E. B. MOORE.

Carpet-Sweeper.

No. 212,727. Patented Feb. 25, 1879.

Fig. 1.

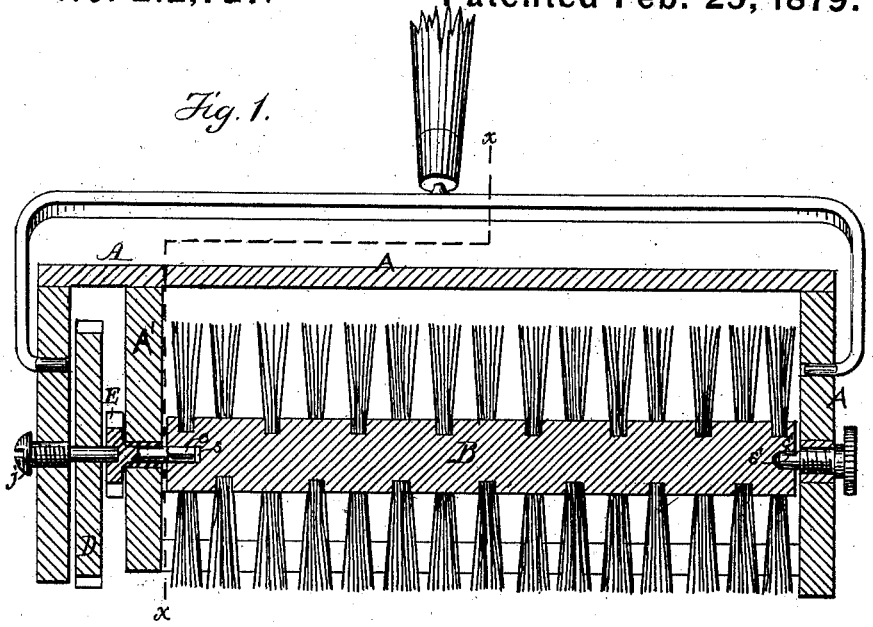


Fig. 3.

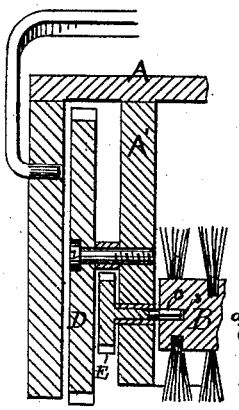


Fig. 2.

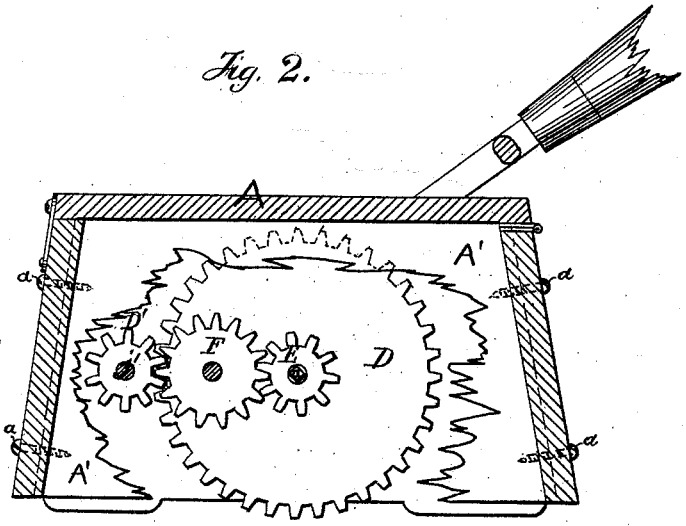


Fig. 4.

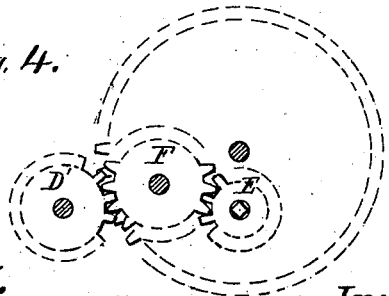
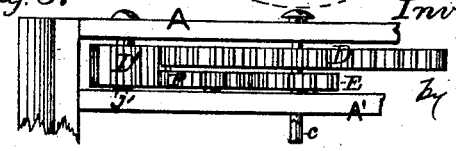


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDGAR B. MOORE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **212,727**, dated February 25, 1879; application filed May 24, 1878.

To all whom it may concern:

Be it known that I, EDGAR B. MOORE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Carpet-Sweepers, of which the following is a specification:

This invention relates to that class of carpet-sweepers in which a cylindrical brush is rotated by means of one or more traction-wheels; and it consists, primarily, of an improved arrangement of rotating mechanism, whereby the brush is adapted to be driven at a high rate of speed with but little noise; and, secondly, of a removable partition for supporting one end of the brush and its operating mechanism, all as I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of a carpet-sweeper provided with my improvements. Fig. 2 represents a transverse section of the same on line *x x*, Fig. 1. Figs. 3 and 4 represent sectional views of modifications, and Fig. 5 represents an edge view of the gearing employed to rotate the brush.

Similar letters of reference refer to corresponding parts.

A represents the casing of a carpet-sweeper, and B represents the rotary brush-cylinder, provided with the usual brush material or bristles. The cylinder B is mounted on two bearings, *c c'*, entering sockets *s s'* in the ends of the cylinder. The bearing *c* is adapted to be positively rotated, as hereinafter described, and said bearing and the socket *s* are square or of any equivalent form in cross-section, so that the power applied to the shaft *c* will rotate the cylinder; and the socket *s'* and shaft *c'* are cylindrical in cross-section, the latter being non-rotating and detachable from the casing A, so that it forms a fixed bearing for one end of the cylinder, and enables the latter to be readily removed from the casing.

The shaft *c'* is made in the form of a partially-threaded screw fitted in a threaded bushing in the casing, and provided with a suitable head or handle, as shown in Fig. 1.

The brush-rotating mechanism consists, first, of a traction-wheel, D, journaled to the casing A at one end thereof, and provided with a toothed periphery adapted to rest on the carpet or floor; second, a pinion, E, formed on or attached rigidly to the end of the shaft or bearing *c* of the brush-cylinder; third, a pinion or gear, D', journaled to the casing A and meshing with the wheel D; and, fourth, an intermediate gear, F, connecting the pinion E with the pinion D', as shown in Fig. 2, the pinion D' being of such width that it will mesh with both the wheel D and the intermediate gear F.

The traction-wheel D, pinion D', pinion E, and intermediate gear F have their bearings in a partition, A', which is applied to the interior of the casing A in such manner as to form a narrow space at one end of the casing, said space being no wider than is necessary for the reception of the rotating mechanism, as shown in Fig. 1.

The partition A' is detachable from the casing, and is preferably fitted in grooves in the sides of the casing, and is held in place by screws *a* or other suitable means. The pinion E and intermediate gear F are supported entirely by the partition A'; and the journal *j'* of the pinion D' may be supported entirely by said partition, or jointly by said partition and the end of the casing. The journal or arbor *j* of the traction-wheel may be supported jointly by the end of the casing and by a socket or bearing formed in the pinion E, as shown in Fig. 1, or entirely by the partition A', as shown in Fig. 3, the latter arrangement enabling the entire rotating mechanism to be removed from or applied to the casing simply by the act of removing and applying the partition A' when the pinion D' is supported by said partition A', while the arrangement shown in Fig. 1 requires the removal of the journal or arbor *j* before the partition A', with the pinion and gearing, can be removed.

It will be seen that by the described construction and arrangement the following advantages are obtained: First, the removable bearing *c'* enables the brush-cylinder to be readily removed at any time without disturbing the rotary mechanism. Second, the arrangement of the traction-wheel D, the pinion D', the intermediate gear F, and the pinion E enables the brush to be revolved at a high rate of speed by the ordinary motion of the

sweeper, as the high degree of speed imparted to the brush enables the latter to be arranged so that the ends of its bristles will barely touch the carpet in revolving, only sufficient contact being needed to enable the brush to take up threads or fibrous material from the carpet, the strong upward draft induced by the rapid rotation of the brush being sufficient to draw the dust into the usual receptacles of the sweeper without direct contact of the brush with the carpet; hence the usual wear on the carpet by the friction of the brush is in a great measure avoided. Third, the application of the rotating mechanism to the removable partition A′ enables the mechanism to be properly arranged before it is applied to the casing, and also to be readily applied and removed.

I claim as my invention—

1. In a carpet-sweeper, the brush-rotating mechanism, consisting of a toothed traction-wheel, D, a pinion, D′, meshing therewith, a pinion, E, having a shaft or arbor, *c*, adapted to be detachably engaged with the brush-shaft, and an intermediate gear, F, connecting the wheel D and pinion D′, all journaled in a casing, A, as set forth.

2. The combination of the brush-rotating mechanism, consisting of the toothed traction-wheel D, the pinion D′, the intermediate gear F, and the pinion E, with the casing A, having the removable partition A′, as set forth.

3. The removable partition A′, forming the bearing for one end of the brush and supporting its operating mechanism, in combination with the locking-screws *d d*, or their equivalents, substantially as described, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDGAR B. MOORE.

Witnesses:

C. F. BROWN,

GEO. W. PIERCE.