

(No Model.)

2 Sheets—Sheet 1.

W. J. DREW.
CARPET SWEEPER.

No. 466,721.

Patented Jan. 5, 1892.

Fig. 1

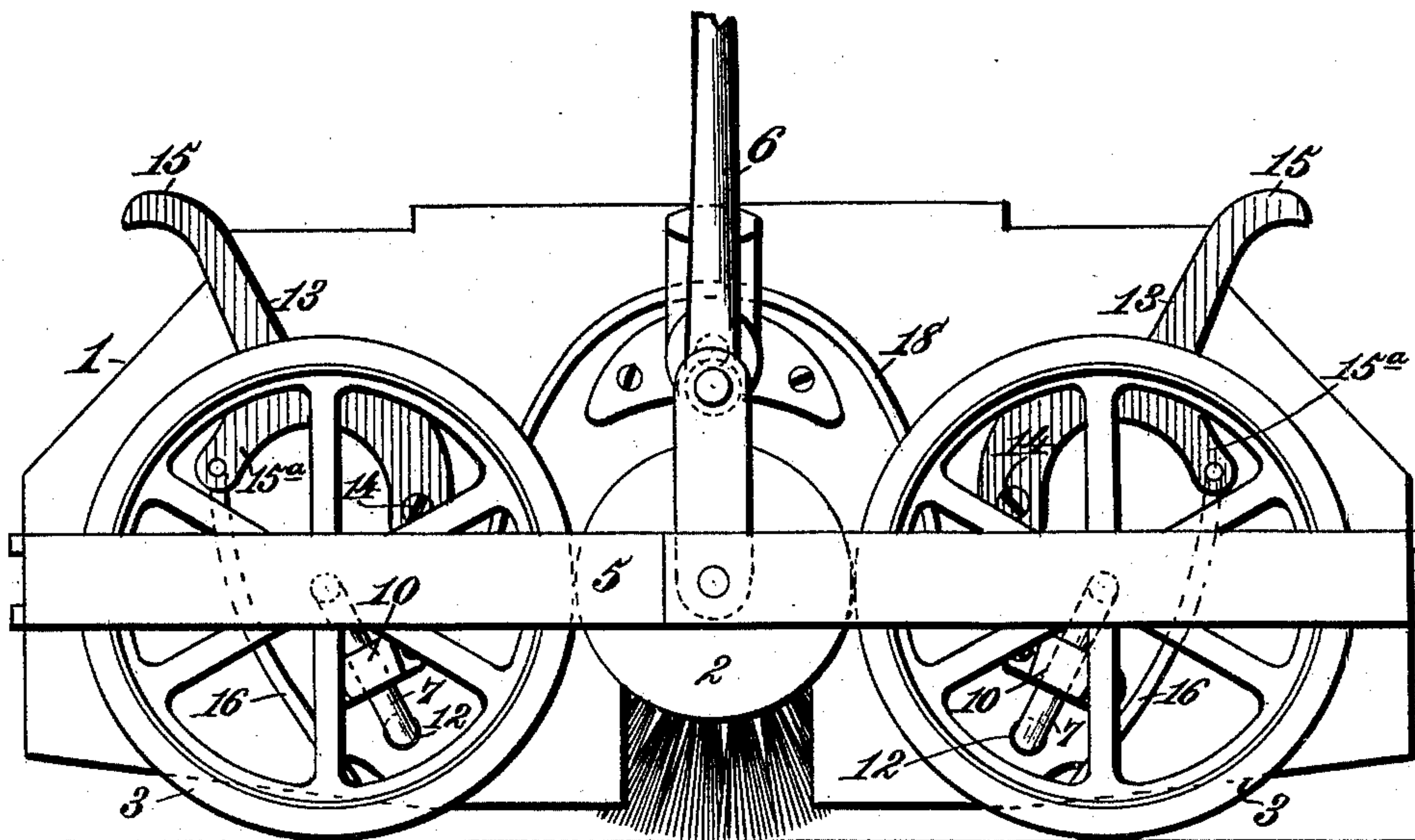
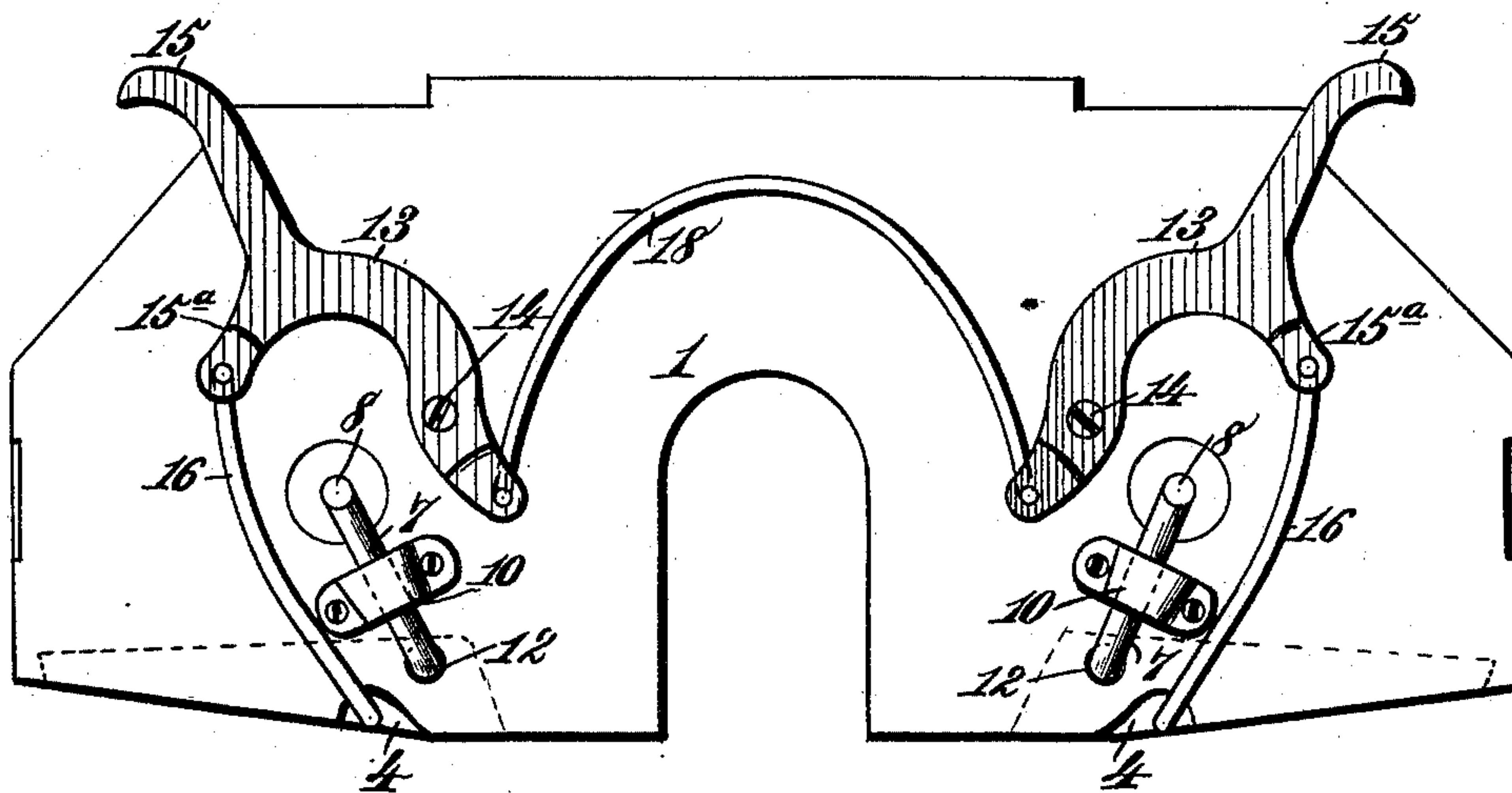


Fig. 2



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By *James L. Norris*
Atty.

(No Model.)

2 Sheets—Sheet 2.

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CARPET SWEEPER.

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Fig. 3.

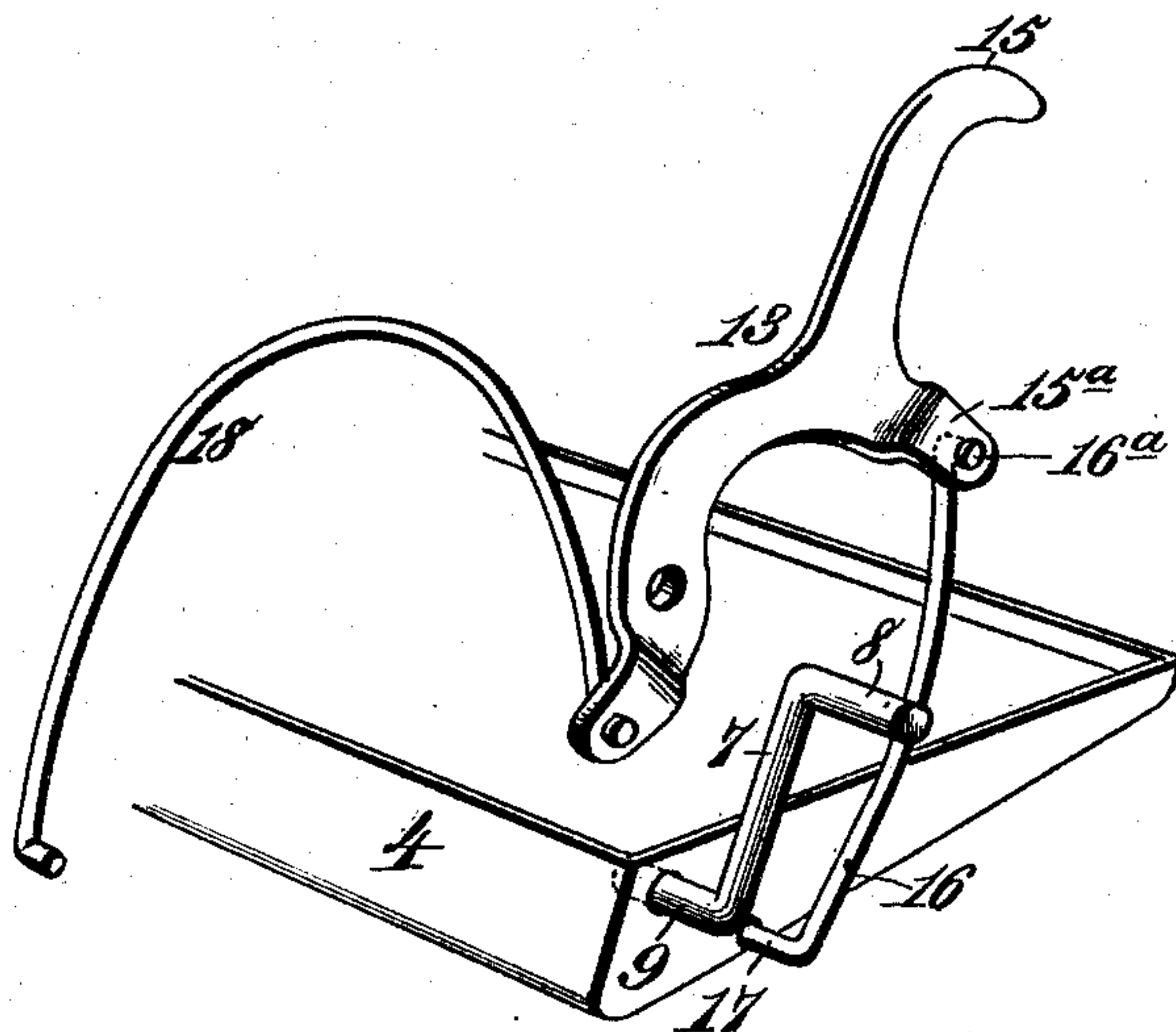
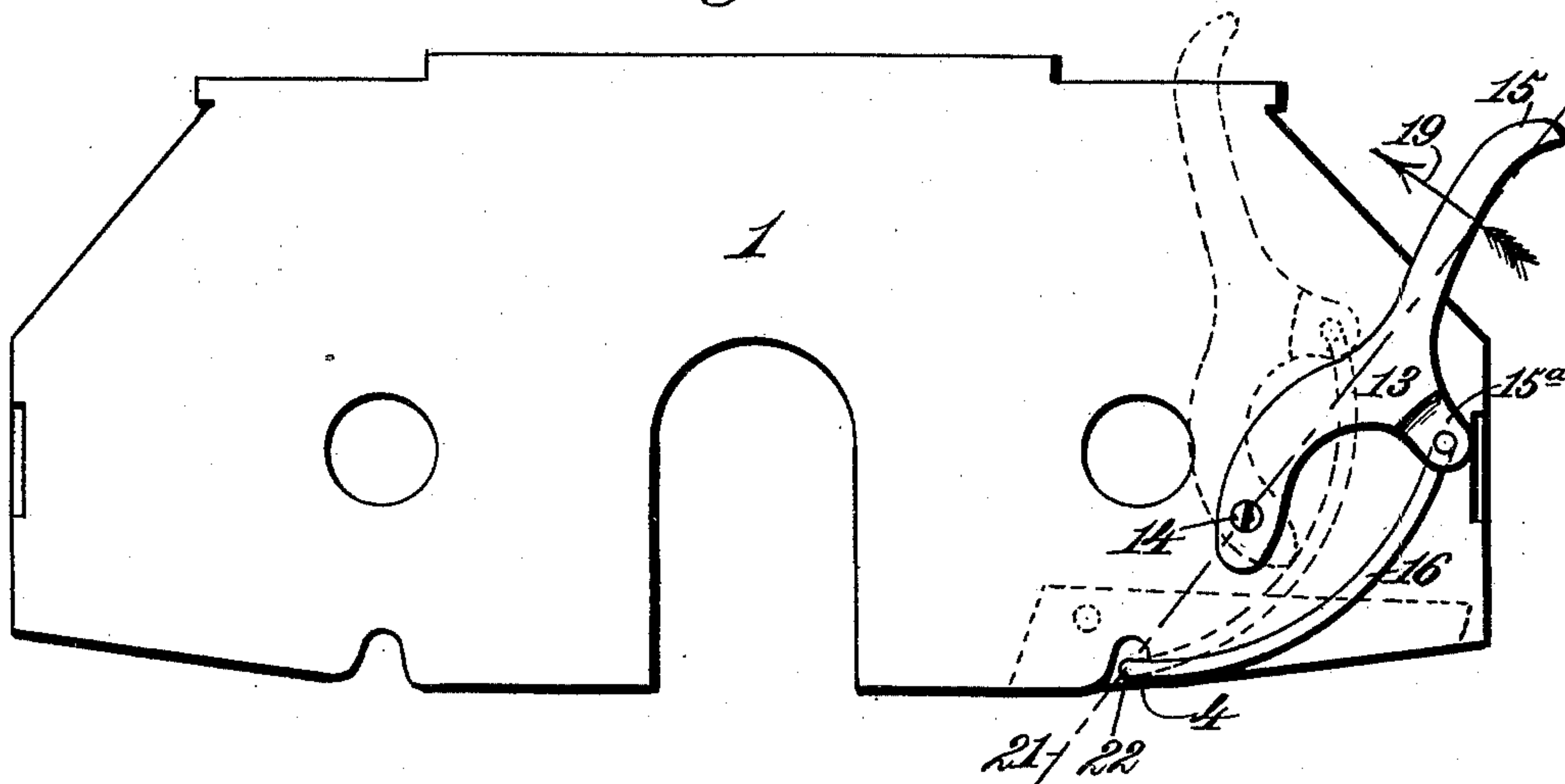


Fig. 4.



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Robert Everett,
Dennis Sumbly.

Inventor:
Walter J. Drew.
By James L. Norris,
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UNITED STATES PATENT OFFICE.

WALTER J. DREW, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO THE
BISSELL CARPET SWEEPER COMPANY, OF SAME PLACE.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 466,721, dated January 5, 1892.

Application filed March 21, 1891. Serial No. 385,869. (No model.)

To all whom it may concern:

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

This invention relates to carpet-sweepers, and has for its object to provide novel means for supporting the drive-wheels and pivoting the dust-pans, whereby the sweeper can be more economically produced, while a simple, efficient, and desirable construction is obtained.

The invention also has for its object to provide a wire or rod which fulfills the conditions required to support a drive-wheel and pivot one end of a dust-pan.

The invention also has for its object to provide a novel wire or rod of such construction and arrangement that it serves as a support for the drive-wheel and as a pivot-pin for one end of a dust-pan and also acts to move or force the drive-wheel into superficial contact with the brush-shaft when pressure is brought to bear upon the drive-wheel through the medium of the sweeper-case.

The invention also has for its object to provide novel means for connecting a pivoted dust-pan with an actuating-lever for the purpose of dumping the dust-pan when occasion demands.

The invention also has for its object to provide novel means for operating a dust-pan and locking or holding it in its closed position.

To accomplish all these objects my invention involves the features of construction, the combination or arrangement of devices, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of sufficient of a carpet-sweeper to illustrate my invention. Fig. 2 is a similar view omitting the bail, the drive-wheels, and the transverse bar exhibited in Fig. 1. Fig. 3 is a detail perspective view showing a portion of a dust-pan, its operating devices, and the wire or rod which serves to pivot the dust-pan and to support the drive-wheel. Fig. 4 is a detail end elevation showing a modification of the dust-pan-actuating devices.

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

The numeral 1 indicates a sweeper-case of any desired construction; 2, the brush-shaft; 3, the drive-wheels; 4, the dust-pans; 5, the ordinary transverse band for supporting the brush-shaft, and 6 the handle-carrying bail. These elements may be of any construction suitable for the purpose, and while I have illustrated a particular type of these devices, I do not wish to be understood as confining myself to any particular construction of the same, and, further, I do not confine myself to that construction wherein the transverse bar is employed for supporting the brush-shaft.

The numeral 7 indicates a metallic wire or rod which, according to my invention, is so constructed as to pivot the dust-pan and support the drive-wheel. In the example here illustrated the two end portions of the wire or rod are bent laterally in reverse directions to form journal or pivot pins 8 and 9, which are arranged parallel to each other and serve, respectively, as the journal for a drive-wheel and the pivot for one end of a dust-pan. Inasmuch as the wires or rods for all the drive-wheels and the ends of the dust-pans are in practice substantially or exactly alike, a description of one will be sufficient for the proper understanding of my invention. The metallic wire or rod is confined upon the outside of the sweeper-case through the medium of a suitable guide or bracket 10, and the end portion or pin 9 extends through an orifice 12 in the case to engage with and constitute the pivot-pin of one end of a dust-pan, while the opposite end portion 8 engages the drive-wheel hub and constitutes the journal on which the wheel rotates. This is the preferred construction; but I do not confine myself to the exact engagement of the wire or rod with the wheel for the purpose of supporting the latter. The body portion of the wire or rod is arranged in an inclined plane running from the orifice 12 in the sweeper-case toward one side of the latter in such manner that when pressure is brought to bear upon the wheel through the medium of the sweeper-case or otherwise the tendency of the wire is to swing in the arc of a circle in a direction toward the axis of the brush-shaft, and therefore

the drive-wheel is pressed against the brush-shaft for the purpose of increasing the frictional contact therewith. By this means the peculiar wire or rod here illustrated not only supports a drive-wheel and pivots the dust-pan, but it also fulfills the conditions required to move or force the drive-wheel into superficial contact with the brush-shaft when pressure is placed upon the wheel through the medium of the sweeper-case. This is a very desirable and important feature, and it materially simplifies the sweeper and enables me to more economically construct the same; but I do not confine myself to the arrangement of the wire or rod by which the frictional contact between the drive-wheel and the brush-shaft is secured. If the wire or rod is arranged in an inclined plane, as described, for the purpose of moving in the arc of a circle to force the drive-wheel into frictional contact with the brush-shaft, the guide or bracket 10 should be of such construction as to permit the required swinging movement of the wire or rod.

As here shown, the pivot-pins for the dust-pans are located at or near the inner edges thereof, and for the purpose of dumping each dust-pan I provide a lever 13, pivoted to the extremity of the end wall of the sweeper-case by a suitable pivot-pin 14, so that the lever can be swung in a vertical plane. The upper end of the lever is preferably fashioned into a finger or thumb piece 15, arranged in juxtaposition to the top portion of the sweeper-case, and between such finger or thumb piece and the pivot-pin 14 the lever is provided with a pendent arm 15^a, with which is pivotally engaged one extremity of a link 16, having its opposite or lower end bent laterally, as at 17, and extended to the inside of the sweeper-case, where it is loosely or otherwise engaged with the dust-pan at one side of a vertical line through the pivot-pin thereof.

The engagement of the link with the arm of the lever may be easily effected by bending the extremity of the link and engaging it with an eye or orifice in the arm, as at 16^a, Fig. 3, and a similar connection between the link and dust-pan may be employed.

Where two dust-pans are arranged at opposite sides of the brush-shaft, each will be provided with its independent lever and link connection, and the lower extremities of the two levers at one end of the sweeper-case may be connected with the extremities of an arched or bowed wire or other spring 18, which constantly tends to press the lower ends of the levers in a downward direction and thereby lock or hold the dust-pans in their closed positions. This is the preferred construction, because the dust-pans are automatically closed and locked or held in closed positions; but, as illustrated in Fig. 4, the arched or bowed spring is dispensed with and the inherent elasticity of the connecting-link is relied upon for locking or holding the dust-pan in its closed position. To accomplish this the rela-

tive arrangements of the parts is such that after the dust-pan is closed the movement of the lever is continued in the direction of the arrow 19, Fig. 4, to place the point of connection between the link and the lever above and at one side of a rectilinear line 21, drawn between the pivot-pin 14 of the lever and the axis of the connection 22 between the link and the dust-pan, whereby the link bears at a point between its ends against the pivoted extremity of the lever and the link is placed under such tension as to lock or hold the dust-pan in its closed position.

As regards the dust-pan-operating devices, it is not essential that the dust-pans be pivoted by a wire or rod, which also supports a drive-wheel, and obviously my invention is not confined to a carpet-sweeper having a pair of dust-pans.

Having thus described my invention, what I claim is—

1. The combination, with a sweeper-case, a drive-wheel, and a dust-pan, of a wire or rod having one end serving as a support for the drive-wheel and the opposite end serving as a pivot-pin for the dust-pan, substantially as described.

2. The combination, with a sweeper-case, a drive-wheel, and a dust-pan, of a wire or rod having one end serving as a support for the drive-wheel and the opposite end serving as a pivot-pin for the dust-pan, said wire or rod being arranged in an inclined plane to move in the arc of a circle when pressure is placed upon the drive-wheel through the medium of the sweeper-case or otherwise, substantially as described.

3. The combination, with a sweeper-case and a pivoted dust-pan, of a swinging lever pivoted to the sweeper-case and formed with an upwardly-projecting finger-piece 15 and a pendent arm 15^a, and a link having one extremity pivoted to the dust-pan and the opposite extremity pivoted to the pendent arm of the lever, substantially as described.

4. The combination, with a sweeper-case and a dust-pan, of a lever pivoted at the exterior of the sweeper-case, and a link having one extremity engaged with the lever and the opposite extremity turned laterally, extending to the inside of the sweeper-case and engaged with the dust-pan, substantially as described.

5. The combination, with a sweeper-case and a pair of dust-pans, of a pair of levers pivoted to the case, a pair of links respectively connecting the levers with the dust-pans, and a spring acting upon the lower ends of both levers, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

WALTER J. DREW. [L. S.]

Witnesses:

CLINTON L. DAYTON,
HARRY P. VAN WAGNER.