

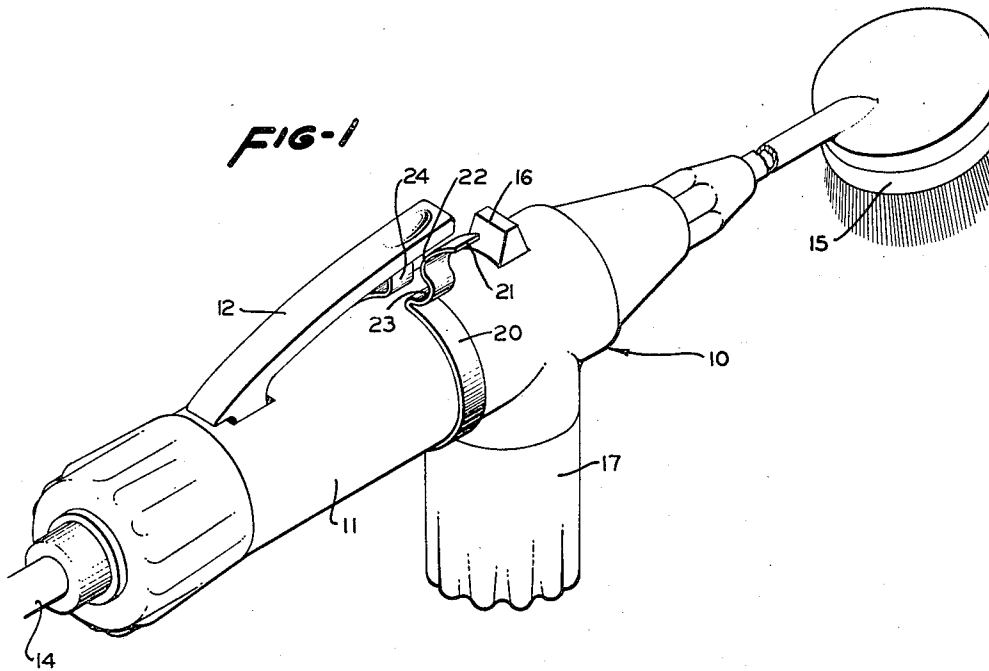
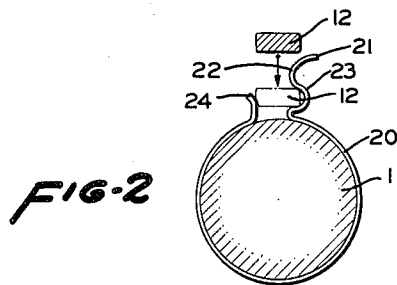
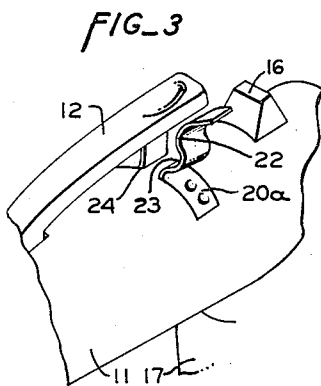
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SNAP LATCH FOR HAND OPERATED DISH WASHERS

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SNAP LATCH FOR HAND OPERATED DISH WASHERS

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This invention relates to snap latches and particularly to snap latches for use in connection with hand operated dish washers, to hold the trigger member in the "on" position during the washing operation, and to release it to the "off" position instantly that the flow of water is no longer desired.

One of the objects of the present invention is to provide a snap latch hold down means for the trigger member which may be quickly and readily attached to all existing articles of this type.

Another object is to provide a snap latch which can be factory built into the device to accomplish the same purpose.

Still another object is to provide a snap latch attachment for hand operated dish washers which will take the strain and awkwardness out of operation and make such articles more efficient and acceptable to the public.

A further object is to provide a trigger holding snap latch readily attached to existing hand operated dish washers which will not be displaced from its operative position by the lateral pressure required for release of the trigger.

Another object is to provide such a device with a stop member to absorb reaction pressure from the pressure required to release the trigger from the operative position, and thereby prevent displacement.

Further objects are to provide a construction of maximum simplicity, economy and ease of manufacture, also such further objects, advantages, and capabilities as will fully appear and as are inherently possessed by the device and the invention described herein.

The invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawing, and while there is shown therein a preferred embodiment and one variation thereof, it is to be understood that the same are merely illustrative of the invention and that the invention is capable of modification and change, and comprehends other details of construction without departing from the spirit thereof or the scope of the appended claims.

Referring to the drawings:

Figure 1 is a perspective view of a standard hand operated dish washer showing the placement and arrangement of the spring latch attachment.

Figure 2 is a transverse sectional view showing the position of the trigger member in the "off" position in solid lines with diagonal line hatching and in the locked operating position in broken lines with no hatching.

Figure 3 is a fragmentary perspective view showing a manner of building the latch into the handle portion of the article at the time of manufacture.

Referring now more particularly to the drawing in which like reference numerals have been used to indicate like parts in the two views, Figure 1 shows a hand-operated dish washing attachment of the type made commercially by Price-Pfister Brass Mfg. Co. of Los Angeles, California, and identified generally by the numeral 10,

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although the present invention is applicable to all types of dish washers operating more or less on the same scheme. To operate this type of dish washer attachment the water is turned on at the sink fixture, which is not shown, and the water temperature adjusted as desired. The handle portion 11 is gripped by the palm of the hand so that the thumb rests on the trigger member 12. When the trigger member 12 is depressed it opens a valve (not shown) within the handle member 11, permitting water to flow from the water outlet through the hose 14 and be released through the brush head 15. All that is required to stop the flow of water through the dish washer 10 is to release the thumb pressure on the trigger member 12 returning it to the position shown in Figure 1. Detergent is introduced into the water supply going to the brush head 15 by pressing the thumb tip on the button 16 to depress the same, thereby operating to release detergent from the reservoir 17. It is usually recommended that only occasional momentary pressure is required on the button 16 in order to conserve detergent.

However, it has been found that in operating washers of this character, it is exceedingly difficult to hold down the trigger 12 by the thumb and at the same time manipulate the adequate pressure of the same thumb tip on the button 16. To keep the water flowing to the brush head, it is necessary to continuously apply pressure on the trigger member. Because of this difficulty and because of the awkwardness and strain in attempting to make the device operate as intended, there has been considerable sales resistance to an otherwise very meritorious article.

In view of the fact that most people tend to keep the trigger member 12 under downward pressure during the entire time of the dish washing operation, it is desirable to provide means for holding the trigger in the "on" position, leaving the hand and thumb available for the work and the operation of the button for detergent. Accordingly, a ring 20 of flat spring material is provided which is adapted to encircle the handle portion 11 of the article longitudinally outward of the grip portion so that it does not interfere with the grip of the user on the device. One end 21 of the ring member 20 is turned back in a series of reversed curves to provide an S-shape leaf form adjacent the free end of the trigger member 12. This end of the flat ring 20 is positioned just below the adjacent edge of the trigger member 12 on the thumb side preferably, so that when it is depressed it will strike and exert enough lateral pressure against the back 22 of the leaf S to pass it and be locked in the downward position shown in broken lines in Figure 2 in the bottom of the S of the leaf end 21. Thus, the same pressure which is required to depress the trigger member 12 is all that is required to lock it in the "on" position when the same is in use. To release the latch end 21, all that is necessary is a slight sideward pressure of the thumb, moving the end laterally and permitting the trigger member 12 to move upwardly, clearing the back 22 of the S and return to the normal "off" position.

It has been observed, however, that in applying the pressure against the member 21 to release the latch and return the trigger member 12 to the "off" position, the lateral pressure will cause the ring member 20 to move clockwise and eventually out of position. Accordingly, in order to have something against which this lateral pressure may operate and prevent the unwanted rotation, the opposite end 24 of the spring ring member 20 is turned upwardly to provide a stop, having a face substantially parallel with the opposite edge of the trigger 12. The end 24 is spaced from the other end 21 of the spring ring member 20 a distance sufficient to accommodate without pressure, the width of the trigger member 12

between it and the reverse curve 23 of the S portion of the end 21.

In operation it is apparent that only initial pressure on the trigger 12, necessary to put it into the position shown in broken lines in Figure 2, is required for the operation and the S-shaped snap latch will hold the trigger member in operating condition as long as the operator desires without any strain or struggle and permitting an easier contact and handling of the device and the operation of the button 16. It is believed that with this snap latch ring member, any strain involved in using the article is eliminated, and, therefore, any sales resistance to its widespread acceptance and use.

While the quick attachment of the snap latch ring 20 readily converts all existing equipment, it is to be understood that factory built articles may have these ends 21a and 24a built in and secured to the grip portion 11, as shown in Figure 3, eliminating the need for completing the entire ring. Since the fixing of end 21a in position on the handle portion removes the possibility of movement out of position, the end 24a may be dispensed with.

We claim:

1. A hold-down snap latch for hand operated dish washers having a grip portion and a trigger operated valve controlling the flow of water therethrough, the trigger for which is mounted for operative movement through the wall of the grip portion comprising a band of spring metal formed to encircle and frictionally secure the same to the hand grip portion of the washer with the ends thereof spaced and terminating at opposite sides of said trigger, one of said ends being formed with an S curve extending above the top surface of said trigger forming a latch therefor which is released by lateral pressure outwardly on the extending portion, and the other end terminating below the top surface of said trigger formed as a stop against which the reaction to lateral pressure may be exerted without displacement of said band.

2. A hold-down snap latch for hand operated dish washers having a grip portion and a trigger operated valve controlling the flow of water therethrough, the trigger for which is mounted for operative movement through the wall of the grip portion comprising a band of resilient material formed to encircle and frictionally secure the same to the hand grip portion of the washer with the ends thereof spaced and terminating at opposite sides of said trigger, one of said ends being formed with an S curve extending above the top surface of said trigger forming a latch therefor which is released by lateral pressure outwardly on the extending portion, and the other

end terminating below the top surface of said trigger formed as a stop against which the reaction to lateral pressure may be exerted without displacement of said band.

3. A hold-down snap latch for hand operated dish washers having a grip portion and a trigger operated valve controlling the flow of water therethrough, the trigger for which is mounted for operative movement through the wall of the grip portion comprising a pair of resilient latch members each fixedly secured to the grip portion of said washer, one at either side of the trigger, one of said latch members formed with an upstanding S-shape extending above the top surface of said trigger engaging and holding the trigger in the operating position and releasing the same in response to lateral pressure on the extending portion, and the other latch member terminating below the upper surface of said trigger formed with an upstanding stop to receive the reacting lateral pressure on release.

4. A hold-down snap latch for hand operated dish washers having a grip portion and a trigger operated valve controlling the flow of water therethrough, the trigger for which is mounted for operative movement through the wall of the grip portion comprising a pair of resilient latch members each fixedly mounted in the grip portion of said washer, one at either side of the trigger, one of said latch members formed with an upstanding S-shape extending above the top surface of said trigger engaging and holding the trigger in the operating position and releasing the same in response to lateral pressure on the extending portion, and the other latch member terminating below the upper surface of said trigger formed with an upstanding stop to receive the reacting lateral pressure on release.

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