

(No Model.)

J. BIRKEY.  
DOOR OR SHUTTER OPENER.

No. 504,318.

Patented Sept. 5, 1893.

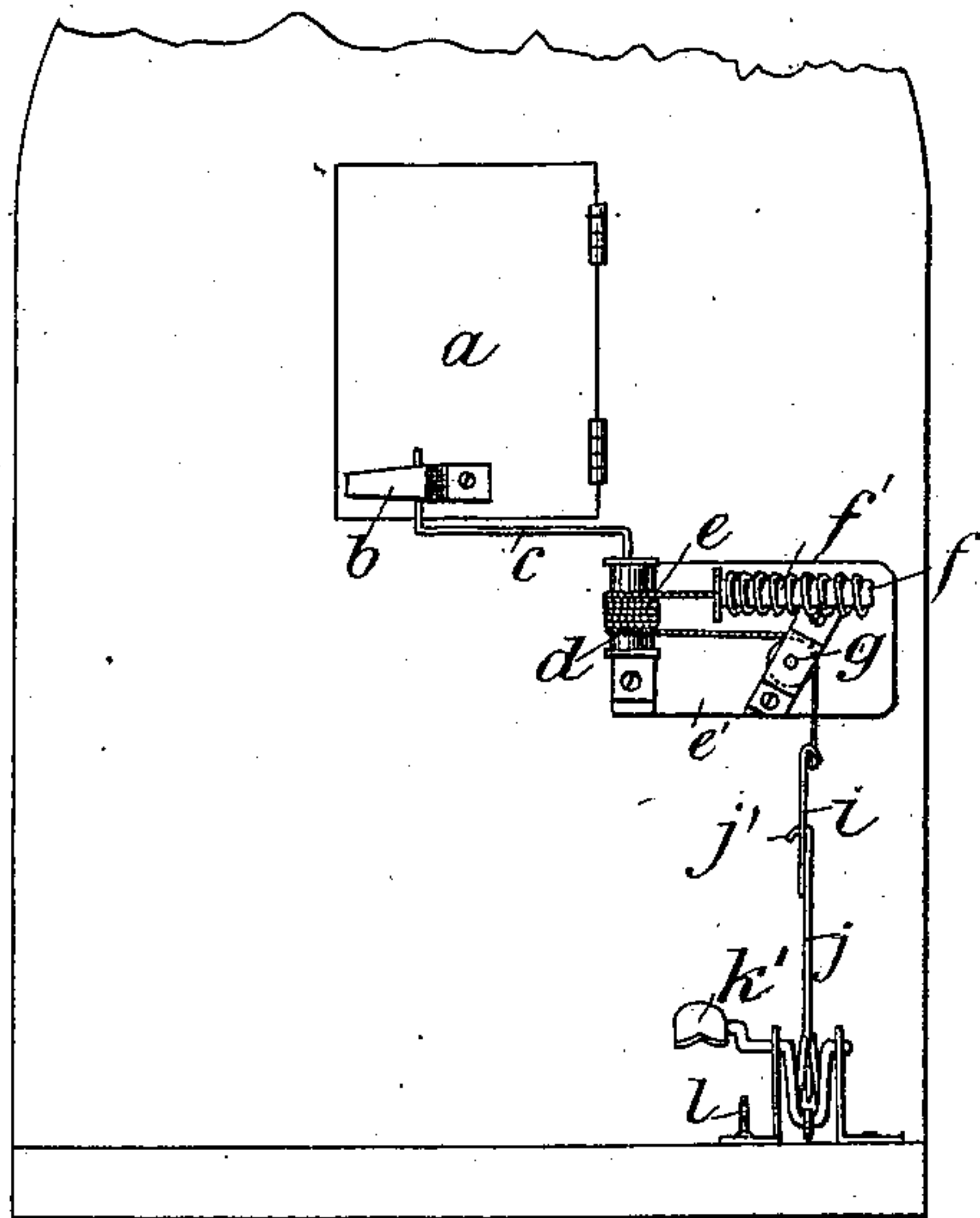


Fig 1.

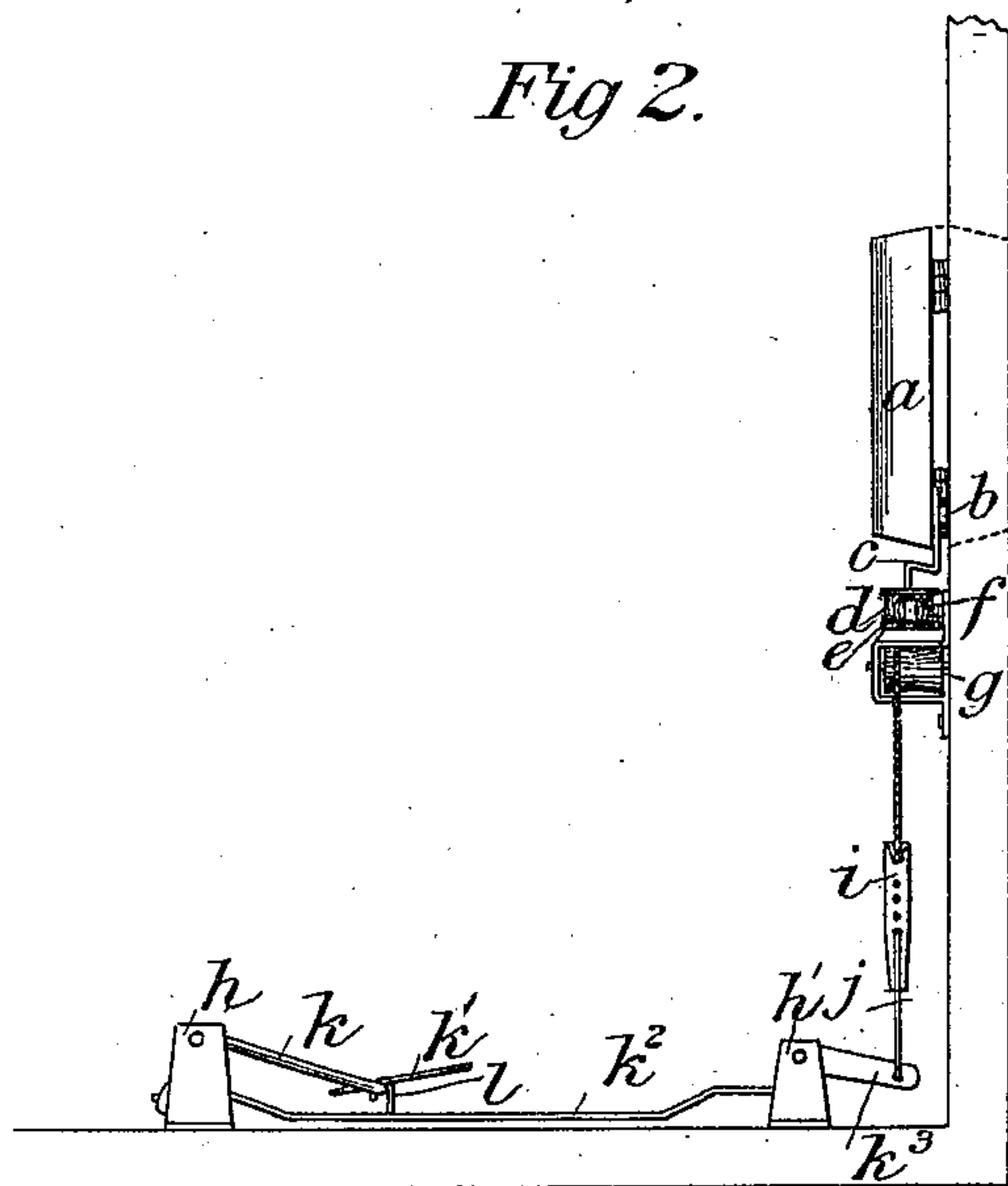


Fig 2.

Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN BIRKEY, OF GROVELAND, ILLINOIS.

## DOOR OR SHUTTER OPENER.

SPECIFICATION forming part of Letters Patent No. 504,318, dated September 5, 1893.

Application filed March 21, 1893. Serial No. 467,025. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BIRKEY, of Groveland, in the county of Tazewell and State of Illinois, have invented certain new and useful  
5 Improvements in Door or Shutter Openers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the  
10 same.

My invention relates to certain new and useful improvements in door and shutter operating devices and has for its object to provide such a device that can be conveniently and  
15 easily operated by the foot.

To this end my invention consists in the novel construction and arrangement of parts hereinafter fully described and afterward definitely pointed out in the claims, due reference being had to the accompanying drawings forming a part of this specification, wherein—

Figure 1 is a front elevation showing the door or shutter closed, and Fig. 2 a side elevation showing the door open.

Referring to the drawings the letter *a* indicates a door or shutter. To the door *a* is secured a cleat *b* which is engaged by one end of a lever *c* which is rigidly secured in a drum *d*.  
30 The drum *d* is journaled in suitable bearings carried by a plate *e'*, and secured to said plate is a slotted guide arm *f* about which is coiled a spiral spring *f'*, one end of said spring abutting against one end of said guide arm and to the opposite end of the spring is secured one  
35 end of a cord *e* which is wound several times around the drum *d* and thence passes over a guide pulley *g* secured to the plate *e'* to the lever mechanism which will now be described.  
40 To the floor are secured uprights or standards *h, h'*, and between the standards *h* is journaled a bell crank lever *k* provided at its free end with a pedal *k'*. To the other end of said bell crank lever is pivotally secured a rod *k<sup>2</sup>* which  
45 at its opposite extremity is loosely connected to one end of a bell-crank lever *k<sup>3</sup>* journaled in the standards *h'*. To the other end of the bell crank lever *k<sup>3</sup>* is loosely connected one end of a rod *j*, the other end of said rod being  
50 bent to form a hook *j'* adapted to engage any one of a series of perforations formed in a metallic strap *i*. The upper end of said strap

is bifurcated or forked and bent over to form a claw adapted to engage the knotted end of the cord *e*.

The operation of the device is as follows:  
To open the door *a* the operator places his foot upon the pedal *k'* and depresses the end of the bell crank lever *k*. The bell crank lever *k* retracts the rod *k<sup>2</sup>* which turns the bell  
55 crank lever *k<sup>3</sup>* in its bearings which operates to draw down the strap *i* and with it the cord *e*. When the cord is thus drawn down it turns the drum *d* upon its pivots and swings the lever *c* around upon its center and opens  
60 the door. When the foot is removed from the pedal *k'* the spring *f'* draws back the cord *e* and turns the drum *d* in a direction opposite to that above described and closes the door.

In order that the door may be held in an  
65 open position I provide a catch *l* which is adapted to hold down the lever *k* and thus prevent the spring *f'* from operating to close the door. Said catch *l* is in the form of a hook and is pivoted to the floor so that it may be  
70 turned up to engage the lever *k* and hold the same in its depressed position.

Having described my invention, what I claim is—

1. In a door operating device, the combination with a drum carrying a lever engaging the door, of a cord wound around said drum, and having one of its ends secured to a spring and its other end connected to lever mechanism adapted to be operated by the foot to un-  
80 wind the cord from the drum, substantially as described.

2. The combination with the drum *d* carrying the lever *c* engaging the door, of the cord *e* wound around said drum and secured at one  
85 end to a spring *f'* and at its other end connected with a bell crank lever *k<sup>3</sup>*, a rod *k<sup>2</sup>* secured at one end to said bell crank lever and at its other end to a bell crank lever *k* provided with a pedal *k'* substantially as shown  
90 and described.

3. The combination with the drum *d* carrying the lever *c* engaging the door, of the cord *e* wound around said drum and secured at one  
95 end to a spring *f'* and at its other end connected to one end of a strap *i*, the rod *j* adjustably connected at one end to said strap and at its other end connected to one arm of a bell crank lever *k<sup>3</sup>*, a rod *k<sup>2</sup>* secured at one  
100



end to said bell crank lever and at its other end to a bell crank lever  $k$  provided with a pedal  $k'$ , substantially as shown and described.

4. The combination with the drum  $d$  carrying the lever  $c$  engaging the door, of the cord  $e$  wound around said drum and secured at one end to a spring  $f$  and knotted at its other end and secured in the forked end of a strap  $i$ , a series of perforations in said strap, a hooked rod  $j$  adapted to engage said perforations and secured to a bell crank lever  $k^3$ , and mechanism adapted to be operated by the foot to actuate said bell-crank lever, substantially as shown and described and for the purpose specified.

5. The combination with the drum  $d$  carrying the lever  $c$  engaging the door, of the cord

$e$  wound around said drum and secured at one end to a spring  $f$  and at its other end connected to a bell crank lever  $k^3$ , a rod  $k^2$  secured at one end to said bell crank lever and at its other end to a bell crank lever  $k$  provided with a pedal  $k'$ , and a catch  $l$  adapted to engage the lever  $k$  and hold it in its depressed position, substantially as described and for the purpose specified.

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

JOHN BIRKEY.

Witnesses:

JOSEPH WAGLER,  
WELLS COREY.