(No Model.) 2 Sheets—Sheet 1.

J. O. BOGGS.

SWEEPER.

No. 436,689. Patented Sept. 16, 1890.

Fig. 1.

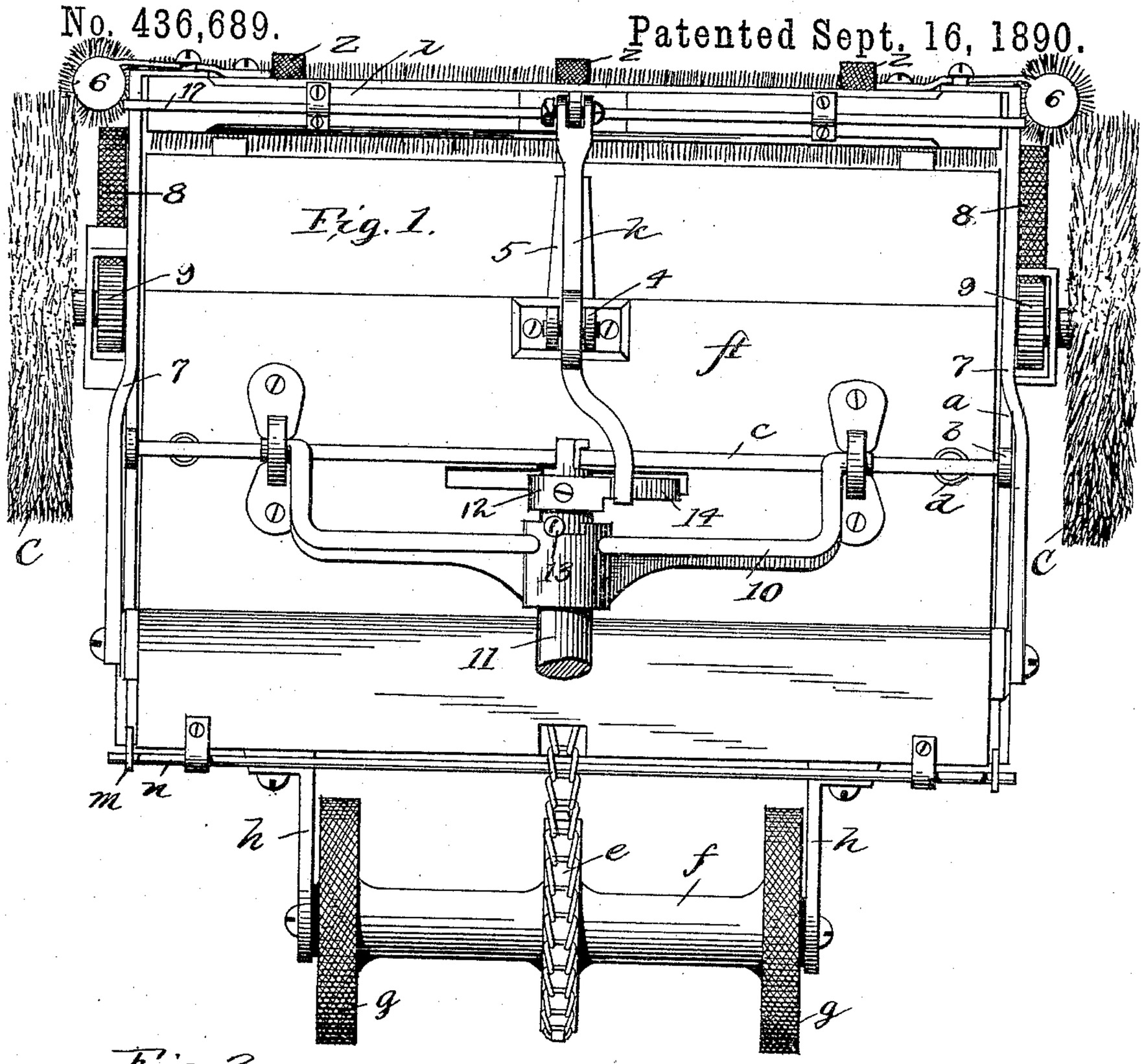
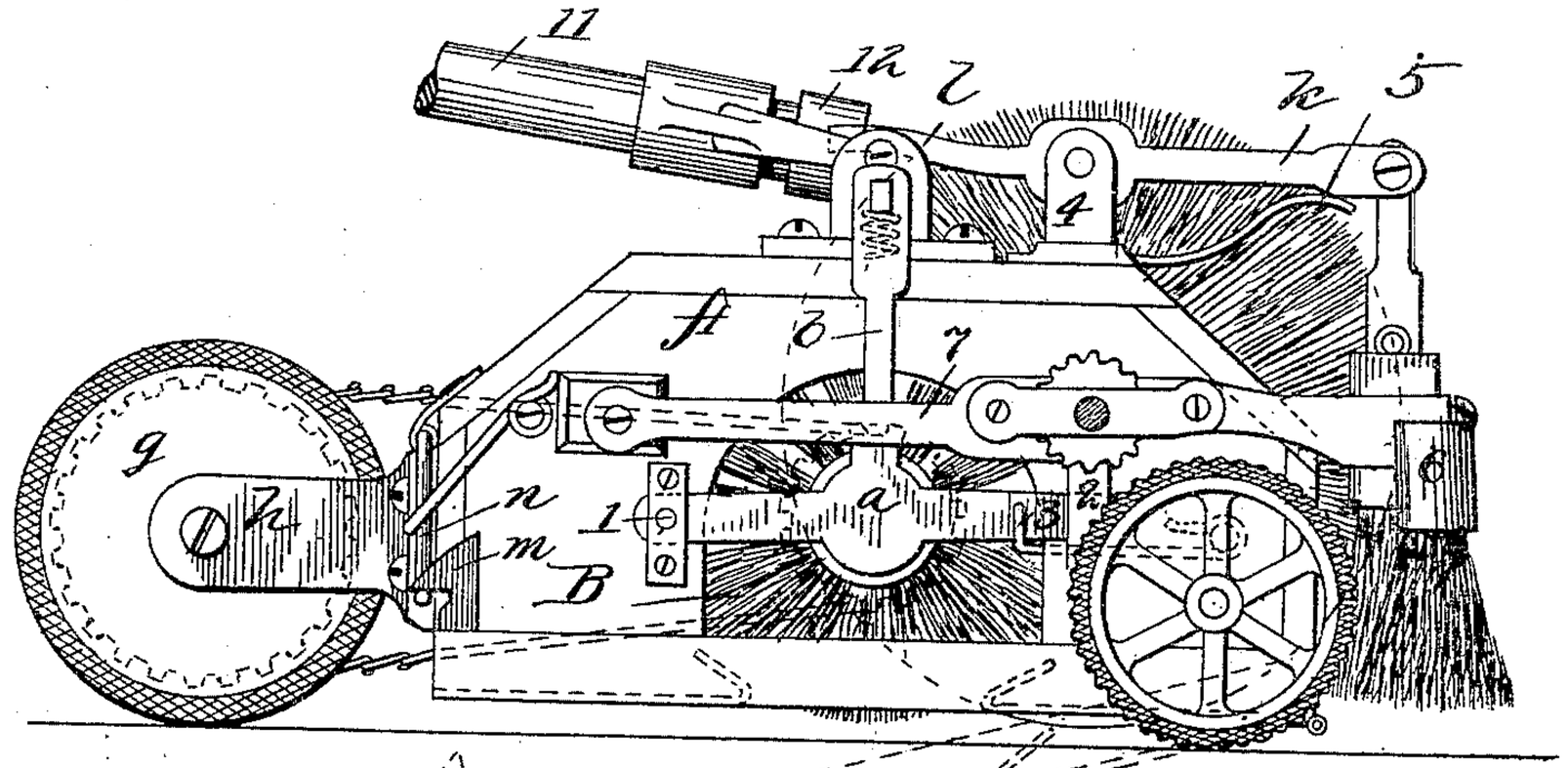


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig 3

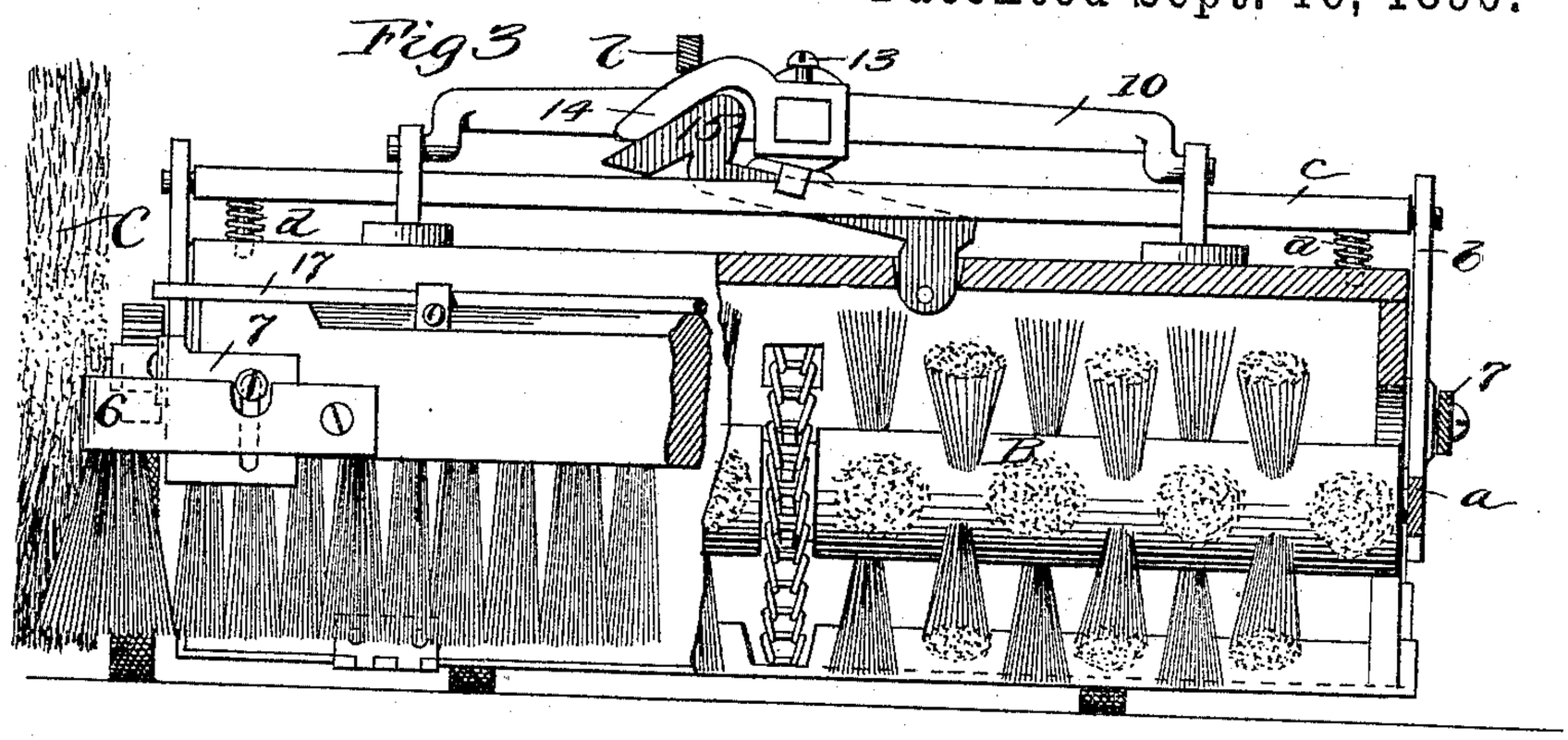
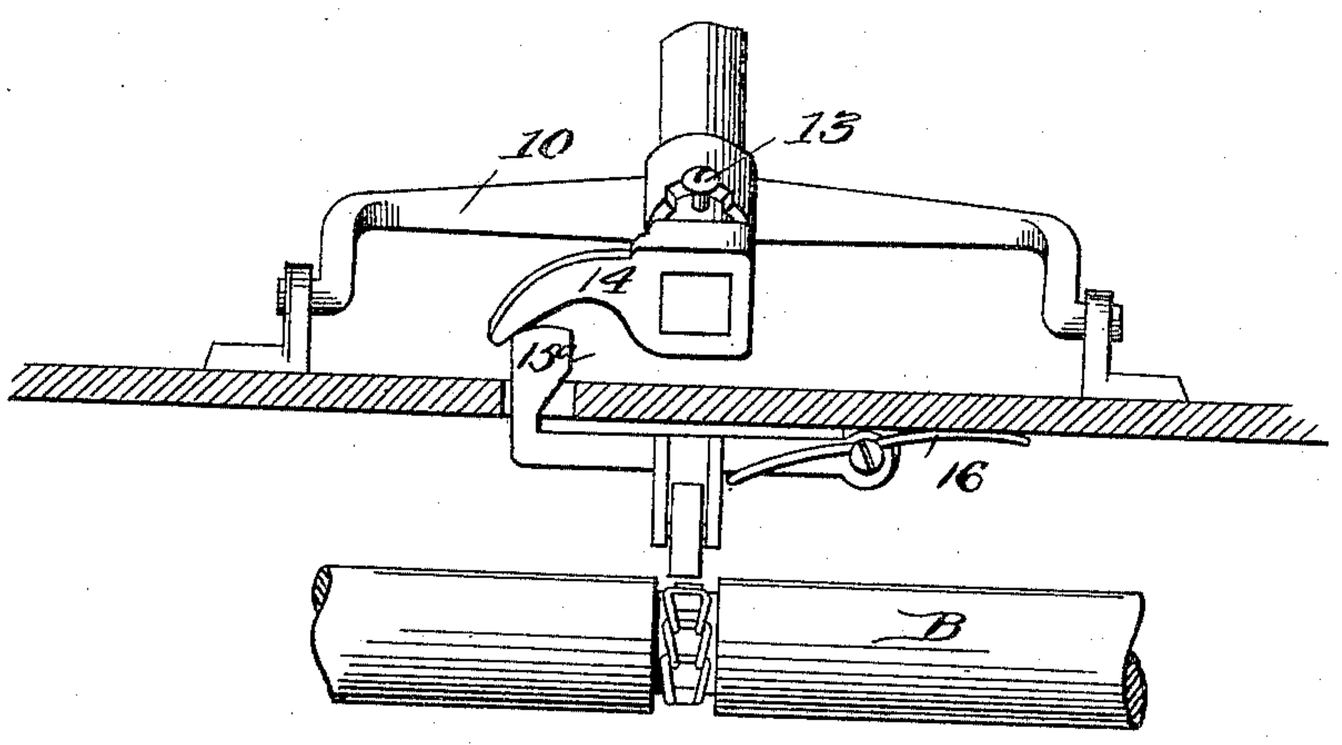


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH O. BOGGS, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JACOB WARREN ROOP, OF SAME PLACE.

SWEEPER.

SPECIFICATION forming part of Letters Patent No. 436,689, dated September 16, 1890.

Application filed December 19, 1889. Serial No. 334,275. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH O. BOGGS, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Improvement in Sweepers; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is designed to produce a sweeper for general use, and to this end I have improved the construction in many of its details, and at the same time applied features which are broadly new, and which, while being shown in connection with the generally-improved sweeper, may be used upon other forms of sweepers and independently of the various details shown herein.

Primarily I aim to provide means to sweep into corners and along the wash-boards of a room, where under ordinary circumstances it is impossible for the sweeper to reach.

A further object is to provide such a construction of supplemental brush and main brush, the first for reaching places ordinarily inaccessible to the common form of sweeper and the latter for doing the ordinary work of sweeping as shall be capable of being operated by the handle of the sweeper, one of said brushes being operated by the movement of the handle in one direction and the other by the movement of the handle in the opposite direction.

Another object is to improve the various parts of the sweeper as to the means for driving the brush and the construction of the dust-pan and in the use of a pair of supplemental brushes arranged to operate at the sides of the case which incloses the main brush.

The invention consists in the devices and combination of devices hereinafter particularly described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a plan view of my improved sweeper with the handle broken away. Fig. 2 is a side elevation of the same with the dust-pan shown in one position in dotted lines and in its normal position partially in full lines and partially in dotted lines. Fig. 3 is a front elevation on the left of said figure and a sectional view through the case on the right of the figure. Fig. 4 represents a modification of the means for applying pressure to the main brush.

In the drawings, the box or case of the sweeper is shown at A, and may be of ordinary or any desired construction, according to the requirements of the sweeper, and of course may be made of any suitable material. The main brush is inclosed within this case and is shown at B. This brush may be of the ordinary construction and composed of any material suited for the purpose. It is journaled in bearings at each end, these bearings consisting of cross-bars *a*, pivoted at 1 to the end of the box or case, the other end having a certain amount of play in a loop 2, secured to the end of the case, the said cross-bars bridging the openings in each end of the case, and which are in line with the shaft of the brush. These cross-bars may have pintles projecting inwardly and fitting corresponding recesses in the ends of the shaft of the brush, or the said shaft may be supported from the said bars in any other desired manner. The free ends of the bars are held normally up by springs 3, which may engage with the free ends of the cross-bars, as shown in Fig. 2, or, as shown in Fig. 3, these cross-bars may be connected each to the upright extension *b*, and these extensions connected across the top of the case by a horizontal rod *c* with spiral or other suitable springs interposed between said rod and the top of the case, these springs being indicated in Fig. 3 at *d*. These springs tend to hold the brush entirely above the floor normally or only slightly in contact therewith. It will of course be understood that whether the brush be in contact with the surface to be swept or out of contact therewith depends entirely upon the tension of the springs, and this tension may be such as to effect the desired purpose. Yielding bearings are thus provided for the brush, and the brush may be made to bear against the surface to be swept with more or less pressure, as will be hereinafter explained. The main brush is driven by a sprocket-chain, which passes around the shaft of the brush, engaging with teeth thereon through openings in the rear wall of the case, and from thence around the sprocket-wheel *e*, which is on the shaft *f* of the bearing-wheels *g*. These wheels

and shaft are supported in rear of the case by suitable brackets *h*, which are connected to the said case. The wheels *g* are preferably provided with rubber tires, which in the movement of the sweeper causes sufficient traction to drive the brush either in one direction or the other in accordance with the direction of the movement of the said sweeper.

In order to provide for the removal of the dirt from proximity to the wash-boards of the room and the corners and other inaccessible places, I arrange a supplemental brush, preferably outside of the case and slightly in advance of the same, though I do not desire to limit myself as to the location of this brush, as the casing of the sweeper could very evidently be made to cover it if this were found desirable. This brush consists of the head-piece *i*, provided with bristles of any suitable material adapted to effect the brushing action, the said brush being suspended from a lever *k*, pivoted at 4 on the supporting-post connected to the upper part of the casing. A spring 5 bears against the under face of the lever *k* and tends to keep it pressed constantly upward, thus holding the supplemental brush normally above the level of the surface to be swept. I prefer to make the supplemental brush of a width slightly in excess of that of the box or casing, and have shown in the drawings at 6 a single tuft at each end of the brushing material extending beyond the end of the casing, these tufts being supported from the head of the supplemental brush. Pivoted near the rear on each side are arms 7, and these arms extend to the front, having their ends bent at right angles inwardly, and engage by elongated slots in these bent ends with a pin or screw on the head-block of the supplemental brush. These arms support circular brushes C outside the case and preferably extending in line with the single tufts 6 of the supplementary brush or slightly beyond them, thus extending the scope of the sweeper and allowing the brushes C to sweep up close to the wash-boards of the room.

The casing is provided with forward wheels 8, which are also provided with rubber tires, preferably, and through these tires the brushes C are rotated, the said brushes being mounted on spindles which are provided with corrugated disks 9, resting normally on the peripheries of the forward wheels.

The handle-yoke is shown at 10, being pivoted in openings formed in lugs secured to the top of the casing. This yoke has a central cylindrical opening, through which passes the handle 11. This handle carries upon its extreme lower end a casting 12, which is held to the squared end of the handle by a set-screw. The handle has a swiveling movement in the circular opening of the yoke, this movement being limited by the pin 13, which is adapted to have movement between the walls of the recess formed on the lower edge of the yoke.

Any suitable amount of pressure may be applied to the main brush by the axial movement of the handle through the projecting finger 14, extending from the casting 12, which finger in the axial movement of the handle in one direction comes in contact with the cam-shaped end of the lever 15, pivoted in a recess in the top part of the case. This lever has a projection extending from its upper face across the upper surface of the rod *c*, and thus as the lever 15 is depressed through the axial movement of the handle to the right the springs *d* are compressed and pressure applied to the brush.

In Fig. 4 a modification is shown of means for applying pressure to the brush, consisting of a lever 15ª, pivoted beneath the top of the case at one end, with its opposite end bent at right angles, and extending up through the opening in the case into line with the finger 14, which is adapted to operate the same, as before described. This lever 15ª is held normally up by the spring 16, and is provided with a pressure-roller which bears upon the projecting teeth on the periphery of the shaft of the main brush, and thus when the handle is turned as above described pressure is applied directly to the shaft B and the brush caused to bear more forcibly upon the surface to be swept. The lever *k* has a rear extension *l*, which is bent slightly to one side, so as to come directly over the curved upper surface of the finger 14, and in the axial movement of the handle to the left the front end of the lever *k* is depressed, overcoming the pressure of the spring 5, and the supplemental brush is thrust downward in contact with the floor.

Along the top of the head-piece of the supplemental brush is a rod, preferably of spring material, this rod extending beyond the ends of the head-piece, so as to engage with the outer ends of the lever 7, and thus, as the supplemental brush is brought into contact with the floor, the ends of the spring-rod 17 bear with a yielding pressure upon the ends of the arms 7, thus increasing the frictional contact of the disks of the brush C with the forward supporting-wheels and causing them to be revolved. It will thus be seen by the arrangement described that in one movement of the handle pressure may be applied to the main brush, while in the reverse movement the main brush is released and the supplemental brush placed under pressure. This action is desirable for the reason that when it is desired to sweep close to the wall the sweeper is placed in position with the supplemental brush in contact with the wash-board. The handle is then turned to the left, which brings the supplemental brush in contact with the floor, while the main brush is out of contact therewith. The sweeper is then drawn outward from the wall, the supplemental brush drawing the particles of dirt with it. The handle is then turned in the opposite direction, thus relieving the supplemental brush and applying pressure to the

main brush, and the sweeper then advanced toward the wall, taking up the dirt previously withdrawn.

The side brushes C enable me to sweep along the sides of the room in close proximity to the wash-boards, and thus the floor may be thoroughly swept along the sides to the corners of the room, and the dirt in the corners removed by the action above described in alternately drawing the dirt out from the corners and then advancing the sweeper to take up the dirt thus withdrawn.

The dust-pan has been simplified in my present construction of sweeper, being made in a single piece and pivoted to the front end of the lower edge of the sweeper with the ordinary opening in the bottom in line with the brush, the rear end of the dust-pan being removably held by catches which engage with the bent ends of a pivoted rod held normally in engagement with the hooks by a spring.

The pan is shown at D, the hooks at *m*, and the pivoted holding-rod at *n*.

It will be understood that while I have shown an improved sweeper made up of various improved elements these various improvements may be applied to other sweepers now in use, either in part or in whole, without departing from the spirit of my invention.

I do not limit myself to the particular means shown for operating the supplemental brush, as it is evident that the means shown may be varied in many ways; and this is true, also, of the means for driving the main brush and applying pressure thereto.

The exposed faces of the supplemental brush and side brushes may be covered with any suitable material or provided with buffer-pads to protect the furniture and wash-boards from becoming scratched in the use of the apparatus, these pads being shown at Z.

I claim as my invention—

1. A sweeper consisting of a suitable casing, a main rotating brush, and a vertically-movable supplemental brush arranged in advance of the main brush and held normally out of contact with the surface to be swept, substantially as described.

2. A sweeper consisting of a suitable casing, a rotary brush supported in yielding bearings, means for rotating said brush, a supplementary brush vertically movable and held normally above the surface to be swept, and a handle for depressing the supplementary brush in its movement in one direction and for applying pressure to the main brush in its movement in the opposite direction, substantially as described.

3. A sweeper consisting of a suitable casing, a main sweeper with means for rotating the same, a supplementary brush, a spring for holding said brush normally above the surface of the floor, a lever connecting the said brush, and means for operating said lever to depress the brush, substantially as described.

4. In combination with a suitable casing, a main brush supported in yielding bearings, an axially-movable handle provided with a cam or finger, and intermediate means between said cam and brush whereby pressure may be applied to said brush, substantially as described.

5. In a sweeper, a casing and a main rotating brush, in combination with a supplementary brush outside the frame or casing, a lever connected therewith, and an axially-movable handle for engaging the lever, substantially as described.

6. In combination with a suitable casing, a rotary brush having yielding bearings, a supplementary brush and a lever for operating the same, and an axially-movable handle provided with a cam or finger on its lower end, said cam or finger in the movement of the handle in one direction operating to apply pressure to the main brush and in the movement in the other direction to apply pressure to the supplementary brush, substantially as described.

7. In combination with a suitable casing and a rotary brush within the same, supplemental side brushes extending parallel to the sides of the casing mounted on spindles having their bearings in pivoted arms, the said spindles being provided with friction-disks adapted to engage with the forward wheels of the sweeper and thus drive the side brushes, substantially as described.

8. In combination with a casing, a main brush, a supplemental brush held normally above the floor, means for depressing the same, pivoted arms on the sides of the casing carrying side brushes, the said brushes being driven by contact with the front wheels, and a rod carried by the front brush adapted to depress in the depression of the said brush the arms carrying the said brushes, substantially as described.

9. In combination with a suitable casing, a main brush within the same, a supplemental brush arranged in advance of the main brush, and independent tufts connected to the ends of the said supplemental brush at each end thereof, substantially as described.

10. In a sweeper, the casing, a rotating brush within the same, and a supplemental brush arranged in front of the casing and extending beyond the sides thereof, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH O. BOGGS.

Witnesses:
S. W. FLEMING,
J. A. MARSH.