(No Model.)

# G. W. KELLEY.

## CARPET SWEEPER.

No. 424,309. Patented Mar. 25, 1890.

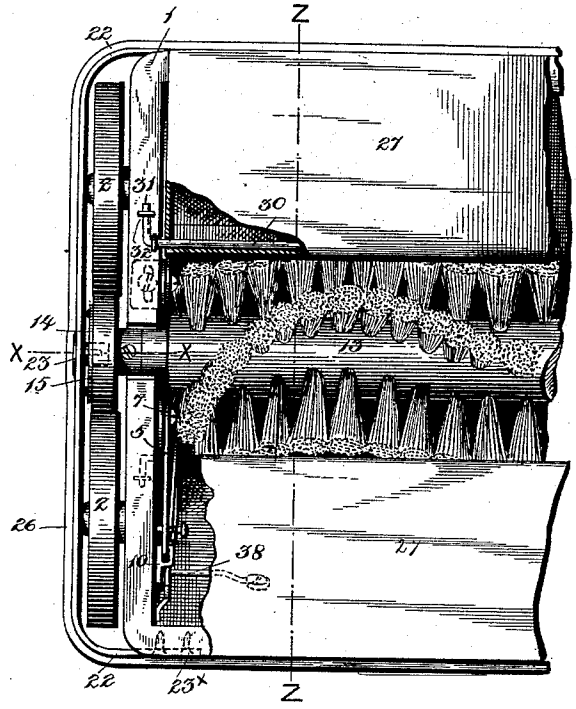


Fig. 1.

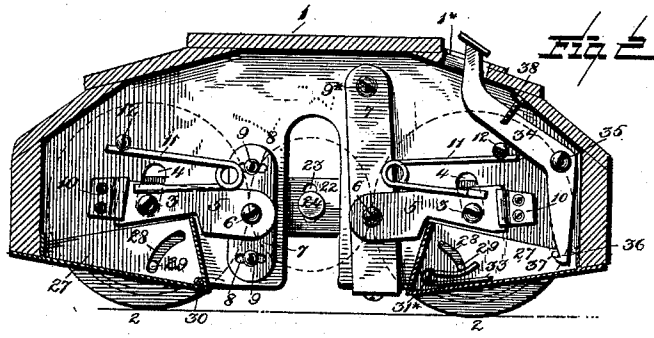


Fig. 2.

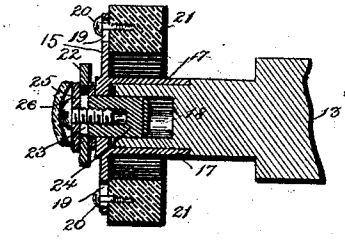


Fig. 3.

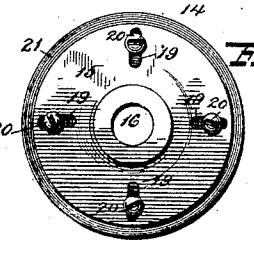


Fig. 4.

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# UNITED STATES PATENT OFFICE.

GEORGE W. KELLEY, OF GOSHEN, INDIANA.

## CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 424,309, dated March 25, 1890.

Application filed May 26, 1888. Serial No. 275,168. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. KELLEY, a citizen of the United States, residing at Goshen, in the county of Elkhart, State of Indiana, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to carpet-sweepers; and the objects and advantages thereof will hereinafter appear, and the novel features be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan of the under side of a portion of a carpet-sweeper constructed in accordance with my invention. Fig. 2 is a transverse section of the same, the section being taken on the line *z z* of Fig. 1. Fig. 3 is a longitudinal sectional detail on the line *x x* of Fig. 1, and Fig. 4 is a detail in side elevation of the flexible brush-roll head.

Like numerals of reference indicate like parts in all the figures.

1 represents the sweeper-case, which may be of any desired construction and provided with a suitable operating-handle. (Not shown.)

2 represents the drive-wheels, there being two at each end of the case 1, the axles 3 of which project through curved slots 4, formed in the end walls thereof, and are journaled in oscillating pivoted levers 5. As shown at the left of Fig. 2, the levers 5 are pivoted, as at 6, to an adjustable plate 7, the ends of said plates being transversely slotted, as at 8, for the passage therethrough of adjusting-screws 9, which enter the end walls of the case. By means of these adjustable plates the levers 5, in which the drive-wheels are journaled, may be adjusted away from and toward each other to increase or decrease the tension upon the brush-roll head. By reason of the elongated slots 4, formed in the end walls of the case, the drive-wheels are permitted to oscillate vertically in passing over depressions or obstructions, so that the brush-roll remains in the same relative position with the surface of the carpet. A flanged keeper 10, rigidly secured to the inner surface of the end walls of the case and in the path traveled by the outer end of the lever 5, takes over said end and prevents the lateral displacement of the lever.

A spring 11, either of a U shape or having an intermediate coil, has one of its terminals secured to the lever 5, and its opposite end or terminal rides freely against a stop or pin 12, projecting from the inner wall of the case.

Referring to the right of Fig. 2, it will be seen that I have slightly modified the adjusting-plate 7, in that I pivot the upper end thereof, as at 9, and bend the lower end so as to embrace the lower edge of the sweeper-case, said end being transversely slotted and provided with a set-screw, as shown by dotted lines in Fig. 1.

13 represents the brush-shaft, which, so far as the brush itself is concerned, is of the usual construction.

14 represents the brush-shaft pulley, which, in this instance, consists of a body 21, formed of any suitable yielding elastic material—such, for instance, as rubber—and a metal disk 15, having a central opening 16, surrounded by an annular inwardly-extending flange 17, into which the end of the brush-shaft 13 is fitted, said end being, preferably, provided with a central annular recess 18, which registers with the central opening 16, formed in the disk, which opening is somewhat smaller than the annular flange 17 that surrounds it. At suitable distances apart there are formed in the disk 15 radiating elongated slots 19, which are adapted for the passage therethrough of screws or pins 20, (see Figs. 3 and 4,) the opposite ends of which take into the body 21. The body 21 is simply an annular ring, and is adapted, when mounted in position in the sweeper-case and between the driving-wheels, to be squeezed or flattened, (as shown in dotted lines in Fig. 2,) so that a stronger and greater contact-surface is always maintained with the driving-wheels, whereby all slipping of the brush-shaft while the machine is in operation is avoided. As the body 21 of the pulley is compressed, the adjacent pin or screw 20 recedes in its slot toward the inner end thereof.

22 represents a metal bail, there being one at each end of the sweeper-case, the ends of said bail being secured rigidly to the case at its longitudinal sides by screws $23^{\times}$. The bail is of a somewhat U shape, and is made of a resilient metal, so that, although that portion of the bail intermediate its ends remains nor-

mally in a parallel position with relation to the end walls of the sweeper-case, it (the bail) is capable of being sprung outwardly away from the case for the purpose of inserting the brush. Each of the end walls of the case is provided with the usual vertical opening or slot for the passage of the brush-shaft. At a point opposite the openings mentioned the bails 22 are formed with a transverse elongated slot 23, and within the same and projecting inwardly is mounted an adjustable bearing 24, held loosely in place within the slot by a set-screw and its plate 25. This adjustability is produced by the vertical elongation of the slot 23 to allow of the raising and lowering of the brush in case of meeting an obstacle. Upon these the brush-shaft is journaled, the bearings 24 being of a size adapted to enter the recess 18 and opening 16, formed in the end of the brush-shaft and the disk 15, respectively. The shaft is mounted in position by spreading the end bails and entering the bearings 24, as described.

Surrounding the sweeper-case and in about a plane with the spring-bails 22 may be the usual rubber buffer 26. When the brush-shaft is in position in the sweeper, the drive rolls or wheels bear at each side of the yielding brush-pulley, said wheels being adjusted sufficiently near each other as to slightly compress the yielding periphery of the brush-pulley at opposite sides, whereby the frictional contact between the wheels and the pulley is increased, thus insuring a positive rotation of the brush-shaft and preventing all possibility of slipping.

27 represents the dust-pans, which, in this instance, are of the usual construction as regards their form. In one or both of the end walls of each of the pans are formed curved slots 28, the slots being formed concentric with the point of pivotal attachment of the pans, and through said slots project stop-pins 29, set in the end walls of the sweeper-case, so that the swinging movement of the pans upon their pivots is limited by said pins and slots.

At the left of Fig. 2 I have shown my preferred manner of mounting the dust-pans in the case, and it consists in mounting the pan upon a longitudinal shaft or rod 30, said pan and shaft being made rigid with each other, and one end of the latter being bent at an angle 31 to the body portion thereof and rigidly secured to the lower edge of the sweeper-case by staple 32. (See Fig. 1.) The opposite terminal of the shaft is plain or straight, and is loosely journaled in a similar staple. This construction forms a torsion-spring shaft, the tendency of which is to retain the dust-pans in a closed position. This torsional action is obtained by fastening the pans rigidly to said shaft, either near the middle of said shaft or near the end opposite to the staple 32.

At the right of Fig. 2 I have shown a modification of my invention, and in this construction I connect the two ends of the pans pivotally to the end-walls of the case by screws or studs $31^{\times}$, and coil around the same a substantially U-shaped spring 33, one member of the spring resting on the bottom of the pan and the other member resting under and against the stop-pin 29. The tendency of this spring is to force the pan open, and it is therefore necessary to provide means for retaining the pan in a closed position. This I accomplish by pivoting a bell-crank lever 34, as at 35, to the case. The lower end of the lever extends into the pan, and is formed with a catch or hook 36, adapted to take under a pin 37, projecting inwardly from the end wall of the pan. The opposite end of the lever 34 is provided with a head and projects through an opening $1^{\times}$, formed in the top of the sweeper-case and within convenient reach of the operator. A spring 38 is inserted between the top of the case and the lever above its pivot, the tendency of which is to draw the lever toward the case, and thus push forward its lower end. In order to open the pan as thus constructed, it is only necessary to press the end of the lever with the hand, which causes the same to be withdrawn from under the pin 37, and the spring 33 will cause the pan to open.

Having described my invention, what I claim is—

1. In a carpet-sweeper, a case provided with opposite U-shaped rigidly-secured end bails having central adjustable bearings, in combination with a brush-shaft mounted in said bearings, subtantially as specified.

2. In a carpet-sweeper, a case provided with opposite U-shaped rigidly-secured flexible end bails having adjustable bearings, in combination with a brush-shaft having centrally-bored heads adapted for the reception of said bearings, substantially as specified.

3. In a carpet-sweeper, a brush-shaft having a pulley comprising a central rigid portion or hub and a compressible rim yieldingly mounted at one side thereof with a space between the rim and the hub, substantially as and for the purpose specified.

4. In a carpet-sweeper, a brush-shaft having a pulley comprising a central rigid portion or hub provided with a central annular flange for the reception of the sweeper-shaft and having radiating slot, and having a compressible rim secured to the hub portion by means of stops passing through the slots and into said rim, substantially as specified.

5. In a carpet-sweeper, a brush-shaft having a pulley comprising a central portion or hub perforated to register with a recess in the end of the shaft, and provided with an annular flange for the reception of said shaft and with a compressible rim, in combination with an adjustable bearing for said brush-shaft adapted to enter the perforation in the hub and recess in the brush-shaft, substantially as specified.

6. In a carpet-sweeper, the combination, with the case thereof provided with an inwardly-projecting pin or stop, of a spring-actuated pivoted dust-pan provided with a curved slot

adapted to receive the pin, and a pivoted bell-crank lever extending through the case and adapted to engage with a pin on the dust-pan, and a spring arranged on the lever for retaining the same in contact with the pan, substantially as specified.

7. In a carpet-sweeper, a case having its end walls provided with opposite elongated slots, in combination with drive-wheels, the bearings of which project through the slots and are connected to pivoted levers mounted on adjustable plates, substantially as specified.

8. In a carpet-sweeper, the combination, with a case, the end walls of which are provided with elongated slots, of drive-wheels having bearings projecting through the slot and mounted in pivoted levers which are connected to adjustable plates secured to the casing, and springs mounted above the levers, substantially as and for the purpose set forth.

9. The casing 1, having the opening $1^{\times}$, the bell-crank lever 34, pivoted, as at 35, having the hooked end 36 and the spring 38, in combination with the dust-pans 37, mounted upon the shafts 30, slotted, as at 28, for the reception of the pin 29, and provided with the catch-pin 37, adapted to receive the hooked end of the lever 36, substantially as specified.

10. The combination of the case 1, with the U-shaped bail 22, having the adjustable bearing 24, mounted in the slot 23, and the brush-roll 13, having the centrally-bored head 15, substantially as specified.

11. The casing 1, slotted, as at 4, in combination with the drive-wheels 2, having the bearings 3 passing through the slots, the levers 5, for the reception of the bearing, and pivoted, as at 6, to the plates 7, slotted, as at 8, and having the set-screws 9, the superimposed springs 11, the pins 12, and the flange-guides 10, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. KELLEY.

Witnesses:

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