

No. 688,189.

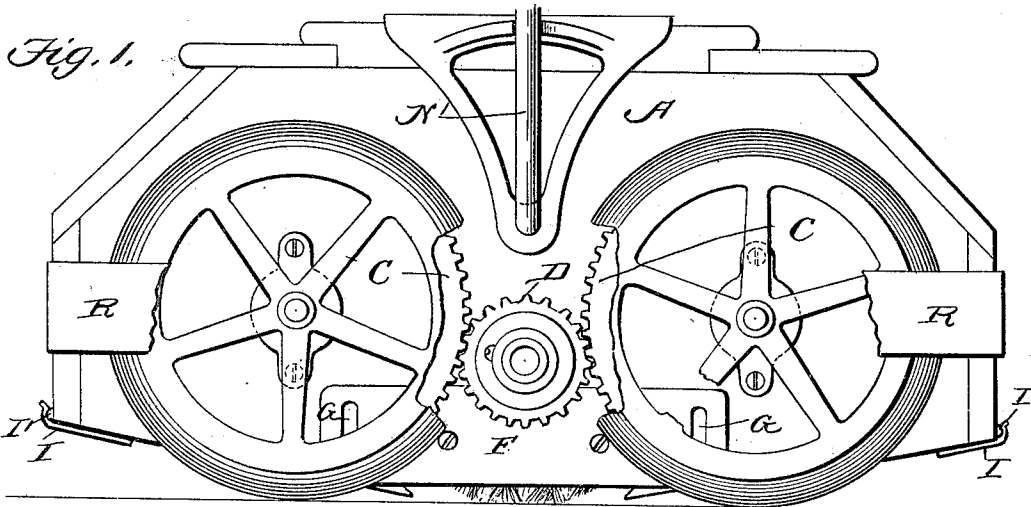
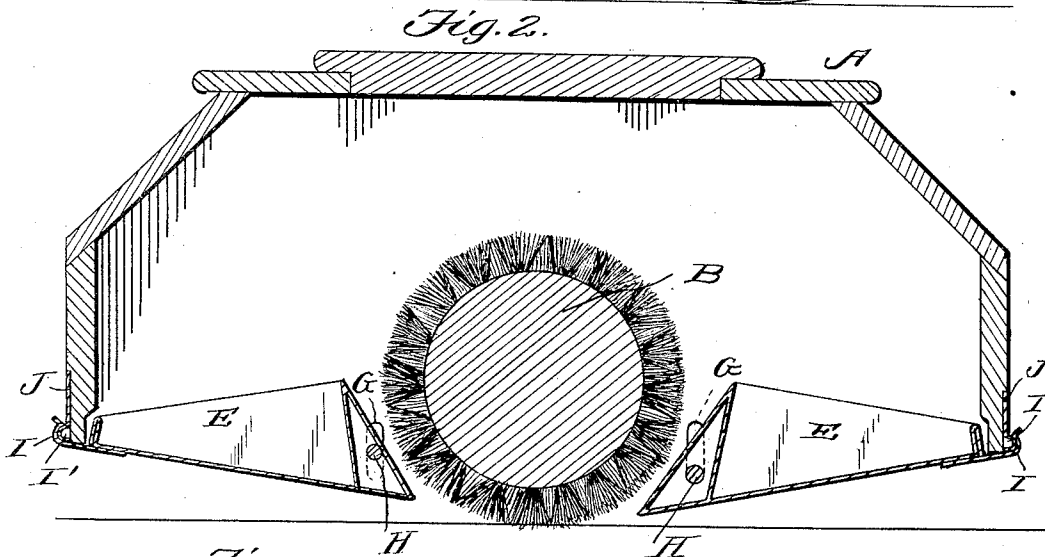
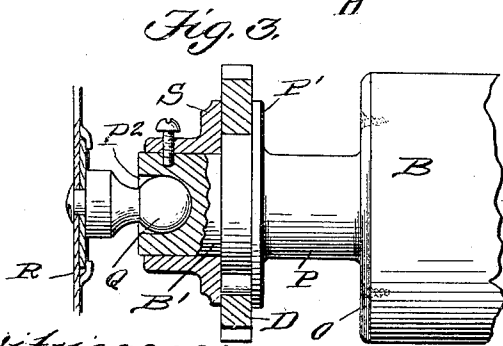
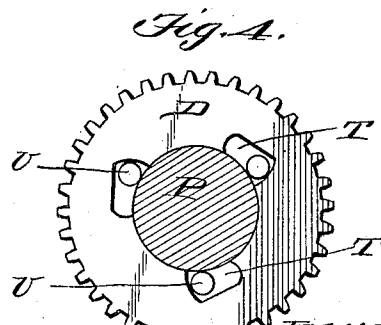
Patented Dec. 3, 1901.

F. C. MASON.
SWEEPING MACHINE.

(Application filed June 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

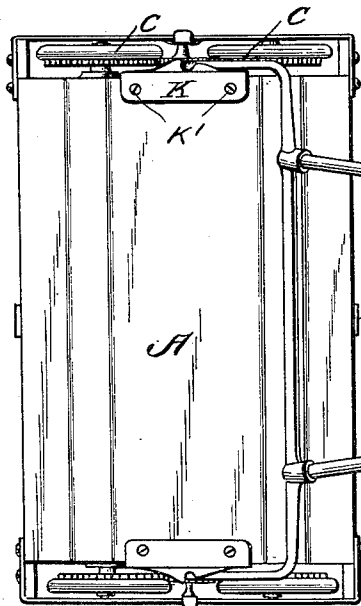


Fig. 5.

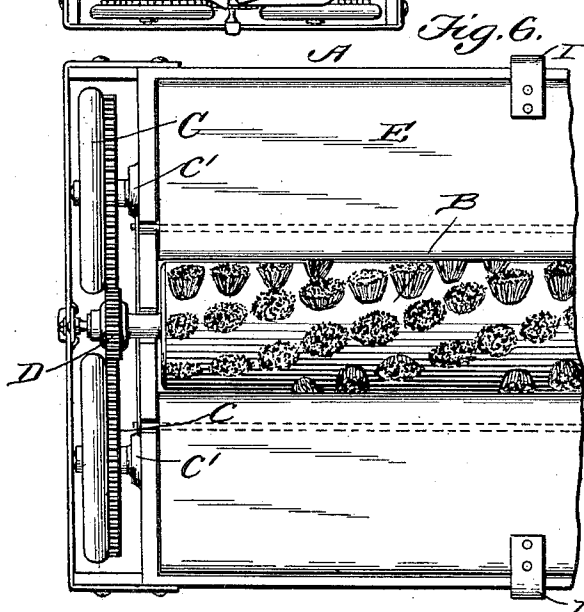


Fig. 6.

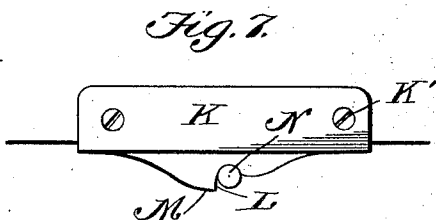


Fig. 7.

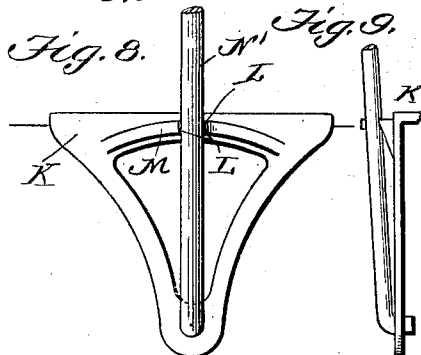
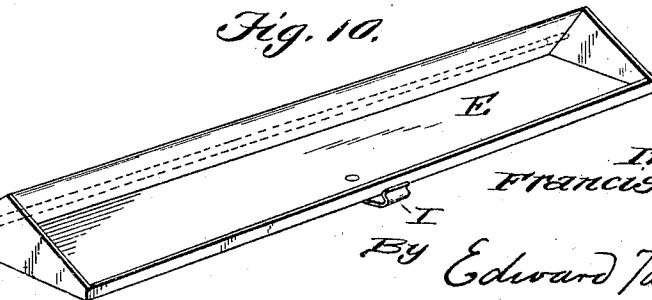


Fig. 8.

Fig. 9.

Fig. 10.



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UNITED STATES PATENT OFFICE.

FRANCIS C. MASON, OF GRAND RAPIDS, MICHIGAN.

SWEEPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,189, dated December 3, 1901.

Application filed June 21, 1900. Serial No. 21,100. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. MASON, 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 Sweeping-Machines, of which the following is a specification.

This invention relates to a new and useful improvement in floor-sweepers or sweeping-machines particularly adapted for use for sweeping bare floors, tile floors, and other smooth surfaces; and the invention relates to that class of sweeping-machines in which a cylindrical brush receives a rotary motion from the carrying or drive wheels and a dust pan or pans for receiving the sweepings from said brush.

The object of the invention is to construct a sweeping-machine adapted to take up dirt, sand, and other heavy materials; furthermore, to prevent the dust from escaping while the machine is in operation and also to form a suitable and efficient journal or pintle bearing for the brush-roller; and to this end the invention consists in the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like letters of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is an end elevation partly broken away. Fig. 2 is a cross-sectional view thereof. Fig. 3 is a detail view, partly in horizontal section, of the friction-clutch and spherical bearing. Fig. 4 is an elevation of the slotted pinion, showing the clutch-rollers mounted therein. Fig. 5 is a top plan view of the sweeper. Fig. 6 is a bottom plan view of the sweeper broken away at one end. Fig. 7 is a plan view of one of the bail-supporting brackets. Fig. 8 is an elevation of one of the bail-supporting brackets with the bail attached thereto and broken away at the top. Fig. 9 is a side elevation of Fig. 8. Fig. 10 is a perspective view of one of the dust pans or receptacles.

Referring to the drawings by reference-let-

ters, A denotes a casing of any preferred form of construction and in which is arranged the brush-roller B, operated by means of the drive-wheels C, a pair of which are journaled to each end of the casing A, as at C'.

The reference-letter F denotes a pair of guard-plates secured to the ends of the casing A and each provided with a pair of slots G, in which operate the rods H, extending from end to end of the casing and supporting the dust pans or receptacles E, the latter being secured at their inner sides to the rods H and arranged within the casing A, one at each side of the brush-roller B. Mounting the pans or receptacles E by means of the rod H, supported by the plate F, allows the pans or receptacles to be automatically raised or lowered when coming in contact with an object upon the floor. The pans or receptacles at their outer edges have secured thereto a spring-catch I, which is bent or struck up in such a manner as to engage with the boss or projection I' on the plate J, so that the pans or receptacles will be retained within the casing A when the sweeper is operated and also permitting of readily detaching one end of the pans or receptacles from the casing A, so that the former may be cleaned of the matter accumulated therein from the use of the sweeper. Attaching one end of the pan in the manner set forth also permits of the same oscillating upon the boss I'. The plates J are attached to the sides of the casing A, as shown.

When the pan E is closed, as shown in Fig. 2, the edge of the pan nearest the edge of the brush-roller will be raised and lowered to the extent of the length of the slots G, the pan oscillating upon the boss I' of the plate J; but when the spring-catch I is detached from the boss I' of the plate J for the purpose of emptying the contents of the pan the pan turns with the rod H as its pintle. The length of the slots in the guard-plates should be such that the inner edge of the pans when the rods H lie in the lower ends of the slots will just clear the surface of the floor to be swept.

The reference-letter K denotes handle-supporting brackets which are secured to the top of the casing, near the ends thereof, by screws or other fastening means. These brackets

are each provided with a depression L, one side of the depression, which is shown by M, being somewhat higher than the other side. As the bail N of the sweeper is raised it will
 5 pass over the lower side of the depression and center itself, so as to be held in a perpendicular manner, but cannot be moved or turned in the opposite direction.

The bail N is shown in an upright position
 10 in Figs. 8 and 9 and is adapted to have sufficient elasticity to pass into and out of the depression L in the brackets K. The bail has suitably connected thereto the handle N'.

Secured to each end of the brush-roller B
 15 is a plate O, which is preferably formed integral with the shaft P, the latter having loosely mounted thereon the pinion D and also having its end formed with a socket P² for the reception of the spherical pintle Q. The
 20 pinions D mesh with the drive-wheels C and are operated thereby for rotating the brush-roller B. The pintle Q is suitably secured to the supporting-strip R, which extends
 25 across from the front to the rear of each end of the sweeper and supports the pintle. The spherical pintle Q is employed to lessen the friction of the brush-roller B, as well as to prevent the binding or wedging of the pin-
 30 tles in the socket P², formed in the end of the shaft P.

The reference-letters P' and S indicate a pair of rollers secured to each end of the shaft P for the purpose of retaining the pin-
 35 ions D and the friction-rollers U in position. The pinions D are provided with slots T, which are inclined and substantially wedge-shaped, the rollers U resting in the slots T for forming a friction-clutch, or, in other
 40 words, for clutching the pinions D to the shaft P, the latter also serving as a journal for the pinions D.

When the sweeper is moved forward by means of the handle N, the rollers U are carried into the smaller end of the wedge-shaped
 45 slots and attach the pinion to the shaft P, so that as the pinion D is revolved by the drive-wheel C the brush-roller B is also revolved, and the dust or dirt is carried into the pan of the sweeper. When the sweeper is moved
 50 in the opposite direction, the rollers U move away from the shaft P and the pinion D moves freely without revolving the brush. This clutch connection between the pinion D and the shaft P causes the brush to revolve
 55 only when the sweeper is pushed forward over the floor. That portion of the shaft P upon which the pinion is mounted is indicated at B'.

Having thus described my invention, what

I claim to have invented, and desire to se- 60
 cure by Letters Patent, is—

1. In a sweeping-machine the combination with the case thereof of a dust-receiving pan yieldingly supported at its side adjacent to the brush-roller, and provided with a spring- 65
 catch engaging with the case, which, when the pan is closed, forms a pintle on which the pan oscillates.

2. The combination of the case and slotted plate at either end of the case, a dust-pan 70
 having its edge adjacent to the brush-roller pivoted in the slots of said plate, a spring-catch on the edge of the pan, a plate or projection on the case with which the spring-
 75 catch on the pan engages, said catch with its engagement forming a pivot on which the pan oscillates when closed, and a lock to retain the pan in its closed position, substantially as described.

3. The combination with the case of a dust- 80
 pan, a pair of rods extending from end to end of the case, plates provided with slots within which the ends of the rods are supported, a spring-catch on the pan, a plate with which
 85 said catch engages to form a pivot-bearing for the pan when closed.

4. A sweeping-machine consisting of a case, drive-wheels connected thereto for support-
 90 ing the same, a brush-roller arranged in said case and provided with a socket at each end, bearings connected with the case and engaging in the sockets of the roller for support-
 95 ing it, means engaged by the drive-wheel for operating the brush-roller in one direction, a dust-receiving pan arranged at each side of the brush-roller within the case, and means
 100 connected with each of the pans and to the case for permitting the oscillation of the pans.

5. A sweeping-machine consisting of a case 100
 provided with a bail, drive-wheels supporting the case, a plate connected with the case, a brush-roller mounted in the case and oper-
 105 ated by the drive-wheels, suitable bearings supported by the case and engaging in the ends of the brush-roller for supporting the
 110 same, pans supported by the said plate within the case, and means carried by the pans and connected with the case to permit of the oscillation of the pans.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
 115 nesses.

FRANCIS C. MASON.

Witnesses:

EDWARD TAGGART,
 JAMES B. DAVIES.