J. HINKLEY.

CARPET SWEEPER.

No. 179,453. Patented July 4, 1876.

Fig. 1.

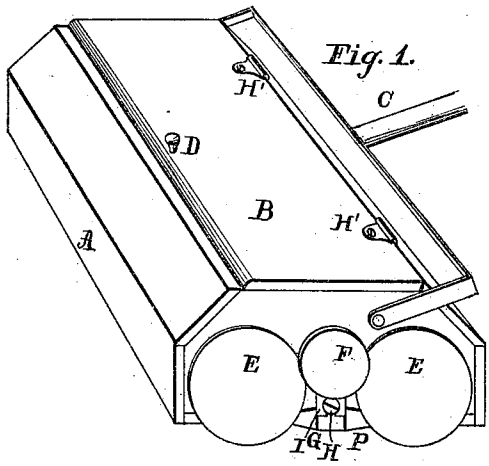


Fig. 2.

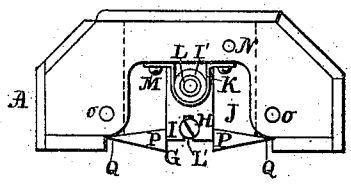


Fig. 4.

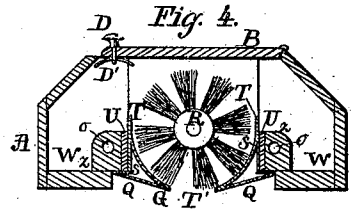


Fig. 3.

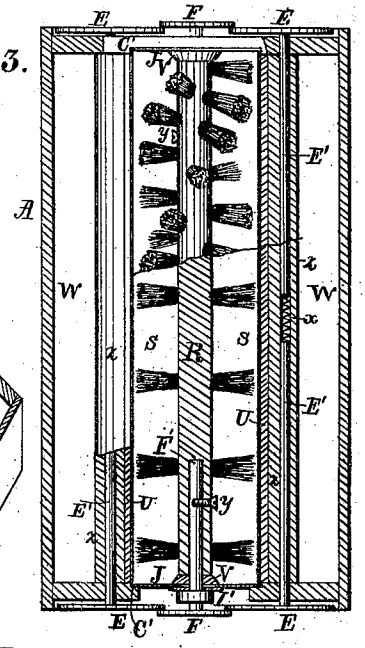


Fig. 5.

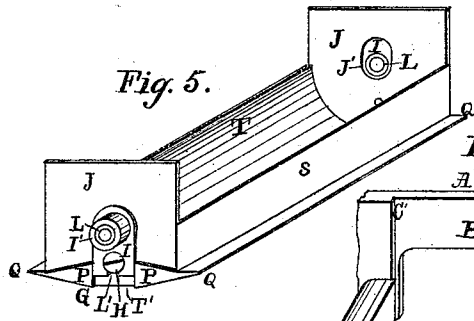
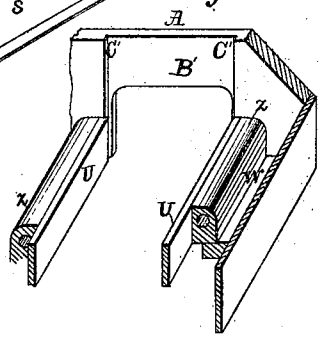


Fig. 6.



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UNITED STATES PATENT OFFICE.

JONAS HINKLEY, OF NORWALK, OHIO.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **179,453**, dated July 4, 1876; application filed January 25, 1876.

To all whom it may concern:

Be it known that I, JONAS HINKLEY, of Norwalk, county of Huron, State of Ohio, have invented certain new and useful Improvements in Carpet-Sweepers; and I do hereby declare the same to be fully described in the following specification and represented in the annexed drawings, in which—

Figure 1 is an isometrical perspective view, showing the machine ready for use. Fig. 2 is a view of one end of the machine, with the wheels E E and F removed, both ends of the machine being alike; Fig. 3, a transverse horizontal perspective view, with the upper half removed to show the connection and relative position of the brush with the friction or driving gear; Fig. 4, a transverse vertical section of the machine, showing the brush and its holder or pan in position when in use. Fig. 5 is an isometrical perspective view of the brush holder or pan, showing its bearings, circular portion, and frame-work. Fig. 6 is a perspective view from above, when the cover is removed and the brush and its holder or pan is taken out.

Like letters of reference indicate corresponding parts in the different figures of the drawings, and both ends of the machine are substantially alike.

My invention relates to that class of carpet-sweepers that use a revolving brush which derives its rotation from wheels in contact with the carpet or floor; and consists of a novel construction and arrangement of its parts, as hereinafter more fully set forth and claimed, by which a more simple, cheaper, and more effective device of this character is produced than is now in ordinary use.

The nature and operation of my machine or invention will be readily obvious to all conversant with such matters from the following description:

In the drawings, A represents the box or body of the machine; B, the cover, hinged at H′, and held firmly in place, when shut, by the thumb-piece D, which has a curved section, D′, riveted to the inner end of its stem, as shown in Fig. 4, which will swing, so that one end of it will press against the under side of the box adjoining to it, and hold that and the hinged joint firmly closed to prevent the dust from escaping and the cover from rattling. C is a section of the handle, made in the usual form, and is connected to the machine by pivots projecting from the forked end of said handle, entering holes, as shown at N, Fig. 2. The box A is held suspended above the carpet or floor on four wheels, E, so as not to come in contact with either when in use, and so that its weight and the pushing on the handle will be all on the wheels E, to cause them to revolve with sufficient power to revolve the brush, which is connected to the wheel F, as hereinafter shown. The wheels E, with their shafts E′, extend to near the center of the box, as seen in Fig. 3, through the holes O, Fig. 2, and rib Z, Figs. 3 and 4, which form their bearings. Between the inner ends of the shafts E′ there is inserted a spiral spring, X, which serves to press the shafts E′ apart or outward, so forcing the wheels E in contact with the wheels F, thereby producing enough friction by the contact to revolve them at all times when they revolve. The wheels F have their inner edges turned off at an angle where they come in contact with the wheels E, so as to only rest on the edges of them, which causes them to revolve more easily; and as the center of each wheel F is above a center line from the wheels E E, Fig. 1, it will have a tendency to work up, and thereby lift on the brush holder or pan, and cause it to move more lightly over the carpet, also to throw some of its weight upon the wheels E, as will be understood by the description farther on. The wheels F have shafts F′, which extend into the shaft of the brush R, and are held firmly in place by the wood-screw Y being screwed into the brush-shaft R, entering a hole in the shaft F′, and causing the friction-gear and brush to revolve together. The brush R, as shown in Figs. 3 and 4, is made in the usual manner, although but a few of the bristles are represented. Fastened to each end of it by nails or glue are the rough leather washers V, which run against the heads J of the brush-pan, and serve to effectually exclude the threads, hairs, &c., from winding around its journals and clogging the machine. There is an opening at L, Fig. 5, which allows the fine dust, if any should get in, to work out over the screw H. The brush holder or pan G

(partly shown in the first four figures,) is best shown in Fig. 5. It is made by forming the heads J with an elongated opening, J′, and by cutting the lower corners to the proper angle necessary to raise the outer edges of the bottom pieces Q, so as to insure their passing over any litter on the carpet or floor, so that the brush can reach it. The bottom pieces Q turn up on each end, and are riveted at P to the end piece J, and far enough apart to allow the brush to reach the carpet or floor, as shown at T′. The side pieces S may be soldered in or riveted to the head J and bottom pieces Q. T is a circular piece of tin soldered in. I is a piece of metal connected to and holding the hub I′, and has a slot (partly shown) in the lower end, to allow it to be moved up or down by means of the screw H. The inner end of the hub I′, projecting in even with the face of the head J, is held in position, and also slides up or down, as required, in the elongated holes J′. The hub I′ is bored out large enough to receive a leather box, L, which is used to prevent a rattling noise, which the peculiar construction of the machine would cause the shaft F to make if the box were hard metal. When the dust pan or brush is in its place in the machine it is held suspended by the leather straps K, (best seen in Fig. 2,) one end of which is fastened to the box, as shown; then passes down around the hub I′, and up to the screw M, which serves to raise or lower the brush-pan. The dotted lines show the positions of the head J inside the recess, which is best shown in Fig. 6, the flat surface resting against the surface B′, cut into the end piece of the box A, and the edges resting in the angles C′, which serve to keep it in an upright position. The sides S of the pan rest against the leather facing U, which is glued to the inner side of the rib Z, which serves to keep the joint tight, and let the side S rest against it, and work up and down without noise. W is the receptacle for the dust and dirt thrown over the rib Z by the action of the brush.

It will be evident by looking at Fig. 2 that the brush-pan is inserted from the under side and rests in the stirrup K, and can work up or down in prescribed limits—that is, from resting in the stirrup K, as shown, which is near its lowest limits, up until the edges of the bottom pieces Q come in contact with the under side of the rib Z, and the top of the head J comes in contact with the cover.

In adjusting the machine for use, set the brush so it will be down even with the under side of the pan; then adjust the pan so it will not quite touch or rub on a bare floor. Then it becomes self-adjusting from a bare floor to all kinds and thickness of carpets, for the pan will always lie tightly on the carpet, and let the driving-wheels sink into a firm hold to insure their revolving. It will sweep the same when moved either way.

Having thus described my improvement in carpet-sweepers, I disclaim all others now in use, and I also disclaim the friction-gear herein used, as it was secured to me in Letters Patent No. 38,165.

I am also aware that a patent was granted to Samuel F. Pratt, January 18, 1859, No. 22,671, on carpet-sweepers, in which he used elastic-tired wheels, with the brush-shaft resting upon the periphery of and between them in such a manner as to derive its rotating power by the friction of the same, as they are rolled along the carpet; therefore I disclaim his invention and all other kinds of friction-gears except a side-pressure friction-gear, when the sides of the wheels are held in contact by an elastic pressure or spring; but

What I claim as new, and desire to secure by Letters Patent, is, in a carpet-sweeper, substantially the following instrumentalities, to wit:

1. The side-pressure wheels E E E E and F F, in combination with the shafts E′ E′ E′ E′ and F′ F′, springs X X, and brush R, when used in the manner and for the purpose as set forth and specified.

2. The self-adjusting brush-pan G, in combination with the brush R, and box A, when operating together as and for the purpose specified.

3. The ribs Z Z and leather facing U U, in combination with the loose pan G, carrying the brush R, substantially as set forth and specified.

4. The pan G, when composed of the heads J J, sides S S, bottom Q Q, and circular pieces T T, in combination, substantially as set forth and specified.

5. The brush R, leather washers V V, heads J J, having opening L, and circular pieces T T, in combination, substantially as set forth and specified.

6. The box A, handle C, wheels E E E E and F F, pan G, and brush R, in combination, substantially as and for the purpose specified.

JONAS HINKLEY.

Witnesses:
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C. M. HINKLEY.