

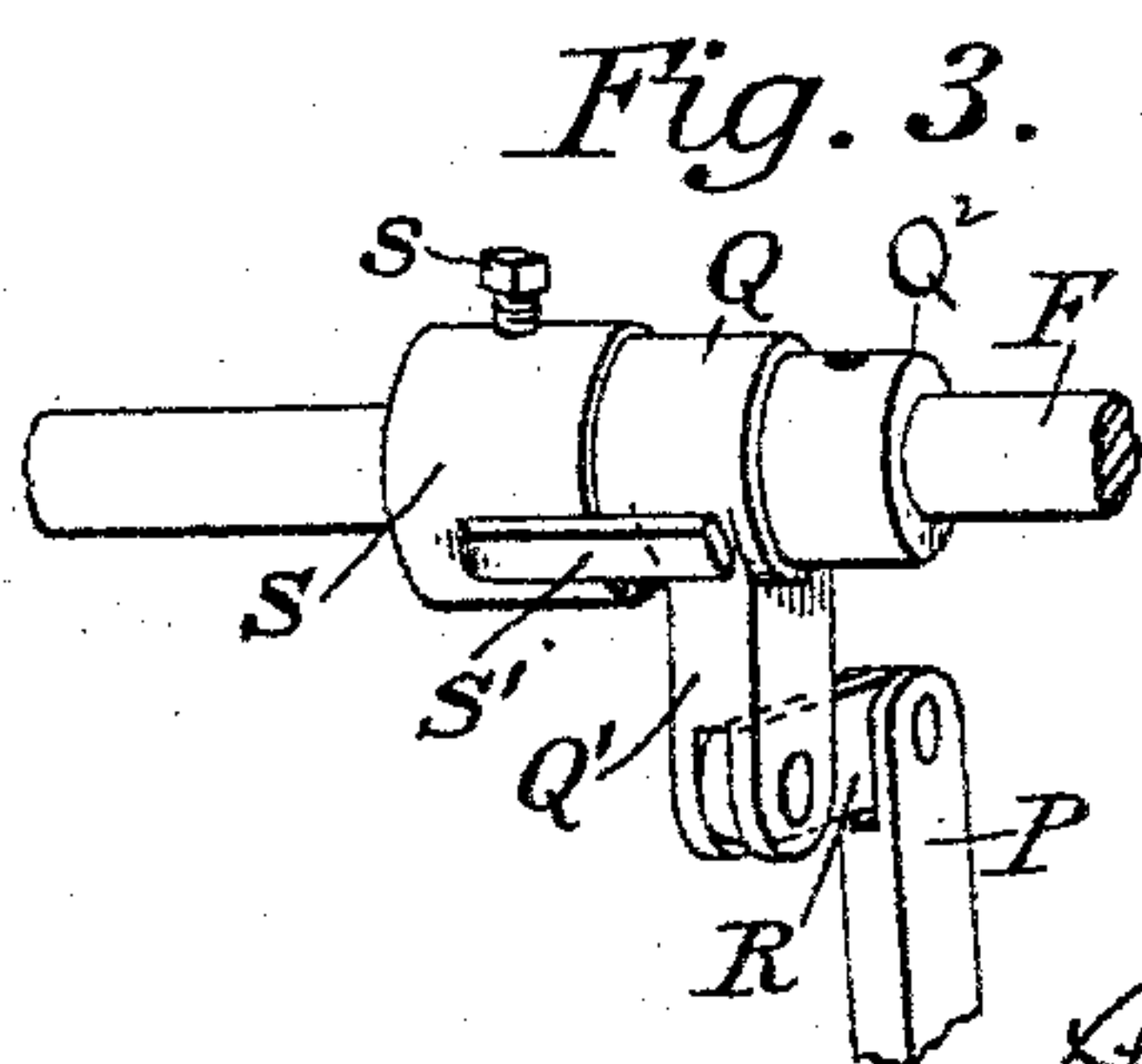
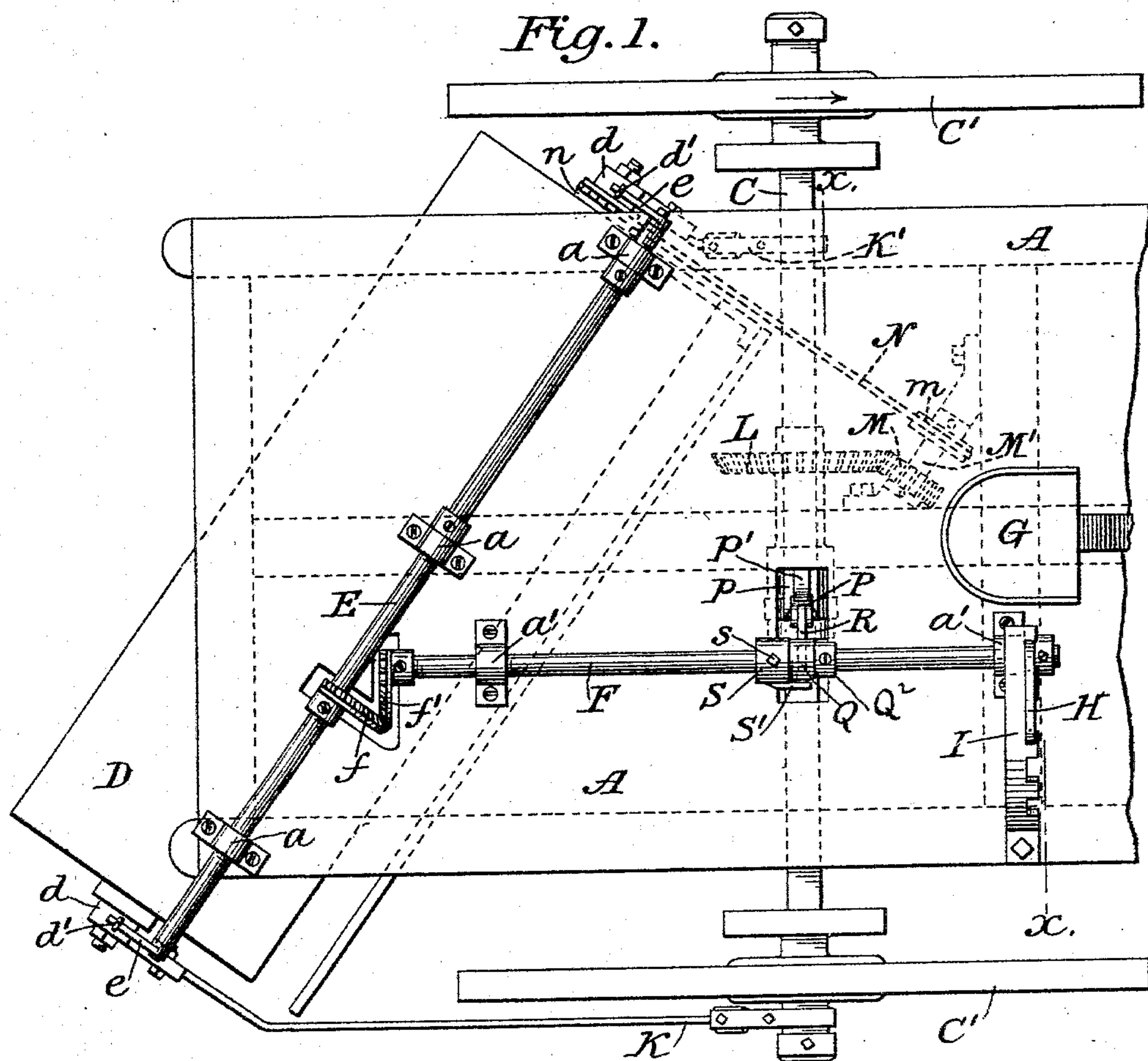
(No Model.)

2 Sheets—Sheet 1.

C. Z. O'NEILL.
STREET SWEEPER.

No. 515,501.

Patented Feb. 27, 1894.



Attest:

A. N. Jesbera,
A. Chidder

Inventor:

Charles Z. O'Neill
by William B. Greeley
Atty.

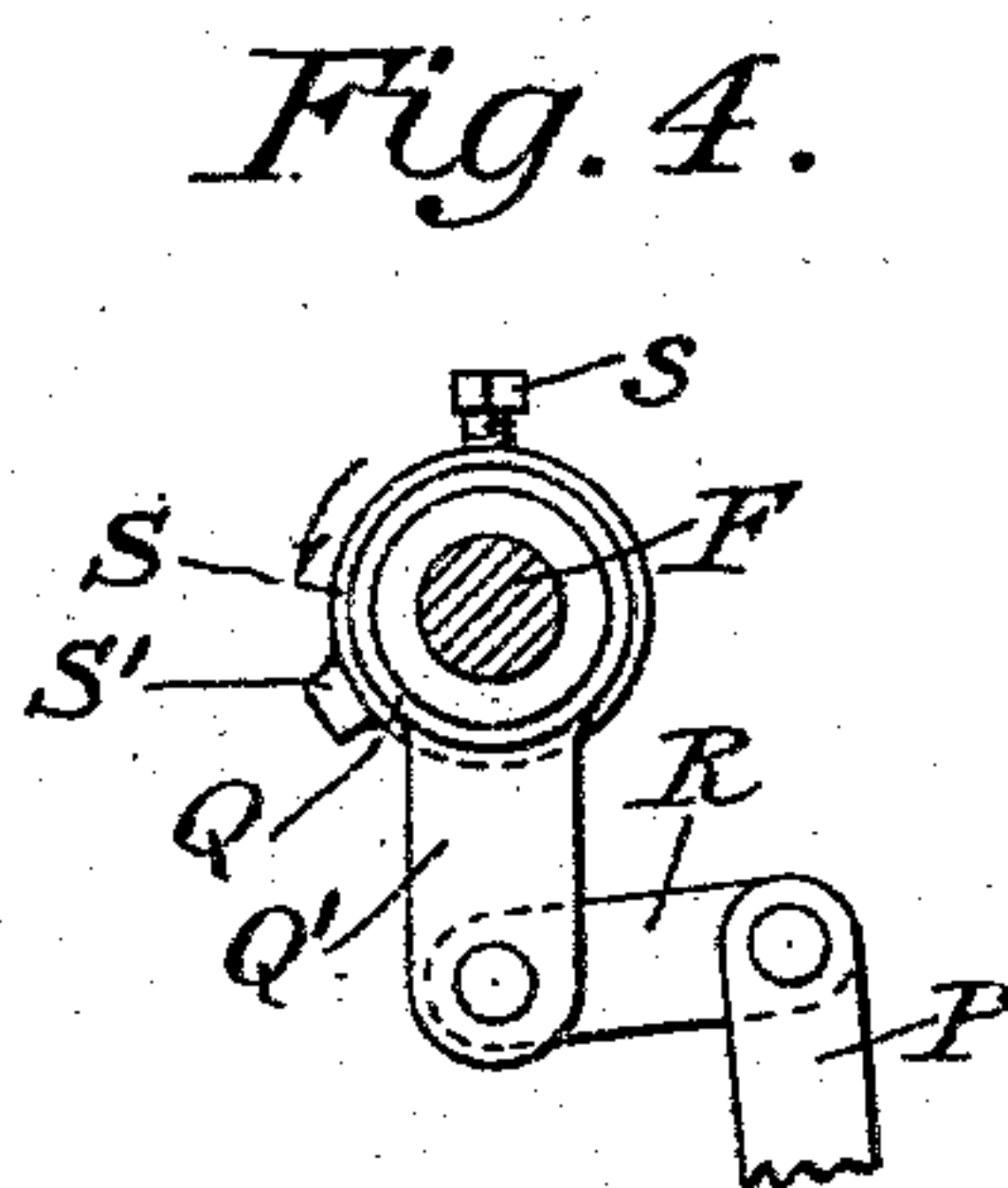
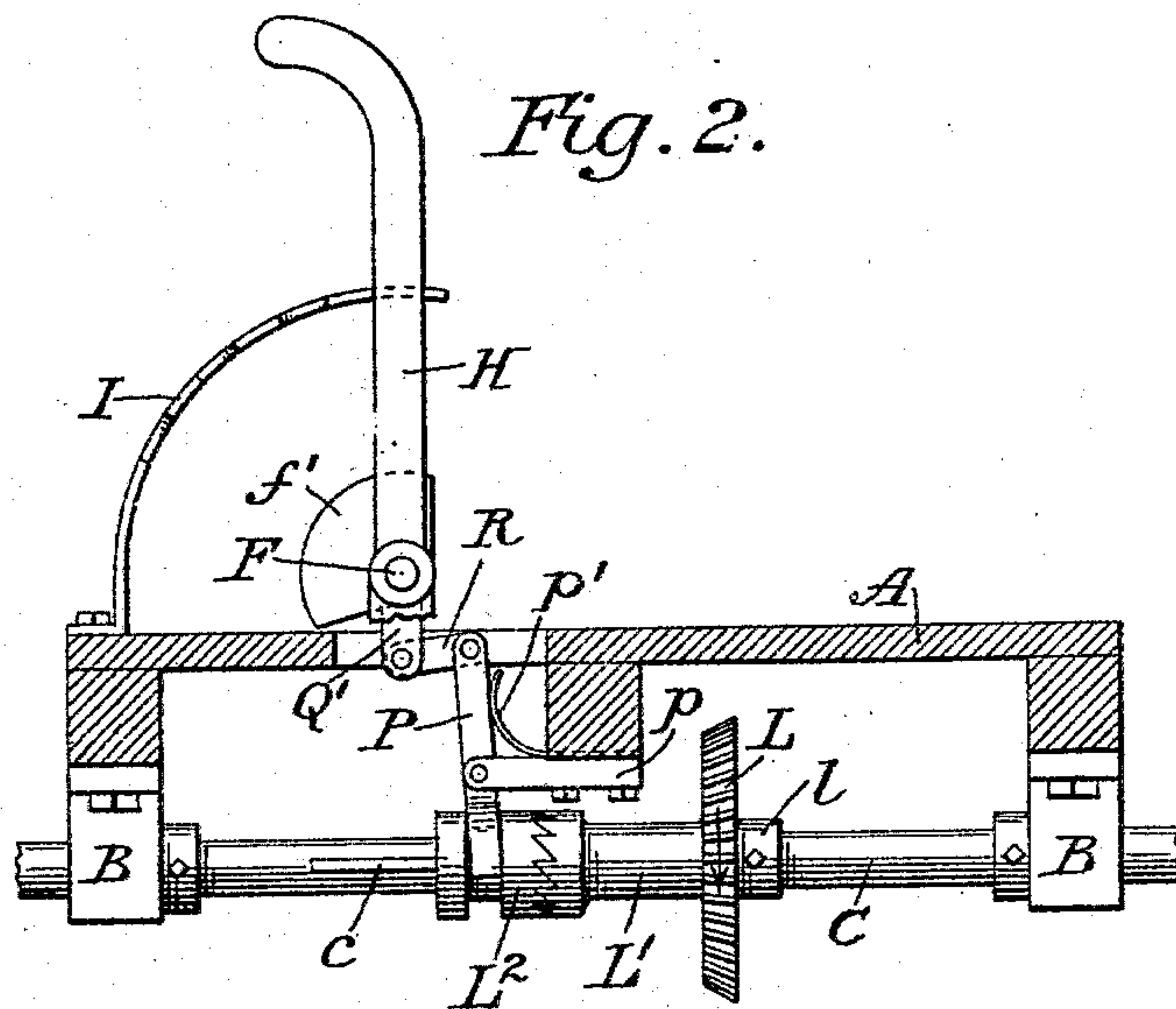
(No Model.)

2 Sheets—Sheet 2.

C. Z. O'NEILL.
STREET SWEEPER.

No. 515,501.

Patented Feb. 27, 1894.



Attest:

A. N. Jesbera.
A. Rhadden.

Inventor:

Charles Z. O'Neill
by William B. Greeley
Atty.

UNITED STATES PATENT OFFICE.

CHARLES Z. O'NEILL, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM
CHAPMAN, OF SAME PLACE.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 515,501, dated February 27, 1894.

Application filed July 26, 1893. Serial No. 481,480. (No model.)

To all whom it may concern:

Be it known that I, CHARLES Z. O'NEILL, of New York, in the county and State of New York, have invented certain new and useful
5 Improvements in Street-Sweeping Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked
10 thereon, making a part of this specification.

My invention relates to street sweeping machines which are provided with a broom which may be raised and lowered from the platform of the truck and is driven, when in action, by
15 suitable gearing from the axle of the truck or from any other source of power. In such machines the broom may be raised or lowered more or less according to the nature of the work to be done and may also be raised clear
20 of the pavement.

It is the object of my invention to provide improved means whereby the broom may be raised or lowered as required by the nature of the work to be done without stopping its
25 rotation but whereby the rotation shall be stopped entirely and automatically as soon as the broom is raised out of operative position, thereby simplifying the construction and enabling the driver to control the broom
30 much more easily than if he were required to manipulate two different levers.

In the drawings: Figure 1 is a plan view of enough of a street sweeping machine to illustrate the application of my improvement.
35 Fig. 2 is a partial vertical section on the line $x-x$ of Fig. 1, looking toward the left. Fig. 3 is a detail view in perspective of the means employed for imparting motion from the rock-shaft to the clutch-shifter. Fig. 4 is a
40 sectional elevation showing the same detail.

The general construction and arrangement of the street sweeping machine to which my invention is applied are immaterial except as to those parts to which my improvement di-
45 rectly relates.

As represented in the drawings the improvement is shown as applied to a machine of well known construction in which the body or platform A is provided with suitable bear-
50 ings B to receive the axle C.

The broom D is represented as having its

bearings in blocks d, d , which are supported by links d' from the ends of arms e , the latter being fixed to a rock-shaft E which is mounted in bearings a, a , upon the platform
55 A. The shaft E is rocked to raise and lower the broom as required by means of a second rock-shaft F mounted in bearings a' and extended forward to a point G near the driver where it is provided with a hand lever H which
60 is adapted for engagement with the usual locking-bar I. The shafts E and F may be geared in any suitable manner, the segmental bevel-gears f, f' , which are represented in Fig. 1, being well adapted for this purpose.
65 The broom is drawn over the pavement by arms K, K', which are connected to the respective blocks d, d , and to the axle C, the arm K' being indicated in dotted lines.

Any suitable arrangement of gearing may
70 be used for rotating the broom. A convenient arrangement is shown, partly in dotted lines in Fig. 1, in which a bevel-gear L is mounted loosely upon the shaft C and is adapted to be driven therefrom; it meshes with a
75 pinion M fixed to a short shaft M' which is mounted in suitable bearings parallel with the axis of the broom and bears a chain-wheel m . A chain N passes over the wheel m and transmits motion to a chain-wheel n which is
80 fixed to the shaft of the broom D.

The parts already described are of usual construction and arrangement and in accordance with my invention the movement of the shaft F in raising and lowering the broom is
85 made use of to control the driving of the gear L by the axle C, the means for this purpose being so arranged that when the shaft F is rocked sufficiently to raise the broom out of operation, the wheel L shall be disconnected
90 from the axle C, while the movements of the shaft to raise and lower the broom slightly according to the requirements of work, do not effect such disconnection.

The means which I have shown in the draw-
95 ings as embodying my invention comprise a sleeve L' to which the gear L is secured and which forms one member of a clutch, the sleeve and gear being held from shifting laterally toward the right in Fig. 2 by a fixed
100 collar l . The other member L² of the clutch is free to slide on the axle C but is prevented

from rotation thereon by a feather *c*. The clutch member L^2 is engaged by a clutch-shifter *P* which is pivoted upon a fixed bracket *p* and may be pressed by a spring *p'* to tend normally to press the clutch member L^2 into operative engagement with the clutch member L' . The clutch-shifter *P* is adapted to be operated by the movement of the shaft *F* and might be connected positively thereto except for the reason that it is desirable to permit the broom to be raised more or less according to the requirements of the work without being thrown out of operation. Therefore I prefer to provide for some lost motion in the connection between the shaft and the lever, although it will be obvious that provision might be made for such lost motion between the lever and the clutch.

As represented in Figs. 3 and 4, I prefer to mount loosely upon the shaft *F* a hub *Q*, having an arm or projection Q' to the outer end of which the lever *P* may be connected by a link *R*. A hub *S* is fixed upon the shaft *F* adjacent to the hub *Q*, preferably in such manner as to be adjustable thereon, as by means of a set screw *s*. The hub *S* has a finger or projection S' which is normally out of contact with the projection Q' but is moved into contact therewith when the shaft *F* has been rocked sufficiently to raise the broom out of operation. The further movement of the shaft *F* then raises the broom clear of the pavement and, through the contact of the finger S' with the projection Q' , effects the disengagement of the clutch L' , L^2 , and therefore stops the rotation of the broom. The

hub *Q* is held in place on the shaft between the hub *S* and a collar Q^2 which is fixed on the shaft by a set-screw, as shown in Fig. 1. As represented in the drawings the movement of the lever *H* into engagement with the first notch of the member *I* raises the broom slightly but does not shift the clutch. The movement of the lever into the second notch raises the broom still farther and partly withdraws the teeth of the clutch member L^2 from the teeth of the clutch member L' , but does not effect a complete disengagement. A movement of the lever into the third notch raises the broom clear of the ground and effects the complete disengagement of the clutch and the stopping of the broom.

I claim as my invention—

In a street sweeping machine, the combination of a rotary broom, gearing to drive said broom and including a clutch, a rock shaft and intermediate means to raise and lower the broom, a hub fixed upon said shaft and bearing a pin or projection, a second hub loosely mounted on said shaft and having a shoulder and an arm, and a clutch shifter operated by said arm to disengage said clutch as the broom is raised, substantially as shown and described.

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

CHARLES Z. O'NEILL.

Witnesses:

A. N. JESBERA,
A. WIDDER.