April 2, 1946. C. F. FOLEY 2,397,541

BELT GUARD

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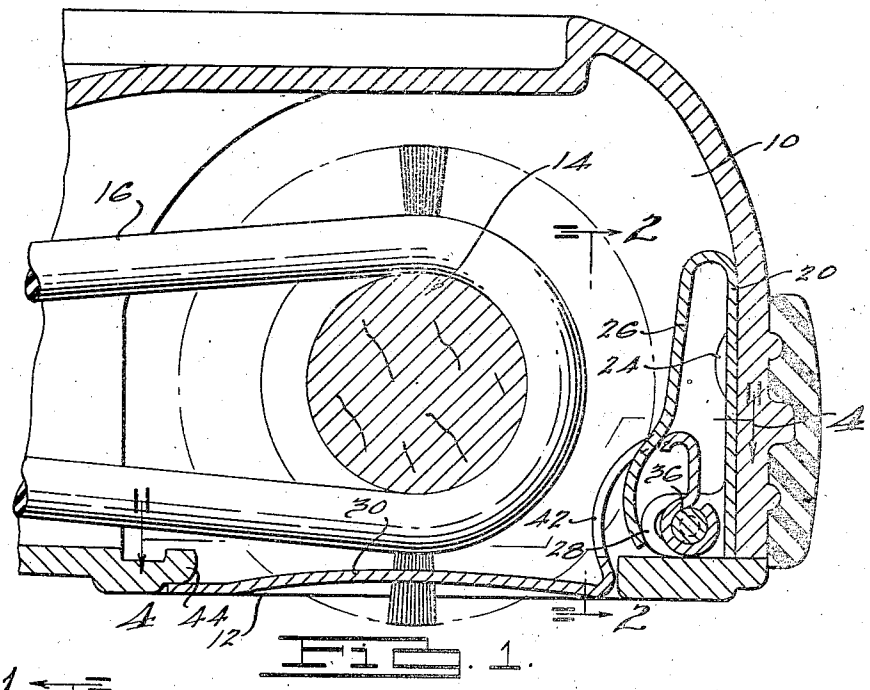


Fig. 1.

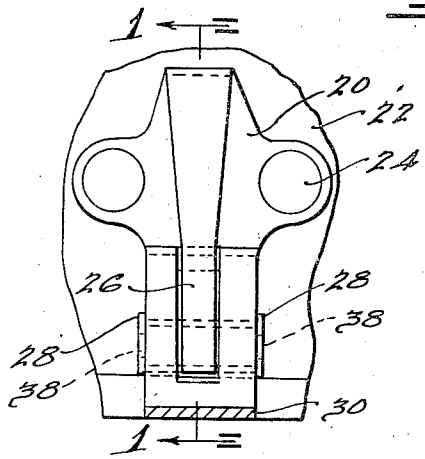


Fig. 2.

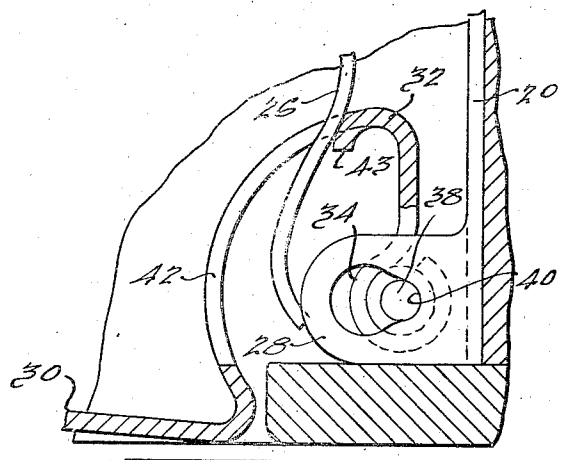


Fig. 3.

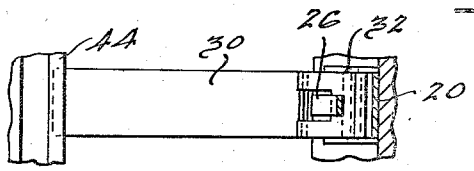


Fig. 4.

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BELT GUARD

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4 Claims. (Cl. 15—3)

This invention relates to belt guards for suction cleaners.

The principal object of the invention is to provide a new and improved construction for belt guards for suction cleaners.

Other and further objects of the invention will be apparent from the following description and claims and will be understood by reference to the accompanying drawing, of which there is one sheet, which, by way of illustration, shows a preferred embodiment and the principles thereof and what I now consider to be the best mode in which I have contemplated applying those principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawing

Fig. 1 is a fragmentary sectional view of a suction cleaner embodying my invention and taken in a plane along the line 1—1 of Fig. 2;

Fig. 2 is a fragmentary elevational view taken generally along the line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary side elevational view of the belt guard; and

Fig. 4 is a section taken along the line 4—4 of Fig. 1.

A suction cleaner embodying the invention includes a nozzle 10 having a downwardly presented mouth 12 with a rotary agitator or brush 14 mounted in the nozzle and operative for beating and/or sweeping the surface covering presented thereto through the nozzle mouth 12. A belt 16 driven by the motor of the cleaner cooperates with a pulley on the rotary brush 14 for driving the same.

A bracket 20 is suitably secured to the inside of the front wall 22 of the nozzle 10, such as by means of rivets 24, and includes a portion 26 forming a spring and a pair of parallel arms 28 forming a supporting bracket and part of a hinge or pivotal mounting for the belt guard 30.

The belt guard 30 comprises an arched member adapted to span the nozzle mouth below the belt 16 and includes an integral portion 32 forming a part of a hinge for pivotally mounting the belt guard. The end of the portion 32 is coiled as indicated at 34 to receive a hinge pin 36. The hinge pin 36 at each end is provided with trunnions 38 which are rotatable in slots 40 formed in the bracket provided by arms 28. The spring 26 extends downwardly through a slot 42 in the hinge portion of the belt guard 30 and a part 43 of the hinge portion 32 in line with the spring 26 is engaged by the spring 26 for holding the trunnions 38 of the hinge pin in the smaller ends of the slots 40.

This cooperation between the spring 26 and the belt guard 30 also functions to hold the belt guard 30 in the position illustrated. The belt guard 30, however, is adapted for movement in a counterclockwise direction from that illustrated in Figs. 1 and 3 approximately 90° so as to permit the brush 14 to be removed from the cleaner. The tension of the spring 26 reacting on the belt guard 30 functions to hold the free end thereof in engagement with the lip 44 of the nozzle mouth 12.

The slots 40 are in the shape of a keyhole slot so as to permit the hinge pin 36 to be removed from and inserted into position between the arms 28 of the hinge bracket. As illustrated in Figs. 1 and 3, the rear edge of the forward nozzle lip may project rearwardly sufficiently so that the lower end of the slotted portion 42 of the hinge will be deflected during counterclockwise pivotal movement of the guard 30 and upon pivotal movement of the guard 30 in returning to its position as illustrated in Fig. 1. This deflection may occur in the slotted portion 42 or may occur by rearward shifting of the hinge pin 36 toward the enlarged portions of the slots 40 and against the resistance of the spring 26. Because of this the rear edge of the forward nozzle lip will be in a position to cooperate with the lower end of the slotted portion 42 to position the guard 30 in a horizontal position in the event of failure of the spring 26.

While I have illustrated and described a preferred embodiment of my invention, it is understood that this is capable of modification and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations which fall within the purview of the following claims.

I claim:

1. For a suction cleaner having a nozzle with a downwardly presented mouth and a belt driven rotary brush in said nozzle above said mouth; a belt guard device comprising a bracket fixed to a wall of said nozzle and including an integral spring member and a pair of spaced arms forming part of a hinge, a belt guard including a member positioned to span the mouth of said nozzle below and in line with said belt and having an integral portion forming a part of a hinge, a hinge pin carried by said portion and including trunnions rotatably mounted in bearing surfaces provided

by said arms, said portion including a slot through which one end of said spring member extends and having a part positioned for engagement with said spring member for biasing said belt guard against the underside of the lip of the mouth of said nozzle.

2. For a suction cleaner having a nozzle with a downwardly presented mouth and a belt driven rotary brush in said nozzle above said mouth; a belt guard device comprising a bracket fixed to a wall of said nozzle and including an integral spring member and a part of a hinge, a belt guard including a member positioned to span the mouth of said nozzle below and in line with said belt and having an integral portion forming a part of a hinge, a hinge pin pivotally connecting said hinge parts, said portion having a part positioned for engagement by said spring member for biasing the movable end of said belt guard against the lip of the mouth of said nozzle.

3. For a suction cleaner having a nozzle with a downwardly presented mouth and a belt driven rotary brush in said nozzle above said mouth; a belt guard device comprising a bracket fixed to a wall of said nozzle and including an integral spring member and a pair of spaced arms forming part of a hinge, each of said arms being provided with a keyhole slot, a belt guard including a pivoted member positioned to span the mouth of said nozzle below and in line with said belt and having an integral portion forming a part of a hinge, a hinge pin carried by said portion and including trunnions rotatably mounted in bearing surfaces provided by the smaller portions of said keyhole slots, said portion including a slot through which one end of said spring member extends and having a part positioned for engagement by said spring member for biasing the movable end of said belt guard against the lip of the mouth of said nozzle.

4. For a suction cleaner having a nozzle with a downwardly presented mouth and a belt driven rotary brush in said nozzle above said mouth; a belt guard device comprising a bracket fixed to a wall of said nozzle and including an integral spring member and a pair of spaced arms forming part of a hinge, each of said arms being provided with a keyhole slot, a belt guard including a pivoted member positioned to span the mouth of said nozzle below and in line with said belt and having an integral portion forming a part of a hinge, a hinge pin carried by said portion and including trunnions rotatably mounted in bearing surfaces provided by the smaller portions of said keyhole slots, said portion having a part positioned for engagement by said spring member for biasing the movable end of said belt guard against the lip of the mouth of said nozzle.

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