F. C. MASON.

CARPET SWEEPER.

APPLICATION FILED JAN. 28, 1908.

914,438. Patented Mar. 9, 1909.

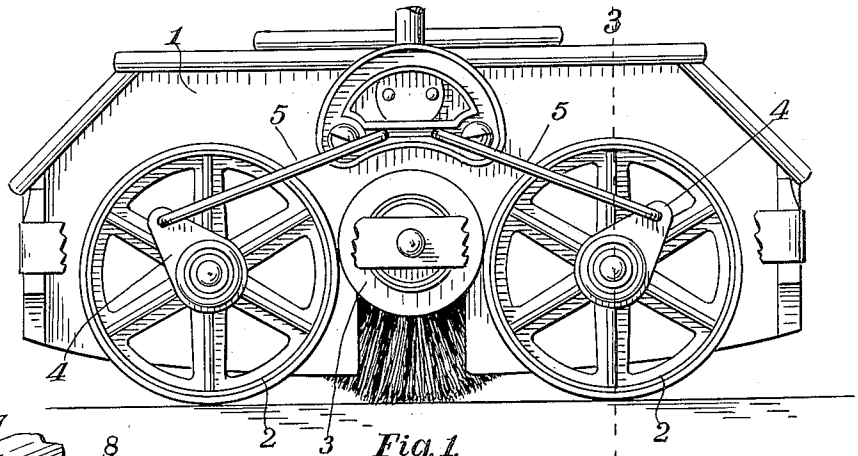


Fig. 1.

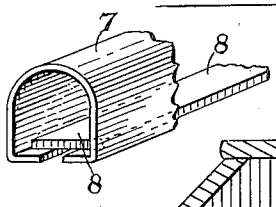


Fig. 4.

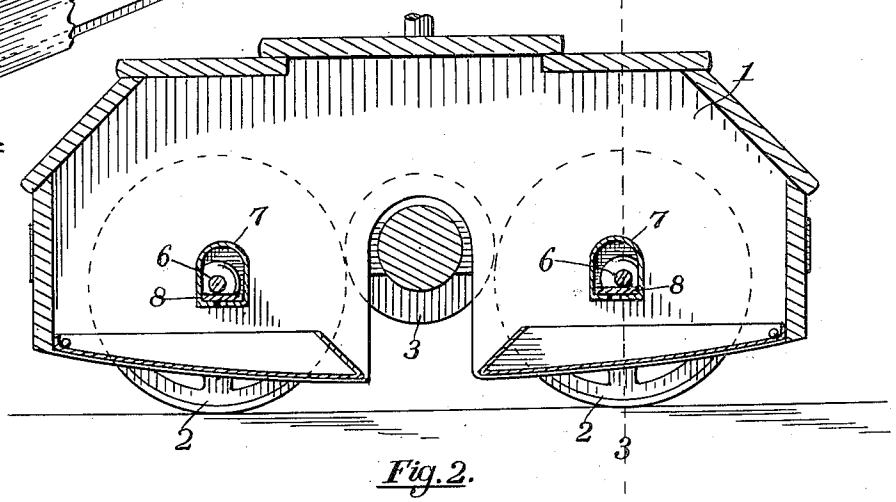


Fig. 2.

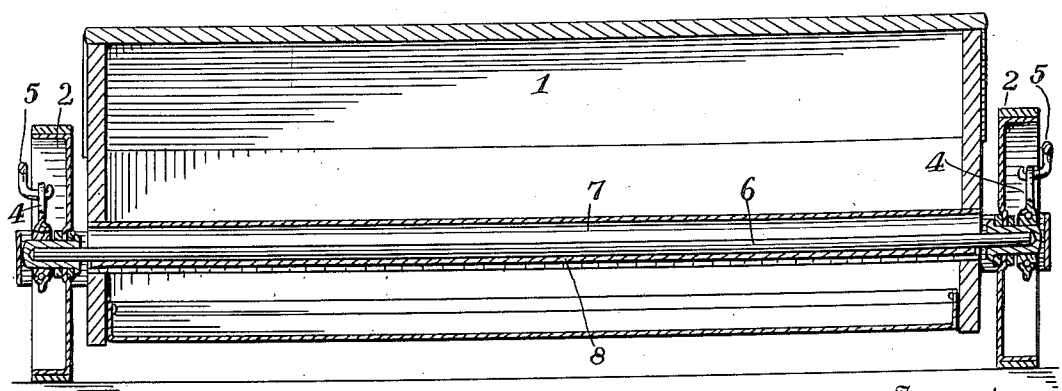


Fig. 3.

Witnesses

Georgiana Chace

George Holloway

Inventor

Francis C. Mason

By Luther V. Moulton

Attorney

UNITED STATES PATENT OFFICE.

FRANCIS C. MASON, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO BISSELL CARPET SWEEPER COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN.

CARPET-SWEEPER.

No. 914,438. Specification of Letters Patent. Patented March 9, 1909.

Application filed January 28, 1908. Serial No. 413,053.

To all whom it may concern:

Be it known that I, FRANCIS C. MASON, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in carpet sweepers and more particularly to such devices as shown in the patent to Drew, No. 575,219, dated January 12, 1897, in which is provided a tube surrounding the rod constituting the axle of the driving wheels; said tube being for the purpose of preventing dust and other obstructions from getting into the bearings of the said wheels, the axle being normally at or near the axis of the tube and wholly supported by the springs. The normal adjustment of the brush, relative to the floor, depends wholly on the tension of the springs due to the weight of the machine and any variation in stiffness or adjustment of the springs will vary this contact, which is thus difficult to determine or maintain. The springs tend to weaken by use and thus also change the normal adjustment of the brush, even if correct at first.

The object of my invention is to provide an improved tube in this class of devices which will avoid the foregoing objections; to provide a device that is positively adjusted in respect to the normal contact of the brush with the floor, regardless of any excess of tension on the springs, and to provide the same with various new and useful features hereinafter more fully described and particularly pointed out in the claims.

My invention consists essentially in combining a carpet sweeper having driving wheels mounted upon an axle extending through the case, supporting springs mounted upon the case and communicating lateral motion to the axle, and a tube having a flat horizontally disposed bottom portion provided with a suitable somewhat elastic material which the axle engages, as will more fully appear by reference to the accompanying drawings, in which:

Figure 1. is an end elevation of a carpet sweeper embodying my device; Fig. 2. a transverse section of the same; Fig. 3. a longitudinal section of the same on the line 3—3 of Figs. 1 and 2, and Fig. 4 an enlarged perspective detail of the tube.

Like numbers refer to like parts in all of the figures.

1 represents the case of a carpet sweeper; 2 the supporting and driving wheels of the same, which wheels normally engage and rotate the brush pulley 3; 4 pivoted arms in which the driving wheels are journaled, said arms being inclined from their pivots downward and inward toward the brush pulley and pivoted on the outer and movable ends of spring supports 5 attached to the case and supporting the same.

6 represents rods forming the axles and extending through the case, on which rods the opposing driving wheels are mounted. Surrounding each of these rods and also extending through the case is a dust excluding tube 7 preferably arched or semi-cylindrical at the top, and also having vertical sides and a horizontal bottom portion. This tube is preferably made of sheet metal and with an open seam in the bottom. Inserted in the bottom of the tube is a horizontally disposed flat strip 8 of any suitable non-sonorous or slightly yielding substance, such as leather, fiber, paper or other analogous material, which covers the seam and will be noiseless or substantially so when engaged by the rod 6. The surface of this strip being arranged horizontally, and the arms 4 inclined inward and downward the rods will adjust horizontally toward and from the brush pulleys within the limit of the width of the tube and thus the tube will not in any wise interfere with the proper contact of the driving wheels with the brush pulleys or contact of the brush with the floor when the springs force the axle against the bottom of the tube. The bottom of the tube thus affords a horizontal plane stop to limit the downward adjustment of the axles and to accurately determine the normal contact of the brush with the floor regardless of the tension of the springs, and when sufficient downward pressure is applied by the operator the springs will yield and the axle will rise off the bottom of the tube without making a rattling noise, due to the vibration of the axles. By this construction, as the driving wheels and brush pulleys wear and thus become reduced in diameter, the axles adjust horizontally toward each

other on the bottom of the tubes without changing the normal contact of the brush with the floor.

What I claim is:

1. A carpet sweeper comprising a case, a brush shaft journaled in the case, driving wheels engaging the brush shaft, an axle connecting the driving wheels, a tube surrounding the axle, said tube having a flat horizontally disposed bottom portion to permit the axle to move horizontally in contact therewith and an upwardly extended portion to permit the axle to move vertically therein, and springs connected to the axle and yieldingly forcing the same in contact with the bottom of the tube and toward the brush shaft.

2. A carpet sweeper comprising a case, a brush shaft journaled in the case, driving wheels engaging the brush shaft, an axle connecting the driving wheels, a tube surrounding the axle, said tube having a flat horizontally disposed bottom portion to permit the axle to move horizontally in contact therewith and an upwardly extended portion to permit the axle to move vertically therein, arms inclined toward the brush shaft at their lower ends and connected to the axle, and springs supporting the case and connected to the upper ends of the arms to yieldingly force the axle in contact with the bottom of the tube and toward the brush shaft.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS C. MASON.

Witnesses:

PALMER A. JONES,

LUTHER V. MOULTON.