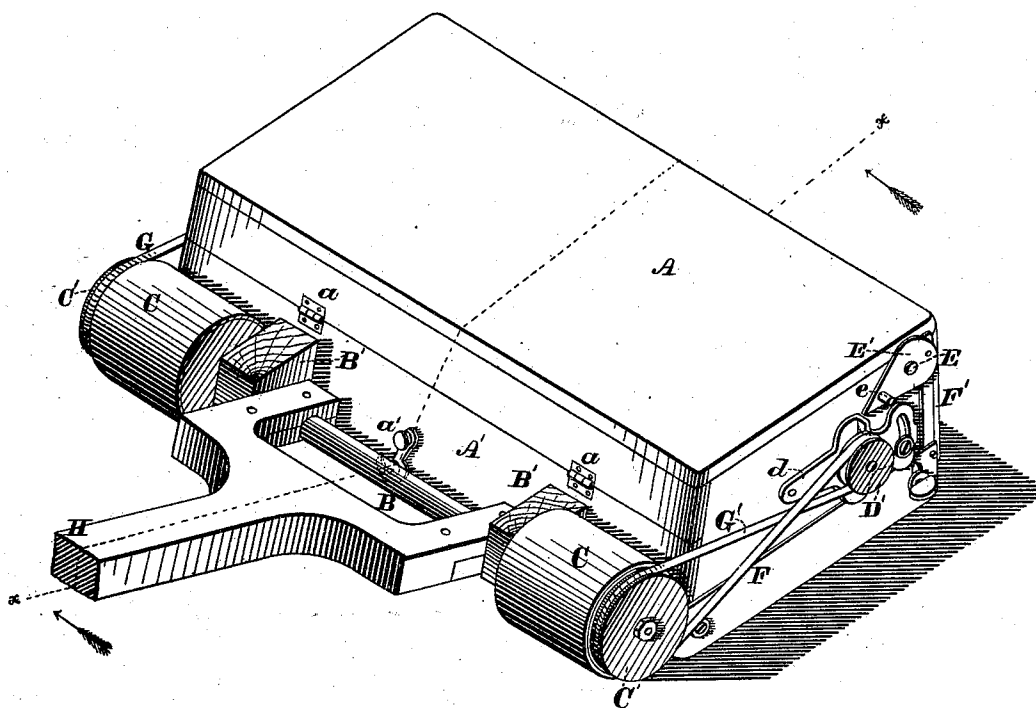


A. C. BRECKENRIDGE.
CARPET-SWEEPER.

No. 173,582.

Patented Feb. 15, 1876.

Fig. 1.



WITNESSES=

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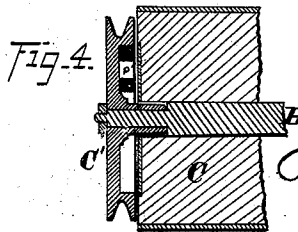
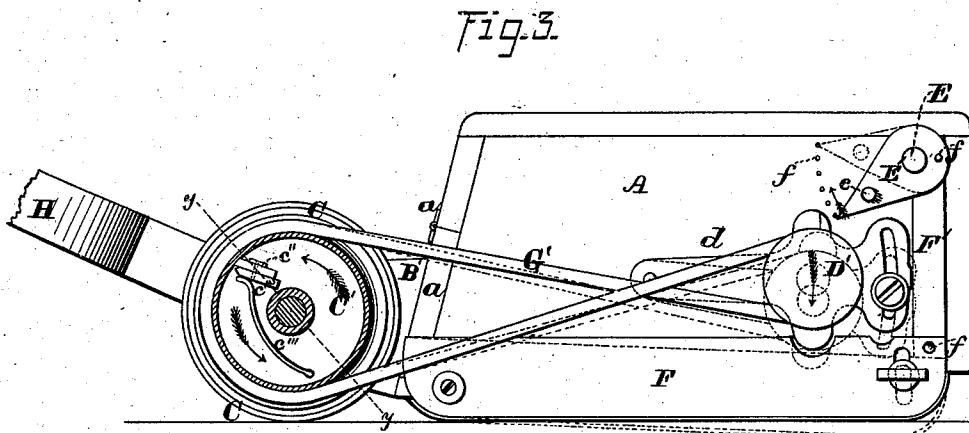
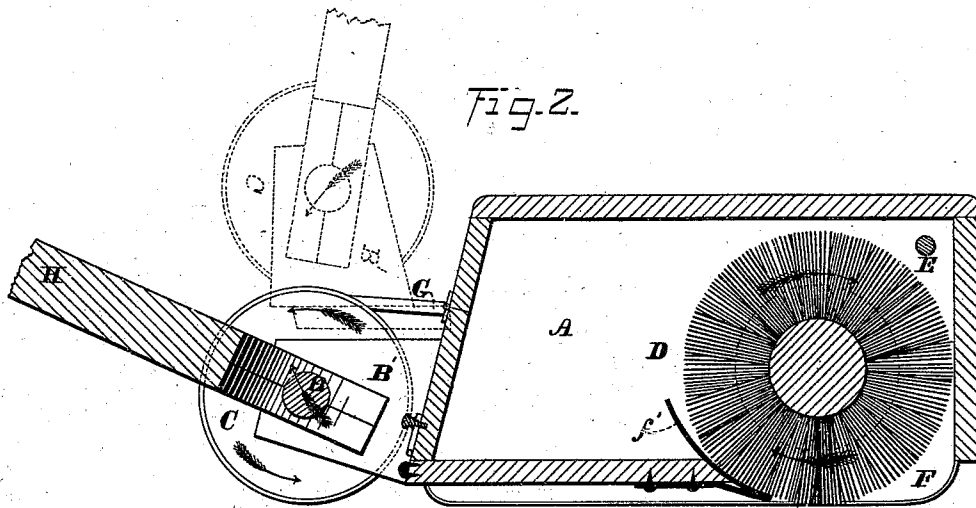
INVENTOR.

A. C. Breckinridge, by
Prindle and Son, his atty

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UNITED STATES PATENT OFFICE.

ALLENDER C. BRECKENRIDGE, OF WEST MERIDEN, CONNECTICUT.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. 173,582, dated February 15, 1876; application filed January 3, 1876.

To all whom it may concern:

Be it known that I, A. C. BRECKENRIDGE, of West Meriden, in the county of New Haven and in the State of Connecticut, have invented certain new and useful Improvements in Carpet-Sweepers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved carpet-sweeping machine, ready for use, except that the handle is shown broken off. Fig. 2 is a longitudinal central section on a line, *x x*, of Fig. 1. Fig. 3 is a side elevation, showing the device for adjusting the dust box or pan and brush vertically, the arrangement of the parts in the grooved pulleys, and the cross-belt in position; and Fig. 4 is a section of one of the grooved pulleys, rollers, and shaft, upon the line *y y* of Fig. 3.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the efficiency of carpet-sweeping machines, by adapting them to any kind of a carpet; and it consists, principally, in the means employed for securing the vertical adjustment of the dust-box and brush with relation to the surface to be operated upon, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for rotating the brush in one direction, whether the machine is moved forward or backward, substantially as and for the purpose hereinafter set forth.

In the annexed drawings, A represents a dust box or pan, to and upon which the machinery, as well as all of the different parts, are fastened and secured. Said box is preferably constructed of wood, (but may, if desired, be constructed of any kind of sheet metal,) and upon the rear side of the same is provided a door, A', that is secured upon its upper side to said box A by means of two or more hinges, *a a*, and at its lower side is fastened, when closed, to said box by means of a hook, *a'*. The object of this door is to provide means for emptying dust from the box or pan, which is accomplished by opening the door, as shown by the dotted lines in Fig. 2. A horizontal

shaft, B, is firmly fastened upon and secured to the door A', by means of two lugs, B' B', which latter serve as journal-boxes for said shaft B, and by means of which the same is enabled to be revolved. Two rollers, C C, are firmly fastened to and upon the shaft B, near each end of the same, the peripheries of which are covered with corrugated india-rubber, put on in the form of a tire, the office of which latter is to prevent said rollers from slipping when the machine is being moved upon a carpet. A brush, D, constructed of any suitable material, is formed upon a horizontal shaft, and placed within the dust box or pan A, near the forward side of the same and parallel to or with the roller-shaft B. The ends of this shaft extend outward sufficiently far to enable journals to be formed upon said shaft outside of the dust box or pan A, and upon the outer end of said journals are fastened and secured two small grooved pulleys, D' D'. Journaled loosely upon each end of the shaft B, outside of the roller C, is a grooved pulley, C', which is provided upon its inner face with an annular groove or recess, *c*, and has its hub extended inward upon said shaft, so as to afford a firm bearing. Upon the outer end of the roller C is pivoted a pawl, *c'*, which has, preferably, a rubber block, *c''*, attached to its forward face, and extending outward, so as to form the engaging-end of said pawl. The pawl *c'* has such width as to cause it to loosely fill the space between the end of the roller C and the inner side of the recess *c*, and has a length greater than the distance radially between its pivotal bearing and the periphery of said recess, so that when turned forward to its furthest limit, the outer end of said pawl will bear against said periphery at a point slightly in rear of a line passing radially through its said pivotal bearing, in which position it is held by a spring, *c'''*, that is attached at one end to or upon the end of said roller, and at its opposite end bears against the rear side of said pawl.

As thus arranged, it will be seen that the rotation of the roller in the direction indicated by the arrows of Fig. 3 will cause the pawl to engage with and rotate the pulley in the same direction, while, by moving said roller in an opposite direction, said pawl will pass over the

periphery of the recess of said pulley without engagement, and by properly arranging both pulleys, one will be rotated when the rollers and their shaft turn in a forward direction and the opposite pulley will be rotated by the opposite motion of said shaft.

The motions described are utilized by connecting the pulleys C' and D' upon one side of the machine by means of an open belt, G, and connecting said pulleys upon the opposite side by a crossed belt, G', by which means each of said pulleys will alternately drive the brush and be driven by it, as the machine is moved in opposite directions over the floor, the result being that said brush is always rotated in the same direction.

The journal-boxes *d d* are rendered adjustable vertically by being pivoted at their rear ends to the dust box or pan A, and by a circular groove or slot and thumb-screw at their forward end, as shown in Figs. 1 and 3. In order to enable all kinds of carpets to be swept with equal facility, it has been found necessary to provide means whereby the dust box or pan A and brush D can be vertically adjusted to suit the work to be done, and this is accomplished as follows:

A small horizontal shaft, E, is placed in the upper and forward end of the dust-box or pan A, and the ends of the former are permitted to project a short distance through the ends of the latter, and are loosely fitted in the same. Two small levers, E' E', are fastened upon and secured to the ends of the shaft E, and by means of a small pin or stud, *e*, that is fastened to said lever upon the right hand side, as shown in Figs. 1 and 3, the operator is enabled to turn the shaft E. The adjusting-shoes F F are pivoted at their rear ends and upon their sides to the dust box or pan A, and extend from the front of said dust box or pan to the rear of the same. The front and rear ends of said adjusting-shoes are curved upward in such a manner as to facilitate their sliding easily upon a carpet in either a forward or backward direction, and at their forward ends and upon their sides are provided slots and thumb-screws for the purposes of maintaining them in any desired positions. The lower ends of the connections F' F' are attached to the upper and forward ends of the adjusting-shoes F F, by means of small pins, that are fitted loosely, and thus form a working-joint, and the upper ends of said connections are attached to the small levers E' E' in a manner similar to that of the lower ends, except that the pins are placed near the outer edge of the hub of said small levers, and thus form partial eccentrics, by means of which combination the dust box or pan A and brush D are enabled to be vertically adjusted. Metallic pins *f f* are driven into the wood, as shown in Fig. 3, to mark degrees by means of which the operator is guided in adjusting the dust box or pan and brush, according to the work to be

done. It will be seen that as the shoes have bearing upon the floor along their entire length, they close the space at such points between the lower edges of the box and said floor, and prevent dust from passing laterally outward from said box, as would otherwise be the case. A plate of sheet metal, *f'*, is fastened upon and secured to the under side of the dust box or pan (a section of which is shown in Fig. 2) and extends transversely across said box from end to end, the object of which, in connection with the brush D, is to gather and retain the dust as it is forced into the box. A handle or tongue, H, by which the machine is drawn or propelled, is fastened loosely to the shaft B, as shown in Figs. 1 and 2, and as thus constructed, the machine is complete.

Its operation is as follows: If a two or three ply or a Brussels carpet is to be swept, the dust-box A and brush D are lowered to suit the work; and if a tapestry or other similar carpet is to be swept, the dust-box and brush are raised, and, whether the machine is pushed or pulled, the result is the same, so far as the revolving brush is concerned, as it will always rotate in a forward direction. It is believed that the last-mentioned arrangement, together with the means provided for vertical adjustment, gives this machine decided advantages that are not possessed by others, as the operator is enabled by its use to sweep any kind of carpet (whether skilled in the use of this class of machines or not) in the most thorough manner, and without injury to the same.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In a carpet-sweeping machine, a shoe or bearing, F, placed beneath each side of the box or frame A, and combined with and made vertically adjustable with relation to said frame, substantially as and for the purpose specified.

2. In combination with the shoes F and F, pivoted at their rear ends to or upon the box A, the shaft E, the levers E' and E', and the bars F' and F', pivoted eccentrically upon said levers and connected with the forward ends of said shoes, substantially as and for the purpose shown.

3. In combination with the pulleys D' and D' of the brush D, the shaft B, rollers C and C, pulleys C' and C', provided each with an annular recess, *c*, and journaled upon said shaft, the pawls *c'* *c''* *c'''*, attached to the end of said roller C, and the open and crossed belts G and G', respectively, substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of December, 1875.

ALLENDER C. BRECKENRIDGE.

Witnesses:

LEWIS BIRDSEY,
GEO. R. CURTIS.