(Model.)

G. W. GATES.

CARPET SWEEPER.

No. 412,219. Patented Oct. 1, 1889.

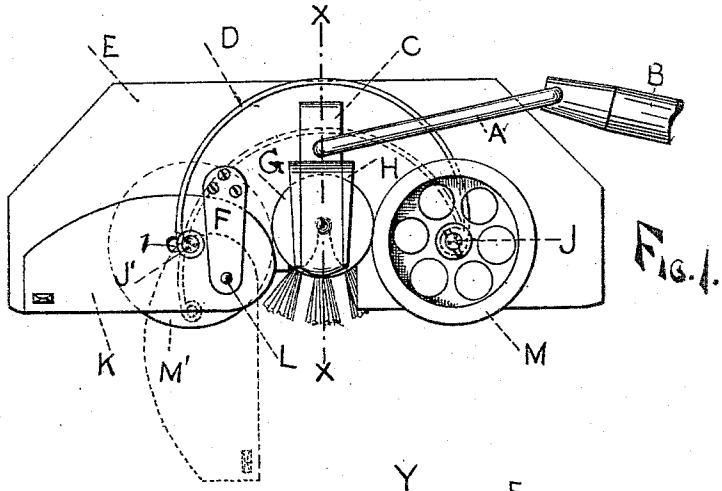

FIG. 1.

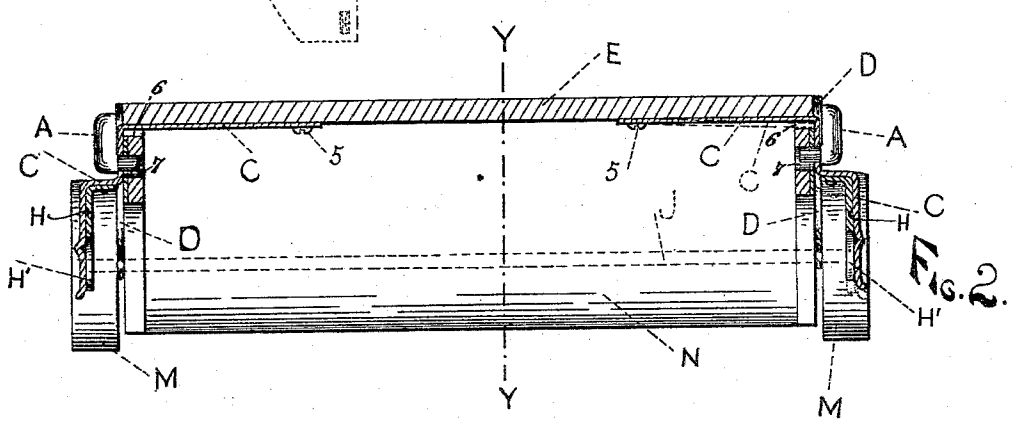

FIG. 2.

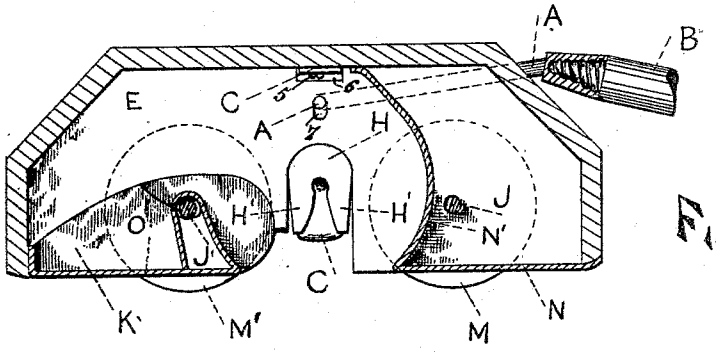

FIG. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. GATES, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE BISSELL CARPET SWEEPER COMPANY, OF SAME PLACE.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 412,219, dated October 1, 1889.

Application filed March 21, 1885. Serial No. 159,679. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. GATES, a citizen of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

This invention relates to carpet-sweepers wherein a brush-carrying shaft is rotated by drive-wheels traveling on a carpet or other surface.

The chief object of my invention is to provide a carpet-sweeper with a brush-shaft support which yields to downward pressure on the propelling-handle, to lower and press the brush against the surface traversed independent of vertical movement of the sweeper-casing, and automatically rises and restores the brush-shaft to and sustains it in its normal position when pressure on the handle is relieved.

The invention also has for its object to improve the dust-pan-dumping mechanism and the friction device, and to provide novel means for protecting the axle of the drive-wheels from dust and other matter.

The objects of my invention I accomplish as hereinafter described, and set forth in the claims, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of a carpet-sweeper, showing a form of yielding brush-shaft support for carrying out my invention. Fig. 2 is a sectional view taken on the line *x x*, Fig. 1, and omitting brush-shaft; and Fig. 3, a sectional view taken on the line *y y*, Fig. 2.

In order to enable those skilled in the art to make and use my invention, I will now describe the invention as represented in the drawings, wherein—

The letter E indicates a sweeper-casing, M' the drive-wheels, J J' the drive-wheel axles, and G the brush-carrying shaft, all of which may be of any desired construction suitable for the conditions required.

A brush-shaft support is provided that not only yields downward under pressure exerted by a propelling-handle to move the brush-shaft toward the surface traversed independent of vertical movement of the sweeper-casing, but also automatically rises and restores the brush-shaft to and sustains it in its normal or uppermost position when pressure on the handle is relieved. As here shown, this yielding support is composed of a spring-plate C, placed at each end of the casing and secured at one end thereto, as by screws 5, while the outer portions of the plates extend through slots 6 in the end walls of the sweeper-case and are connected with a propelling-handle B, as by a bail A, having its extremities turned inward and pivoted or journaled in the spring-plates and extend into the slots 7 in the end walls of the sweeper-case. The spring-plates are provided with bearings H for the journals of the brush-shaft, such bearings in the example shown having guides H' for directing the ends of the journals into the bearings. The yielding support sustains the brush-shaft in its normal or uppermost position for light sweeping, and when heavier sweeping is desired it is effected by pressure exerted on the handle, which causes the brush-shaft support to yield downward independent of downward movement of the sweeper-casing, while said support automatically rises and restores the brush-shaft to its normal position independent of upward movement of the casing when the pressure on the handle is relieved. By this means I produce in a novel manner what is technically termed "broom action" in a carpet-sweeper.

The drive-wheels are pressed into frictional contact with the brush-shaft by a spring D.

The dust-pan K is pivoted by journals L to ears F on the casing, and said pan extends up and around the axle J', so as to entirely protect the latter from dust and obstructions. The dust-pan when swung down on its pivot to the position shown by dotted lines, Fig. 1, carries with it the axle J' and the drive-wheels on the latter, and then the spring D tends to hold the pan open for dumping the contents thereof. The spring D is so formed and adjusted that when the pan is moved toward the casing, said spring tends to close the pan

and holds it closed in the casing until intentionally opened, as explained. Thus the spring not only acts to preserve the frictional contact between the drive-wheels and the brush-shaft, but also holds the pan open and closed.

To permit the lateral movement of the drive-wheel axle J′ and drive-wheel M′, the sweeper-case and dust-pan may be slotted, as indicated by the numeral 1, Fig. 1.

In the sweeper here shown, to direct the sweepings into the pan I provide a partition and guide N N′, so that whichever way the sweeper moves the sweepings will be carried by the brush to the pan.

In the drawings I have shown a sweeper having a single dust-pan; but it will be obvious that a yielding brush-shaft support having the characteristic features of operation set forth can be used with sweepers having pans and drive-wheels constructed and arranged in the ordinary manner.

A carpet-sweeper has heretofore been made wherein pressure on the handle moves the sweeper-casing and the brush downward toward the carpet; but my invention differs therefrom in that the brush-shaft is moved downward by pressure on the handle independent of vertical movement of the sweeper-casing. A carpet-sweeper has also been proposed wherein the brush-shaft is connected with the bail of the handle, so that the brush could be depressed by the direct action of the handle; but my invention differs therefrom in that I provide a suitable brush-shaft support, which not only yields to pressure exerted on the handle to move the brush toward the surface traversed, but rises automatically and restores the brush to and sustains it at its normal position when pressure on the handle is relieved.

Having thus described my invention, what I claim is—

1. The combination, with a sweeper-casing, a brush-shaft, and a propelling-handle, of a yielding brush-shaft support lowered by the action of the handle when pressed upon and moving the brush-shaft toward the surface traversed independent of vertical movement of the sweeper-casing, said support automatically rising and restoring the brush-shaft to and sustaining it in its normal position when pressure on the handle is relieved.

2. The combination, with a sweeper-casing, a brush-shaft, and a propelling-handle, of a yielding brush-shaft support connected with the handle, yieldingly moved downward by pressure exerted on the latter and automatically raised to restore the brush-shaft to and sustain it in its normal position when pressure on the handle is relieved.

3. The combination, with a sweeper-casing, of spring-supports carried by the casing and having bearings for a brush-shaft, and a sweeper-bail journaled to the spring-supports, said spring-supports adapted to sustain the brush-shaft in its normal position and to restore it to such position when relieved of downward pressure on the handle.

4. In a carpet-sweeper, a dust-pan carrying a drive-wheel and hinged to the casing, in combination with the spring which holds the drive-wheel in contact with the brush-shaft, said pan and wheel adapted to turn downward for the purpose of emptying the pan and the spring adapted to hold the pan in an open and closed position, substantially as described.

5. The combination of the dust-pan K and the axle J′, said dust-pan inclosing said axle and adapted to protect it from dust, substantially as described.

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Witnesses:
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