

(No Model.)

J. L. GIVEN.

PNEUMATIC CASH CARRIER.

No. 367,753.

Patented Aug. 2, 1887.

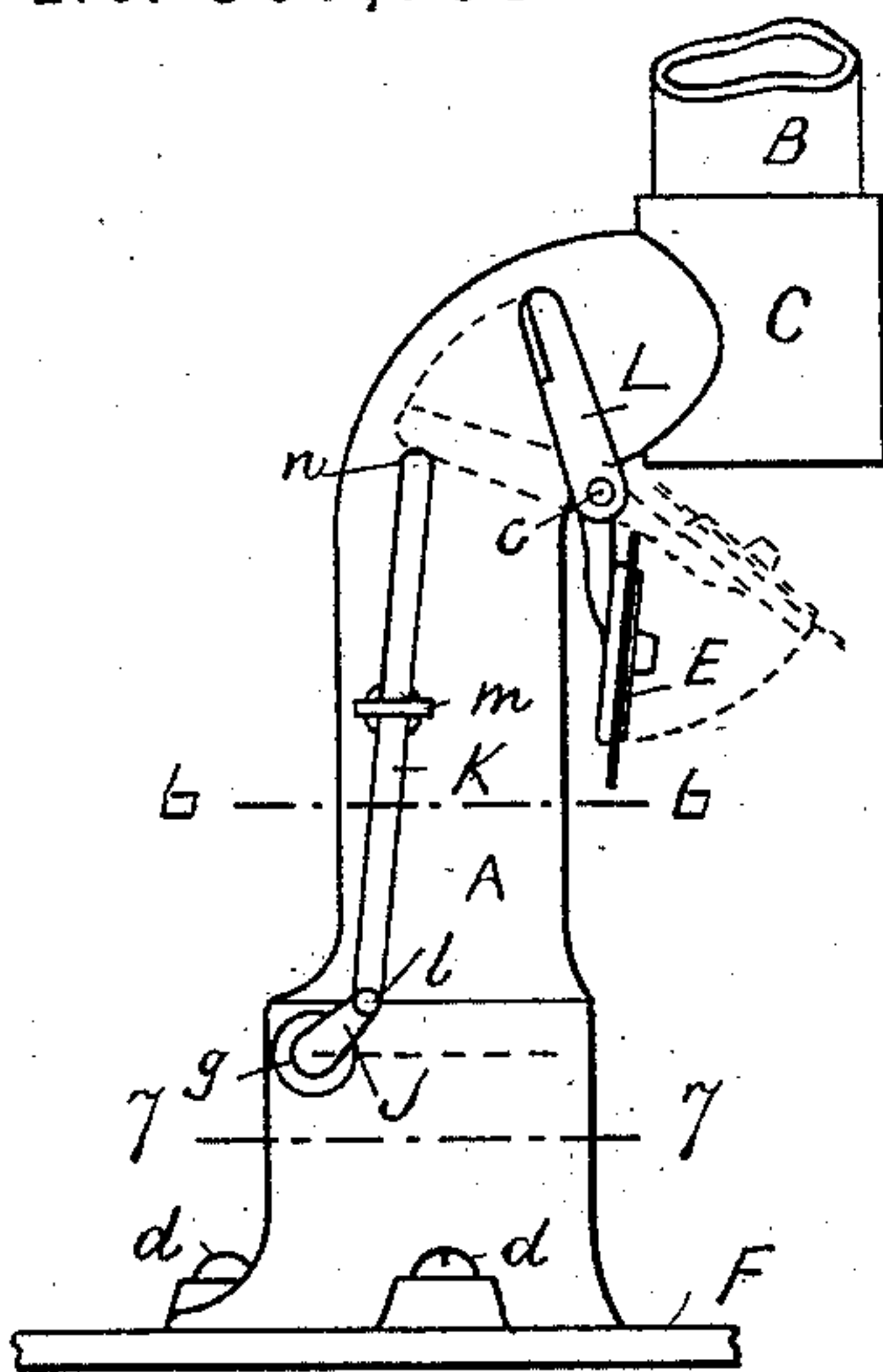


Fig. 1.

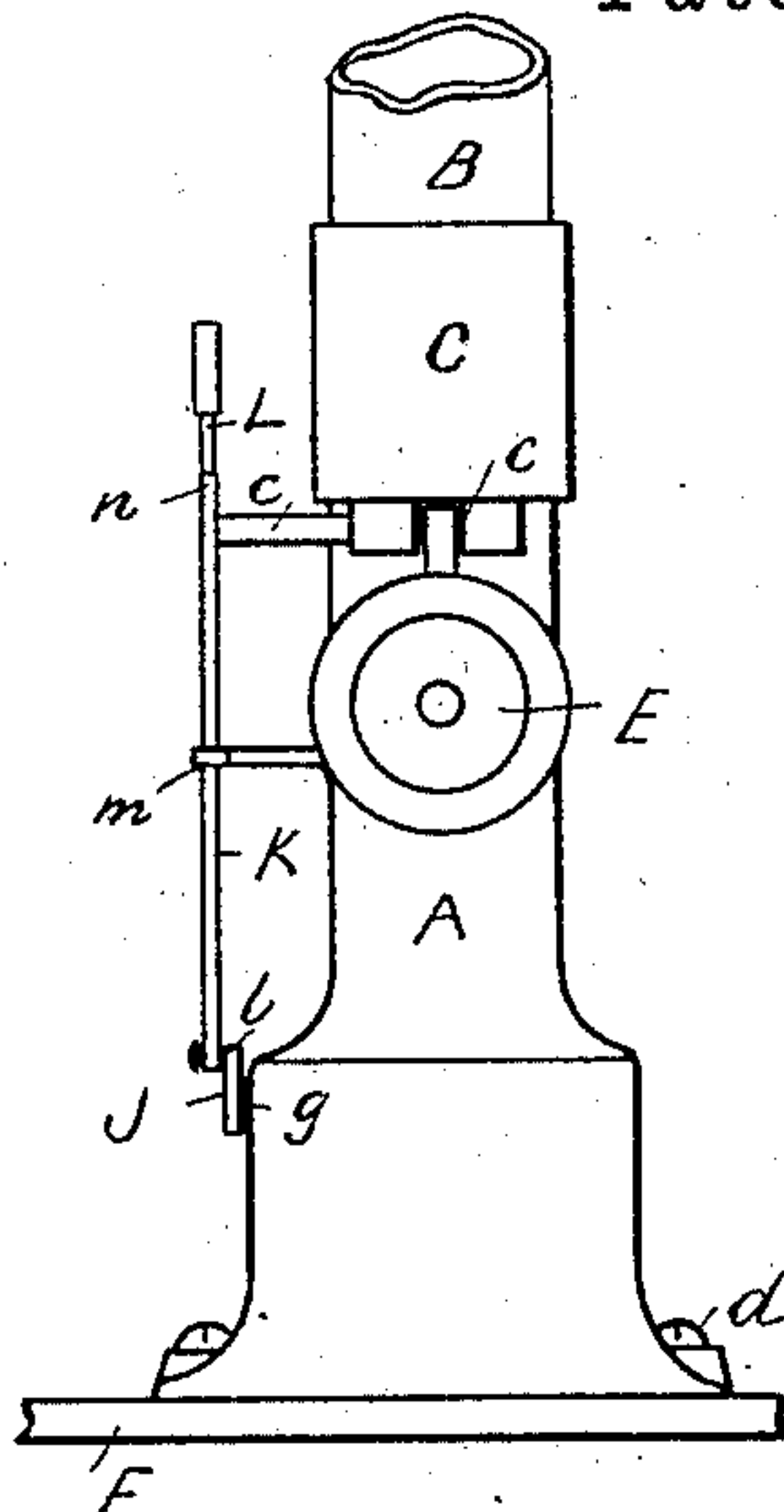


Fig. 2.

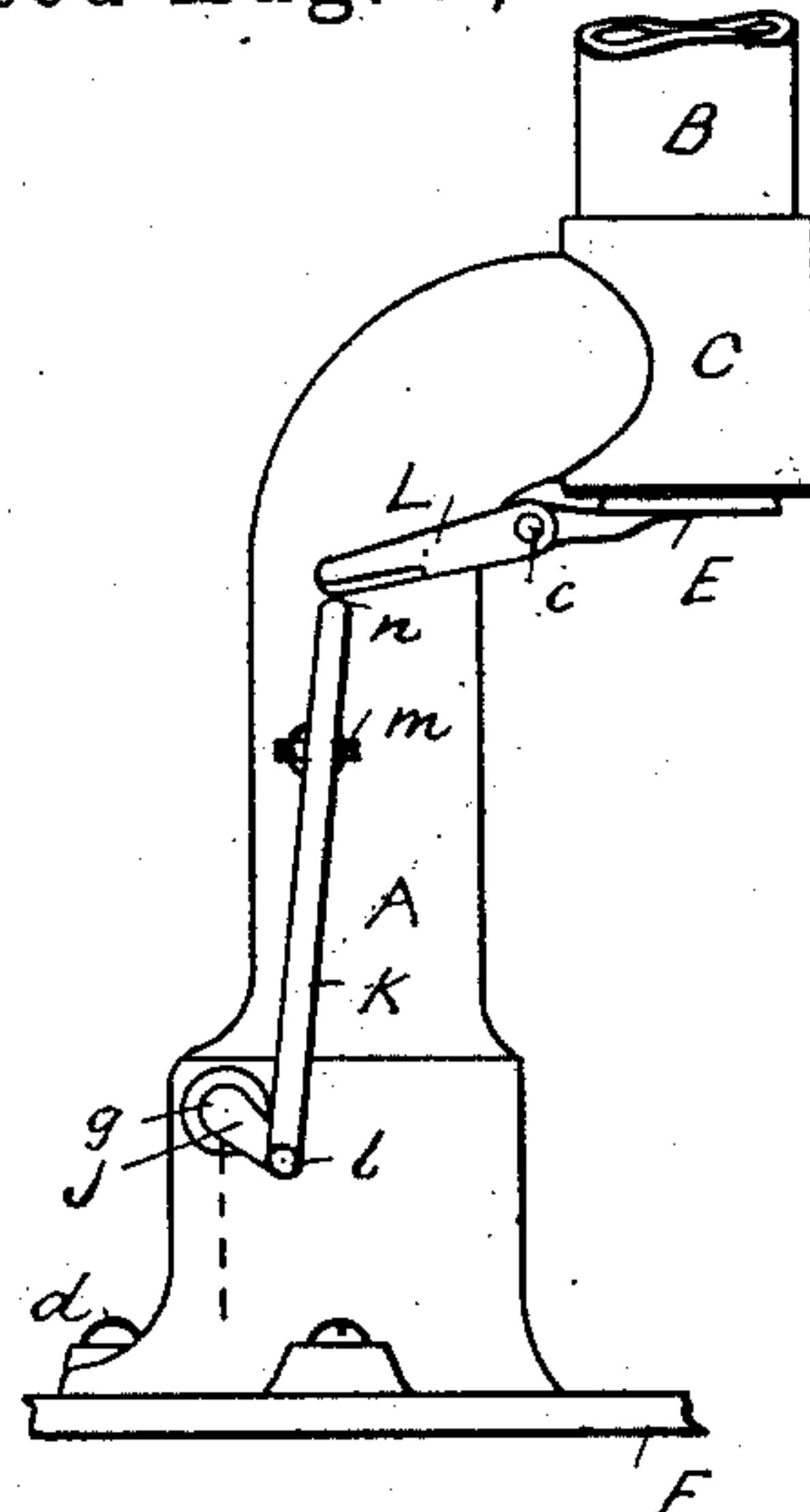


Fig. 3.

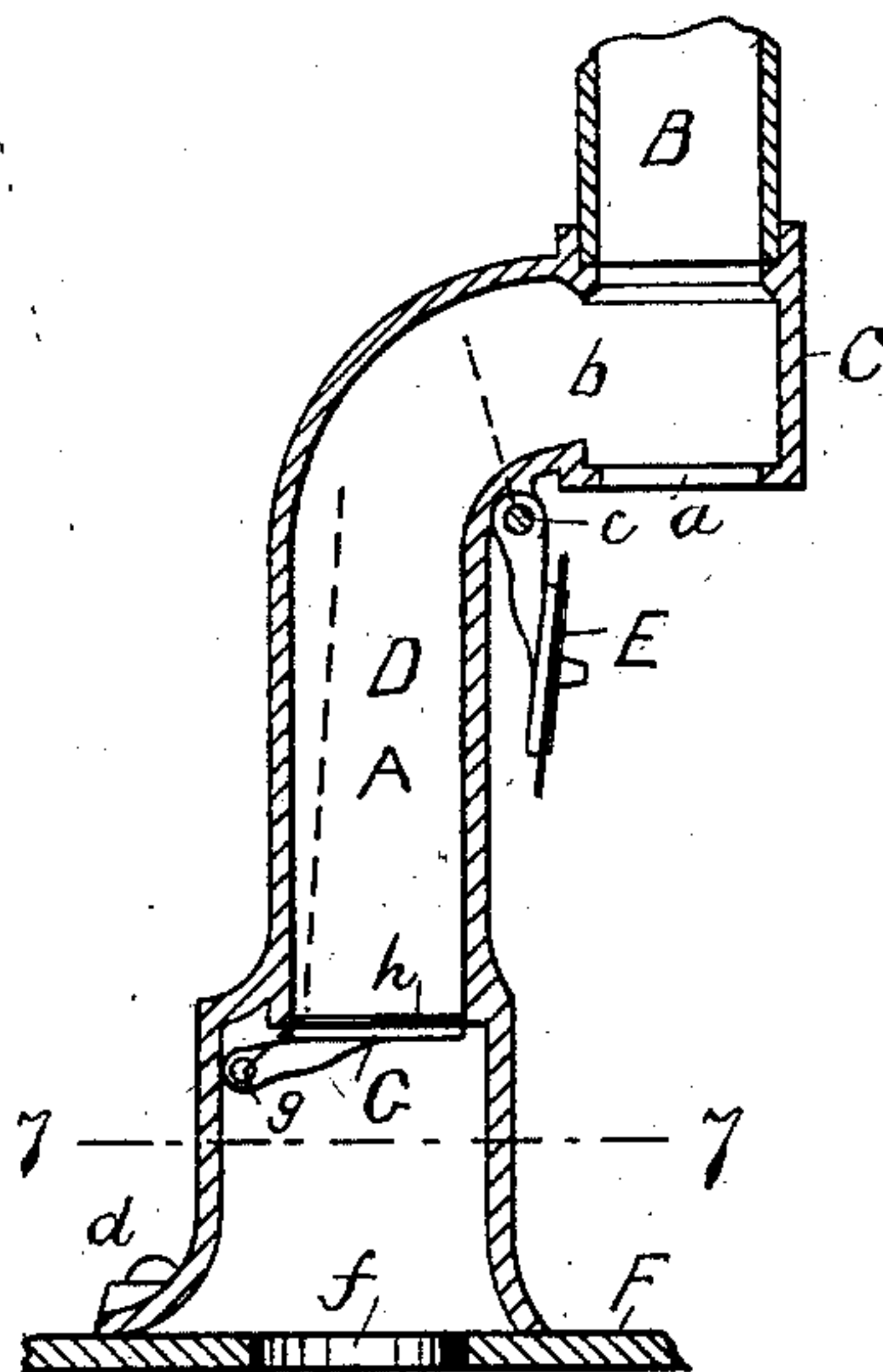


Fig. 4.

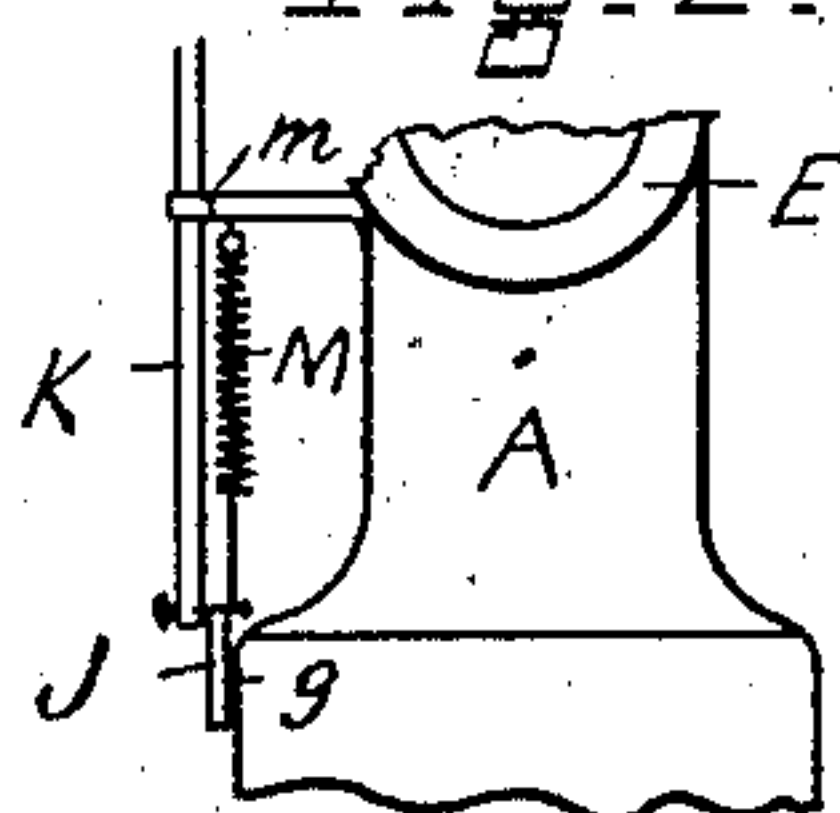


Fig. 5.

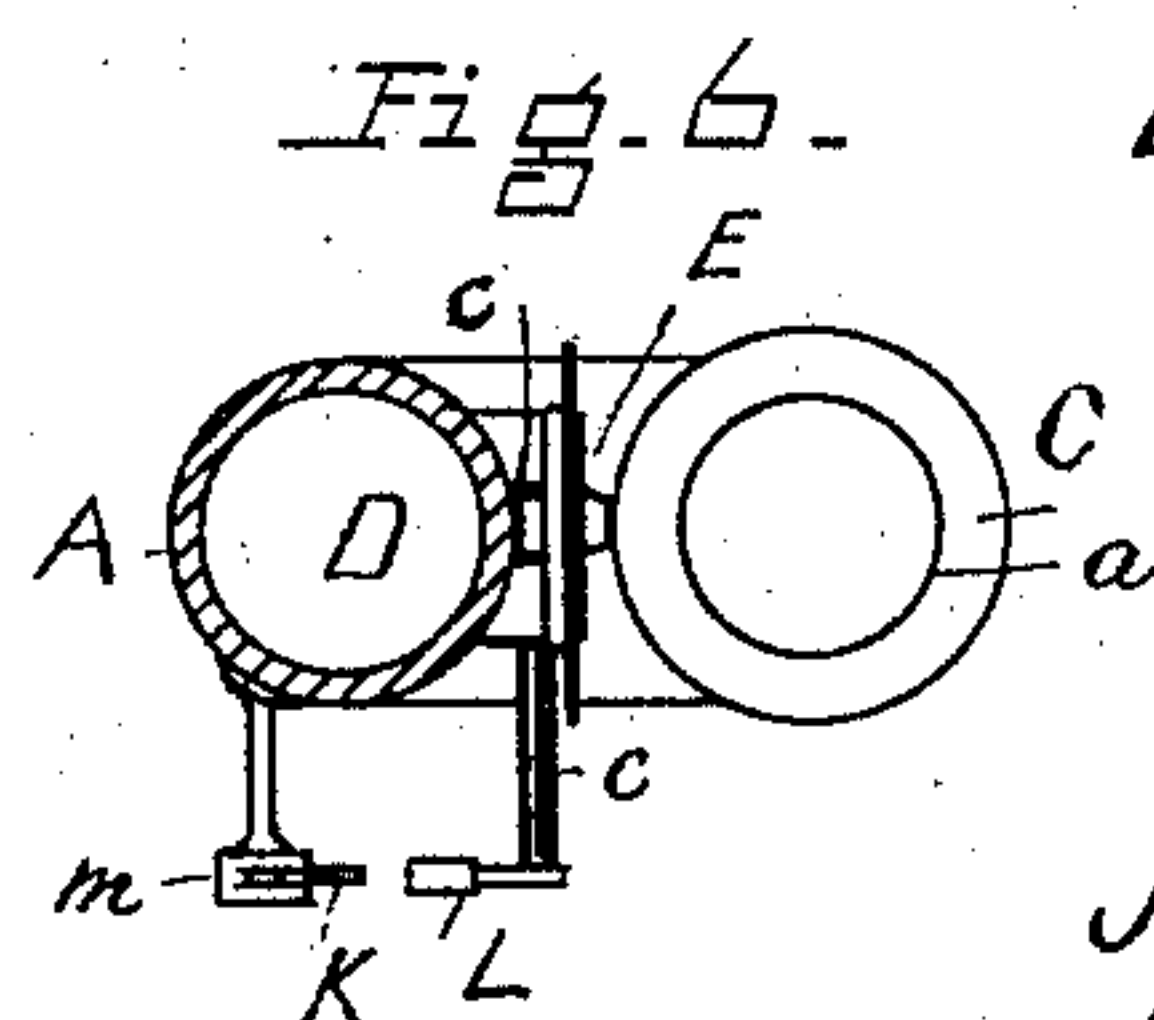


Fig. 6.

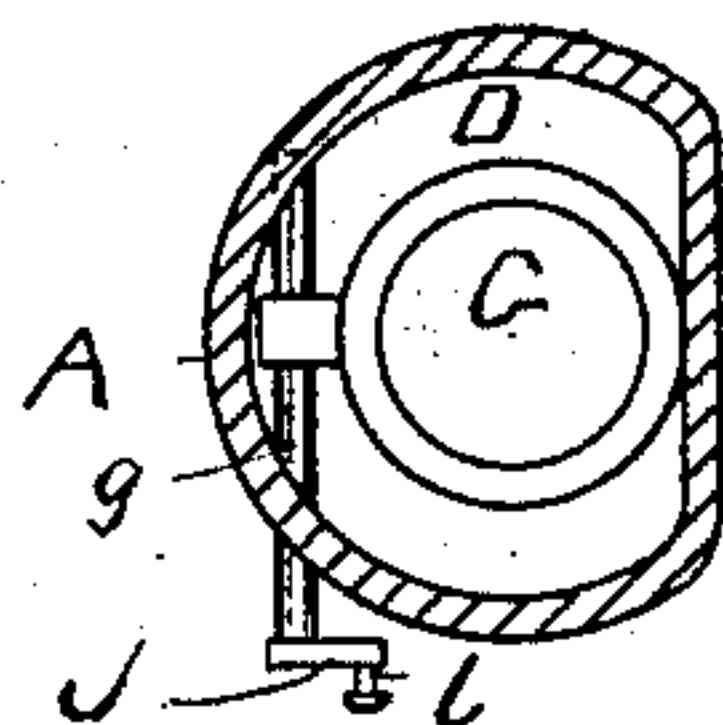


Fig. 7.

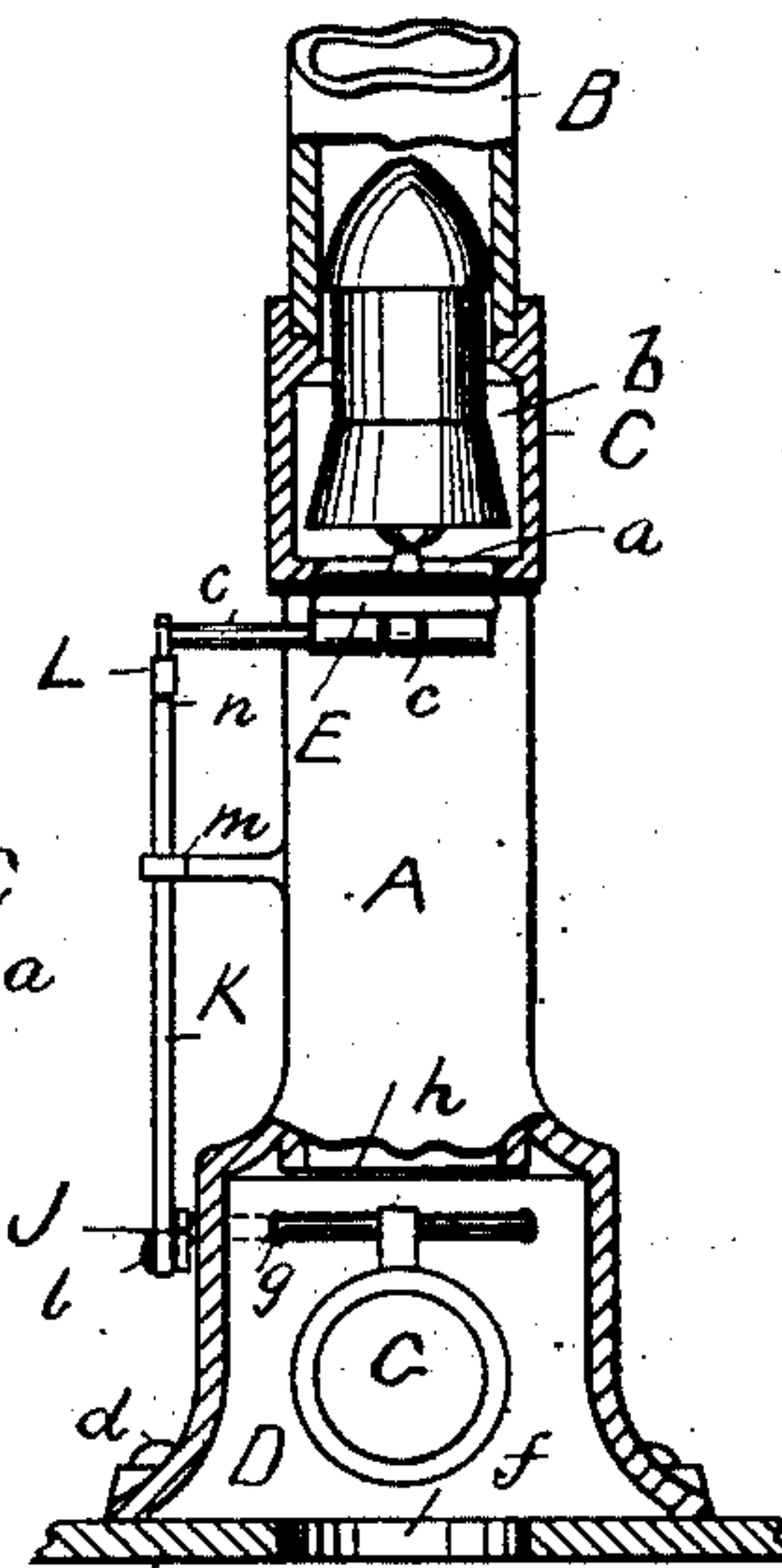


Fig. 8.

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PNEUMATIC CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 367,753, dated August 2, 1887.

Application filed November 9, 1886. Serial No. 218,419. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. GIVEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic Cash-Carriers, of which the following is a full, clear, and exact description.

This invention relates to improvements in pneumatic cash-carriers such, for instance, as are described and shown in Letters Patent of the United States, dated December 29, 1885, No. 333,379; and the invention consists in the combination and arrangement of the valves, one to close and open the opening in the transmitting-standard of the pneumatic tube where the carrier, &c., are inserted for transmission through the tube, and the other to open and close communication between the pneumatic tube and the bellows or other air-motor in such manner that the closing or opening of one of the valves will open or close the other valve, all substantially as hereinafter fully described.

In the accompanying sheet of drawings is illustrated the present invention as applied to a transmitting-standard of a pneumatic cash-carrier apparatus described in said patent, Figures 1 and 3 being side views of such transmitting-standard, with the valve to the opening in the head where the carrier, &c., is inserted and removed as opened in Fig. 1 and as closed in Fig. 3. Fig. 2 is a front view of Fig. 1. Fig. 4 is a central vertical section of Fig. 1. Fig. 5 is a partial front view of Fig. 3, portions being in central vertical section. Fig. 6 is a view in cross-section on line 6 6, Fig. 1, looking up; and Fig. 7, a cross-section on line 7 7, Fig. 1, looking up. Fig. 8 is a detail view, to be hereinafter referred to.

In the drawings, A represents a transmitting-standard of a pneumatic tube, B, for transmission of a carrier, &c., therethrough, having a head, C, which head is open at its lower end, as at *a*, for the insertion and removal of a carrier, &c., and has communication with the chamber or passage D of the standard through an opening, *b*, the opening *a* having a valve, E, pivoted at *c* to the standard.

The transmitting-standard is secured by screws *d* to the top F of a table at the cashier's desk or central station, or at a sales-counter or single station, having through an opening, *f*,

in the table-top F communication by its chamber D with a bellows or other air-motor for the passage of air through it, and to and through the tube B for the transmission of the carrier, &c., therethrough, all of which is substantially as described and shown in said patent and needing no more particular description herein, except as is necessary for a proper description of the present invention.

In the operation of the pneumatic cash-carrier as described in said patent, each transmitting-standard has an intermediate pipe, forming communication between it and the bellows, which pipe is provided with a valve operated independently of the valve to the head-opening, requiring two separate movements to operate the two valves; and the object of this invention is to operate one of the valves by and from the operation of the other, preferably to operate the valve between the tube and bellows or other air-motor by and from the operation of the valve to the head-opening, so that in closing the valve to the head-opening it will, through proper connections, open the valve between the tube and bellows, and thus the two valves will be operated by one operation, and this is accomplished as will be now described.

G is a valve, hinged at *g* within the enlarged base of the standard, to be swung up to and close upon a seat, *h*, of the standard and close its passage, to prevent air from the bellows passing through the standard to the tube. The journal or pivot of this valve extends out through the casing at one side, and has on its outer end a crank-arm, J, which has pivoted to it, at *l*, one end of an upwardly-extending rod or arm, K, disposed in a guide-rest, *m*, of the standard. The journal or pivot *c* of the valve E also extends beyond the casing, having at its outer end an arm, L, which, when the valve is open, projects upward, as shown in Fig. 1, more particularly this arm being in the same vertical plane of the rod K of the valve G.

After a carrier, &c., are placed in the standard-head C for transmission through its pneumatic tube, the valve E is closed, and as it swings up on its pivot its arm L moves correspondingly downward, and when the valve E is nearly closed, as shown in dotted lines in

Fig. 1, the arm L strikes or abuts against the upper end, *n*, of the rod K of the crank-arm J of the valve G, and in its further closing movement pushes such arm down, and through its connection with the valve G by its crank-arm J causes it to move away from its seat and open the passage D of the standard for air from the bellows, &c., to pass through the same to act upon and transmit the carrier, &c., through the tube. The carrier transmitted through the tube, the valve E is allowed to fall, which correspondingly raises its arm L, leaving the valve G free to be raised to close its opening *h*, which is generally done by the pressure of air from the bellows, or it can be closed in any suitable manner when the tube is not to be used.

The lengths of the crank-arm L of the valve E and valve-arm J are so arranged in relation to each other and the necessary movements of the valves that the valve E only acts upon the valve G during the last part of its closing movement, for the reason that so soon as the valve G is opened, with the bellows in operation, air passes through the standard, and if the valve E is open, the air also passes out at its opening *a*, which is objectionable to the operator. Therefore it is preferable to only open the valve G in the manner described to prevent as much as is possible air passing out at the opening *a*. The valves can be connected together for operation by their arms, dispensing with the rod K, or both valves can be arranged on a common pivot, the seats for the valves being correspondingly arranged to suit such connection; or the valves can be connected and arranged to operate together in any suitable manner. The valve G can be operated by the valve E at any time during its movement; but it is preferable to have it moved as described, and, although preferable to operate the valve G by the valve E, the operation can be reversed—viz., by operating the valve E from the valve G; also, the valves can be arranged in the pneumatic tube itself, dispensing with a standard; but it is preferable to use the standard.

In lieu of holding the valve G closed by air-pressure from the bellows, it can be held by other means—for instance, by a spring, as shown in detail in Fig. 8, in which M is a spiral spring secured by one end to the guide-arm *m* and by its other end to the crank J of the valve G, the reaction of which spring when the valve G is free to move after being opened will close the valve and so hold it when it is desired not to use its tube.

This arrangement and operation of the valves is particularly desired for use at the cashier's desk or central station, where the pneumatic tubes from the several sales-counters or single stations meet, as the valves in the intermediate pipes heretofore used can be dispensed with, as well as the pipes themselves, as the transmitting-standards can be attached to the bellows direct, if desired.

Having thus described my invention, what I claim is—

1. The combination, with a pneumatic tube for the transmission of a carrier, &c., there-through, of two valves, one arranged to open and close communication between said tube and the operating-bellows or other air-motor, and the other arranged to close and open the opening in said tube through which the carrier, &c., is inserted and removed, the valves being so connected together that as one or the other of said valves is moved to open or close its respective opening the other valve will correspondingly be closed or opened.

2. The combination, with a pneumatic tube for the transmission of a carrier, &c., there-through, of a valve, G, arranged to open and close communication between said tube and the operating-bellows or other air-motor, and a valve, E, arranged to close and open the opening in said tube through which the carrier, &c., is inserted and removed, the valve E being connected to the valve G in such manner that as it is moved to close its opening in said tube it will cause the valve G to open, for the purpose specified.

3. The combination, with a pneumatic tube for the transmission of a carrier, &c., there-through, of a valve, G; provided with a crank-arm, J, connected to an arm or rod, K, and arranged to open and close communication between said tube and the operating-bellows or other air-motor, and a valve, E, arranged to close and open the opening in said tube through which the carrier is inserted and removed, and provided with an arm, L, by which, as the valve E is moved to close, its arm L will abut against said rod K and cause the valve to open, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN L. GIVEN.

Witnesses:

EDWIN W. BROWN,
PERCY BRYANT.