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CLEANING ATTACHMENT FOR SWEEPER NOZZLES

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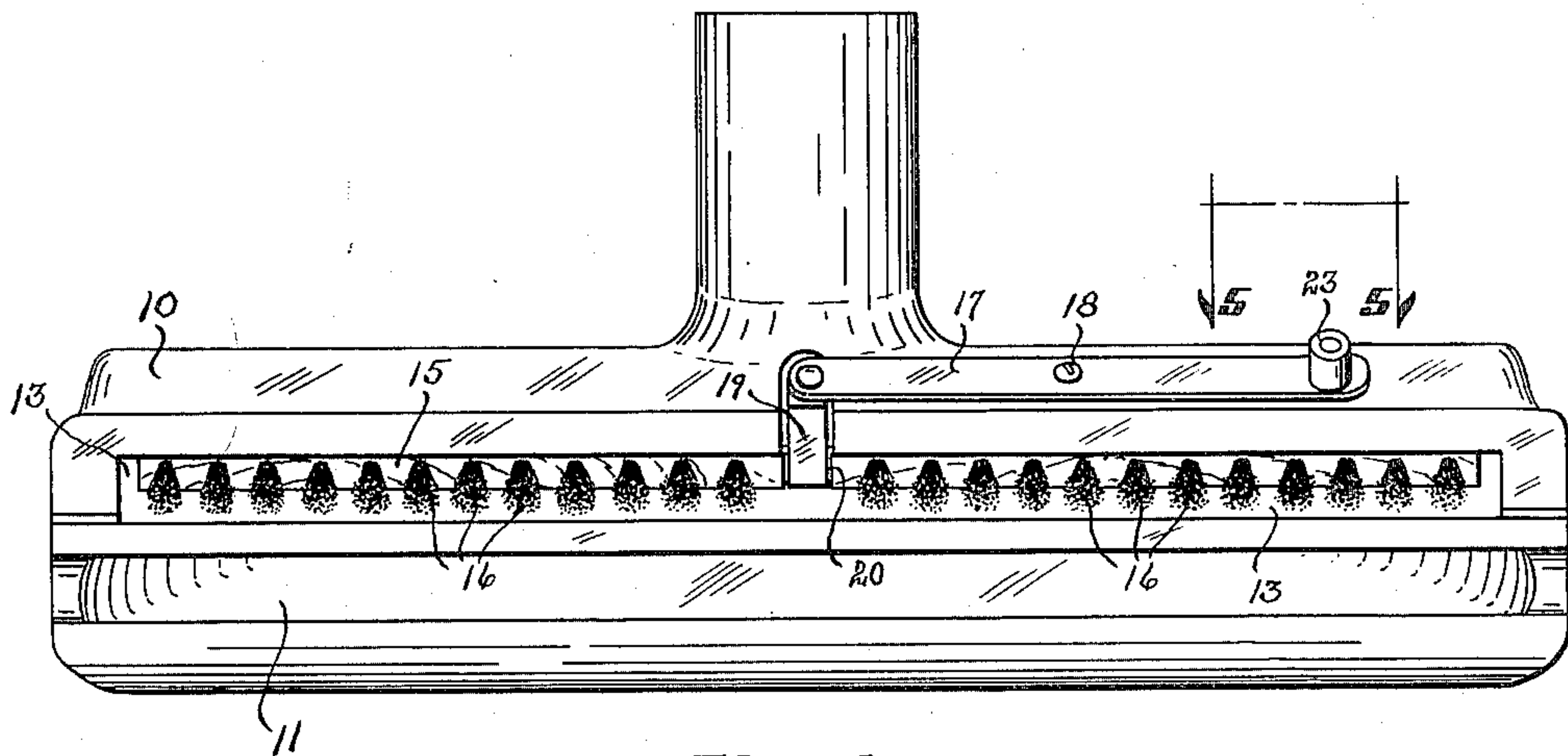


Fig. 1.

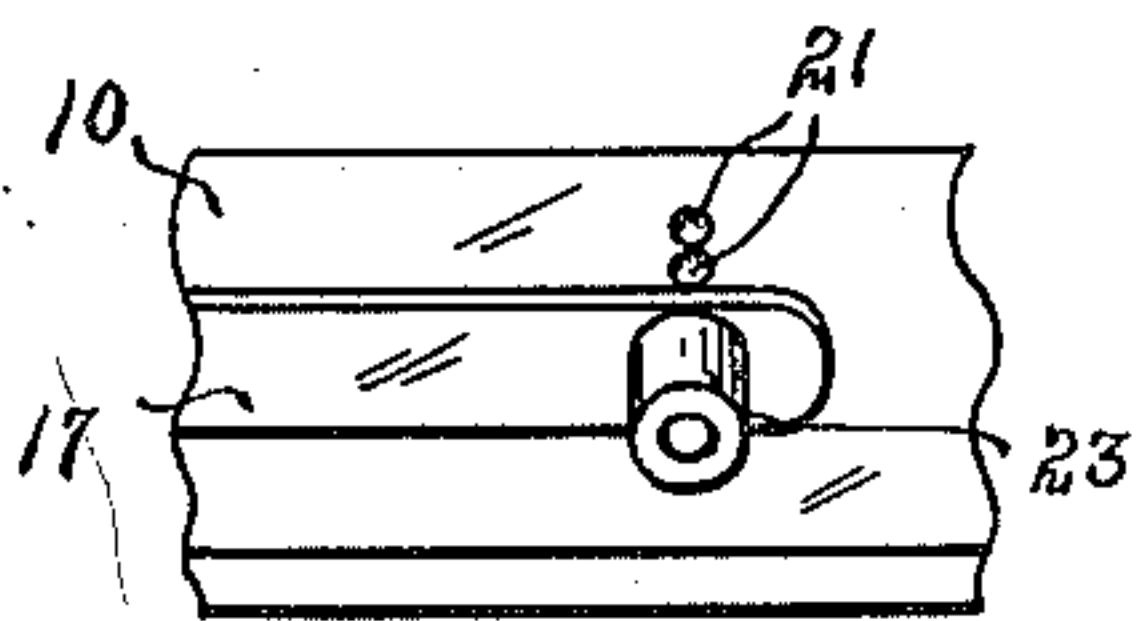


Fig. 5.

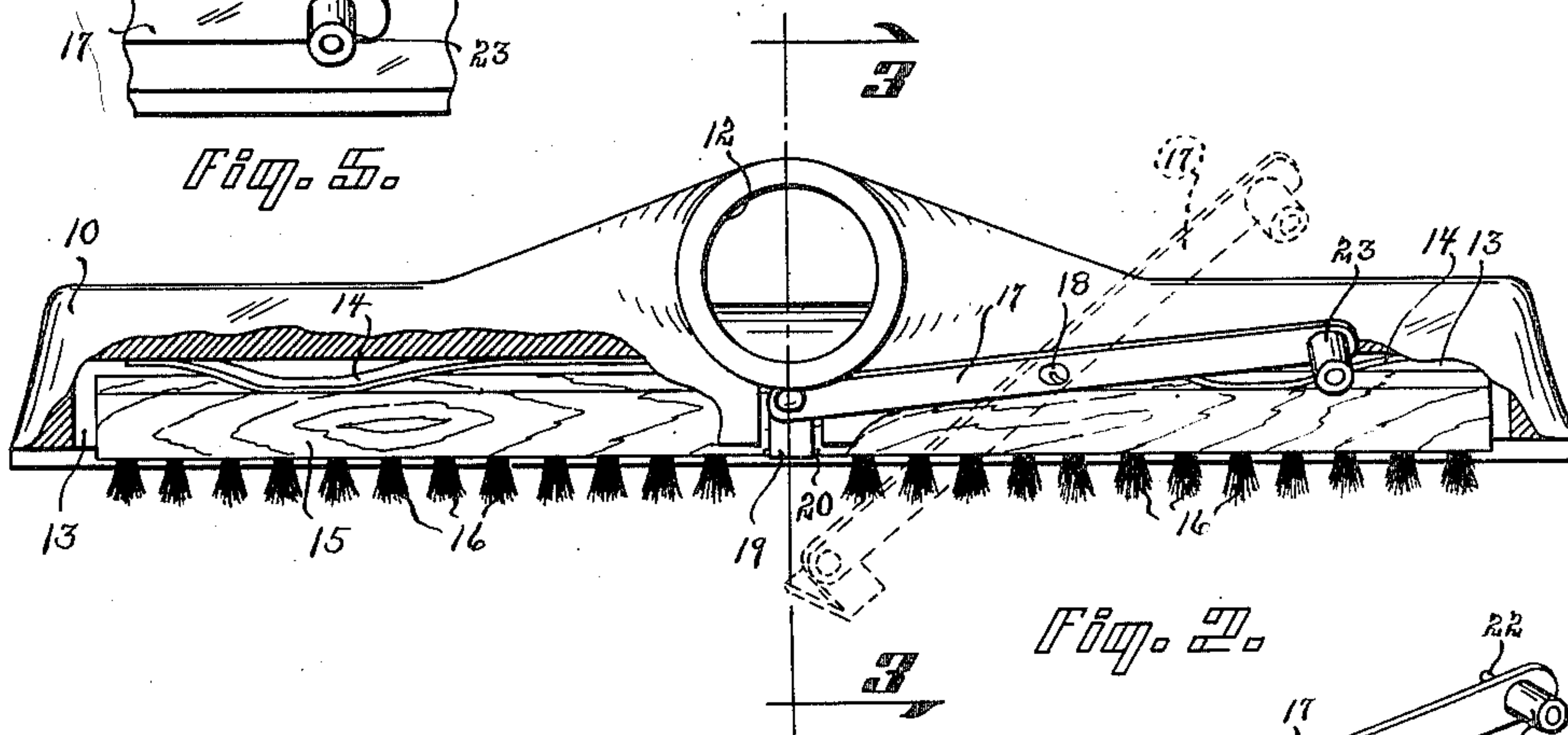


Fig. 2.

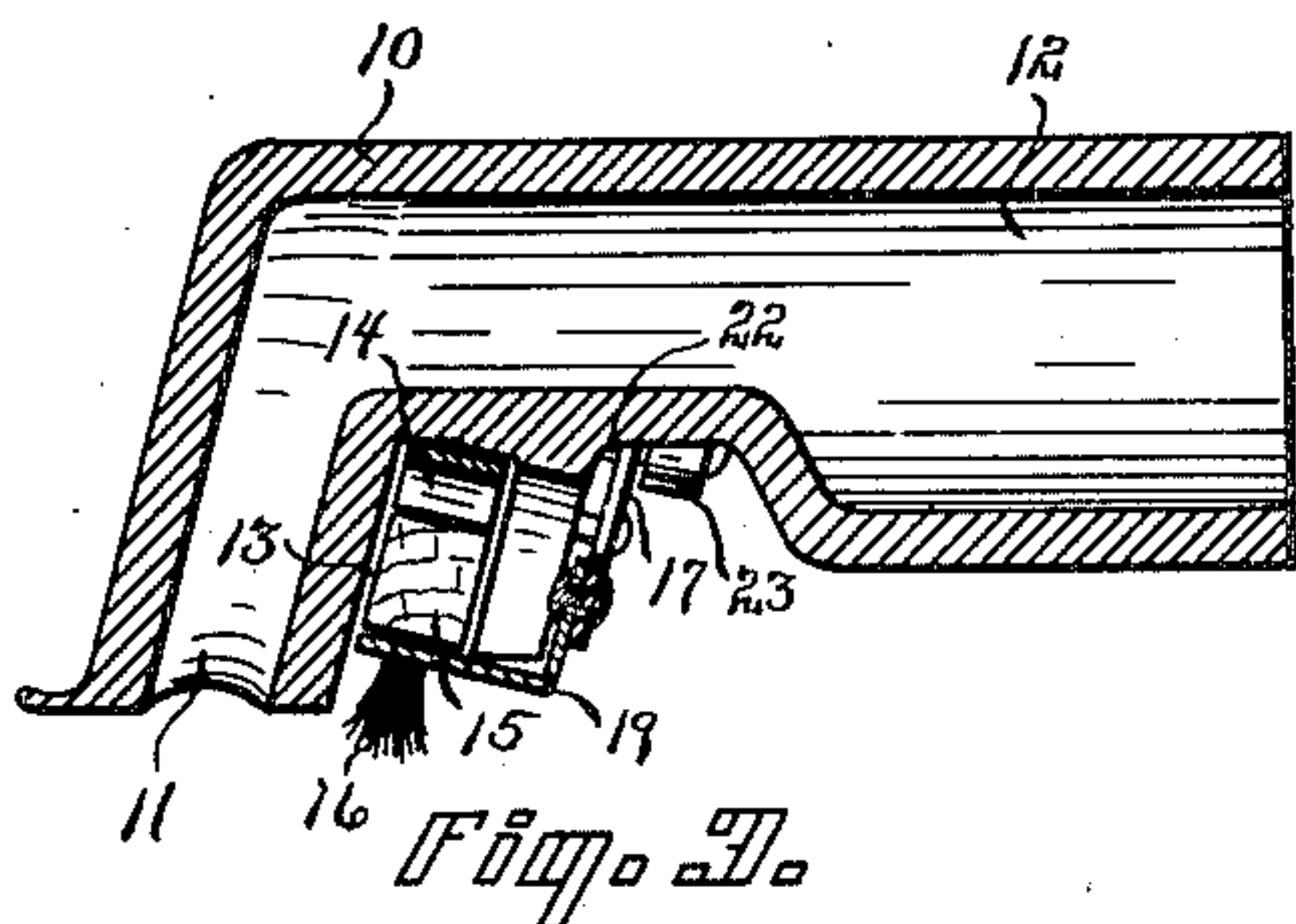


Fig. 3.

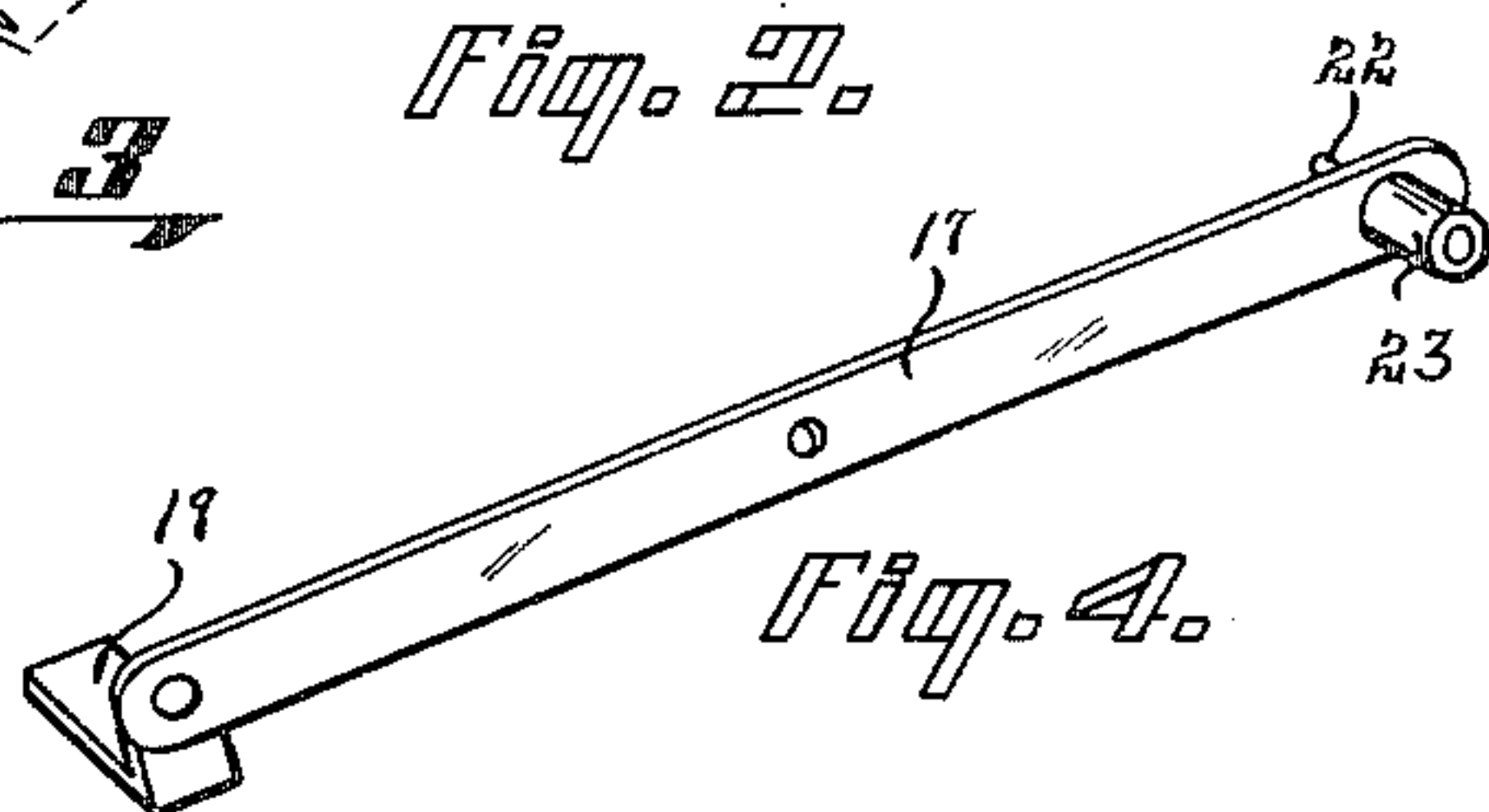


Fig. 4.

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CLEANING ATTACHMENT FOR SWEEPER
NOZZLES

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4 Claims. (Cl. 15—371)

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The principal object of my invention is to provide a vacuum cleaner head or nozzle that has a quickly attachable or detachable brush.

More specifically the object of this invention is to provide a vacuum cleaner nozzle of the brush type that permits the housewife or user to remove or replace the brush instantly and without the use of tools.

A further object of my invention is to provide a vacuum cleaner attachment that employs relatively inexpensive brushes.

A still further object of this invention is to provide a brush vacuum cleaner attachment that is of few parts, economical in manufacture and durable in use.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Fig. 1 is a bottom view of my attachment.

Fig. 2 is a back side view of the attachment with sections cut away to more fully illustrate its construction.

Fig. 3 is a cross sectional view of the device taken on line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the brush holding and operating lever.

Fig. 5 is a perspective view of the outer end of the brush lever taken on line 5—5 of Fig. 1.

The use of brushes on the suction head or nozzle of vacuum cleaners is old in the art. The chief objection to this type of nozzle head however is that the brushes are not readily detachable for replacement and the usual procedure is to take the nozzle to a repair establishment. This subjects the user to considerable expense, annoyance and time. I have overcome such problems by providing a nozzle that carries a quickly releasable brush.

Referring to the drawings I have used the numeral 10 to generally designate the nozzle head. Such attachments have an air and dirt slot entrance 11 communicating with the rearwardly extending outlet pipe portion 12. As is well known this portion 12 connects with the usual fixture tubes that extend to the vacuum cleaner proper. The nozzle head shown is in general similar to most such heads now in general use. The main difference however, is that I form an inverted elongated trough 13 in the head and which is

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located to the rear and parallel with the air and dirt slot 11 as shown in Fig. 1. This trough 13 is rectangular in cross-section and has a sinuous extending leaf spring 14 resting in its bottom. The numeral 15 designates the elongated base portion of my brush and extending from which are the brush bristles 16. This base portion of the brush is also rectangular in cross-section and is designed to loosely rest within the inverted trough 13, with the bristles extending from the trough and below and to the rear of the air and dirt slot 11, as shown in Fig. 3. By this arrangement the top surface of the brush will engage the spring 14 and that member will yieldingly force the brush downwardly relative to the nozzle proper. The brush is however prevented from being completely expelled from the inverted trough by a brush control lever 17 which I will now describe. This lever is in the form of a spring bar rotatably secured near its center to the back side of the nozzle head by a cap screw or like 18 as shown in Fig. 2. The numeral 19 designates a finger element on the inner end of the bar lever 17 which extends below the brush to limit its downward movement. To prevent side movement of the brush a notch 20 is formed on the under side of the brush and which is engaged by the finger 19 as shown in Fig. 1. On the left back side of the nozzle are wells 21. The numeral 22 designates a lug on the under free end of the lever 17, capable of selectively entering and engaging any of the wells 21. The numeral 23 designates a handle on the outer free end of the lever 17. To adjust the brush it is merely necessary to grasp the handle 23, pull the outer end of the spring bar lever 17 rearwardly until the lug 22 clears the wells, and then lower or raise the free end of the lever until the lug is adjacent the desired well. Upon release of the handle the lug will enter the adjacent well, thereby locking the lever against undesired movement. In Fig. 1, the outer end of the lever is in a downward position thereby forcing the brush upwardly against the action of the spring and further into the inverted trough 13. When the brush is in such an upward position within the trough, it will be out of the way and not effective as a cleaning agent. By moving the outer end of the lever upwardly to a locked position as shown in Fig. 2, the inner end of the lever will be lowered, thereby permitting the spring to yieldingly move the brush to an effective lowered position within the trough. To remove a brush it is merely necessary to unlock and raise the free end of the lever to a posi-

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tion shown by dotted lines in Fig. 2, and the brush will drop completely from the nozzle head. To replace a brush, the same is manually placed within the inverted trough and the free end of the brush lever 17 lowered to the desired position and then locked by causing the lug 22 to enter the proper well. While the brush lever regulates the downward movement of the brush, the brush may always move upwardly a slight distance against the action of its spring. This yieldable downward pressure on the brush when it is in effective position assures its proper functioning during the cleaning process. The lever 17 gives complete control of the brush, i. e. for placing it in an inoperative elevated position, for permitting the brush to assume a lowered operative position, and for permitting the complete removal of the brush from the nozzle head. These types of brush nozzles wear out brushes rapidly. However with my device it is no trouble to remove the brush and replace it with a new one. Furthermore, a brush may be readily removed for cleaning or turning around for uniform wear. For most effective brush action, I form the brush guiding and holding trough so that it extends downwardly and forwardly. This causes the bristles of the brush to extend downwardly and forwardly in a row just to the rear of the air and dirt slot of the nozzle. My complete nozzle consists of only four main parts, i. e., the nozzle head proper, the brush, spring and brush lever.

Some changes may be made in the construction and arrangement of my vacuum cleaner attachment without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. A vacuum cleaner nozzle head having an elongated air and dirt inlet slot opening, an elongated inverted trough directly to the rear of said slot opening, a spring means in said inverted trough, an elongated brush capable of extending loosely into said inverted trough and yieldingly held downwardly by said spring means, a bar pivoted to said nozzle head, a notch in the bottom center of said brush, a notch in the bottom rear center wall portion of said inverted trough and registering with the notch in said brush, a finger portion on one end of said bar, normally engaging the notch in said brush and capable of extending through the notch in said inverted trough; said bar capable of being swung to a position where said finger is free of said notch of said brush and said notch of said inverted trough, and a means for holding said bar in different positions of its swinging movement for adjustably effecting vertical adjustment of the brush.

2. A vacuum cleaner nozzle head having an elongated air and dirt inlet slot opening, an elongated inverted trough directly to the rear of said slot opening, a spring means in said inverted trough, an elongated brush capable of extending loosely into said inverted trough and yieldingly held downwardly by said spring means, a spring bar pivoted at its center to said nozzle head, a notch in the bottom center of said brush, a notch in the bottom center portion of the rear wall of said inverted trough and registering with the notch in said brush, a finger on one end of said bar normally engaging the notch in said brush

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and capable of extending through the notch in said inverted trough; said bar capable of being swung to a position where said finger is free of said notch in said brush and said notch of said inverted trough, a grippable member on the other end of said bar, wells in said nozzle head, and a lug on said spring bar capable of selectively entering and engaging each of said wells for adjustably effecting vertical adjustment of the brush.

3. A vacuum cleaner nozzle head having an elongated air and dirt inlet slot opening, an elongated inverted trough directly to the rear of said slot opening, a spring means in said inverted trough, an elongated brush capable of extending loosely into said inverted trough and yieldingly held downwardly by said spring means, a spring bar pivoted at its center to said nozzle head, a notch in the bottom center portion of the rear wall of said inverted trough, a finger on one end of said bar normally extending under said brush and capable of extending through the said notch in said inverted trough; said bar capable of being swung to a position where said finger is free of said brush and said notch in said inverted trough, a grippable member on the other end of said bar, wells in said nozzle head, and a lug on said spring bar capable of selectively entering and engaging each of said wells for adjustably effecting vertical adjustment of the brush.

4. A vacuum cleaner nozzle head having an elongated air and dirt inlet slot opening, an elongated inverted trough directly to the rear of said slot opening, a spring means in said inverted trough, an elongated brush capable of extending loosely into said inverted trough and yieldingly held downwardly by said spring means, a spring bar pivoted at its center to said nozzle head, a notch in the bottom center portion of the rear wall of said inverted trough, a finger on one end of said bar normally extending under said brush and capable of extending through the said notch in said inverted trough; said bar capable of being swung to a position where said finger is free of said brush and said notch in said inverted trough, a grippable member on the other end of said bar, and a contacting portion on said bar adjacent said grippable member capable of engaging said nozzle head for holding said bar in various positions of its swinging movement for adjustably effecting vertical adjustment of the brush.

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