

F. C. RHEUBOTTOM.

DOOR-SPRINGS.

No. 185,260.

Patented Dec. 12, 1876.
Fig: 1.

Fig: h.

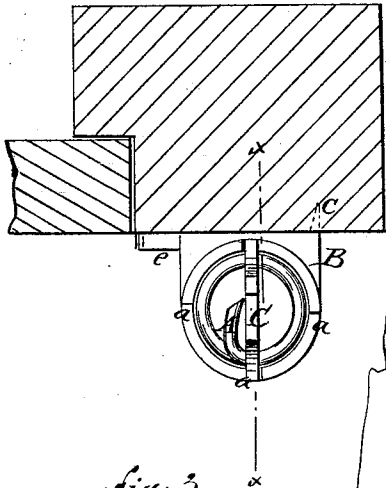


Fig: 3.

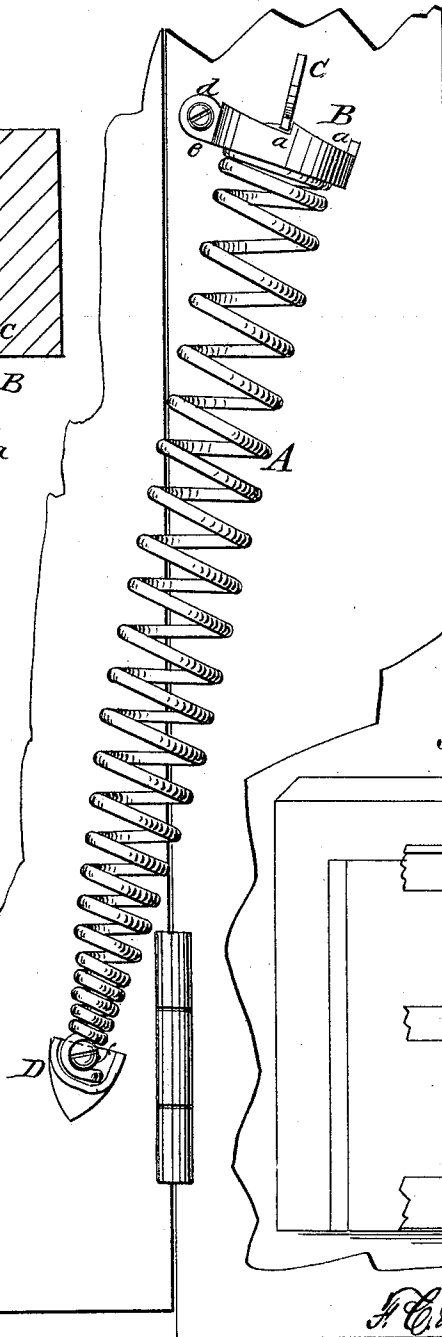
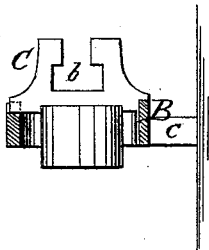
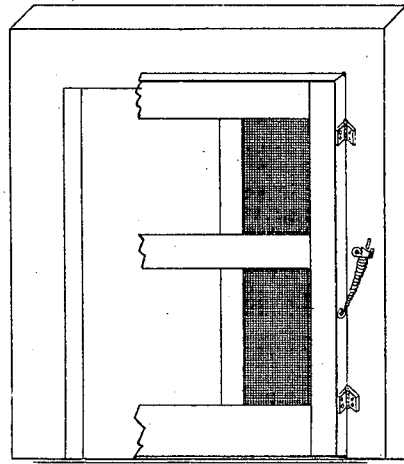


Fig: 4.



WITNESSES:

Chas. N. H. Nichols

INVENTOR:

F. C. Rheubottom

BY

M. M. H. Nichols
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANK C. RHEUBOTTOM, OF UNION CITY, MICHIGAN.

IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. **185,260**, dated December 12, 1876; application filed September 29, 1876.

To all whom it may concern:

Be it known that I, FRANK C. RHEUBOTTOM, of Union City, in the county of Branch and State of Michigan, have invented a new and Improved Spiral Door-Spring, of which the following is a specification:

Figure 1 is an elevation showing the application of my improved spring to a door. Fig. 2 is a detail view of the spring-tightening device. Fig. 3 is a section on line *xx* in Fig. 2. Fig. 4 is an elevation, in perspective, of a storm-door with one of my tapered spiral springs attached thereto.

Similar letters of reference indicate corresponding parts.

The object of the invention is to furnish a simple, inexpensive, and efficient spring for closing doors or gates.

A is a tapering spiral spring, which passes through the annular ratchet B, and is provided with a T-head, C, which is capable of engaging with the notches *a* in the sides of the annular ratchet B. The T-head is mortised or drilled at *b*, for receiving a lever for increasing the tension of the spring. The annular ratchet B is attached to the door or casing by the tang *c*, which is driven into the wood, and by the screw *d*, that passes through the ear *e*. The smaller end of the spring is bent to form a loop, which partly embraces the screw *f*. The end of the wire forming the spring is bent parallel to the screw *f*, and is driven into the wood. A metal plate, D, is placed between

the loop formed at the end of the spring and the wood, and is provided with apertures, through which the screw *f* and the end of the spring-wire pass. The spring is placed diagonally across the line separating the door from the casing, on the hinge side of the door, and one end is attached to the door and the other to the casing.

The spring is tightened by turning the T-head C, which is retained by the notches *a* in the ratchet B.

Screen and storm doors are generally hung on the outside of, and so as to lap over, the case, rendering it necessary that the spring shall fasten on the edge of and swing under the door when opened, while the molding of case also leaves a very small space for the attachment of spring. Hence I employ my downwardly-tapering spiral spring, which I have found in practice to completely remedy the difficulty, while it possesses the required strength and durability.

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

A coiled door-spring that tapers toward one end to adapt it to be adjusted to the edge of a door or the oval surface of a molding without impairing its strength.

F. C. RHEUBOTTOM.

Witnesses:

A. BENEDICT,
N. EHLE.