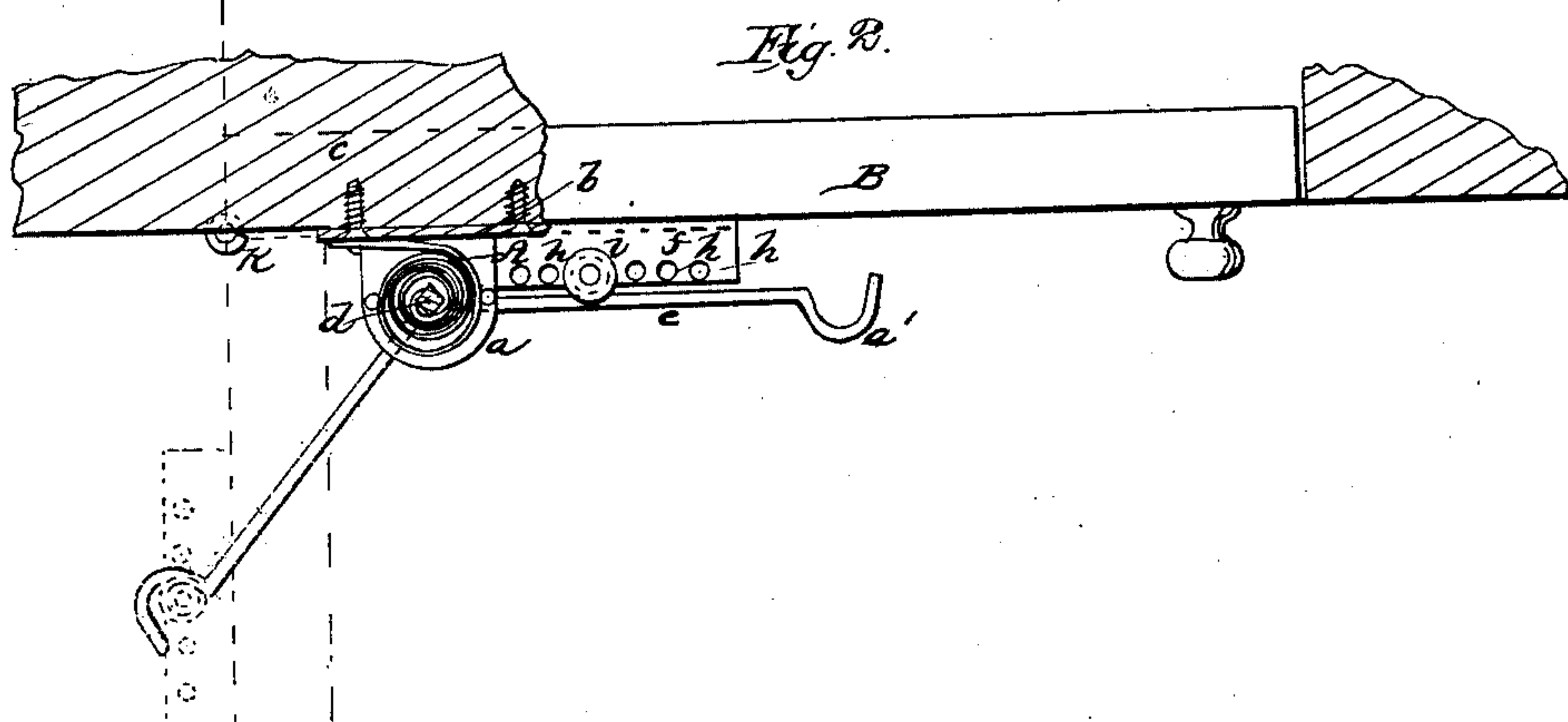
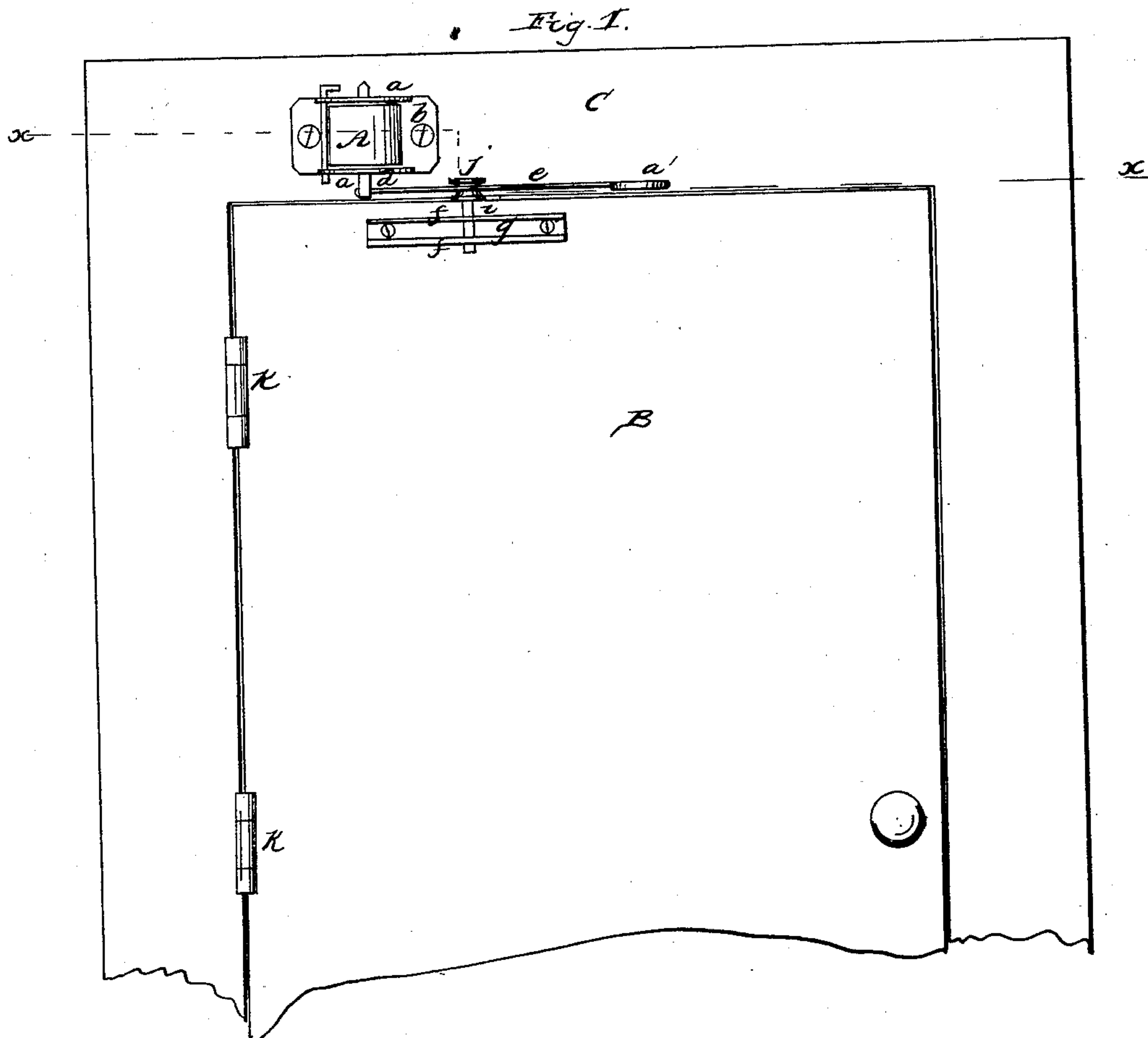


C. A. Peck,
Door Spring.
N^o 18,987. *Patented Dec. 29, 1857.*



UNITED STATES PATENT OFFICE.

CHAS. A. PECK, OF NEW YORK, N. Y.

DOOR-SPRING.

Specification of Letters Patent No. 18,987, dated December 29, 1857.

To all whom it may concern:

Be it known that I, CHARLES A. PECK, of the city, county, and State of New York, have invented a new and useful Improvement in Door-Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of my improvement, applied to a door. Fig. 2 is a section of the same; (*x*) (*x*) in Fig. 1, showing the plane of section.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to that kind of door spring in which an arm or lever operated by a box spring is made to act on the door.

My improvement consists in the employment of a variable bearing roller, in the manner substantially as hereinafter described.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents a coil or barrel spring, which is placed between lugs or plates (*a*) (*a*) attached to a back plate (*b*) which is secured to the upper crosspiece (*c*) of the door casing. The inner end of the spring A is attached to a vertical axis (*d*) which passes through the plates (*a*) (*a*) and the outer end of the spring is attached to the plate (*c*). The coil or barrel spring A is constructed in the usual way, and therefore a more minute description is not needed.

To the lower end of the axis (*d*) a rod (*e*) is attached; and to the door B, two parallel plates (*f*) (*f*) are attached. The plates (*f*) may be formed by bending the upper and lower edges of a flat metal plate at right angles with its center portion (*g*), or the plates and center portion may be formed. Through the plates (*f*) (*f*) holes (*h*) are made; the holes in the two plates being in line with each other. In either of the holes (*h*) of the two plates, a spindle (*i*) is fitted, and on the upper end of this spindle a roller (*j*) is placed. As the spindle may be fitted in either of the holes in the plates, the roller (*j*) is variable and may be adjusted nearer to or farther from the spring A. It will be seen that the plates (*f*) (*f*) are so attached to the door B as to be directly below the rod

(*e*), and the rod (*e*) bears against the roller (*j*).

The spring A, it will be seen by referring to the drawing, is attached to the crosspiece (*c*) of the casing at one side of the hinges (*k*) on which the door swings, and consequently, as the door is opened, the roller (*j*) gradually approaches the outer end of the rod (*e*) and the power of the spring A is gradually decreased; and as the door closes the power of the spring is proportionately increased. This varying power of the spring may be graduated as desired, or as circumstances may require, by moving the spindle (*i*) nearer to or farther from the spring A.

I am aware that the coil spring and rod have been previously used; the rod bearing against the door or against a projection attached thereto; but I am not aware that a variable bearing roller has been used, whereby the varying power of the spring may be graduated, that is, made more or less equal in power as desired. This is an important and valuable improvement in this class of springs; for in some cases, only a very slight increase of pressure is required when the door is closed; while in other cases a much greater pressure of the spring against the closed door is required; the latter necessity exists in outer doors, especially the supplementary doors of vestibules, and the like, where they are not provided with catches, and are liable to be acted upon by the wind or by strong drafts. I would remark that the rod (*e*) may be bent or curved at different parts in order to retain or hold the door open in different positions; one of these curves (*a'*) is shown in the drawing; said curve being at the outer end of the rod, to hold the door wide open.

I do not claim the coil or barrel spring A, with rod (*e*) attached, separately considered; for they or their equivalents have been previously used.

In the patent granted to W. B. Barnard, March 5th, 1850, a fuse spring is used in connection with a cord and an adjustable pin which is attached to the door. I disclaim such device. The object of the adjustable pin is simply to tighten the cord when it becomes too slack by the giving way or growing weakness of the spring. In this device, the pressure of the spring upon the

door is not equalized by a change in the position of the pin, but is only increased or diminished.

In my improvement, by changing the position of the roller (*j*), the action of the spring is equalized, so that the pressure of the lever arm upon the roller (*j*) is equal at all times, no matter in what position the door may be placed.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

The employment of a variable bearing roller (*j*), substantially as described.

CHAS. A. PECK.

Witnesses:

W. TUSCH,
I. W. COOMB.