No. 748,560. PATENTED DEC. 29, 1903.

G. L. REENSTIERNA.

CARPET SWEEPER.

APPLICATION FILED MAR. 9, 1903.

NO MODEL.

Fig. 1.

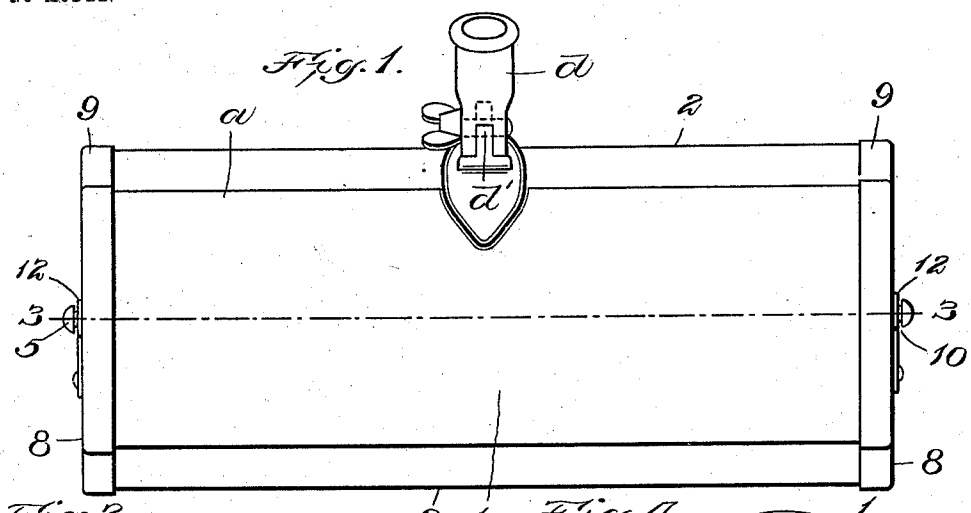


Fig. 2.

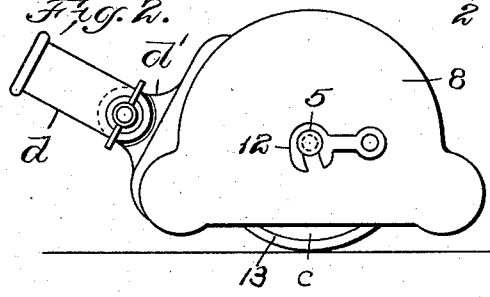


Fig. 4.

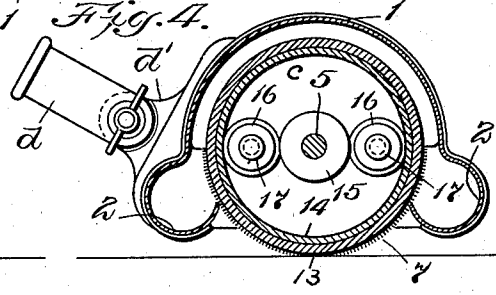


Fig. 3.

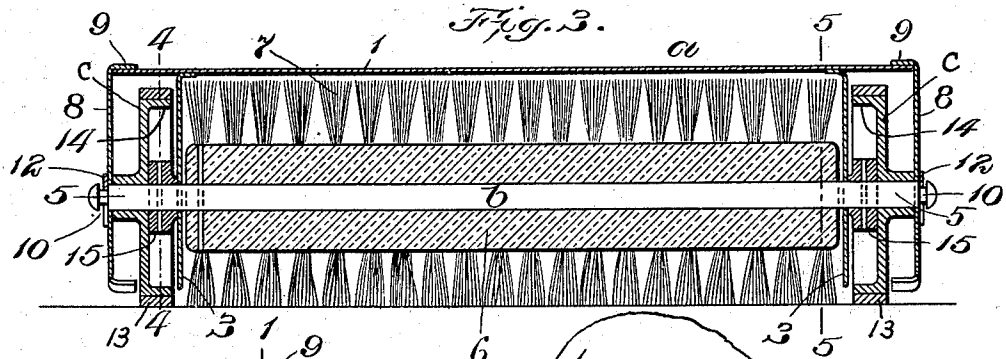


Fig. 5.

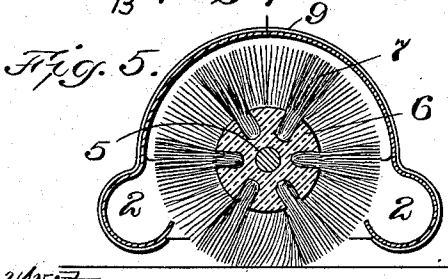
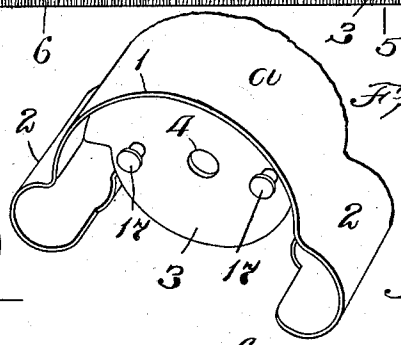


Fig. 6.



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No. 748,560. Patented December 29, 1903.

UNITED STATES PATENT OFFICE.

GUSTAF L. REENSTIERNA, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO R. F. STAHL AND JOHN FENNELL, OF BOSTON, MASSACHUSETTS.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 748,560, dated December 29, 1903.

Application filed March 9, 1903. Serial No. 146,821. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF L. REENSTIERNA, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

This invention has for its object to provide certain improvements looking to the compactness of construction, convenience of operation, and general efficiency of a carpet-sweeper; and it consists in the improvements which I will now proceed to describe and claim.

Of the accompanyings drawings, forming a part of this specification, Figure 1 represents a top plan view of a carpet-sweeper embodying my invention. Fig. 2 represents an end elevation of the same. Fig. 3 represents a section on line 3 3, Fig. 1. Fig. 4 represents a section on line 4 4, Fig. 3. Fig. 5 represents a section on line 5 5, Fig. 3. Fig. 6 represents a perspective view of one of the end portions of the casing.

The same characters of reference indicate the same parts in all the figures.

a represents the casing of my improved carpet-sweeper, said casing being preferably made of sheet metal. The casing comprises a central portion 1, which is arched or substantially semicircular in cross-section, two pockets 2 2, which are formed on the edge portions of the central portion 1 and open inwardly toward the center of the casing, as shown in Figs. 4, 5, and 6, and two partitions 3 3, affixed to the interior of the casing at short distances from the ends thereof, each partition having an orifice 4, Fig. 6. The orifices 4 constitute bearings for trunnions 5 5, affixed to and projecting from the ends of the rotary brush *b*. The said brush may be of any suitable construction and is here shown as composed of a body or hub portion 6, to which the trunnions 5 5 are rigidly affixed, and bristles 7, radiating from the hub portion. The trunnions 5 5 may be the end portions of a rod or shaft extending through the hub 6, as shown in Fig. 3. The periphery of the brush is concentric with the arched central portion of the casing, a narrow segmental space existing between the periphery of the brush and the inner surface of the casing.

The pockets 2 2 constitute the sides of an opening at the bottom portion of the casing, into which opening the lower portion of the brush projects, the lower edges of the mouths or openings of the pockets being in close proximity to the periphery of the brush, so that when the brush is rotated the pockets will catch the sweepings. The outer sides or backs of the pockets project outside the radius of the arched portion 1 of the casing, while the lower or inner edges of the pockets are within said radius. The pockets therefore constitute enlargements of the above-mentioned segmental space. The matter raised from the carpet by the brush is confined by the arched portion of the casing against the periphery of the brush until it reaches the rear pocket, into which said matter is discharged centrifugally. I have found that by thus confining the matter against the periphery of the brush until it reaches a pocket provided for its reception I am enabled to effectively lodge all the matter in the pocket and prevent any liability of scattering the matter which would exist if the casing were of angular form and were separated from the periphery of the brush by an irregular or varying space. The central portion 1 is open at one or both ends, and the pockets 2 2 are also open at one or both ends, the open end or ends being provided with a removable cover, which when removed permits the discharge of the sweepings from the ends of the pockets. As the casing is formed to fit the curvature of the periphery of the brush, and, further, as the pockets are arranged in close proximity to the brush, it will be seen that the extreme width of the casing at either end is so reduced that the sweepings can be conveniently discharged into a small opening, such as a hole in the top of a cooking-stove, without liability of scattering the sweepings upon the top of the stove.

The open ends of the central portion 1 and the pockets 2 2 are closed, preferably, by a removable end piece or cap 8, having a flange 9, that fits the outer surfaces of the central portion and pockets at the ends of the

casing. When the end piece 8 is in place, it forms the outer side of a chamber, the inner side of which is formed by one of the partitions 3. It will be understood that there is an end piece at each end of the casing forming the outer side of a chamber, as above stated, although, if desired, one of the end pieces may be fixed, it being necessary to provide for the discharge of the sweepings at only one end. The removable end piece may be detachably secured to the casing by any suitable means. I have here shown as the securing means a groove 10, formed in the outer end portion of a trunnion 5, said trunnion being extended outwardly far enough to pass through an orifice formed for its reception in the end piece 8. To the end piece is pivoted a hook or catch 12, adapted to engage the groove 10, and thus lock the end piece in place. When the hook 12 is disengaged from the groove 10, the end piece can be readily removed.

c c represent the driving-wheels, these being located in the above-mentioned chambers between the end pieces 8 and partitions 3 3. The driving-wheels *c c* are mounted upon the trunnions 5 5 and each wheel is provided with an external tread-surface 13, adapted to bear upon the carpet, and with an internal friction-surface 14, concentric with the tread-surface.

15 15 represent friction-wheels affixed to the trunnions 5 5 within the driving-wheels *c c*. Between each friction-wheel 15 and the internal friction-surface 14 are interposed two intermediate friction-wheels 16 16, which are mounted to rotate loosely upon studs 17 17, Fig. 6, affixed to the partitions 3 3. The intermediate wheels are in close frictional contact both with the friction-wheels 15 15 and the internal friction-surface 14, as shown in Fig. 4. It will be seen, therefore, that when the driving-wheels are rotated their rotary motion is transmitted through the intermediate wheels 16 16 and friction-wheels 15 15 to the trunnions 5 5 and brush *b*. The friction-surfaces of the driving-wheels *c c* and of the friction-wheels 15 15 and 16 16 may be of any suitable frictional material, preferably lead.

The described mechanism for rotating the brush is simple and compact and is located entirely within the casing, there being no external gearing or other driving mechanism. The detachable end pieces permit ready access to the driving mechanism and the ready application and removal of the members thereof.

d represents the handle of the sweeper, the same being provided with a hinge member which is connected with a corresponding hinge member *d'*, affixed to the central portion of the casing at one side thereof, as shown in Figs. 1 and 2.

I claim—

1. A carpet-sweeper comprising a sheet-metal casing having an arched or substantially semicircular central portion, and longitudinal pockets forming the opposite sides of a brush-receiving opening at the bottom of the casing, a brush journaled in the casing with its periphery substantially concentric with the arched portion of the casing, the backs of the said pockets projecting outside the radius of the central portion, while their lower edges are within said radius, each pocket constituting an enlargement of the segmental space between the brush and the central portion of the casing and receiving the matter carried through said space by the brush, the bottom of the sweeper being entirely open between the edges of the pockets, and means for rotating the brush.

2. A carpet-sweeper comprising a casing having longitudinal pockets forming the opposite sides of a brush-receiving opening at the bottom of the casing, bearings located within the casing near the ends thereof, a brush having trunnions journaled in said bearings and projecting outwardly therefrom beyond the ends of the casing, one of the trunnions having a peripheral groove in its outer portion, a detachable end piece formed to cover an end of the casing and to close the corresponding ends of the pockets, and a movable catch mounted on said end piece and adapted to engage the said groove.

3. A carpet-sweeper comprising a casing having longitudinal pockets forming the opposite sides of a brush-receiving opening at the bottom of the casing, said pockets being open at the ends of the casing, bearings located within the casing near the ends thereof, a brush having trunnions journaled in said bearings and projecting outwardly therefrom, driving-wheels loosely mounted on said trunnions at the outer sides of the bearings, means for transmitting motion from the driving-wheels to the trunnions and brush, end pieces covering the ends of the casing, the ends of the pockets, and the driving-wheels, one of said end pieces being removable, and means for detachably securing the removable end piece.

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

GUSTAF L. REENSTIERNA.

Witnesses:
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RUDOLPH F. STAHL.