(No Model.) 4 Sheets—Sheet 1.

G. S. SANFORD.

CARPET SWEEPER.

No. 481,827. Patented Aug. 30, 1892.

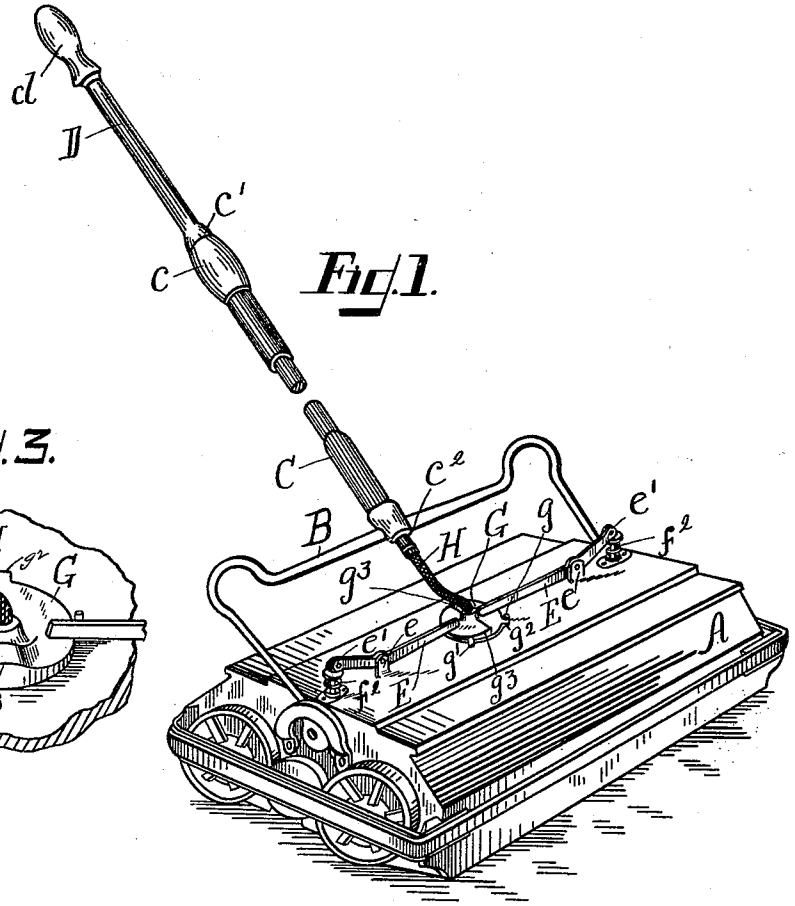
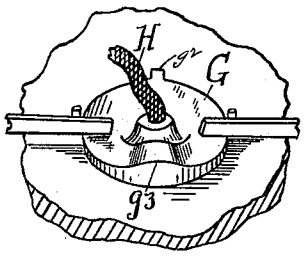


Fig. 1.

Fig. 3.



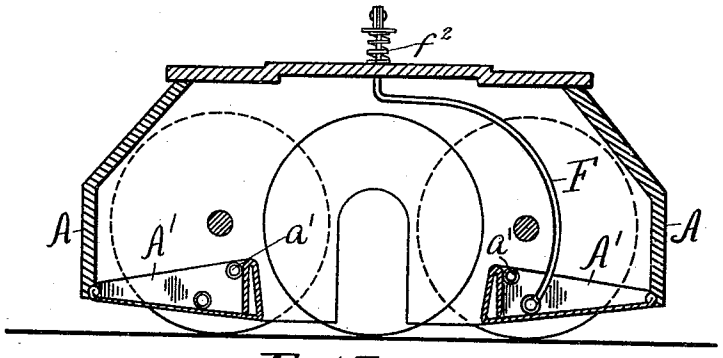


Fig. 2.

WITNESSES
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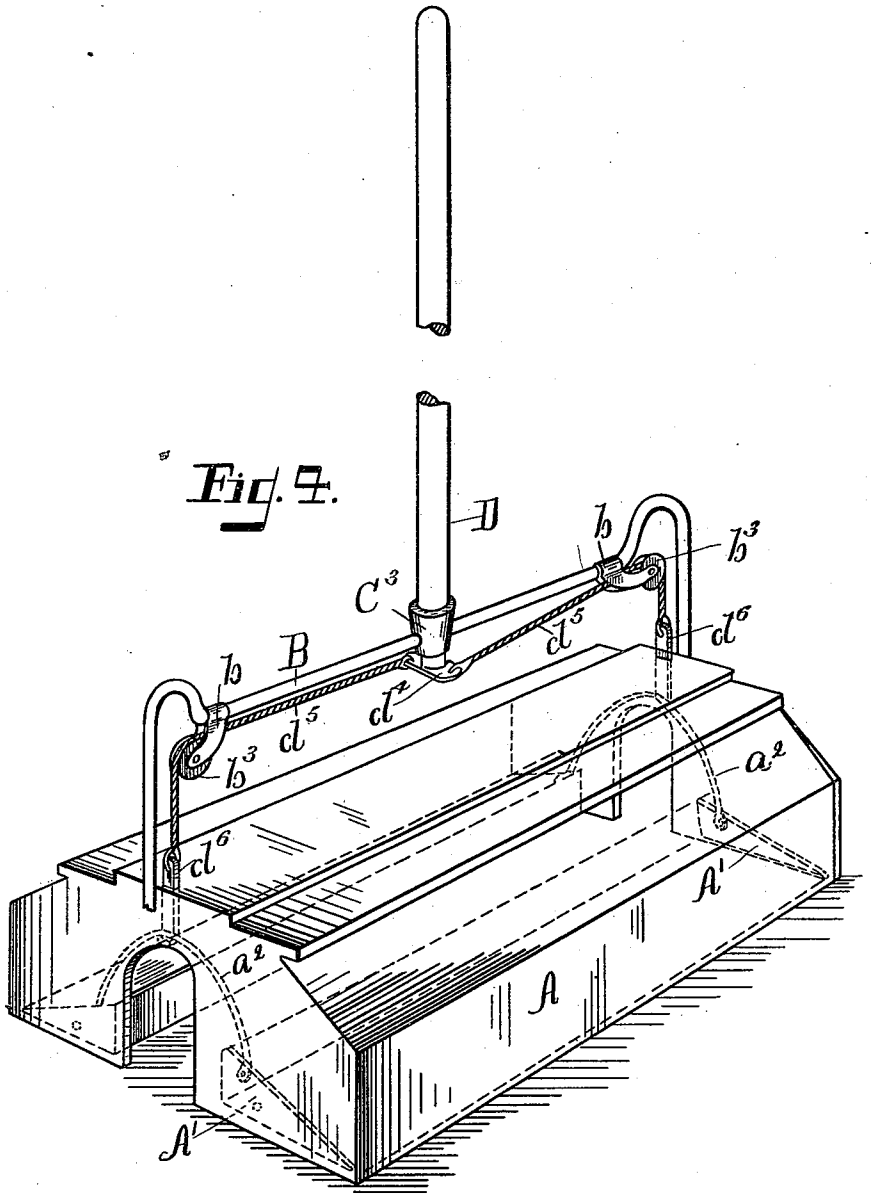
Fig. 4.



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(No Model.) 4 Sheets—Sheet 3.

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CARPET SWEEPER.

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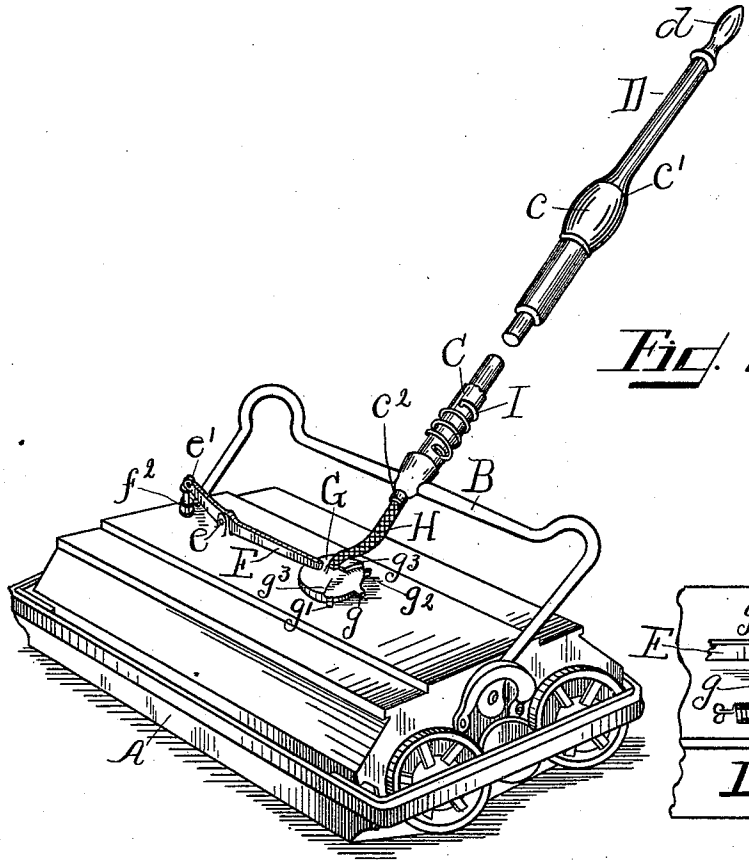

Fig. 3.

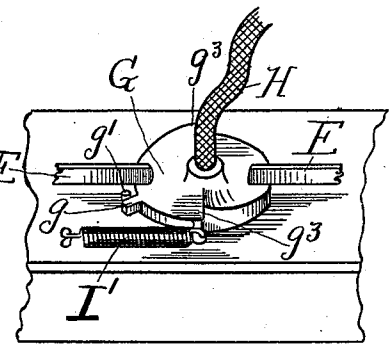

Fig. 6.

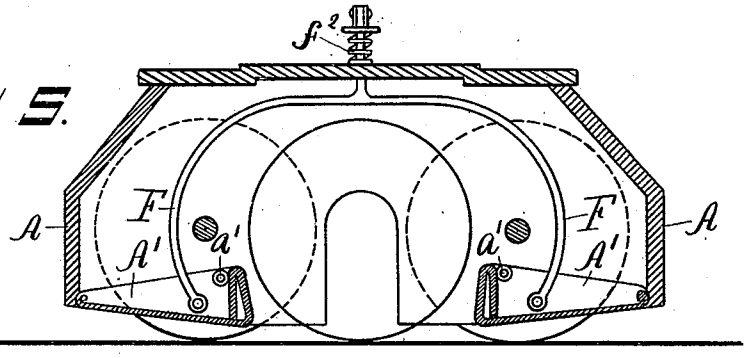

Fig. 5.

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(No Model.) 4 Sheets—Sheet 4.

G. S. SANFORD.

CARPET SWEEPER.

No. 481,827. Patented Aug. 30, 1892.

Fig. 7.

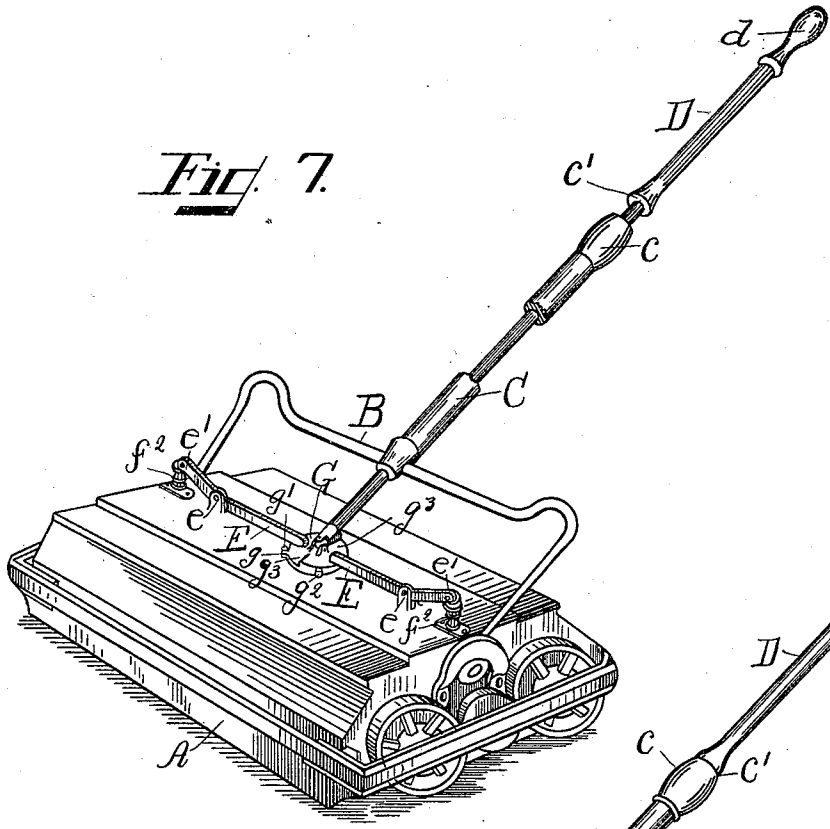
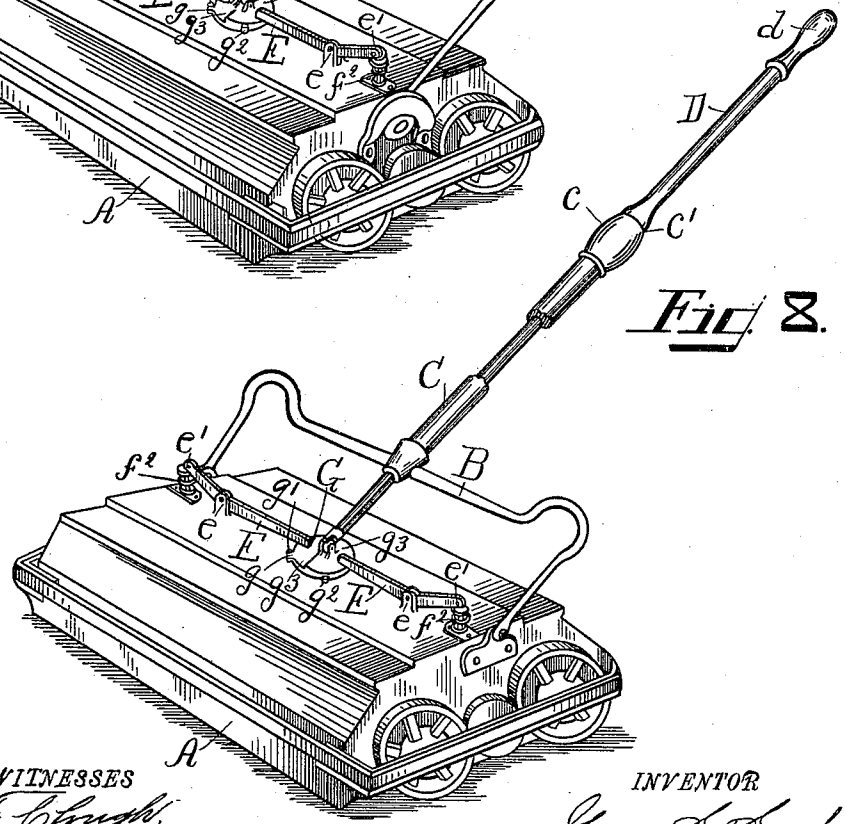


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE S. SANFORD, OF MOUNT CLEMENS, MICHIGAN.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 481,827, dated August 30, 1892.

Application filed November 9, 1891. Serial No. 411,374. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. SANFORD, a citizen of the United States, residing at Mount Clemens, county of Macomb, State of Michigan, have invented a certain new and useful Improvement in Carpet-Sweepers; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to carpet-sweepers; and its special object is the production of a sweeper in which the dust-pans may be opened or dumped by means of a movable handle.

In a series of applications filed herewith—to wit, Serial Nos. 411,373 and 411,376, filed November 9, 1891—I have shown means for dumping the dust-pans by means of a cable or rod running lengthwise of the handle. Such a construction employs a stationary handle and provides certain movable parts in connection with it for moving the pan. In this application I desire to cover the employment of a movable handle, and for that purpose I show a construction, as hereinafter described, in which the handle is adapted to rotate and in rotating dump the pans. In all of these applications the object is to operate the dust-pans without the necessity of stooping and handling the sweeper with the hands and by means which permit the sweeper to be opened when the handle is at any angle relative to the sweeper.

In the drawings, Figure 1 is a perspective of the sweeper with portions of the handle broken away to show the construction and showing the means of connecting the movable handle with the means employed for dumping the sweeper. Fig. 2 is a sectional view showing the interior of the sweeper and the connection between the mechanism on the exterior and the dust-pans. Fig. 3 is a view of a portion of a sweeper, showing a variation from that shown in Fig. 1, in which provision is made for dumping one pan at a time. Fig. 4 is a variation in construction, employing a movable handle to dump the dust-pan. Figs. 5 and 9 show a modification of the invention which is designed to open both pans simultaneously by one lever located at one end of the sweeper. Fig. 6 shows the cam to which the handle is connected, in combination with a spring I′ for returning it after rotation. Fig. 7 shows a modification in which a compensating longitudinal motion of the handle in the sleeve is permitted to accommodate the swinging of the handle and the bail. Fig. 8 shows the pivot of the handle with the cam-disk and the pivots of the bails on a coincident line.

In the several drawings, A is the case or frame of the sweeper.

B is the bail usually employed and adapted to swing over the sweeper and operate the same from either side, preferably made of sufficient size to drop down by the case of the sweeper, so as to operate it under low articles of furniture.

C is a sleeved portion of the handle rigidly connected with the bail and made, preferably, of tubing. On the upper extremity of this tubular portion of the handle is provided a hand piece or grip *c*. Within and extending through this tubular portion of the handle is the handle proper D. This portion of the handle is adapted to revolve freely in the sleeved portion and may be provided with a collar-bearing at the top c' and bottom c^2 to make it fixed as to its longitudinal movement, if necessary, and may be provided on the outer end with an enlarged end portion *d* to enable the operator to grip and turn the handle, as hereinafter described.

On the frame, as shown in Figs. 1, 7, 8, and 9, of the sweeper in the pivots *e* are the levers E, having a portion e' turned upward outside of the pivot to provide for a downward movement of that end of the lever. Pivoted to the outer end of each lever is a link F, extending down through the case and pivoted to the dust-pan A′. This dust-pan is pivoted at a' and is forced open by the link F when depressed. Mounted on the link above the case is the spring f^2, adapted to hold the link at the upper extremity of its movement. Pivoted to the center of the case is the rotatable cam-disk G. This disk is provided with a lug *g*, which permits it to revolve between the lugs g' g^3 on the upper part of the case or on a stationary plate riveted to the case. On the upper face of this disk

is provided the cam g^3, adapted when the disk is rotated to move under the inner end of the levers and raise that end and depress the outer end e', and through the action of the link F open the dust-pans. The handle D is connected with this rotatable disk G in any suitable manner to provide for rotating the disk when the handle is rotated. In the drawings I have shown them connected by a flexible shaft H. Although the handle D may be connected directly by a joint, it may be given a sufficient longitudinal movement in the sleeve to permit the bail to be swung over the sweeper, as shown in Fig. 7, where the collars c' c^2 are shown sufficiently separated to permit compensatory movement rendered necessary in the swinging of the bail upon centers which are not coincident with the pivot of the handle to the cam; or the bail may be pivoted to the sweeper at the top, so that the center of rotation of the bail and of the handle will be on a line with the joint, as is shown in Fig. 8, where the pivots of the bail and that of the handle are in the same straight line, which would avoid the necessity of any longitudinal movement of the handle in the sleeve.

I would have it understood that any connection may be used between this handle and the rotating disk, and I do not desire to limit myself exclusively to the construction herein shown, as other means may be employed for opening and closing the dust-pan through the means of a movable handle or a rotatable handle. While I show two levers on the top of the sweeper, one lever may be employed and both links F mounted in the same end of the sweeper and the dust-pans opened from the same end. This variation is shown in Figs. 5 and 9; or, as another variation and to accomplish a different purpose, the cams g^3 may be set in the same direction, as shown in Fig. 3, so that one lever will be operated when the handle is rotated in one direction and the other lever be operated when the handle is rotated in the opposite direction, thus providing for opening one pan at a time. It is considered desirable to accomplish this result in some cases so that the dust from the sweeper can be emptied into a smaller receptacle.

I would have it understood that the levers employed for dumping the dust-pans and the rotatable disk may be located within the sweeper-case. A spring I, as shown in Fig. 6, may be employed to return the rotatable disk to its normal position, or the spring may be on the handle, as shown in Fig. 9, where the spring I′ is shown coiled around the sleeve, one end of which is rigidly attached to the sleeve and the other end rigidly attached to the handle and operating through a circumferential slot in the sleeve at I^2.

In Fig. 4 I have shown a variation in which the movable handle is made to operate cables running to each end of the case. On the lower end of the movable handle is mounted a double-crank arm d^4, having cables d^5 connected to its opposite ends and running to the ends of the sweeper over the pulleys b^3 and attached to the upper end of the vertical rod d^6. This rod is engaged with the coils of the spring a^2, and when the cables are drawn by rotating the handle in the proper direction the spring is drawn upward and the pans opened. In this figure the sleeve C is omitted and the handle allowed to rotate in the frame C^3 on the bail, and in dumping the pan the sweeper can be held by the bail in one hand and the handle turned with the other. The handle may be so constructed as to have a lateral movement in the bail instead of rotating, if desired; but I prefer the rotatable handle.

What I claim is.

1. In a carpet-sweeper, the combination of a dust-pan, means for dumping said dust-pan, and a rotatable handle adapted to operate the said means for dumping the pan, substantially as described.

2. In a carpet-sweeper, the combination of a dust-pan, a lever adapted to open said dust-pan, a disk G, provided with cam g^3, adapted to operate said lever, and a rotatable handle adapted to rotate said disk, substantially as described.

3. In a carpet-sweeper, the combination of a dust-pan, a lever adapted to open said dust-pan, a rotatable disk provided with a cam adapted to operate said lever, and a rotatable handle connected with said disk by a joint, substantially as described.

4. In a carpet-sweeper, the combination of a dust-pan, means for dumping said dust-pan, a bail provided with a sleeve, and a handle extending through said sleeve and adapted to operate the means for dumping said dust-pan, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

GEORGE S. SANFORD.

Witnesses:

MARION A. REEVE,

DELL J. BROWNE.