G. S. GLADDING.

Carpet-Sweeper.

No. 167,164. Patented Aug. 31, 1875.

Fig.1.

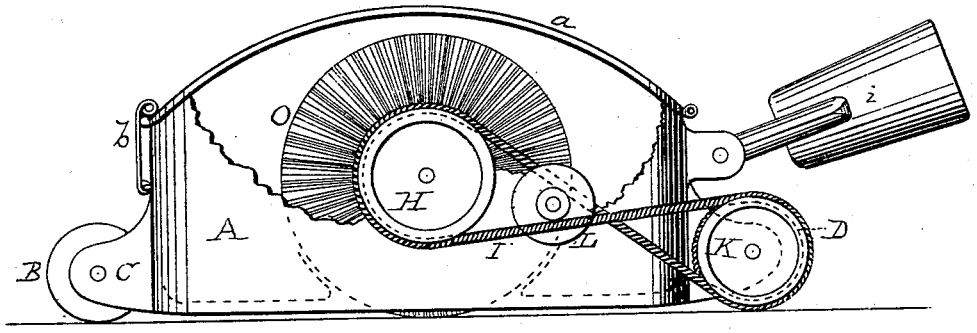


Fig.2.

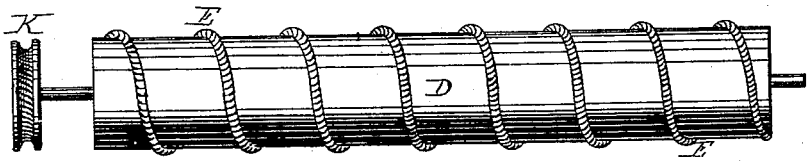
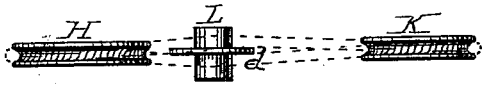


Fig.3.



Witnesses:
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W. Hendley

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by his attorneys
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UNITED STATES PATENT OFFICE.

GEORGE S. GLADDING, OF CHESTER, ASSIGNOR TO CALVIN B. ROGERS, OF DEEP RIVER, CONNECTICUT.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **167,164**, dated August 31, 1875; application filed January 28, 1875.

To all whom it may concern:

Be it known that I, GEORGE S. GLADDING, of Chester, county of Middlesex, State of Connecticut, have invented a new and useful Improvement in Carpet-Sweepers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in sweeping devices, and has for its object the production of a carpet-sweeper of especial durability and effectiveness.

The distinguishing features of my invention are the use of helical springs, which supply the places and fulfill the offices of parts which have usually been constructed of rubber or analogous material, by means of which the brush is actuated, and the employment of a supplemental pulley-wheel, which revolves on its own axis, and effects an important result in the adjustment of the band, which is, as aforesaid, in the form of a helical spring, and in facilitating its operation.

The details of constructions are fully explained hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of a device embodying the invention, a section of the case being removed. Fig. 2 is a detached view of the propelling-roller, and Fig. 3 a like view of the pulley-wheels.

A is a case of convenient form, preferably of metal, provided with the top *a* and clasp *b*, which is hinged, so that it may be opened and closed at pleasure. To its forward end is secured the roller B, of usual construction, turning, in the present instance, upon pivots that have bearings in the ears *c*, and the handle is fastened in the socket *i*. In the bottom of the case an aperture is cut, directly above which is the brush O, the bristles of which depend through the aperture a suitable distance. To the rear end of the case A is attached, in the present instance, in a manner similar to the roller B, a propelling-roller, D, around which is coiled the helical spring E, a groove being cut to receive it. The spring E, which is of smooth wire, is secured in place by passing the ends of the wire through perforations in the body of the roller, and clinching the projecting extremities, whereby the spring is very effectively held in its place. To the axle of the brush is attached the pulley-wheel H, which is of sufficient size to insure the necessary velocity of rotation of the brush. The said wheel H is provided with a groove having spiral indentations, which conform to the coils of the spring I, hereinafter described, which is the direct actuating agent of the brush. To the end of the axle of the propelling or driving roller D that is adjacent to the wheel H a pulley-wheel, K, is secured, which is grooved and provided with spiral indentations like the said wheel H. Between the two wheels aforesaid, turning on a pivot attached to the side of the case, is the friction-wheel L, which is provided with a central flange, *d*. I is a helical spring, which fulfills the offices of a belt, and which passes around the wheels H and K, and is crossed in proximity to the wheel L, the upper and lower parts resting upon the same upon either side of the flange *d*, and in contact therewith. By the use of the helical springs very important results are accomplished, which are enhanced by the spiral indentations in the grooved wheels. Thus, by using the coil upon the propelling-roller, greater traction ensues than when rubber or any like material is employed, as the separate wires catch the ply or seams of the carpet, and, adhering thereto, give greater propulsion to the brush. The spiral indentations, in connection with the helical-spring band, act in a manner analogous to cog-wheels, whereby greater force and certainty of action is effectively produced.

I am aware that devices in which rubber coils and bands have been used, for the purpose of propelling the brush have long been known, and I do not, therefore, claim broadly a carpet-sweeping utensil in which the brush is actuated by the employment of elastic material in connection with the propelling-roller, or as a belt to connect the same with the axle of the brush; but

What I do claim is—

1. A carpet-sweeping device in which the propelling-roller is provided with a helical spring coiled around it, for the uses and purposes substantially as described.

2. In combination, the brush O, provided

with the wheel H, wheel L, and wheel K, and the spring-belt I, substantially as and for the purpose set forth.

3. In combination, the roller D, provided with the spiral spring E, wheel K, having its groove spirally indented, wheel L, brush O, having the wheel H, with its groove spirally indented, and spring-belt I, substantially as and for the purposes set forth.

In testimony that I claim the foregoing improvement in carpet-sweepers, as above described, I have hereunto set my hand and seal this 20th day of January, 1875.

GEORGE S. GLADDING. [L. S.]

Witnesses:
GIDEON PARKER,
ASA R. SHAILER.