2 Sheets—Sheet 1.

G. W. GATES & B. F. POTTER.

Carpet-Sweeper.

No. 220,018. **Patented Sept. 30, 1879.**

Fig. 1.

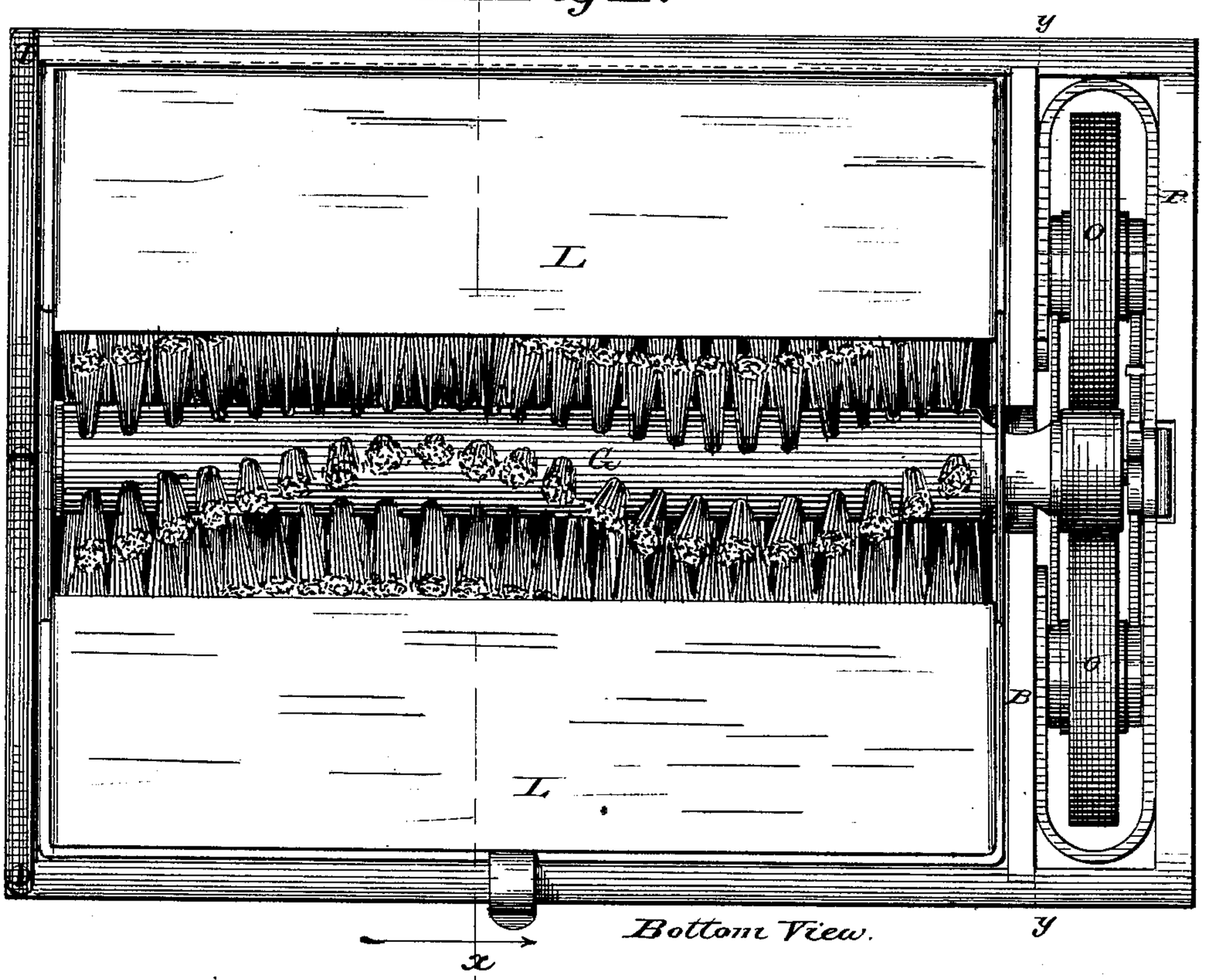
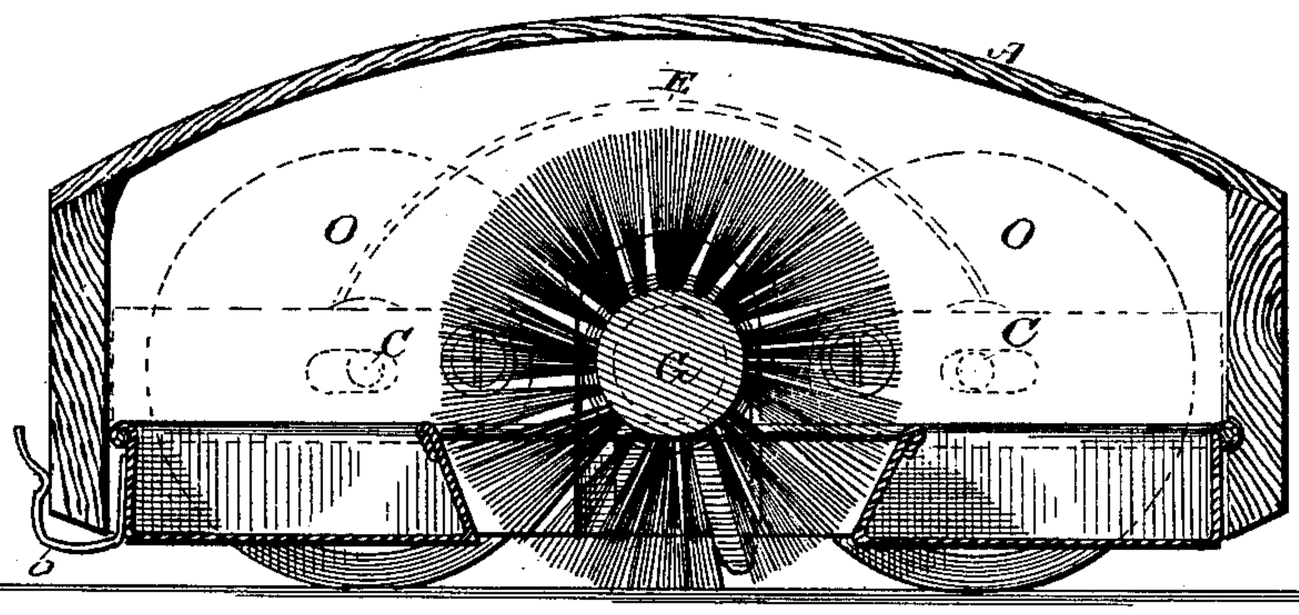


Fig. 2



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2 Sheets—Sheet 2.

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Fig. 3.

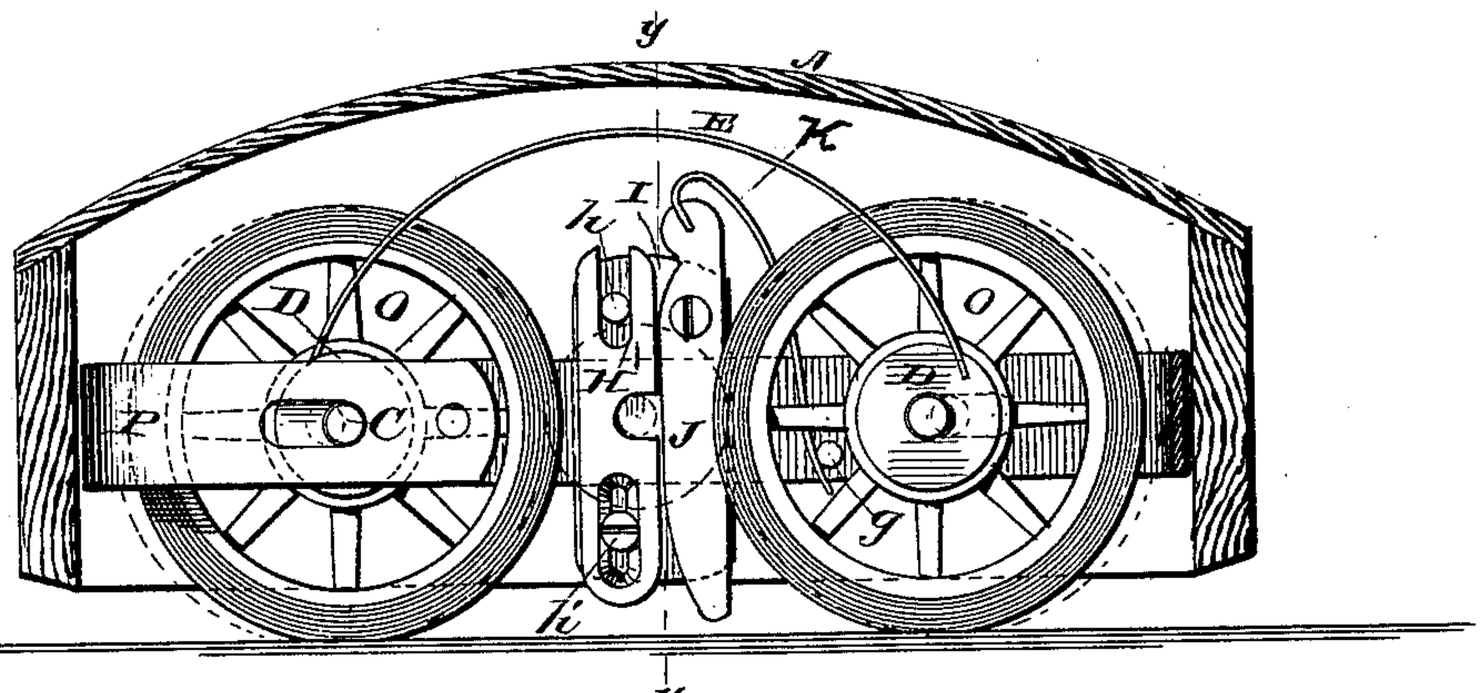


Fig. 4.

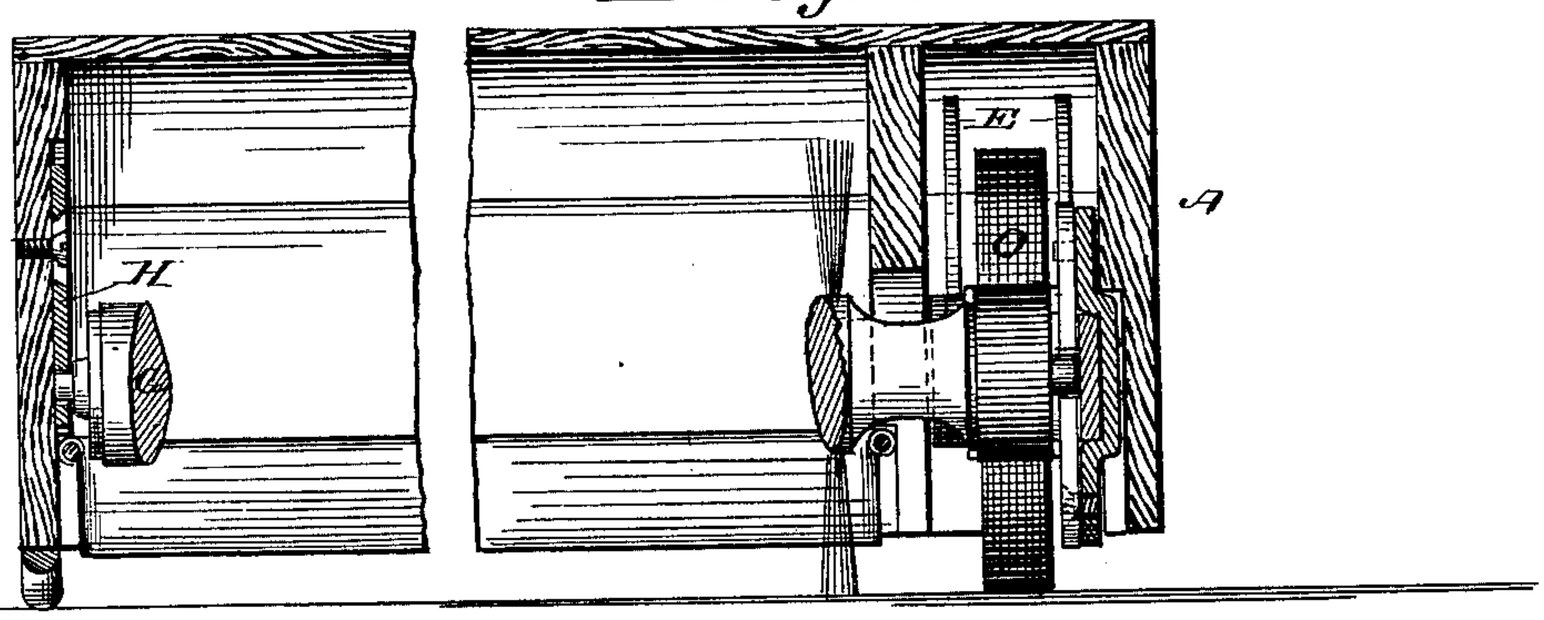
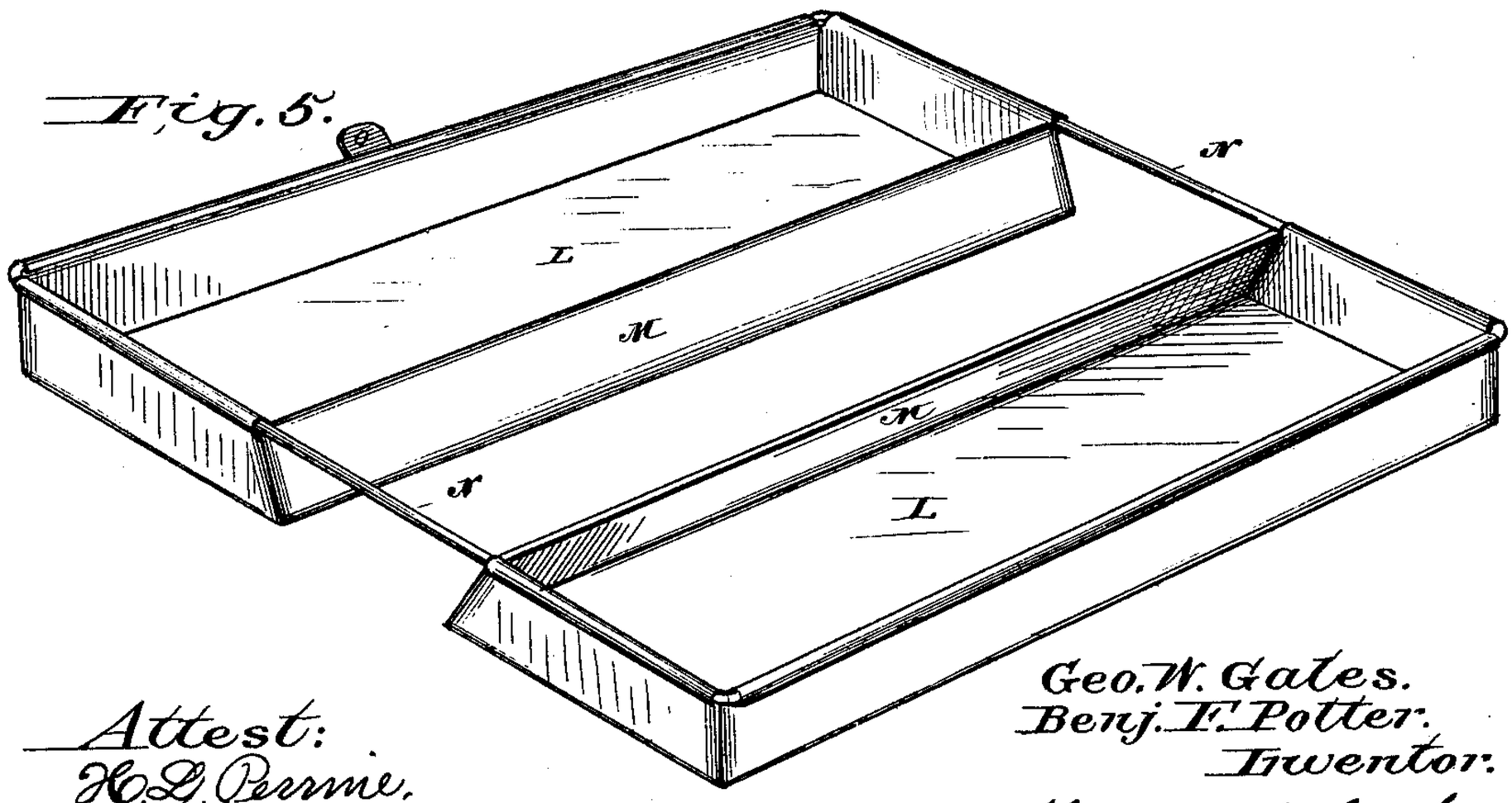


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. GATES AND BENJAMIN F. POTTER, OF GRAND RAPIDS, MICH.

IMPROVEMENT IN CARPET-SWEEPERS.

Specification forming part of Letters Patent No. **220,018**, dated September 30, 1879; application filed June 16, 1879.

To all whom it may concern:

Be it known that we, GEO. W. GATES and BENJAMIN F. POTTER, of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a bottom view of the sweeper; Fig. 2, a transverse section thereof through *x x* of Fig. 1; Fig. 3, a cross-section through *y y* of Fig. 1; Fig. 4, a longitudinal section through *y y* of Fig. 3, with a portion of the brush broken away; and Fig. 5, a perspective of the dust-pans.

Our invention relates to that class of carpet-sweepers consisting of a shell within which is a revolving brush, mechanism for revolving the same, and pans for receiving and holding the dust.

The invention consists in the construction as well as in the combination of parts hereinafter set out, whereby among other advantages is that of effecting a continuous and yet yielding pressure of the driven wheels against the brush-shaft or the pinion of the shaft.

In the accompanying drawings, the letter A indicates the shell of the sweeper, which is partitioned off at one end by means of the partition B, so as to form a compartment for the driving mechanism. This mechanism consists of two wheels, O, having, preferably, rubber peripheries, and journaled in a frame, P, made of metal or other suitable material, and provided with at least four longitudinal slots, into which fit the axles of the driving-wheels, so that the wheels may have a longitudinal play. The axles of the wheels may be cast with them; but I prefer to make them separate, so that the wheels may be readily removed from the afore-described frame, and therefore I bore, cast, or otherwise form holes through the length of the hubs of the wheels, and pass through these holes bolts or pins C, which extend sufficiently beyond both ends of the hubs as to receive on both ends a circular or other shaped disk or plate, D, and to pass through the slots formed therefor in the sides of the frame. The two wheels are connected to each other by means of two springs, E, which are joined or united to the disks or plates heretofore described as being next to the ends of the hubs. These springs are of such length and curve as to hold the two wheels as near to each other as the length of the slots in the frame will allow, so that when the end of the brush-shaft or the pinion thereon is inserted between the drive-wheels the former will push more or less backward the latter, while the spring will exert its elasticity and draw the wheels toward each other. By this means the drive-wheels and the brush-shaft or pinion thereon are held in contact with each other, and when the sweeper is pushed along the friction between the wheels will turn the brush. By this spring-connection the two wheels are made to adjust themselves to the diameter of the brush-shaft or pinion, so that when one brush is worn out another one may be selected without regard to the diameter of the old one; and, further, the strain on the driving mechanism that exists under the old construction is overcome, and the parts move and work more evenly and easily than ever before.

The brush G is of the ordinary construction, and is journaled in two plates, H H′, both of which admit of vertical adjustment by means of the vertical slots therein and the screw and pins used to hold the plates in position. The plate H is screwed to the inside of one side of the casing or shell, as shown in Fig. 4, while the plate H′ is screwed on the inner side of frame P by means of a pin, *h*, projecting from a plate, I, bolted or riveted to the outer side of the frame P, and by the screw *h′*, which passes through the lower slot in the plate, and is screwed into the plate I. The plate H′ has a slot cut in its face from one side, as shown in Fig. 3, into which one journal of the brush-shaft fits, as shown in Fig. 4, while the other journal fits into the opening or slot cut into the face of the plate H. This last-mentioned journal is prevented from slipping out of its bearing by the walls of the slot, while the other journal is held in its bearing by means of the bar J, which is pivoted near its upper

end, alongside the plate H′, to the plate I, and is held against the journal of the brush-shaft, or against the side opening of the slot in the plate H′, by means of a spring, K, one end of which is inserted into a slot in the top of the bar, and the other end made to press or bear against the pin or projection *g* on the inner side of the frame P, as shown in Fig. 3.

When it is desired to place or displace the one journal of the shaft in its bearing in the plate H′, the lower end of the bar is pressed to one side, which opens the way for the journal, and when the latter is to its place or out thereof the spring K forces the bar back against the plate H′ and closes the slot therein. The frame, with the gear mechanism thus attached thereto, is inserted into the compartment mentioned as formed in one end of the shell, with the described springs next to the shell's top, and is held therein by two or more screws screwed through the partition B into the holes in the side of frame P.

The dust-pans L are made with their inner opposite sides, M, slanting or inclined from the bottom of the pans to the opposite sides thereof, as shown in Fig. 5, and are connected together by means of wires or rods N, extending across the ends of the pans and along the top of the sides thereof, the upper edges of the pans being turned around the rods, so as to hold the pans and rods together. The space between the two pans is for the brush to fit in. The pans thus constructed are pressed into the bottom of the shell, and the lip *o* on the pan clasps one side of the shell, and tends to hold the pans therein, and affords a handle to be grasped in removing the pans from the shell when it is desired to discharge the sweepings therefrom.

The sweeper constructed according to the foregoing description is compact and strong in its several parts and as a whole, and is very effective in its operation.

Having described our invention, what we claim is—

1. The wheels O, connected by springs E, in combination with frame P, provided with longitudinal slots, in which wheels O are journaled and free to move, substantially as set forth.

2. The wheels O, connected by springs E, in combination with frame P, in which they are journaled, so as to have a longitudinal play, and with spring-bar J and plate H′, substantially as and for the purpose set forth.

3. The frame P, provided with plate H′, having slots therein, as described, and pivoted bar J, controlled by spring K, all substantially as and for the purpose set forth.

4. The combination of the shell A, dust-pans L, brush-shaft G, and wheels O, the wheels connected by springs E and journaled in frame P, so as to have a longitudinal play therein, substantially as and for the purpose set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 13th day of June, 1879.

GEORGE W. GATES.
BENJ. F. POTTER.

Witnesses:
CHAS. G. GODFROY,
J. EDWARD EARLE.