

S. CUTLER.
Door-Springs.

No. 136,974.

Patented March 18, 1873.

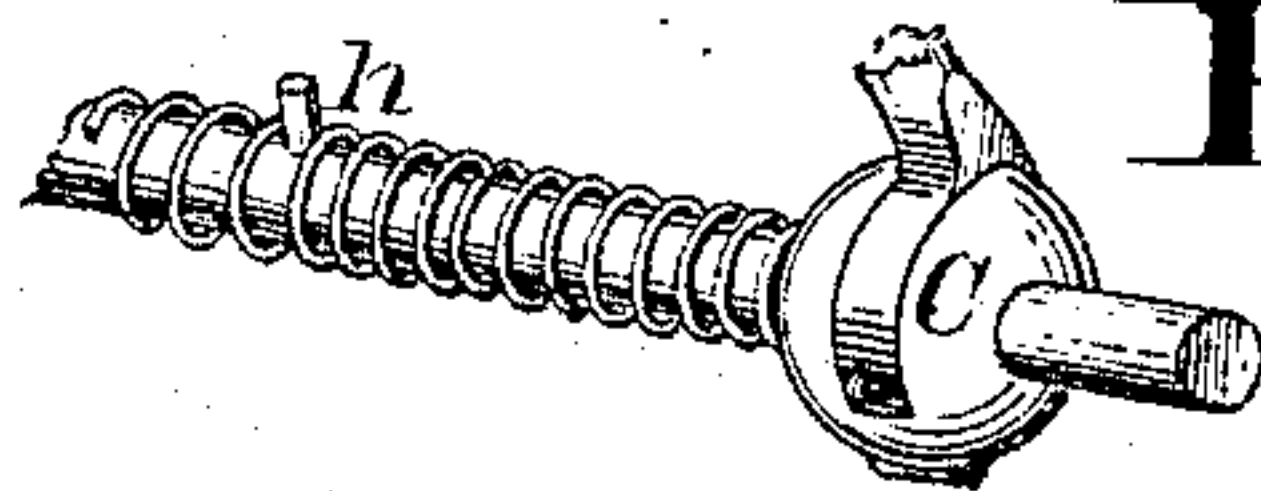


Fig. 3

Fig. 1

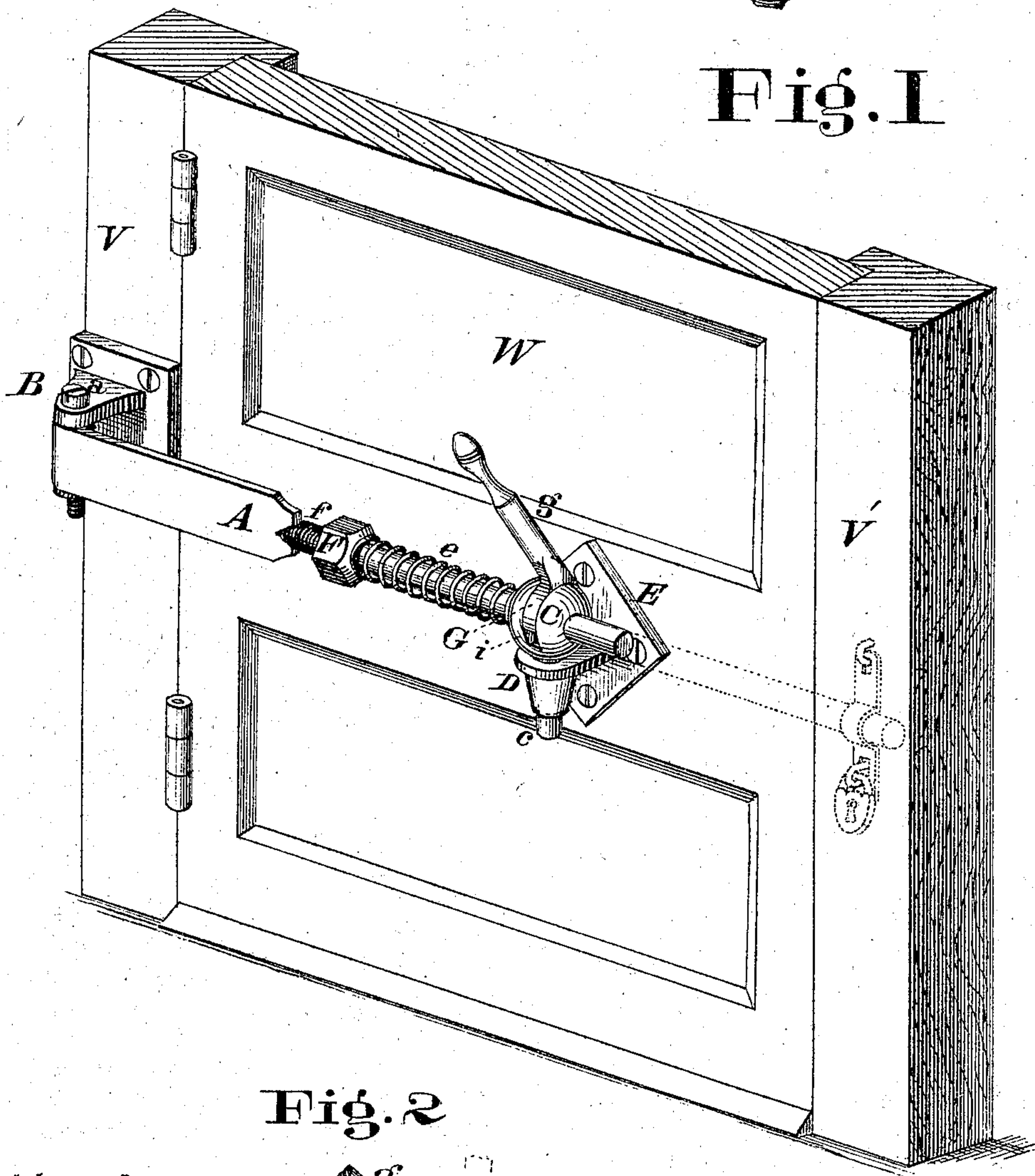
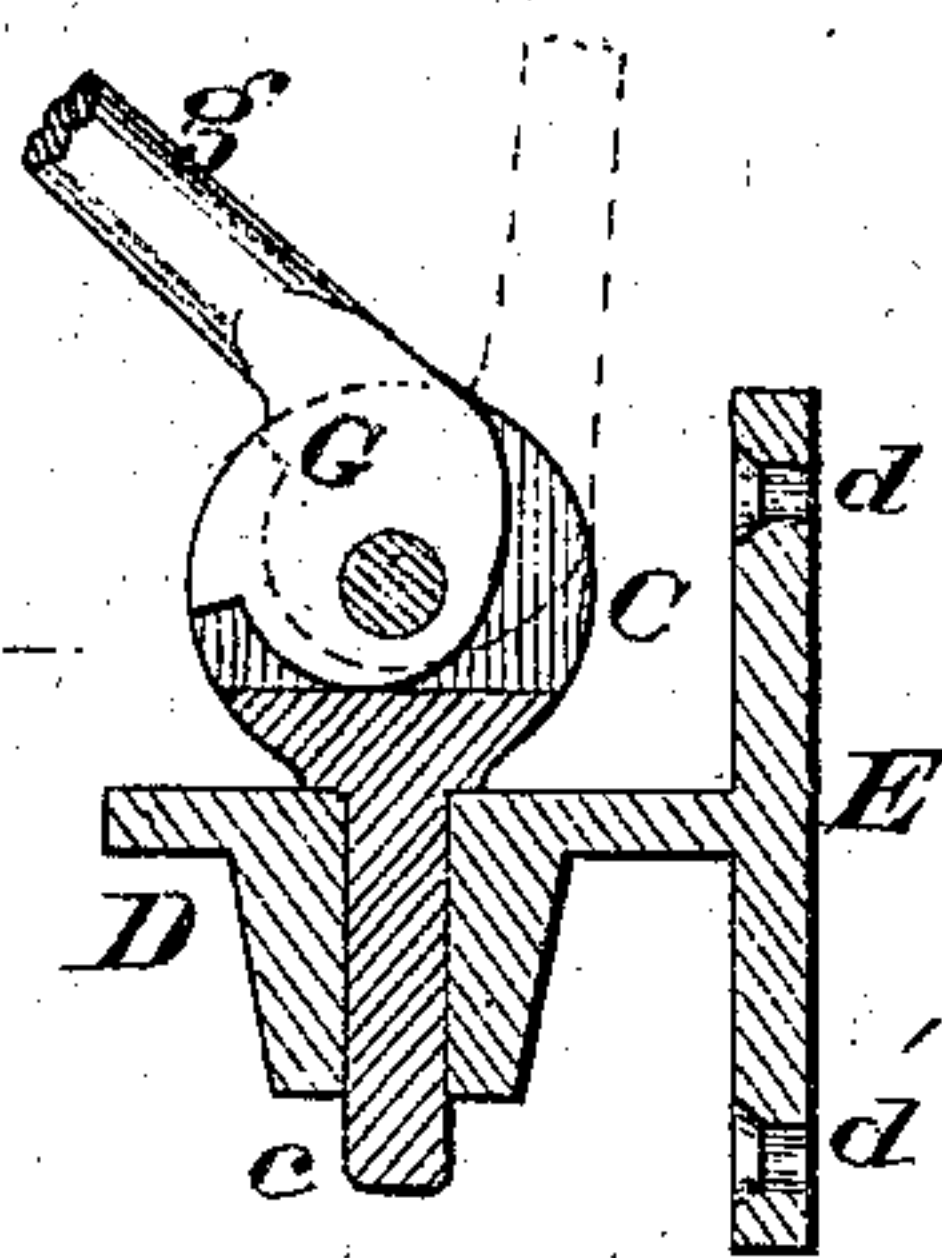


Fig. 2

Attest

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UNITED STATES PATENT OFFICE.

SPALDING CUTLER, OF CINCINNATI, OHIO, ASSIGNOR TO HIMSELF AND
HUGH McCONNELL, OF SAME PLACE.

IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. 136,974, dated March 18, 1873.

To all whom it may concern:

Be it known that I, SPALDING CUTLER, of Cincinnati, in the county of Hamilton, State of Ohio, have invented a certain new and useful Improvement in Door Closers, Detainers, and Fasteners, of which the following is a specification:

Nature and Objects of Invention.

This invention relates to that class of door-springs which consist essentially of a rod, pivoted at one end to the jamb and carried at the other end in a bracket on the door, and a spiral spring encircling the rod, which is contracted in opening the door and shuts it by its reaction. My improvement consists in combining, with the rod and the bracket on the door, a cam, which may be turned to press the rod so forcibly against one side of its bearing in the bracket as to prevent the two from moving on each other, for the purpose of suspending the action of the spring and holding the door in any desired position.

Description of the Accompanying Drawing.

Figure 1 is a perspective view of a door or gate closed, showing my invention in a position which fastens it. Fig. 2 is a vertical section through the bracket, showing the second part of my invention. Fig. 3 is a perspective view of a modification of the third part of my invention.

General Description.

A is a rod of metal, flattened at one end, which is pivoted upon a screw, *a*, between two lugs, B, attached to and projecting from the door-jamb V. The greater portion of this rod is cylindrical, and its outer end passes through a bracket consisting of a metal ball, C, having a stem, *c*, which rests in a socket, D, attached to the leaf of the door W by the plate E and screws *d d*. Around this rod is coiled a spiral spring, *e*, one end of which abuts against the metal ball C and the other against a nut, F, which works on a screw-threaded portion, *f*, of the rod near its flattened part. At right angles to the axis of the rod a slot, *i*, is cut through the upper central portion of the ball C of sufficient depth to admit the eccentric G, embracing the rod A and operated by the handle *g*.

When the leaf W of the door is opened, its rotation shortening the distance between the

lugs B and ball C, the rod slides through the ball, compressing the spring between the ball and the nut F, so that the retraction of the spring tends to forcibly close the door when released. While the handle *g* is thrown forward against the door, as shown by the dotted lines in Fig. 2, the rod slides freely; but, in order to fasten the leaf in any position, the handle *g* is drawn back, as shown, causing the eccentric C to bind strongly between the rod and the bottom of the slot, thereby preventing any sliding of the rod, and, consequently, any rotation of the leaf W upon its hinges, but retaining it fixed until it is released by the eccentric G.

The construction of the bracket C *c* D in the form of a socket, D, sustaining the stem *c* of the metal ball C, enables the ball to rotate slightly as the door opens, and prevents binding.

The nut F, adjustable upon the screw-threaded portion *f* of the rod enables the space in which the spring *e* works to be enlarged or contracted; and the stiffness of the spring may be regulated accordingly.

An equivalent of this device is shown in Fig. 3, where *h* is a pin or stud inserted in the rod near the mid-length of the spring *e*; and by rotating the spring around the rod a greater or less proportion of the spring may be included between the bracket and the pin to regulate its power.

A modification of the general device consists in extending the rod A entirely across the door, so that it may be secured to the jamb V by a hasp or other sufficient mechanical attachment, so as to form a permanent fastening.

Besides doors, my invention admits of application to windows, gates, or other similar leaves, rotating on vertical hinges.

Claim.

In a door-spring of the character described, the combination of the rod A, slotted bearing C *i*, and cam G *g*, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

SPALDING CUTLER.

Witnesses:

FRANK MILLWARD,
J. L. WARTMANN.