

(No Model.)

2 Sheets—Sheet 1.

A. VOELKLE.  
STREET SWEEPING MACHINE.

No. 482,663.

Patented Sept. 13, 1892.

FIG. 1.

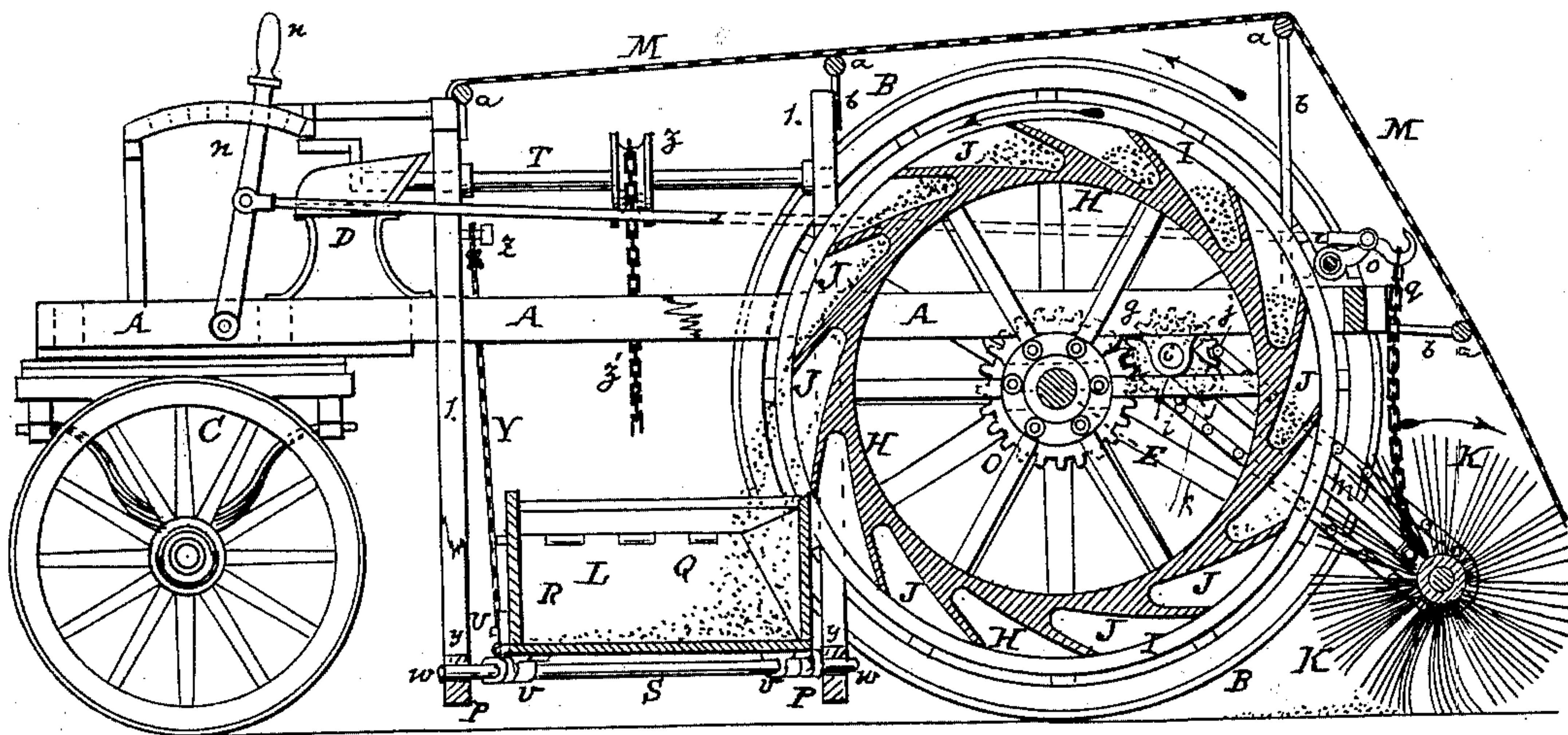
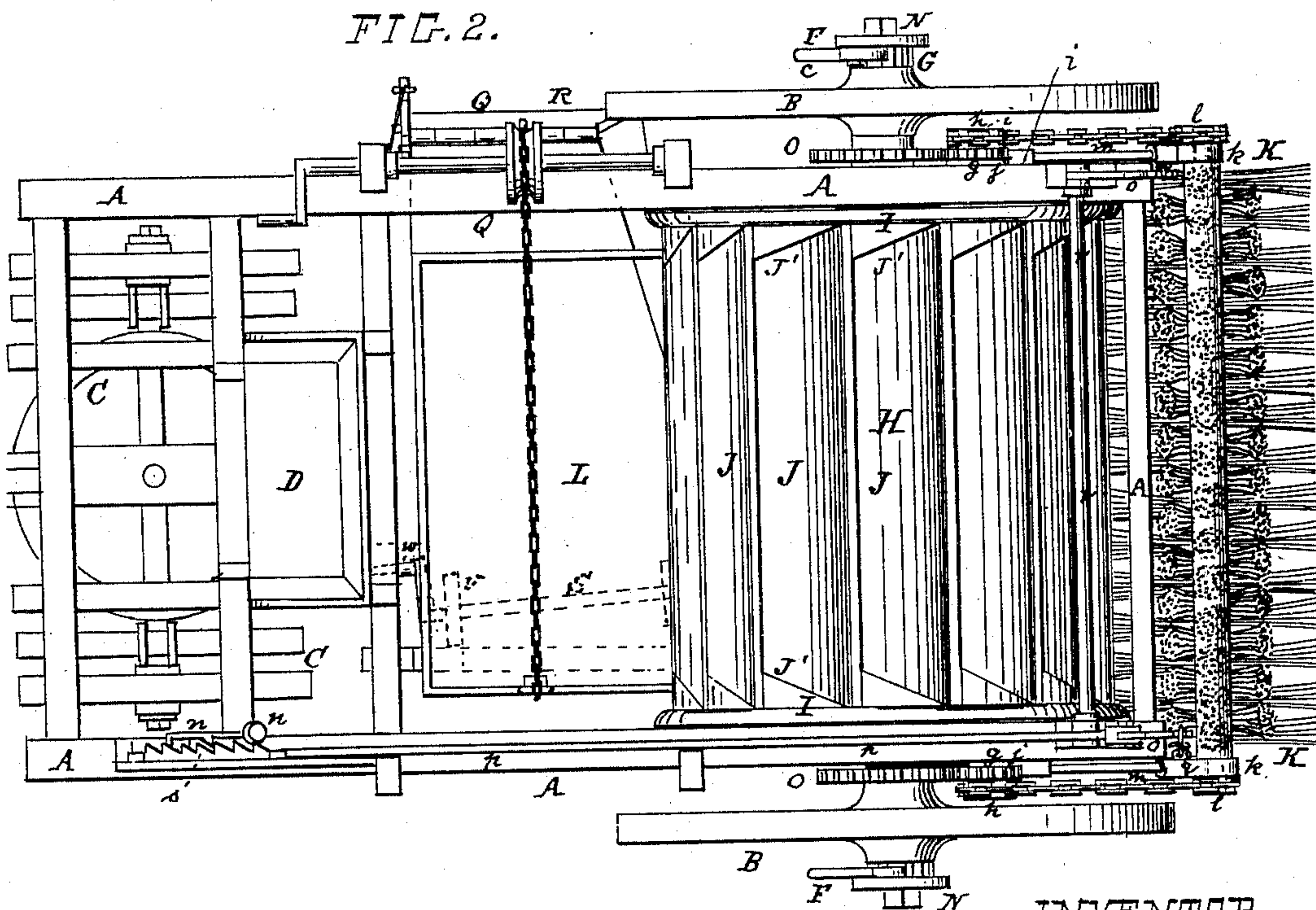


FIG. 2.



WITNESSES.

*John Mayon*  
*Samuel B. Gray*

INVENTOR.

*Andreas Voelkle*

(No Model.)

2 Sheets—Sheet 2.

A. VOELKLE.  
STREET SWEEPING MACHINE.

No. 482,663.

Patented Sept. 13, 1892.

FIG. 3.

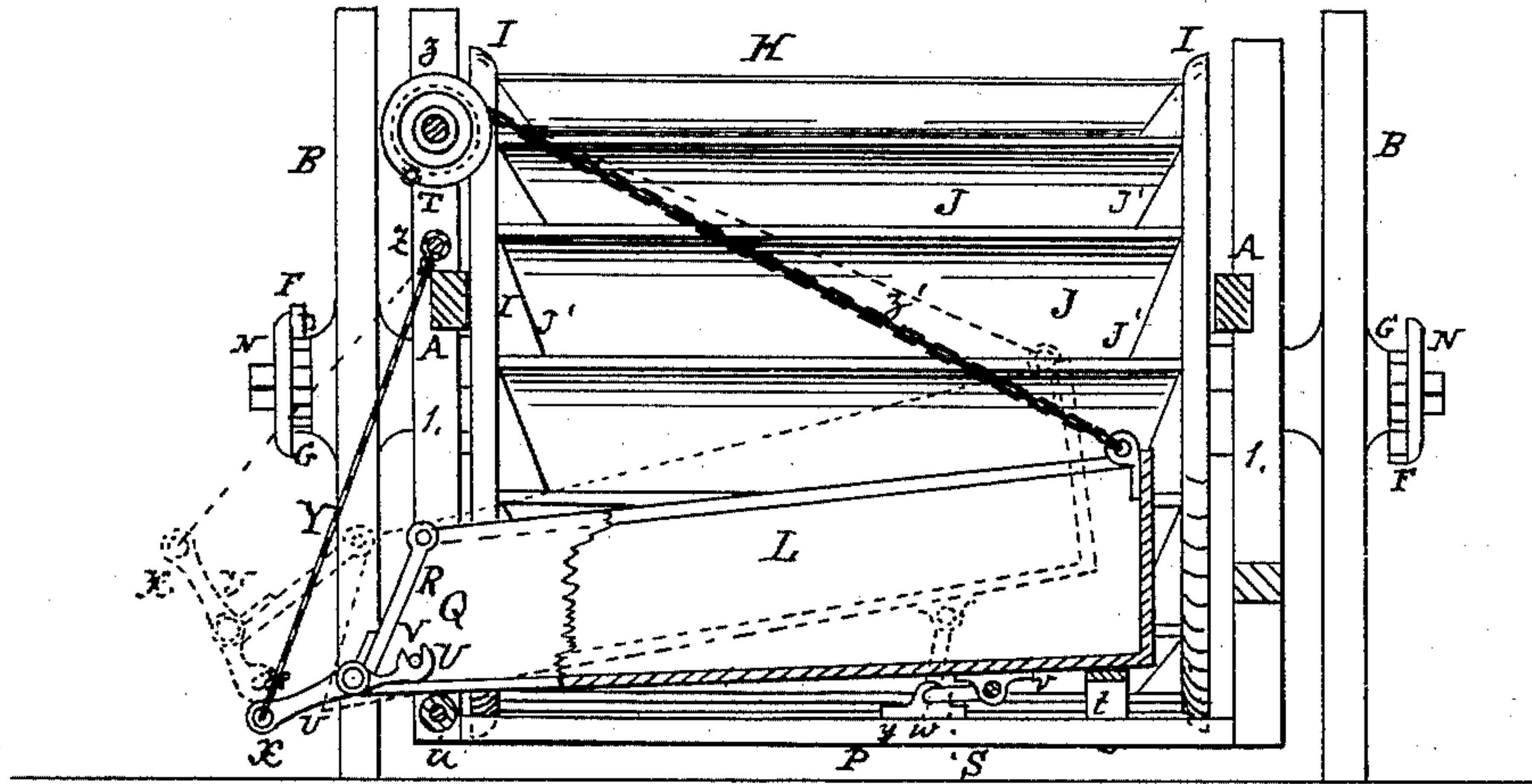


FIG. 5.

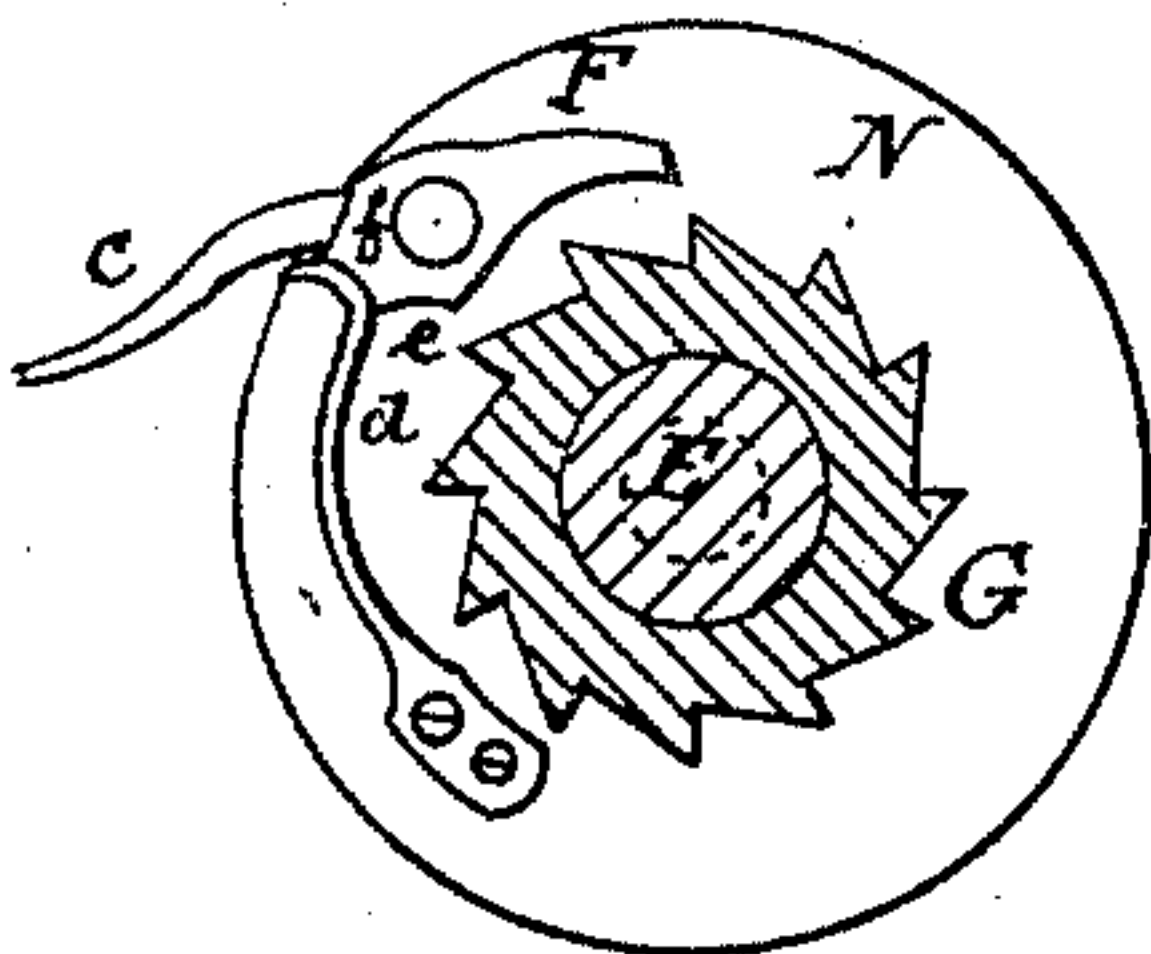
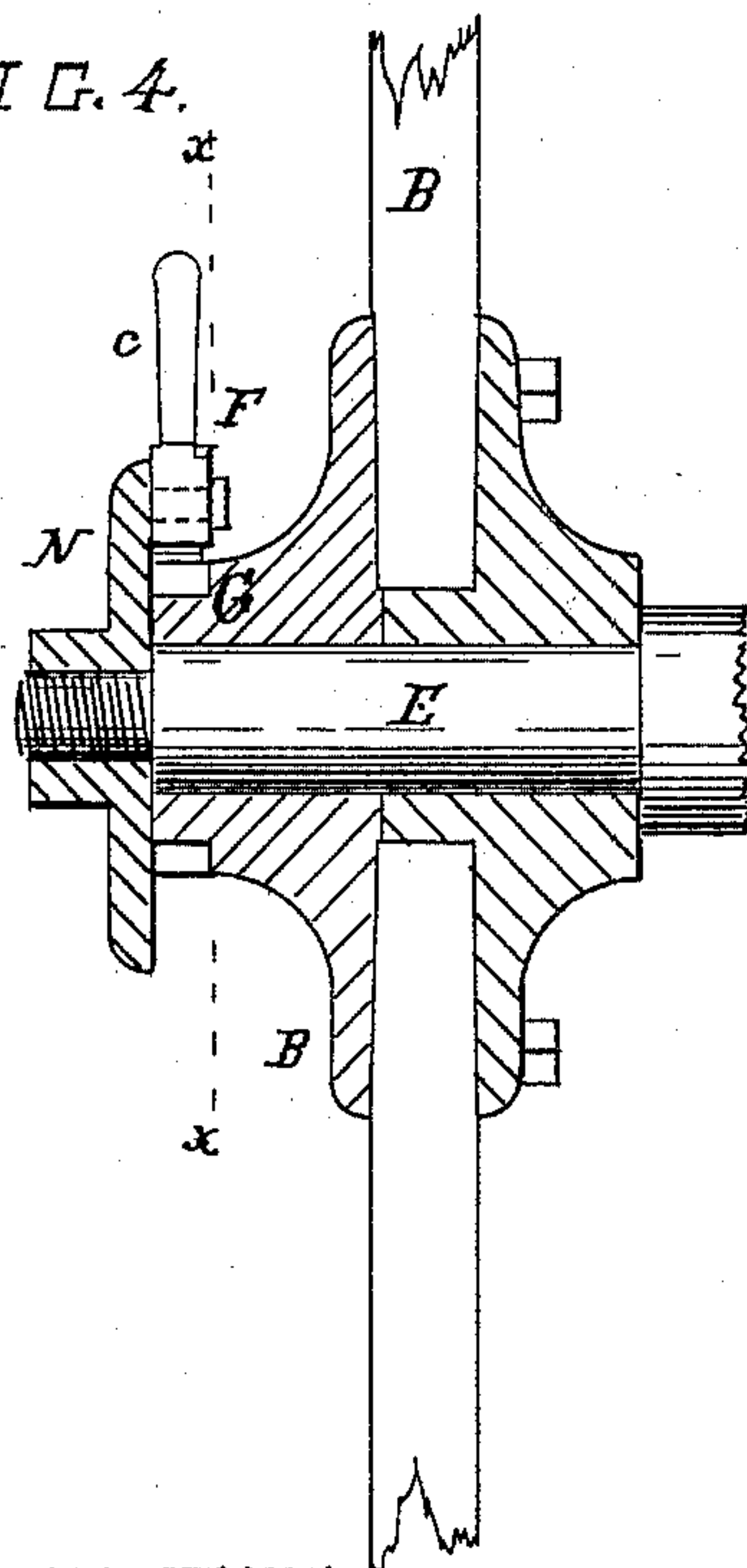


FIG. 4.



WITNESSES

*John Mayon*  
*Daniel B. Gray*

INVENTOR

*Andreas Voelkle*



# UNITED STATES PATENT OFFICE.

ANDREAS VOELKLE, OF NEW YORK, N. Y.

## STREET-SWEEPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 482,663, dated September 13, 1892.

Application filed December 18, 1891. Serial No. 415,475. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREAS VOELKLE, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Street-Sweeping Machines, of which the following is a specification.

This invention relates to improvements in that class of sweeping-machines in which the sweepings are swept into the peripheral pockets on a rotating drum by a rotating brush and delivered from said pockets into a collecting-trough, from which they are discharged at proper intervals, as more fully hereinafter specified; and it has for its objects to improve the construction of the drum and provide improved mechanism for dumping the sweepings from the collecting-trough, as more fully hereinafter specified.

In the annexed drawings, Figure 1 represents a sectional side elevation of the machine with my improvements. Fig. 2 is a top view of the same. Fig. 3 is a lateral vertical section of the same at the collecting-box of the sweepings. Fig. 4 is a detached longitudinal section of the hub and pawl of the driving-wheel of the same, shown on a larger scale. Fig. 5 is a lateral section of the same at the line *x x*.

The letter of reference A represents the wagon-frame, and B B the driving-wheels, and C is the front truck of the machine.

D is the driver's seat upon the forward part of the frame, and E represents the wagon-axle or driving-wheel shaft, upon which said wheels can revolve loosely, when the machine is being driven without sweeping; but for sweeping said axle is connected by means of a pawl F, engaging into a ratchet-wheel G, fixed or cast on the hub of the wheel. Both ends of the axle may have a pawl attached and both hubs of the wheels be provided with a ratchet each. To the under side of each side bar of the frame is attached a bearing for the driving-shaft or axle E to revolve therein whenever the wheel or wheels are connected by the pawls rigid with it, and upon the said shaft between the side bars of the frame is mounted and solidly fixed a drum H to revolve with the shaft. Said drum has a flange I on each end close to the side bar of the frame A, and

between its flanges I I are made the equally-distributed longitudinal grooved pockets J J upon its periphery, in which the sweepings are received from the rotary brush K of the machine, located at the rear of said drum and revolving as shown by the arrow, and closely forward of said drum is employed laterally a dirt-collecting box or trough L, into which the pockets J empty their sweepings. All the portion over the brush and over the top of the drum H, the frame A, the driving-wheels, and the trough L are covered by a suitable cloth cover M, stretched over suitable cross-rods *a* and side braces *b*.

The ratchet-wheel G aforesaid of the driving-wheel is on the outer end of the hub, and the pawl F, engaging with it, is pivoted to a flanged nut N, fitted over the left-hand threaded end of the axle E, so that by the forward motion of the machine said nut is made and kept rigid with the axle. The pawl F has a projecting handle *c* for disengaging, and a spring *d* is engaged to press the pawl into the ratchet bearing upon the rear projection *e* on the rear part of the pawl; but by disengaging the pawl said spring bears on the secondary rear projection *f* and the pawl is held disengaged from the ratchet.

The motion from the driving-wheels is transmitted to the brush by means of the gear-wheels O O, secured upon the axle E at the rear of each wheel B. Said wheels O O engage the pinion-gears *g*, and to each gear *g* is attached a chain-wheel *h*, which both are revolving upon a suitable stud *i*, projecting from the vertical stud-plate *j*, bolted to the relative side bar of the frame A.

The rotary brush has a metal shaft held in a bearing *k* near each of its ends and a chain-wheel *l* on each extreme end. Each bearing *k* has a bar *m*, firmly attached, of which the loose end is pivoted to the plate *j* of the stud *i*. The chain-wheels *l* are connected with the chain-wheels *h* by means of chains to revolve the brush. The bearings *k* of the plate *m*, being pivoted on the plates *j*, allow the brush to rise and fall and bear upon the street-surface and is entirely raised by the driver from the street when not in use.

The driver has near at hand on the side of his seat a hand-lever *n*, and at the top of the rear ends of the frame A and over each bear-



ing  $k$  of the brush is employed a one-armed lever  $o$ , the loose end of which has a rope or chain  $g$  attached to the respective bearing below. Both levers  $o$  are secured upon a lateral fulcrum-arbor  $r$ , having a bearing on each end secured to the top of the frame  $A$ . The hand-lever  $n$  is connected with the lever  $o$  at its rear by means of the rod  $p$ , and said hand-lever engages with the teeth of a ratchet-bar  $s$  to hold the lever to its position, so that by pushing the hand-lever forward the brush is raised and held up from the street and by releasing the lever the brush bears upon the street.

The pockets  $J J$  of the drum  $H$  are arranged tangentially, as shown, to deliver the sweepings readily into the trough  $L$ , which is arranged lateral and with its top below the level of the center of the drum. The mouth of each pocket is contracted at  $J' J'$  on each end toward the periphery of the drum, as shown. Each side bar of the frame  $A$  has two uprights  $l$ , between which the trough  $L$  is arranged, and the uprights  $l$  of one side bar are connected at their bottom ends with the opposite uprights on the other side bar by means of the cross-pieces  $P$ . The trough  $L$  has one closed large end or rear part. The other end or mouth  $Q$  is made smaller and has a loose door  $R$  hinged on its top end to the top or sides of the trough. The rear part of the trough rests upon a flat spring  $t$ , attached to cross-pieces  $P$ . The mouth  $Q$  of the same rests upon a roller  $u$  between the uprights  $l$ . To the bottom at the rear part of the trough is attached a crank-arbor  $S$  by means of the staples  $v$ , in which said arbor is made to turn, and has formed on each end a bent portion for a crank-trunnion  $w$ . Said arbor is arranged across the bottom of the trough in an inclined position and its crank-trunnions are held in bearings  $y$ , secured in the opposite cross-pieces  $P$ , as shown.

In bearings at the upper portions of the uprights  $l$  above the mouth  $Q$  is arranged a longitudinal horizontal winding-arbor  $T$ , with a pulley  $z$ , and a rope or chain  $z'$ , attached with one end to the rear of the trough  $L$ , connects with the other end with the pulley  $z$  to wind thereupon. The forward part of the arbor  $T$  extends along the side of the seat  $D$  and terminates with a hand-crank to wind up the rope  $z'$ , by which means the trough  $L$  is raised on its rear end and is pulled outward and forward away from the drum, and also

with its mouth  $Q$  to project more outward from the side of the machine, as shown in dotted lines in Fig. 3. Said motion of the trough is guided mostly by the arbor  $S$ .

The door  $R$  has pivoted on its lower corner a latch-hook  $U$ , which engages over a stud  $V$  on the bottom corner of the mouth  $Q$  when the door is closed to hold it shut. Said hook  $V$  has an arm  $X$ , to which the rope  $Y$  is attached with one end, while the other end is secured to a fixed eye or stud  $Z$ . By this means after the desired amount of sweepings are collected in the trough  $L$  the driver with the hand-crank winds up the rope  $z'$ , thereby raising the rear end and moving outward and forward the trough  $L$  for discharge of the sweepings. Simultaneously by the rope  $Y$  the latch-hook is disengaged and the door  $R$  is opened for discharge, and as soon as the driver releases the winding-arbor the trough  $L$  drops back in its place, the door  $R$  closes, and automatically the latch-hook locks the door. At the time of making a discharge of the sweepings the machine is stopped, so that the discharge is not distributed on the street and requiring to be gathered, but that it is delivered in one heap ready to be loaded into the dirt-cart. The pawls  $F$  are arranged in front of the driving-wheels for better access than if arranged behind the same, as heretofore.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a street-sweeping machine, of the rotating drum having peripheral pockets, the collecting-trough located in front of said drum, the flat spring upon which the rear of the trough rests, the crank-arbor carrying the rear portion of the trough and journaled in bearings in the frame, the roller upon which the front portion of the trough rests and is adapted to move, the hinged door, latch-hook, and engaging-stud, and the elevating-rope and hand-crank, whereby the door is opened and the trough raised and moved forward, substantially as and for the purposes specified.

Signed at New York, in the county of New York and State of New York, this 16th day of December, A. D. 1891.

ANDREAS VOELKLE.

Witnesses:

JOSEPH MAYER,  
SAMUEL B. WRAY.