E. K. BRECKENRIDGE.

CARPET-SWEEPER.

No. 186,456. Patented Jan. 23, 1877.

fig. 1

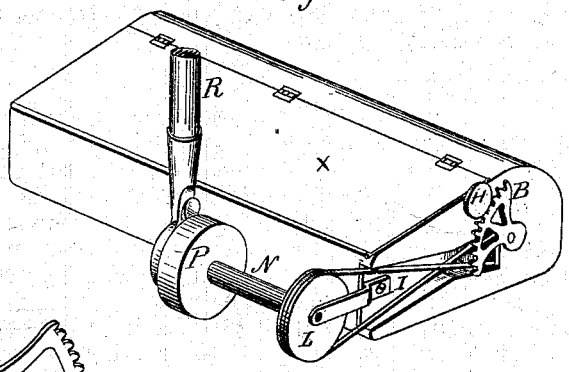


fig. 5

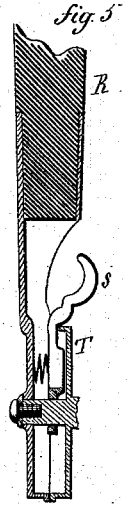


fig. 4

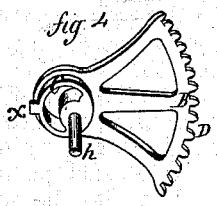


fig. 2

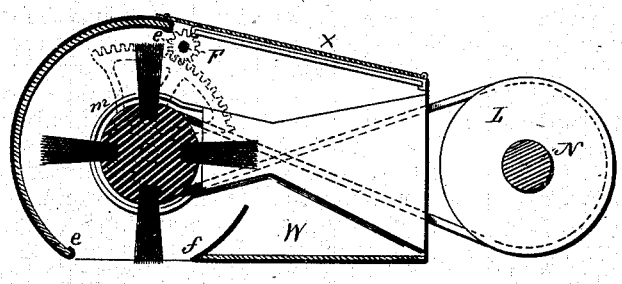


fig. 3

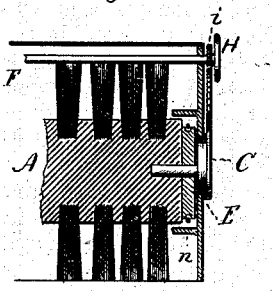
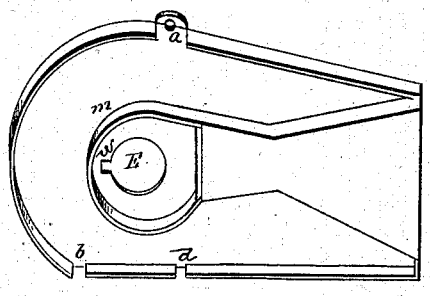


fig. 6



Witnesses.

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UNITED STATES PATENT OFFICE.

ELIAS K. BRECKENRIDGE, OF WEST MERIDEN, CONNECTICUT.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **186,456**, dated January 23, 1877; application filed November 11, 1876.

To all whom it may concern:

Be it known that I, ELIAS K. BRECKENRIDGE, of West Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Carpet-Sweepers; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view; Fig. 2, a transverse section, enlarged; Fig. 3, a partial longitudinal section; Fig. 4, a perspective view of the adjusting-lever; Fig. 5, a vertical section through the handle; Fig. 6, a perspective view of the interior of the driving end.

This invention relates to an improvement in that class of sweepers in which a brush arranged within a case is caused to revolve by the friction of a roll upon the floor, the brush conveying the sweepings into a receiver; and it consists in details of construction, as herein described, and specially recited in the claims.

The general outline of the case, or the construction of the brush proper, does not differ materially from usual constructions. Both ends are constructed from cast metal, with an internal flange around its edge, as seen in Fig. 6. In this flange is formed a notch, *a*, at the top, at the point where the cover is hinged; another notch, *b*, at the bottom, forward of the brush-opening; another, *d*, at the bottom, in rear of the brush-opening. A tin, for forming the front of the case, is bent around the outer surface of the flange from *a* to *b*, and its end turned in, as at *e e*, Fig. 2, which firmly secures that part of the case to the ends. The bottom is, in like manner, turned back, as indicated at *f*, Fig. 2, leaving the space open between *e f*, through which the brush will work. This method of securing the bottom and front prevents their accidental detachment, as well as strengthens their exposed edges against indentation. The front of the case is formed of cast metal, in the usual manner.

The brush A is hung upon a lever, B, at each end. This lever is constructed, as seen in Fig. 4, with a boss, C, at one end, concentric with a toothed segment, D, at the other end, and eccentrically on the boss C a stud, *h*, is form or attached. This boss C rests in a bearing, E, in the end, as seen in Fig. 3. The stud *h* extends into the center or body of the brush A, and forms a bearing upon which the brush will freely turn.

To receive the lever B in its bearing a notch, *w*, is made in the bearing E, (see Fig. 6,) and a corresponding lug, *x*, on the boss C of the lever, (see Fig. 4,) and in such relative position to each other that they do not come in line when the parts are together and in working order; but by turning the lever out of such position the lug *x* is brought into line with the notch *w*, and then the lever may be introduced or removed, as the case may be, the said lug and notch coacting substantially like what is commonly called a "bayonet joint."

Longitudinally through the case a shaft, F, is run, with a pinion, *i*, at each end, working into a segmental gear on the lever B. A head, H, or other concentric device for turning the shaft, is applied at one end. By turning this shaft F the lever at both ends will be correspondingly turned; and owing to the eccentricity of the studs *h* to the boss C or lever-bearings, it follows that the stud *h* will be raised or lowered, accordingly as the lever is turned, and will, to that extent, raise or lower the brush. Through this device the brush may be adjusted relatively to the floor, so as to take a stronger or lighter stroke.

Instead of the segmental gear, the levers may be set at any point of elevation by a set-screw arranged for the purpose; yet the gears are preferable.

On one end of the brush a pulley, *n*, is formed, (see Fig. 3,) and inclosed by a flange, *m*, on the end, and from this flange an external recess, I, is formed in the pulley end, through which the belt passes from the driving-pulley L to the pulley on the brush; hence the belt is inclosed within the plane of the end on the outside, and the flange *m* inside protects the belt, to prevent the sweepings from being drawn in to the pulley or bearing. The pulley L is arranged on a shaft, N, in front, in suitable bearings, and on this shaft, at the center, a friction-roll, P, is attached. This roll

is arranged so that its surface runs upon the floor, and the friction produced upon this roll by moving the sweeper causes its revolution, and the consequent driving of the brush. This roll P has a narrow surface, and is arranged midway of the length of the case, and forms a pivot, upon which the sweeper may be easily turned to the right or left without affecting the revolution of the brush—a difficulty experienced in the usual construction, where a long driving-roll is employed.

The handle R is hung concentric with the shaft, and provided with a latch, S, which will engage with either of several notches on a disk, T, fixed to the shaft, so that the handle may be set upright or secured in any desired position. When set upright, as in Fig. 1, the whole apparatus will remain standing, without the liability of the handle falling, as in the usual hinged bail-shaped connection; or the case may be lifted from the floor by the handle without tilting, as in the case of free handles. A stop, *t*, is arranged in the path of the handle above and below, so as to prevent the handle from turning in either direction beyond the point where the handle comes in contact with the stops.

W is a receptacle for the sweepings, which are removed by opening the cover X, in the usual manner.

I do not wish to be understood as claiming constructing the lower surface of the box inclosed, with the exception of an opening through which the brush operates, so that the whole bottom of the box forms a bearing upon the floor when in use, as I am not the inventor of that construction.

I claim—

1. In a carpet-sweeper, substantially such as described, the ends constructed with internal flanges, with notches *a b d* formed therein, and the edges of the sheet-metal surface turned within the said notches as a means of securing the same, substantially as described.

2. In a carpet-sweeper, the levers B, constructed with a concentric boss, C, for a bearing, in the end, combined with the eccentric stud *h*, to form the bearing upon which the brush revolves, substantially as and for the purpose described.

3. In a carpet-sweeper, the levers B, constructed with a concentric boss, C, for a bearing, in the end, combined with the eccentric stud *h*, to form the bearing upon which the brush revolves, and connected pinions *i*, for simultaneously adjusting the said levers, substantially as described.

4. In a carpet-sweeper, the levers B, constructed with a concentric boss, C, for a bearing, in the end of the case, and with a lug, *x*, combined with a corresponding notch, *w*, in the bearing in the case, substantially as and for the purpose described.

5. In a carpet-sweeper, the driving end of the sweeper, constructed with an external recess, I, to inclose the driving-belt, substantially as described.

6. In a carpet-sweeper, the combination of the narrow roll P, arranged midway of the length of the sweeper, so as to act as a pivot on which to turn the sweeper, substantially as described.

7. In a carpet-sweeper, the handle hung directly to the shaft, and combined with a spring-latch, S, hung in said handle, and the notched stationary disk T, substantially as and for the purpose specified.

ELIAS K. BRECKENRIDGE.

Witnesses:

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