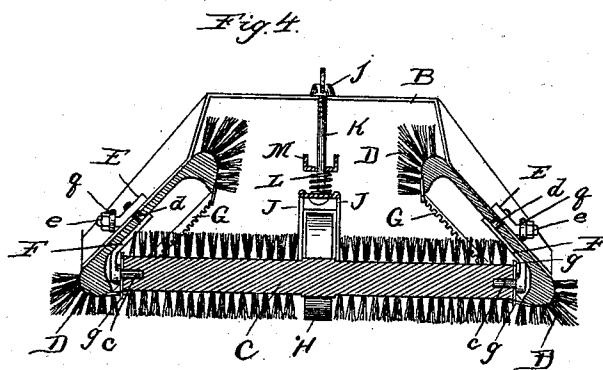
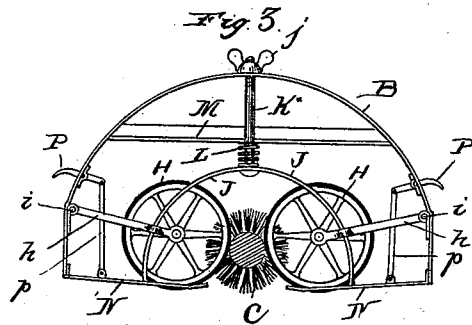
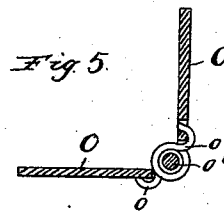
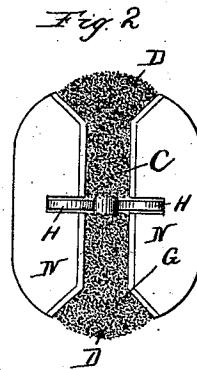
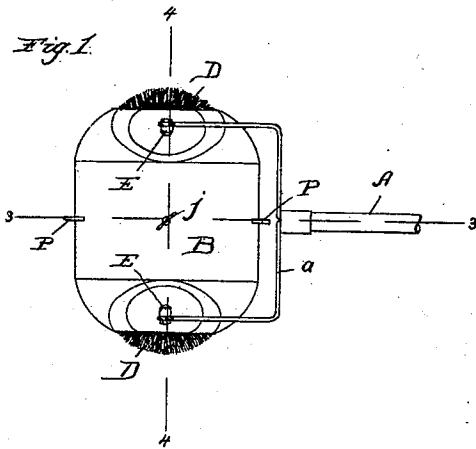


(No Model.)

C. TANGENBERG.
CARPET SWEEPER.

No. 471,515.

Patented Mar. 22, 1892.



Witnesses:

Lew C. Curtis
A. W. Munday.

Inventor:

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UNITED STATES PATENT OFFICE.

CHRISTIAAN TANGENBERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIS M. SHERMAN AND FRED H. BUTLER, OF SAME PLACE.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 471,515, dated March 22, 1892.

Application filed August 14, 1891. Serial No. 402,624. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAAN TANGENBERG, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Carpet-Sweepers, of which the following is a specification.

This invention relates to the construction of carpet-sweepers; and my principal object therein has been to adapt the ordinary carpet-sweeper, wherein the brushes are inclosed in a suitable casing, so that it may take up the dirt adjacent to the base-boards of the room and from the corners.

The nature of the changes made by me in the sweeper by which I accomplish this and other objects will be fully set forth in the following description and illustrated in the accompanying drawings, in which latter—

Figure 1 is a plan and Fig. 2 a bottom view of my improved sweeper. Fig. 3 is a central vertical cross-section on the line 3 3 of Fig. 1, and Fig. 4 is a central vertical longitudinal section on the line 4 4 of Fig. 1. Fig. 5 is a detail of a form of spring-hinge upon which the bottom plates may swing.

My sweeper is operated by a handle A in the ordinary manner, and said handle is joined to the sweeper by a bail a.

B is the box or casing wherein all the brushes and their operating mechanism of the sweeper are confined and which serves as a support therefor.

I employ in my improved sweeper a central longitudinal brush C horizontally positioned, and brushes D at either end of said central brush, the latter preferably mounted upon inclined axes. The end brushes project beyond the ends of the central brush and also to some extent beyond the ends of the casing B, so that they are well adapted to take up the dirt from the corners and along the sides of the room and adjacent to pieces of furniture. They are desirably formed upon crown-shaped cores and rotate upon axes d, supported in the casing. Upon the outer ends of these axes and outside the casing are nuts E, and inside of the brush-cores and attached to the inner end of said axes are brackets F, extending down opposite the ends of the central brush and there provided with pins c,

serving as pivots to the central brush. In this manner the brushes are supported from the casing, and it will be seen that they will of necessity maintain the same position relative to each other by reason of the construction of these supports. The end brushes receive their motive power from the center brushes through the teeth g, provided upon the end of the center brush, and an internal gear or toothed rim G, attached to the inner edge of the end brushes. The casing B is preferably shaped at the part adjacent to the end wheels, so as to present a plain surface to the side of said end brushes and serve in some measure as a guard to said brushes and to keep them in proper line.

The central brush I operate by means of rolls H, having rubber tires, and which are in frictional contact with the core of brush C at or near its longitudinal center, said rollers being located at either side of the center brush, as shown at Figs. 2 and 3. These rollers are hung upon swinging arms h, pivoted to the casing at i and desirably inclined downward. A frame, which preferably consists of two wires J, connects the swinging arms h together and enables the vertical adjustment of said arms whenever it is desired to raise the rollers for the purposes stated below. The frame J is joined to the lower end of a bolt K, which extends up through the casing and is there provided with a thumb-nut j. At L is a spring encircling said bolt and confined thereon between the head at the lower end of the bolt and a cross-bar M. This spring tends to force the bolt downward to the extent permitted by the position of the thumb-nut. The ends of the frame J, it will be noticed, extend to the bottom of the sweeper and come in contact with the bottom plates N, which are supported upon spring-hinges—such, for instance, as illustrated in detail at Fig. 5, and of which O O represent the leaves, o the spring tending to keep the same closed, and o' the pintle. By means of the spring-hinges the plates N are kept closed in their normal position, and such normal position is determined by the position of frame J. Now as the bristles of the brushes become worn away by use I raise the adjusting-bolt K by the thumb-nut against the tension of the

spring L, and thereby lift the rollers H and allow to the bottom plates a normal position somewhat higher than their previous one. This retraction of the rollers and elevation of the bottom plates leaves the bristles still projecting from the sweeper to the extent required for efficient work, notwithstanding their shortened condition. Of course this adjustment is but slight, and will not in practice be sufficient to lessen the friction between the rollers H and the center brush to any extent likely to impair the rotation of the brush. The bottom plates are opened whenever necessary to discharge the accumulated sweepings by operating the pivoted thumb-levers P, which are joined to the plates by rods p. Said plates are shaped by preference as shown in Fig. 2, being cut away at each end to allow the end brushes to project and serve their purpose.

The nuts E may be conveniently made to serve as a means for attaching the handle by providing them with bosses e to receive the eyes q of the bail a.

By means of my improved sweeper nearly all parts of the room can be efficiently swept, and the use of brooms in a very large percentage of cases can be omitted without detriment. The end brushes, by reason of their inclined position and construction, are enabled to lap over the center brush, so that the latter may be about the ordinary length without adding to the size of the sweeper. The inclined position is also favorable for securing proper action by the end brushes, which have also the same surface speed as the center brush, notwithstanding the disparity in the diameters.

I claim--

1. The combination, in a carpet-sweeper, of a casing B with a longitudinal brush, an end brush, and means for supporting and rotating the same, all inclosed by said casing, said end brush projecting through the casing, so as to adapt it to take up the dirt from along the base-boards, corners of the room, &c., substantially as set forth.

2. The carpet-sweeper wherein are combined a casing B, a longitudinal brush, an end brush having an inclined axis, and devices for supporting and operating said brushes, both the brushes and said devices being inclosed by said casing, substantially as set forth.

3. The carpet-sweeper wherein are combined a casing B, a longitudinal brush, an end brush located at the end of the longitudinal brush, and devices for supporting and

operating said brushes, both the brushes and said devices being inclosed by said casing, substantially as set forth.

4. The carpet-sweeper wherein are combined a casing B, a longitudinal brush, an end brush located at the end of the longitudinal brush and having an inclined axis, means for rotating said longitudinal brush, and gearing whereby power is transmitted from the longitudinal brush to the end brush, substantially as set forth.

5. The combination, in a carpet-sweeper, of a casing, a central longitudinal brush and end brushes D, said end brushes being supported from the casing and the central brush being supported from the pivots of the end brushes, said casing inclosing all said brushes, substantially as specified.

6. The combination, in a carpet-sweeper, of the casing B, the end brushes D, supported from said casing by pivots d, and a longitudinal brush supported from pivots d by brackets F, said casing inclosing all brushes, substantially as specified.

7. The carpet-sweeper wherein are combined driving-rollers H, a central longitudinal brush C, end brushes D, driven from said central brush, and a suitable casing inclosing said rollers and brushes, substantially as specified.

8. The combination, with the brushes of a carpet-sweeper, of vertically-adjustable driving-rollers and bottom plates N, substantially as specified.

9. The combination, with the brush C, of vertically-adjustable driving-rollers H and spring-closing bottom plates adapted to follow said rollers in their adjustment, substantially as specified.

10. In a carpet-sweeper, the driving-rollers H, hung on swinging arms h, in combination with said arms, a frame J, to which the arms are joined, and means for adjusting said frame, substantially as specified.

11. The combination, with the rollers H, mounted upon swinging arms, of the frame J, the adjusting-bolt K, and spring L, substantially as specified.

12. The combination of rollers H, the adjustable frame J, means for adjusting said frame, and spring-closed bottom plates N, held against the lower ends of said frame, substantially as specified.

CHRISTIAAN TANGENBERG.

Witnesses:

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