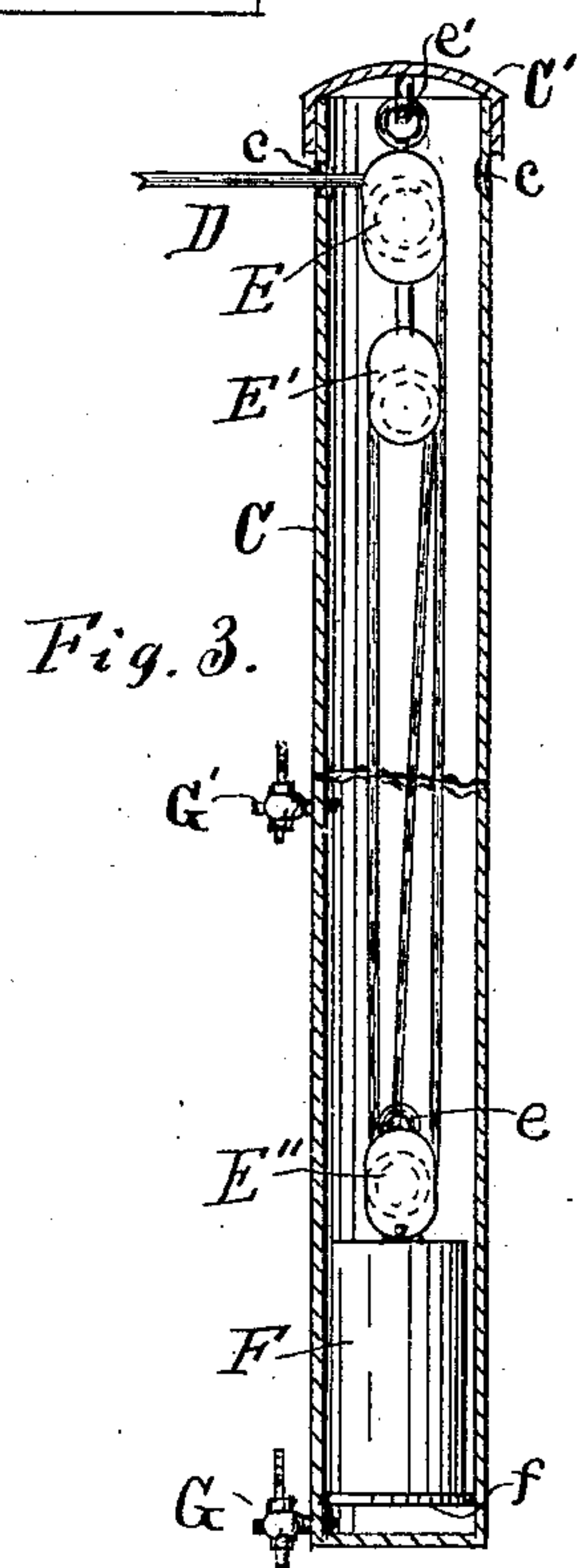
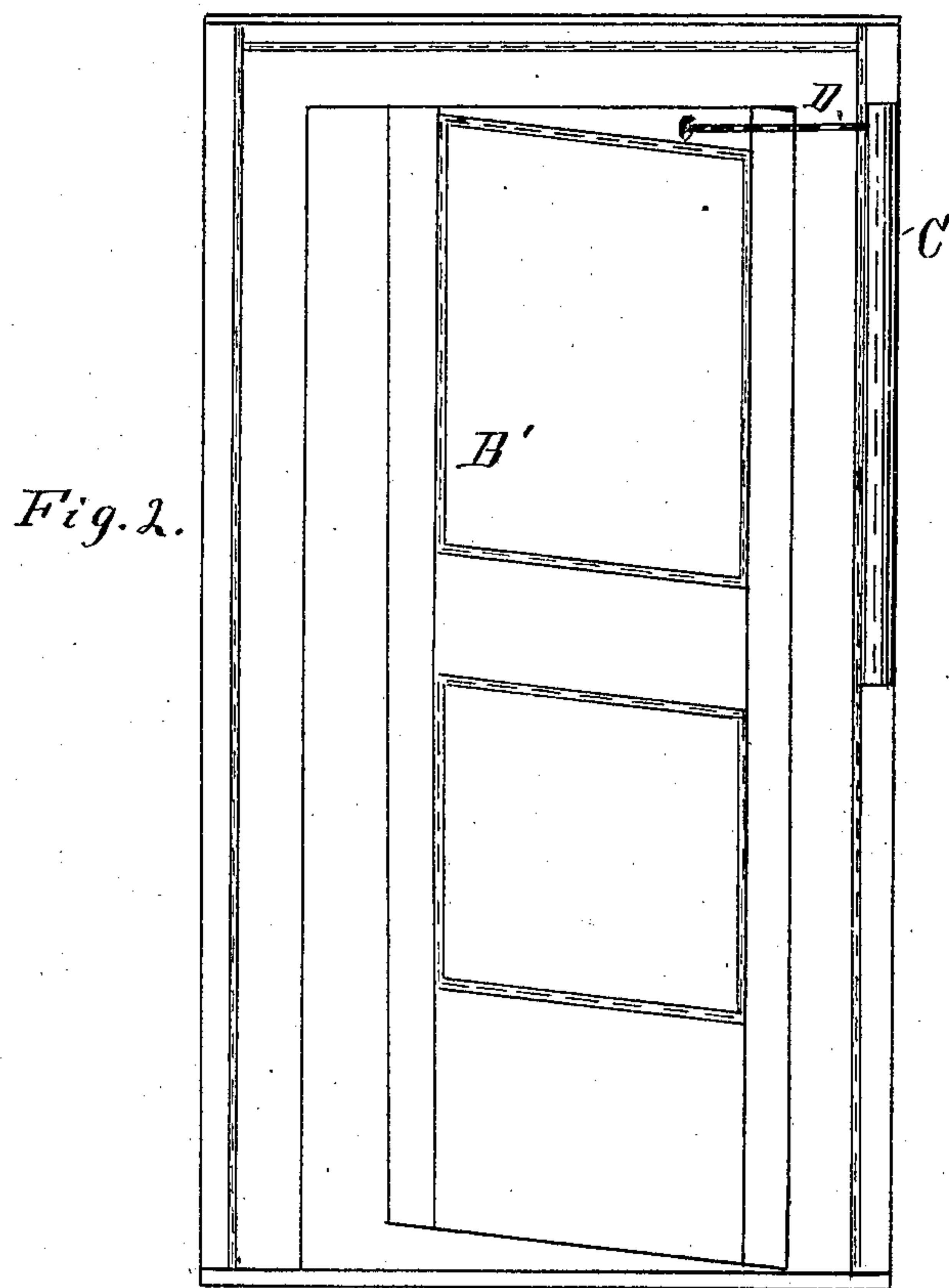
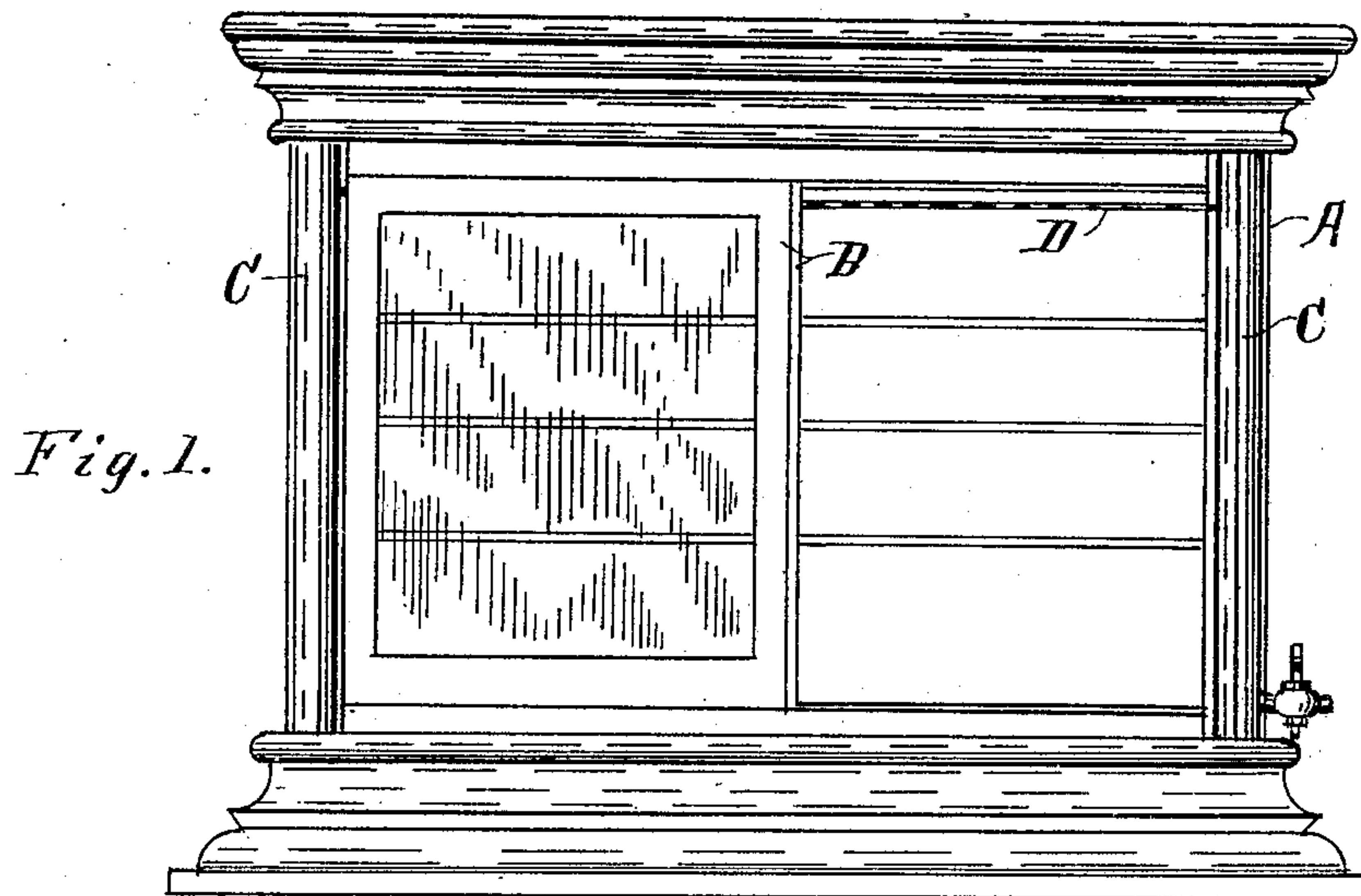


No. 828,063.

PATENTED AUG. 7. 1906.

E. V. SINZ.  
DOOR CLOSER.

APPLICATION FILED FEB. 12, 1906.



Inventor

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# UNITED STATES PATENT OFFICE.

EDMUND V. SINZ, OF GRAND RAPIDS, MICHIGAN.

## DOOR-CLOSER.

No. 828,063.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed February 12, 1906. Serial No. 300,793.

*To all whom it may concern:*

Be it known that I, EDMUND V. SINZ, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Door-Closers, of which the following is a specification.

My invention relates to improvements in appliances for closing doors, and more especially for closing sliding doors; and its objects are, first, to provide an appliance with which a sliding door may be closed, at first with the full propelling force of the appliance and afterward very gradually, so that it will not come suddenly in contact with the stop or side of the case, and, second, to provide a weighted closer for doors that will require but slight motion of the weight to move the door to considerable distance. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a case with my appliance attached. Fig. 2 shows a means whereby it may be applied to a swinging door; and Fig. 3 is a sectional elevation of the tube, showing the manner of supporting and applying the weight.

Similar letters refer to similar parts throughout the several views.

In the accompanying drawings, A represents a book or medicine case having sliding doors B, and B' represents a swinging door. My appliance consists of a tube C, having supported therein a series of tackle-blocks E, supported from the top of the tube, as at e', E', supported by the block E, and E'', attached to the weight F. A cord is threaded in these blocks as follows: One end is secured to the block E'', then the cord passes up and is threaded around the pulley in the block E', thence down and around the pulley in the block E'', and thence up and over the pulley in the block E, and the free end is secured to the door B, substantially as shown in Fig. 1. It will be readily seen that the weight will move but a short distance as compared with the distance the door will be moved, thus obviating the necessity of using a long tube to move the door the desired distance.

The weight F is made somewhat smaller than the internal diameter of the tube C and is provided with a flexible packing, as f, that will allow air to pass by it when the weight is

being raised, but will close closely when the weight is moving downward, thus forming an air-cushion below the weight to prevent it from dropping down suddenly, and to enable the operator to gage the motion of the descent as he may desire I have placed a petcock G at the bottom of the tube, which may be opened much or little, as is desired, to allow the air to escape freely and the weight to descend fast, or it may be closed to allow any desired amount of air to escape, and thus to govern the descent of the weight and the consequent force with which the door is closed. The petcock G' is or may be placed somewhat farther up in the tube C and may be closed, so that the weight will be cushioned during its entire descent, or it may be opened so that the weight will start suddenly and draw upon the door with its entire weight until the valve f has passed the petcock G', when the cushion of air between this cock and the lower end of the tube will check the motion of the weight and draw the door gently against the stop at the end of the case A.

The apertures c c are designed, first, to allow the cord D to pass through freely and, second, to allow the air to escape freely when the weight F is being raised as the door is being opened.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a door closer and check, the combination of a case and a door mounted to slide therein, a checking device comprising in its construction a closed tube having apertures at its upper end, a weight within said tube, a flexible packing upon said weight, tackle-blocks secured to the upper end of the tube and to the weight, a cord threaded in said tackle-blocks with one end secured to the tackle-block on the weight and the other end passing out of the aperture at the top of the tube and secured to the door, a petcock at the bottom of the tube and an auxiliary petcock farther up on the tube.

Signed at Grand Rapids, Michigan, February 6, 1906.

EDMUND V. SINZ.

In presence of—

P. BORST,  
I. J. CILLEY.