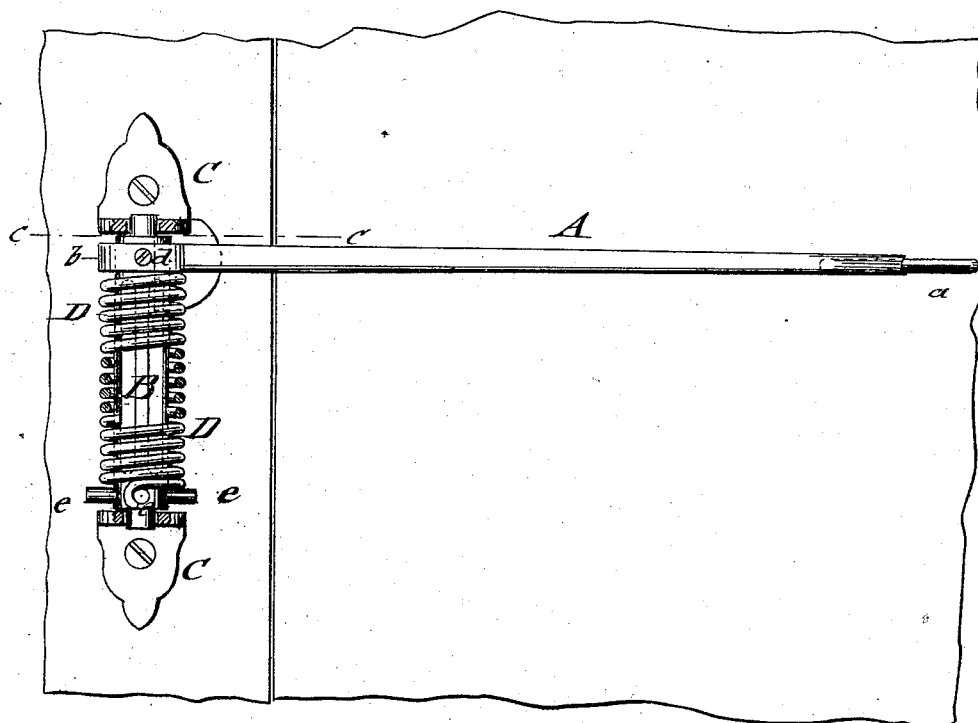


J. M. BLOOD.  
DOOR-SPRING.

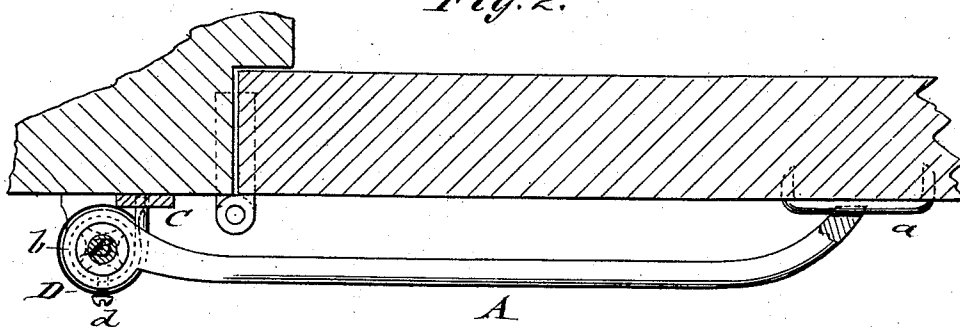
No. 169,405.

Patented Nov. 2, 1875.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*E. Wolff*  
*A. F. Terry*

INVENTOR:

*J. M. Blood*  
BY *mmu*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JAMES M. BLOOD, OF DENVER, COLORADO TERRITORY.

## IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. **169,405**, dated November 2, 1875; application filed September 17, 1875.

### *To all whom it may concern:*

Be it known that I, JAMES M. BLOOD, of Denver, in the county of Arapahoe and Territory of Colorado, have invented a new and Improved Door-Spring, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of my improved door-spring; and Fig. 2, a top view of the same, partly in horizontal section on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention is an improvement in the class of door-closing devices which consist of a journaled shaft or roller encircled by a spiral spring, and provided with a laterally-projecting arm, whose outer end bears upon the door with a pressure corresponding to the power and tension of the spring.

The invention consists in the novel construction and arrangement of parts, as hereinafter described and claimed, whereby the tension of the spring may be quickly and conveniently changed, and the action of the device thereby regulated.

In the drawing, *A* represents the curved lever, that presses and slides with its outer grooved end on a wire staple, or the aperture of a thumb-screw hook, *a*, of the door, during the opening and closing of the same. The lever *A* is attached to an annular collar, *b*, and clamp-screw *d* to a fluted barrel, *B*, that turns by top and bottom pivots or gudgeons in brackets *C*, screwed firmly to the door-frame. The spiral spring *D* is coiled around the fluted barrel, which reduces, by its small contact-surface, the friction of the spring during the winding and unwinding operations of the

same. The spring *D* is applied by one end to the bracket-plate or door-frame; by the other end to one of the radially-extending spurs or pins *e* of the barrel. The spurs *e* serve for the purpose of regulating the tension of the spring according to the size and weight of the door to be closed, or for readjusting the same after having been in use for some time, by simply detaching the lever from the adjustable thumb-screw hook, turning the same a quarter round, so that the end of the lever is clear, swinging then the lever up, and placing a clog below one of the spurs, so that the lever is prevented from swinging back. The clamp-screw of the lever is then loosened, and the lever carried back to its position on the door, and fastened again by the clamp-screw. The clog is then taken off, and thus the tension of the spring adjusted in a very simple and convenient manner, without detaching the spring from the door-frame.

The barrel turns with the lever and tightens the spring attached thereto, which works very easily and satisfactorily, as the exact degree of tension can be readily imparted to the same.

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

As the improvement hereinbefore described, the journaled roller or barrel *B*, having the series of fixed radially-projecting pins *e*, and the curved adjustable arm *A*, and clamp-screw *d*, and the spiral spring *D*, all combined and arranged as set forth and shown, for the purpose specified.

JAMES M. BLOOD.

Witnesses:

IRA A. LOVEJOY,  
JNO. A. RYAN.