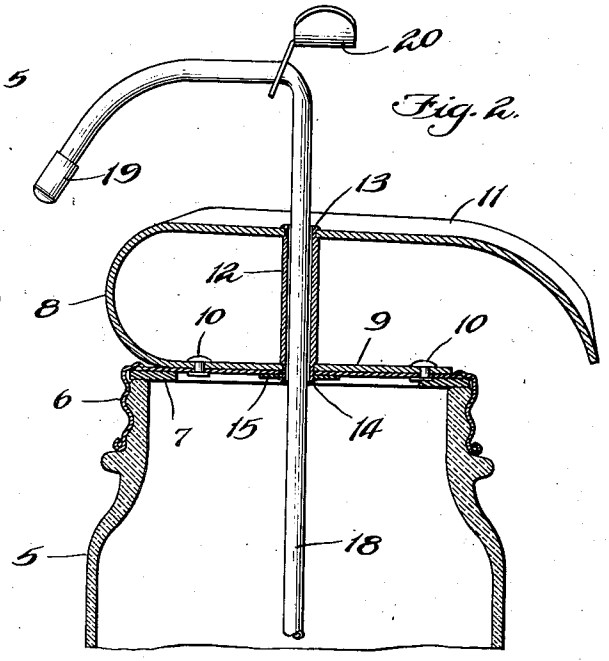


Fig. 2.

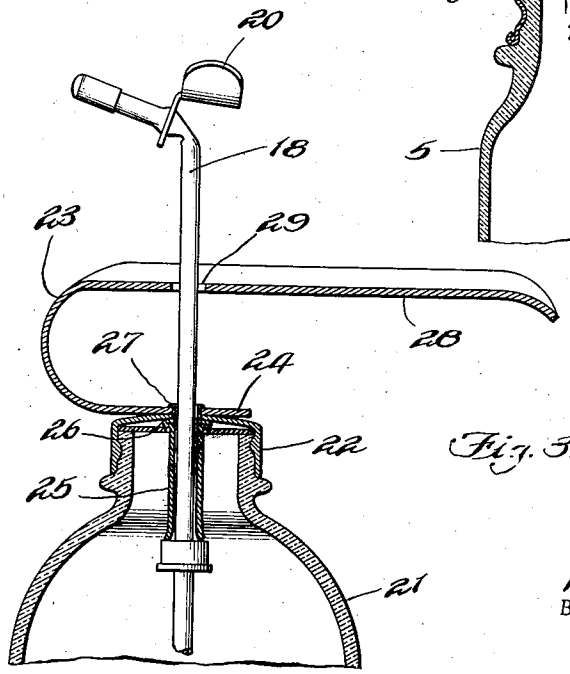


Fig. 3.

INVENTOR.
Rudolph Bernhardt
BY
Glenn S. Noble
ATTORNEY.

Patented July 6, 1937 2,086,348

UNITED STATES PATENT OFFICE

2,086,348

SPRAYING APPARATUS

Rudolph Bernhardt, Chicago, Ill.

Application September 26, 1936, Serial No. 102,654

3 Claims. (Cl. 299—97)

This invention relates to spraying apparatus or pumps particularly intended for detachable connection with jars, bottles or similar containers and to be operated with one hand. Heretofore various spraying devices of this kind have been suggested, these devices frequently being arranged so that the container is supported between the thumb and fingers and the pump operated by the first finger. However, when considerable spraying is to be done, as in the spraying of clothes for ironing, such operation becomes tiresome. In accordance with the present invention I provide a sprayer which may be attached to jars which will have considerable capacity and arranged so that the entire apparatus is supported by the hand and the pumping is done by means of the thumb, which greatly facilitates the more or less continuous use of a device of this kind.

The objects of this invention are to provide an improved container and sprayer which will be simple in construction and particularly durable and easy in use; to provide a detachable spraying pump for use on standard glass jars or the like; to provide a cap or cover with a convenient handle and a sprayer operatively mounted in the cap and handle; and to provide such other improvements in construction and advantages in operation as will appear from the following description.

In the accompanying drawing illustrating this invention,

Figure 1 is a perspective view showing my improved sprayer applied to a jar;

Figure 2 is a sectional detail on an enlarged scale; and

Figure 3 is a sectional detail showing the sprayer as applied to a bottle.

As shown in this drawing, the container indicated by the numeral 5 preferably represents a standard glass jar having a screw top or cap 6 and a gasket 7. The handle 8 is preferably substantially U-shaped with a straight lower branch 9 which is secured to the cap 6 in any desired manner as by means of rivets 10, welding or the like. The upper branch 11 is curved to make a convenient hand hold or grasp to be engaged by all of the fingers as shown in Figure 1. A combined handle supporting post and pump rod guide 12 is positioned between the branches 9 and 11 of the handle. This member preferably comprises a tube having its upper end 13 riveted to the branch 11 and its lower end 14 riveted to the lower branch 9 and cap 6, a washer 15 being preferably provided under the cap to strengthen and support the connection.

A pump or sprayer 16 is mounted in the container 5 and has its cylinder 17 positioned on the bottom of the container. The hollow pump rod or discharge tube 18 extends up through the guide 12 and its discharge end is shaped in any convenient manner and preferably provided with a discharge or spray nozzle 19. The hollow rod 18 is also provided with a thumb piece 20 which is preferably positioned at approximately the upper end of the straight portion of the pipe and in convenient relation to the branch of the handle 8 for operating the pump.

When the sprayer is to be used the container is supplied with the liquid to be sprayed and the cap screwed on. The operator then grasps the handle 8 as indicated and operates the discharge rod by means of the thumb which presses down on the same, a spring being provided in the cylinder for returning the rod to normal or raised position in accordance with the usual construction of such sprayers. This arrangement makes a particularly sturdy and substantial sprayer for spraying various liquids in a convenient manner, particularly where it is desirable to support the container and apparatus in one hand.

In the modified form of construction shown in Figure 3 the container 21 comprises a bottle or the like with a screw cap 22. The handle 23 has one branch 24 which engages with the cap. A combined tubular guide and rivet or fastening member 25 has its upper end provided with a shouldered portion 26 which passes through holes in the cap and branch 24 and is riveted over the same as shown at 27 for holding the parts together. The upper branch 28 of the handle 23 has a hole 29 which provides a free passageway for the pump rod or discharge tube 18 of the sprayer.

The operation will be readily understood from the above description but in this case the bearing 25 which extends downwardly into the container does not provide a guard for the fingers as in the form shown in Figures 1 and 2, in which form the tubular member 12 prevents the fingers from coming in contact with the pump rod.

While I have shown preferred forms of mounting sprayers of the type which I have heretofore manufactured and sold, on different containers, it will be apparent that changes may be made in the mountings in order to adapt the same for other uses, without departing from the scope of the invention, and therefore I do not wish to be

limited to the particular constructions shown and described except as specified in the following claims, in which I claim:

1. The combination with a standard mason jar having a screw cap, of a substantially U-shaped handle having one branch secured to the upper surface of the cap and having the other branch providing a hand grip, a tubular post extending between the two branches and having its ends secured to the respective branches, and a spray pump positioned in the jar with its discharge tube extending outwardly through said tubular post and having its bearing therein whereby the discharge tube is guided in its vertical movement by said post.

2. The combination with a container cover, of a U-shaped handle, means for securing one branch of the handle to the cover, and a hollow rivet connecting the branches of the handle and the cover and providing a bearing or guide for a reciprocable pump rod.

3. In an apparatus of the character set forth, the combination of a container, a cover for said container, a substantially U-shaped handle having a straight lower branch engaging with the cover, means for securing said branch to the cover, said handle also having a curved hand grasp branch, a tubular post extending between said branches and secured thereto, a pump mounted in the container and having a tubular piston rod extending outwardly through said post, said rod having a thumb piece adjacent to the handle, the arrangement being such that the post serves to strengthen the handle, to act as a bearing for the rod and also as a guard to prevent the fingers from coming in contact with the rod.

RUDOLPH BERNHARDT.