June 15, 1971 G. J. LARSEN ET AL 3,584,325

ROAD SWEEPER BROOM CHAMBER CONTROL

Filed Nov. 13, 1969

FIG. 1.

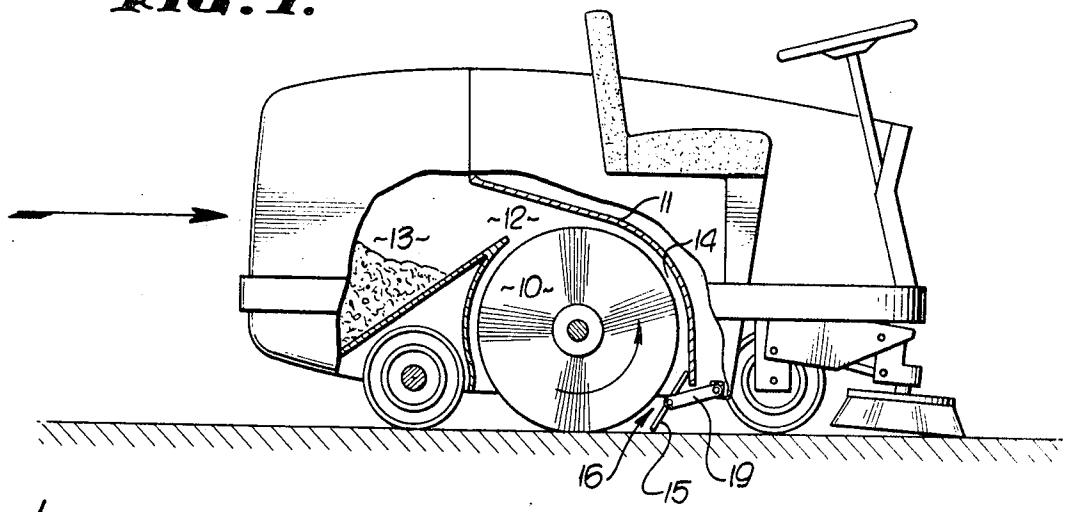



FIG. 3.

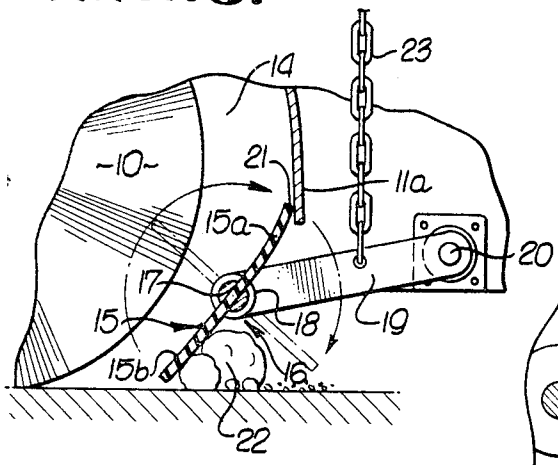



FIG. 2.

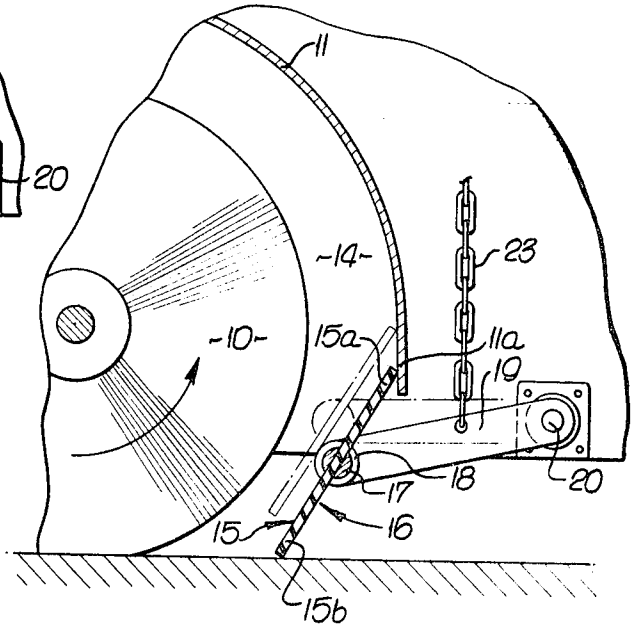
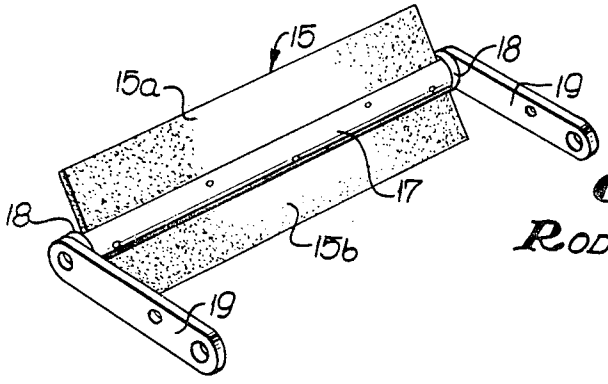



FIG. 4.




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# ROAD SWEEPER BROOM CHAMBER CONTROL

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U.S. Cl. 15—83 6 Claims

## ABSTRACT OF THE DISCLOSURE

The invention replaces the usual air seal flap attached to the forward wall of a road sweeper pickup broom chamber and subject to lodged deflection and retention between the broom and wall, by providing a different flap pivotally mounted for bodily rotation between reversible positions in which a lower extent of the flap rides the road surface and an upper extent bears against the inside of the broom housing in a position from which the flap has deflected escape during the flap reversal.

## BACKGROUND OF THE INVENTION

Certain types of road sweepers containing a power driven pickup broom operating in a curved wall chamber spaced about the broom, have employed forwardly of the broom a flexible road engaging seal strip or flap attached to the chamber wall and deflectable toward the broom as irregularities are encountered.

It has been observed that large road objects may at times excessively deflect the flap to the extent of displacing and doubling it upwardly into the space between the broom and chamber wall where the flap tends to remain since its deflection is in the direction of the broom rotation. Thus the function of the flap is lost until the flap is returned to normal position.

## SUMMARY OF THE INVENTION

The present invention eliminates the possibility of such occurrences by mounting the flap so that it will remain free of interbrush-chamber confinement whatever may be encountered on the swept surface.

Generally this objective is achieved by mounting the flap for rotation between the brush and chamber wall so that the effect of obstacle encounter is to rotate and deflect the flap to a position of escape from the chamber wall confinement and reversal of its road engaging position.

A simple and effective mount pivots the flap for rotation about a longitudinal center axis by attachment of the pivot to the sweeper frame, preferably in a manner permitting bodily elevation of the strip for non-sweeping travel.

The features and details of the invention will be readily apparent from the following detailed description of an illustrative embodiment shown by the accompanying drawing.

## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevation showing a typical single pickup broom sweeper equipped with the reversible seal flap, the broom chamber appearing in cross section;

FIG. 2 is a fragmentary enlargement of the flap and its mounting corresponding to FIG. 1;



FIG. 3 is a view similar to FIG. 2 showing the flap deflected by encounter with larger debris on the road surface; and

FIG. 4 is a showing in perspective of the flap and its mounting arms.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIG. 1 the sweeper vehicle is of a generally known type comprising a power driven pickup broom **10** rotating in the direction of the arrow within a housing **11** arched about the broom and interrupted at **12** to provide a discharge opening through which the broom sweepings and debris are projected into the hopper **13**.

The bottom of the broom chamber **14** is sealed forwardly of the broom in the direction of the sweeper travel by a flexible flap **15** positioned generally below the lower housing extent **11***a* so as to be receivable within the space **16** as shown in FIGS. 2 and 3. The flap **15** is mounted for swinging movement about a longitudinal central axis by attachment of the flap to the sections of a split shaft **17** or similar construction rotatable within bearings **18** carried by arms or links **19** pivoted at **20** as to the forward portion of the sweeper body or frame. As will be noted, the flap extents **15***a* and **15***b* above and below shafts **17** are equal so that upon reversal action of the flap it remains the same.

Normally during sweeping operations the flap **15** is engaged with the road surface substantially as shown in FIG. 2, forming by reason of its engagement with the housing at **21** a broom chamber seal. At times during sweeping the flap may encounter objects or pieces of debris **22** too large to be received beneath the usual flap without its considerable distortion. Here the flap thus is subjected to progressive deflection which results in its displacement along the inside of the broom housing surface at **21** until the flap escapes such engagement and becomes free to rotate initially to an intermediate position illustrated by the broken lines in FIG. 3 where the flap is deflected and becomes rotationally driven by the rotating broom. Thus the flap is rotated to a position in which it is again accommodated within the space **16**, and the flap extents **15***a* and **15***b* have reversed. Mounting of the flap by arms **19** for bodily displacement further assures freedom of the flap to displace and rotate in the manner described whatever may be the size of debris **22** normally encountered by the flap.

Between the sweeping operations the flap may be elevated for travel to the broken line position appearing in FIG. 2 by raising chain connection **23** with one of the arms **19**.

We claim:

**1.** In a road sweeper having a powered cylindrical pickup broom rotatable about a horizontal axis, an arcuate shroud defining a broom chamber and having its forward wall spaced above the road surface, a bodily rotatable air seal flap pivotally mounted between its upper and lower extents and positioned forwardly of the broom so that normally the lower extent of the flap travels the road surface and the upper extent is received within a space between the broom and said forward wall, said flap being rotatable by engagement with larger objects encountered on the road to reverse the positions of said flap extents.

2. A road sweeper according to claim 1, in which the flap is flexible and is deflected by and escapes said wall during the flap reversal.

3. A road sweeper according to claim 2, in which said flap is normally inclined toward the broom.

4. A road sweeper according to claim 1, including means mounting the flap and its pivot for bodily upward movement.

5. A road sweeper according to claim 4, in which said mounting means comprises a flap carrying arm pivoted to the sweeper frame for vertical swinging movement.



6. A road sweeper according to claim 5, including means limiting downward swing of said arm, and means for elevating the arm.

**References Cited**

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EDWARD L. ROBERTS, Primary Examiner