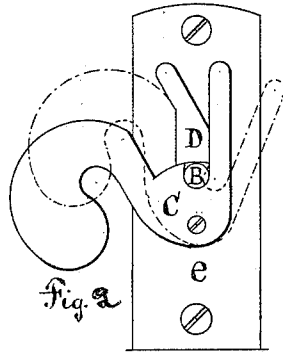
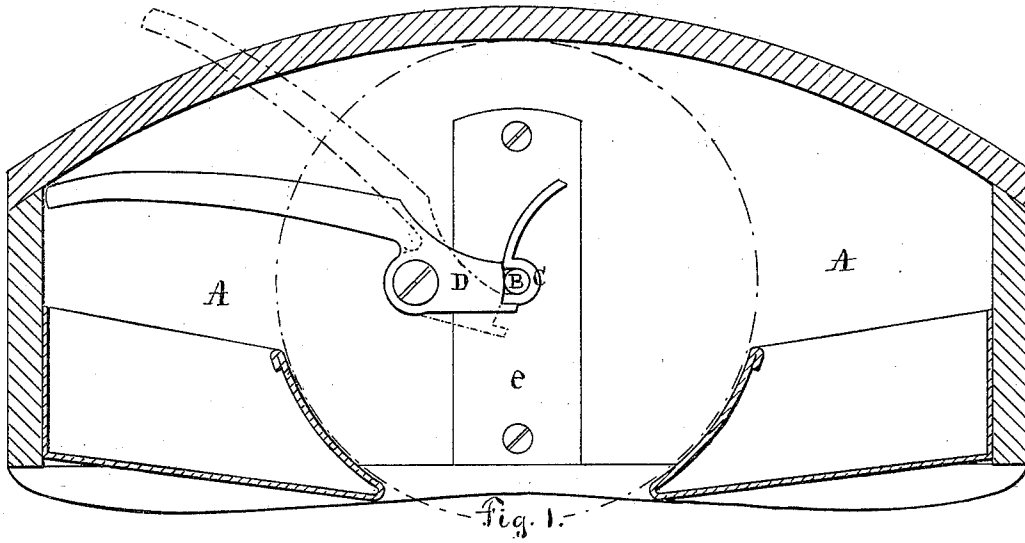


F. H. ROPER.
CARPET-SWEEPER.

No. 176,068.

Patented April 11, 1876.



Chas. F. Sleeper.
J. C. Knapp

Foster H. Roper
by J. E. Maynard
his atty.

UNITED STATES PATENT OFFICE

FOSTER H. ROPER, OF MILTON, ASSIGNOR TO JOHN J. HALEY, OF NEWTON,
AND HENRY C. MORSE, OF BOSTON, MASSACHUSETTS; SAID HALEY AND
MORSE ASSIGNORS TO CHAS W. BASSETT, OF NEWTON, MASS.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **176,068**, dated April 11, 1876; application filed
June 27, 1874.

To all whom it may concern:

Be it known that I, FOSTER H. ROPER, of Milton, Massachusetts, have invented certain Improvements in Carpet-Sweepers, of which the following is a specification:

My invention relates to supporting the brush of a carpet-sweeper in such a manner that it can be readily removed from and replaced in its case, for the purpose of clearing the spindle and its bearing of obstructions; and consists in the combination of an open bearing and a locking-piece, with the vertical walls and the brush-shaft of the sweeper, in such a manner that the brush will be securely held in its place when the locking-piece and open bearing are in one position relatively to each other, and yet may be readily removed and replaced when they are in another relative position.

In the drawings, A represents an end-board of the sweeper-case, having a cylindrical brush revolving on the spindle B; C, the open bearing, formed upon the end plate *e*, attached to the end-board A; and D, the locking-piece, also attached to the end-board by a fulcrum-screw.

It will be seen that when the locking-piece D is in the position shown in full lines in Figure 1, its end will close the bearing C, and the brush-spindle B will be secured thereby in the bearing; but when the locking-lever is moved on the pivot into the position shown in dotted lines, the bearing is thereby opened, and the brush can be readily removed therefrom. In this inclined position, the lever D serves as a guide in replacing the spindle B, and the curved rib adjoining the open bearing on the end plate *e* co-operates to the same end. Stops prevent too great a movement of the lever in either direction.

The tendency of the brush-spindle to escape from the bearing is, when the bearing is closed by the locking-piece, as in Fig. 1, resisted by the end of the lever, the plane of its end face being nearly at right angles to its length. Hence, the fixed fulcrum on which the lever D moves presents a rigid resistance to the escape of the spindle from the bearing, and a pressure of the spindle against the lever end does not tend to turn the lever on its

pivot or to open the bearing. This application of my invention is a peculiar and valuable feature of it, as it renders the lever D distinctively self-locking. Hence, I prefer this particular arrangement to the use of a lever, presenting its side to the spindle, and so liable to be displaced unless some other locking device is also employed. It is, for the same reason, decidedly preferable to any arrangement of springs closing the bearing with a yielding piece.

In the use of the locking-piece, as in Fig. 1, the closed cover would prevent its displacement were there any tendency in that direction; and, again, the greater weight of the long arm of the lever, or its friction on the parts with which it comes in contact, would have the same effect, without the necessity of any special holding devices to retain the lever in its working position.

The open bearing and locking-piece are only required at one end of the brush. The bearing at the other end, and, preferably, at the driving end, may be an ordinary closed cylindrical or slightly-tapering socket, care being taken not to have it fit the spindle so closely as to prevent inclining it somewhat in removing the brush.

The bearings may be formed directly upon the inner surface of the end wall when the case is made of cast iron; but when it is made of wood, I prefer always to form them upon a plate, *e*, separate from the end-board A, for convenience in adjusting them thereupon.

I do not intend to confine myself to the arrangement of the open bearing and locking-lever, shown in Fig. 1, for it is evident that such arrangement may be considerably modified without departing from the spirit of my invention.

One such modification is shown in Fig. 2, in which the locking-piece is stationary and the open bearing movable; or, since both these parts are essential to the complete bearing, we may consider D as the open bearing, and C the locking-lever, a counter weight at the end serving to prevent accidental displacement when in use.

I am aware that in carpet-sweepers an open bearing has been used in combination with a

spring, as shown in the Letters Patent No. 146,016, to Palmer & Spencer, and I distinctly disclaim all spring-bearings; but

I claim as my invention—

1. The combination, in a carpet-sweeper, of the case A, brush B, open bearing C, prolonged to form a spindle-guide, and the locking-piece D, substantially as described.

2. The pivoted locking-lever D, serving to open and to close the bearing C, and also as a guide in replacing the spindle B.

3. In combination with the end-board and brush of a carpet-sweeper, the plate e, having formed thereon an open bearing at right angles to the end-board to which it is secured, and a locking-lever closing said bearing rigidly, substantially as described.

FOSTER H. ROPER.

Witnesses:

J. E. KNOX,

J. E. MAYNADIER.