

(No Model.)

T. S. MILLER.
DOOR CHECK.

No. 470,433.

Patented Mar. 8, 1892.

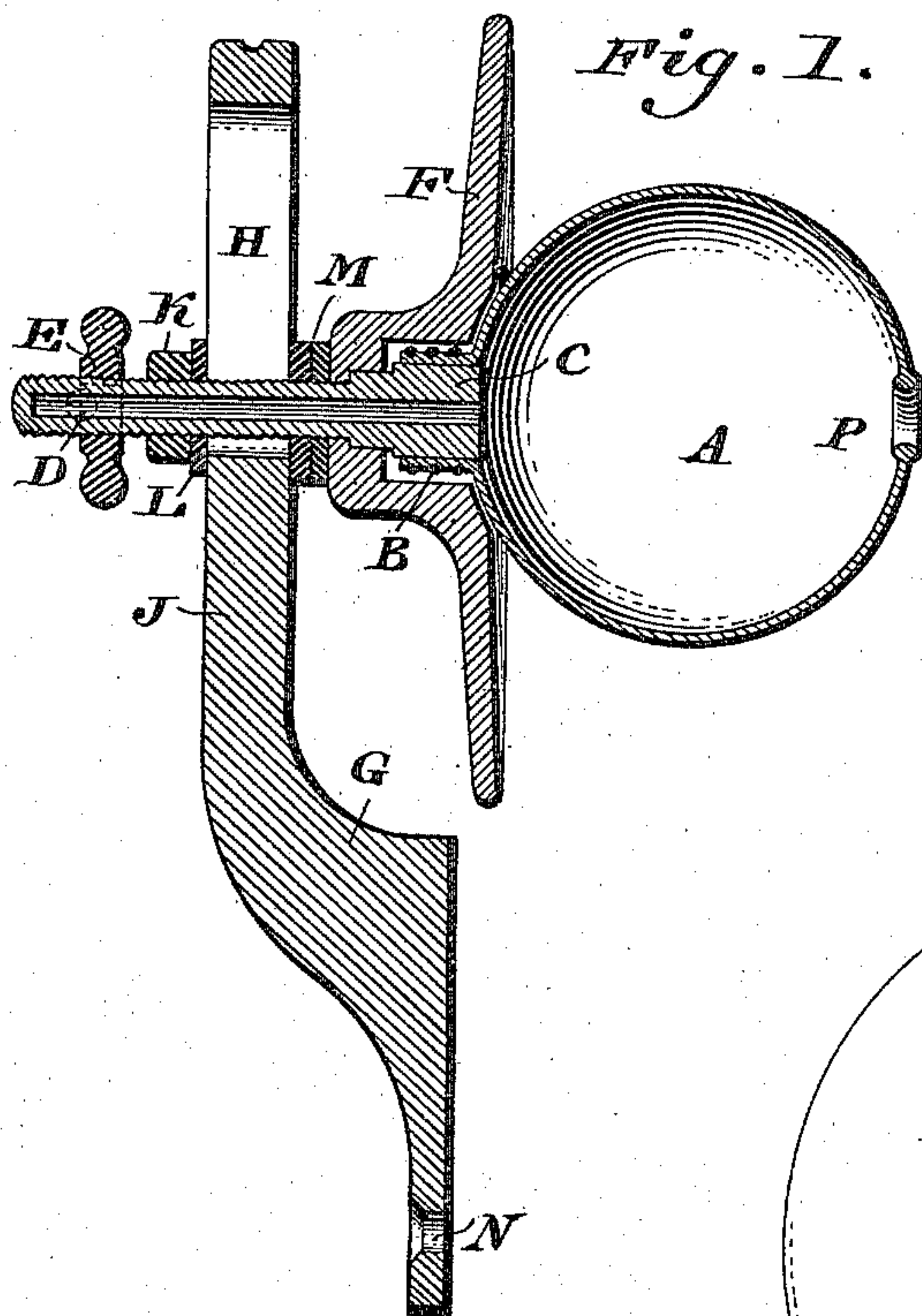


Fig. 4.

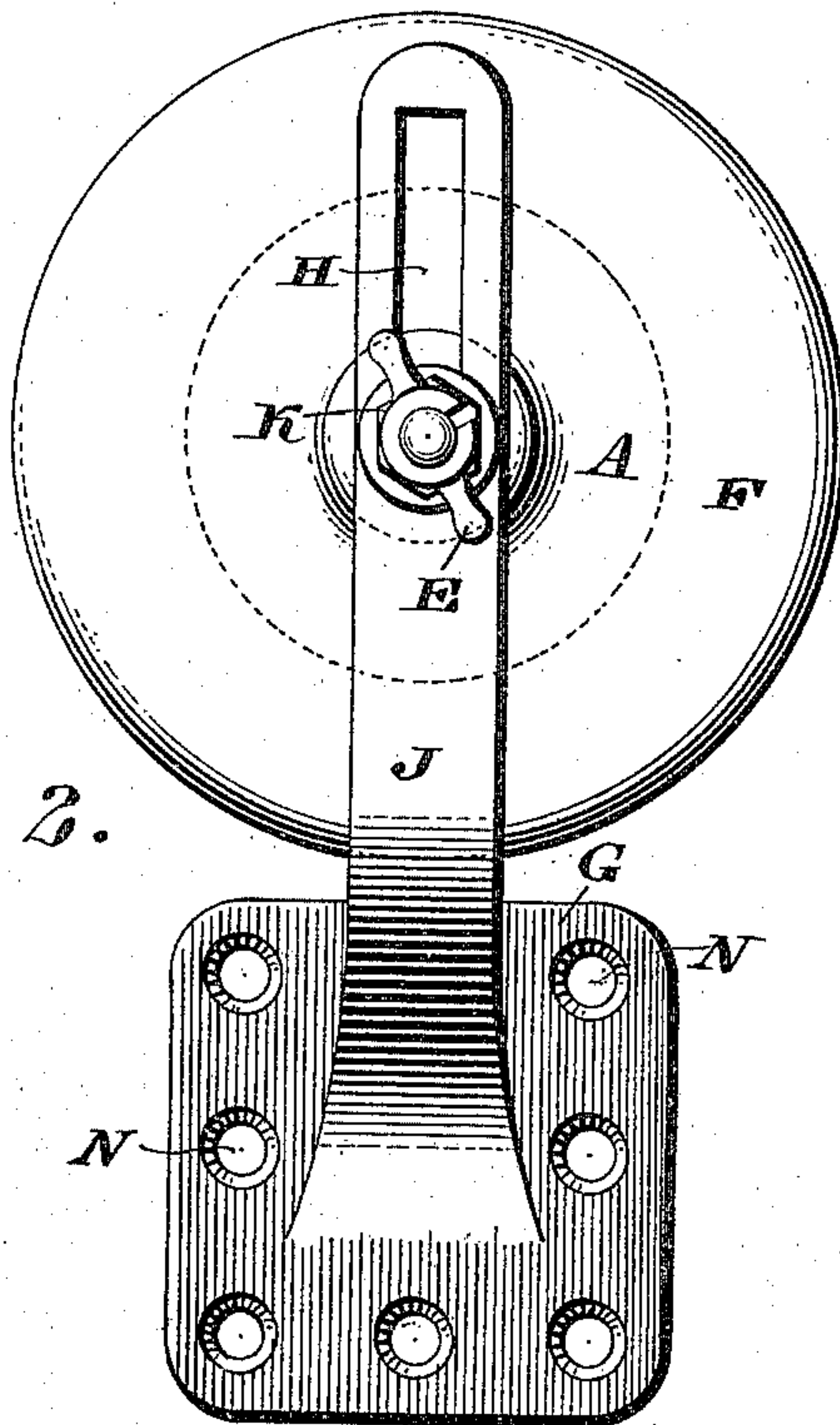
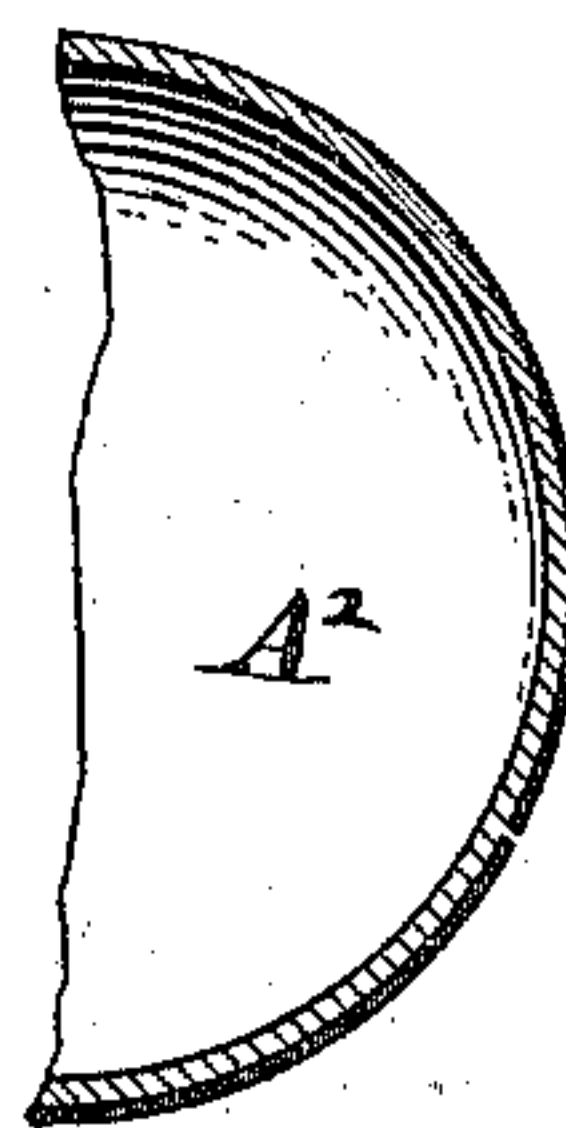
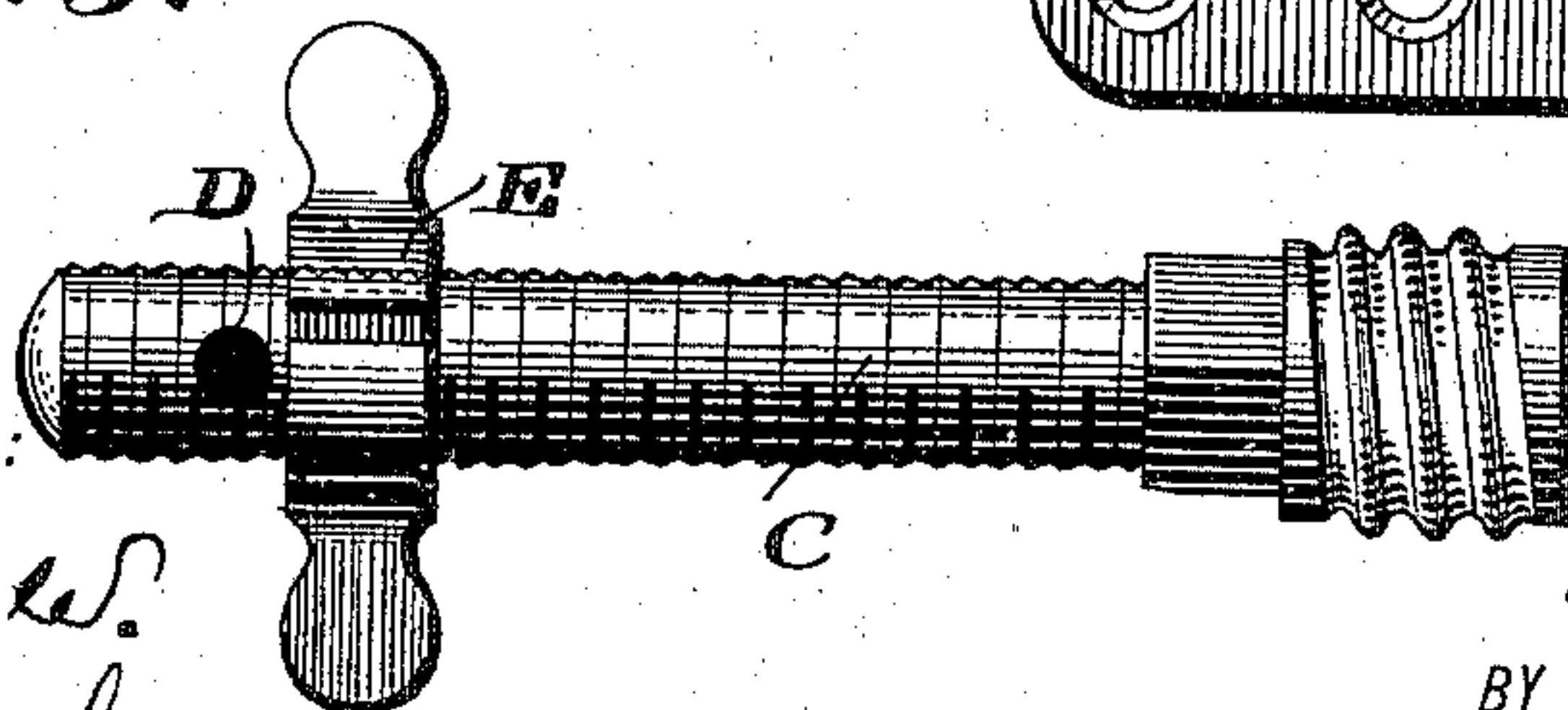


Fig. 3.



WITNESSES:

P. J. Hagler.
W. C. Wiedersheim.

INVENTOR

Thomas S. Miller

BY

W. C. Wiedersheim

ATTORNEY.

UNITED STATES PATENT OFFICE.

THOMAS S. MILLER, OF PHILADELPHIA, PENNSYLVANIA.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 470,433, dated March 8, 1892.

Application filed October 3, 1891. Serial No. 407,598. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. MILLER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Door-Checks, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in door checks or buffers; and it consists, first, of a collapsing bulb having an opening therein normally adapted to be closed when the door is in contact with the said bulb, but open when the door is removed therefrom.

It further consists of a novel contact-plate for the bulb, consisting of a plate having a portion of one face conforming to the normally-contacting portion of the bulb and the remainder of said face of substantially slight concavity.

It further consists of means for adjusting or regulating the escape of the air from the bulb.

It further consists of means for adjusting the location of the bulb on the holding-bracket.

It further consists of the combination of parts hereinafter set forth.

Figure 1 represents a sectional view in elevation of a device embodying my invention. Fig. 2 represents a rear view of a device shown in Fig. 1. Fig. 3 represents a side view of the tube and regulating-collar, forming escape-valve for the air from the bulb. Fig. 4 represents a sectional view of a part of a modification of the bulb.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a bulb formed of any suitable elastic material and of any shape, either spherical, ellipsoidal, conoidal, or otherwise. One side of the bulb is provided with an opening and formed with a neck B, which is secured by wiring or otherwise to the end of a tube C, which at its inner end is open, so as to be in communication with the inside of the bulb and at its outer end is closed, except at an opening D in one side near said end. Encircling the tube C is a split collar E, interiorly screw-threaded, so as to be laterally adjustable on a threaded portion of said tube and over said opening D,

whereby the size of the opening may be regulated. Supported on the tube C is a plate F, having a portion of its outer face depressed and in contact with a portion of the surface of the bulb, the remainder of the face of said plate being slightly concave, so as to permit the gradual flattening of the bulb when compressed thereagainst. The bulb, with tube and plate, is adjustably secured to a bracket G by passing the tube through a slot H in the arm J of the bracket and clamped in place by a nut K, which works on the tube and bears against a washer L in contact with the bracket. Other washers, as M, may be placed between the plate F and the bracket, so as to regulate the distance of the bulb from the bracket, which latter may be secured to a suitable portion of the frame of the door or to the wall by screws or nails passed through the openings N in the attaching-plate thereof.

The bulb A has in its side with which the door is adapted to come in contact an opening P, which is opposite to and much larger than the bore of the tube C, through which the air escapes from the bulb A. The said opening P is closed on the contact of the door with the bulb, but open when the door is released therefrom, so that the air readily enters the bulb, restoring it to its normal condition.

It will be seen that the quantity of air escaping from the bulb on the contact of the door therewith may be readily controlled by means of the collar E, which may be moved on the tube C, so as to regulate the size of the opening D.

In Fig. 4 is shown a modification A' of the bulb, in which the opening P is omitted, the contact side being closed.

The operation of the device is simple and easily understood. As the door contacts with the bulb the air gradually escapes through the tube C and opening D, thus furnishing a yielding buffer for the door, the bulb being gradually compressed on the concave face of the plate F. Owing to the large opening P, which was closed on the contact of the door with the bulb, but is open on the removal of the door therefrom, the air rapidly enters the bulb, restoring it to its normal condition. The slotted arm of the brackets permits an adjustment of the bulb to or from the attach-

ing-plate of the bracket, thereby avoiding the necessity of having brackets with arms of different lengths to accommodate different door-frames.

5 The bulb shown in Fig. 4 is refilled with air by means of the opening D and tube C, said opening thus serving both as discharge and inlet ports for the air in said bulb.

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

1. A door-check consisting of an air-bulb with a tube, a bearing-plate, and a supporting-bracket having a slotted arm in which said
15 tube is held, said parts being combined substantially as described.

2. A door-check consisting of an air-bulb with openings on opposite sides, a tube communicating with one of said openings, a bearing-plate, a supporting-bracket with an arm, 20 and washers on said tube between said plate and bracket, said parts being combined substantially as described.

3. A door-check having a hollow bulb, a tube connected therewith and having an open- 25 ing at or near one end, and a collar adapted to regulate the size of said opening, substantially as described.

THOMAS S. MILLER.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. JENNINGS.