(Model.)

R. H. WILES.

DOOR SPRING.

No. 251,082. Patented Dec. 20, 1881.

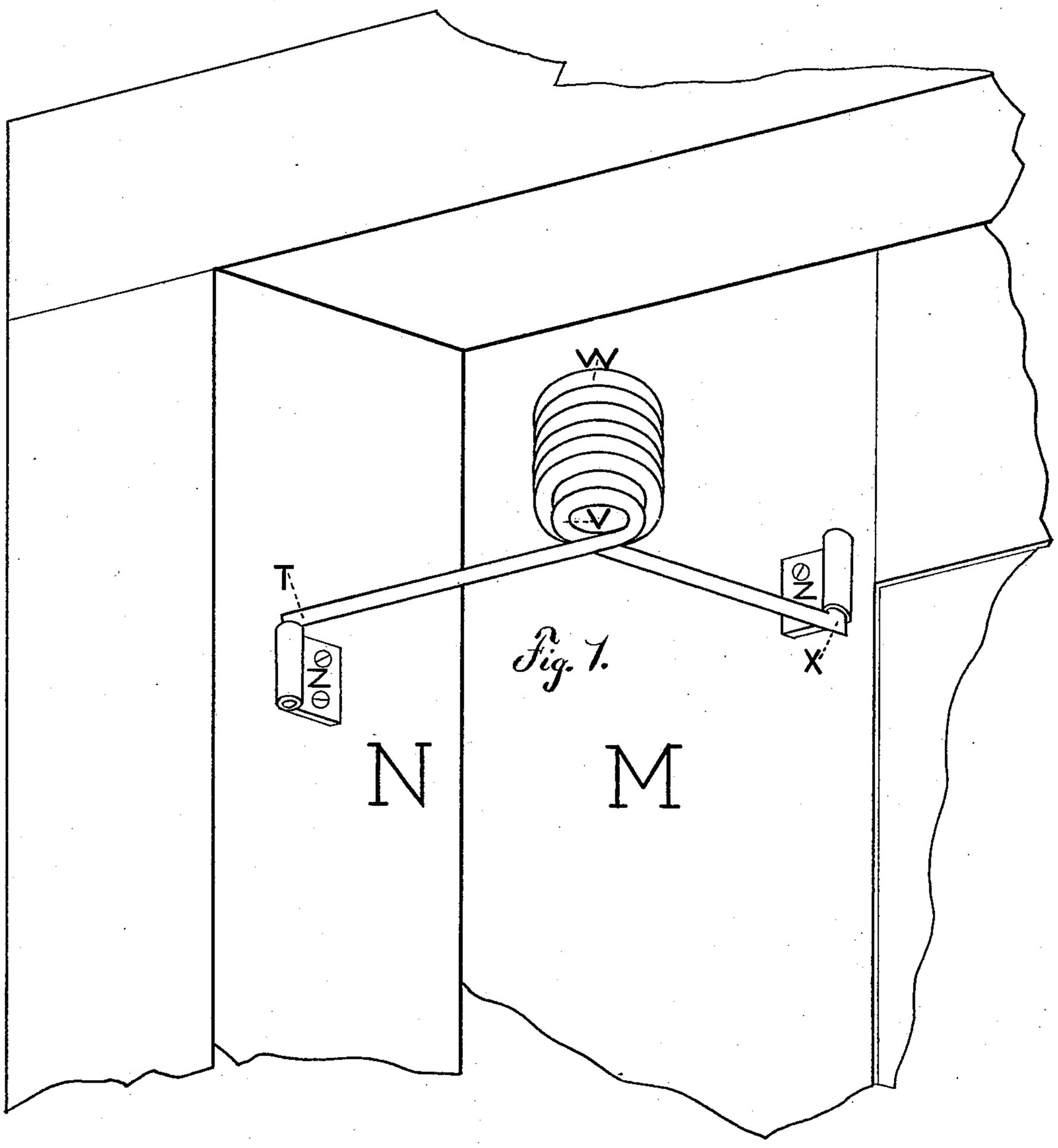

Fig. 1.

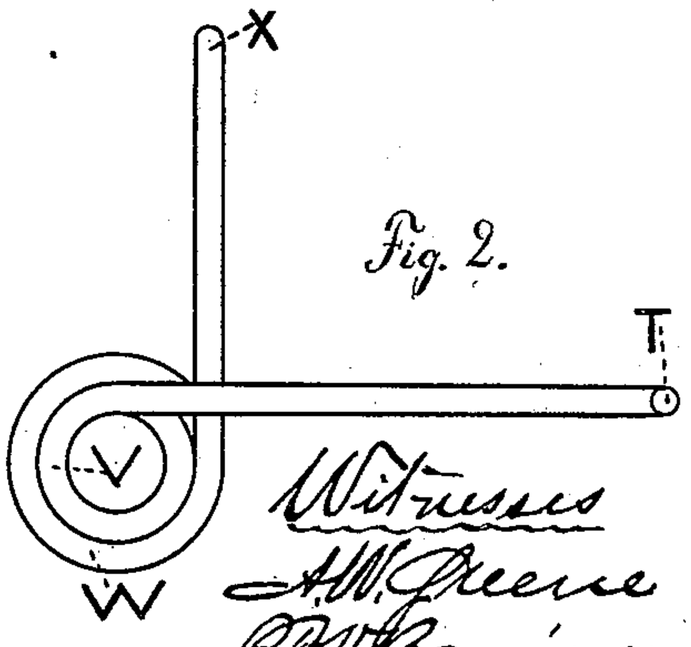

Fig. 2.

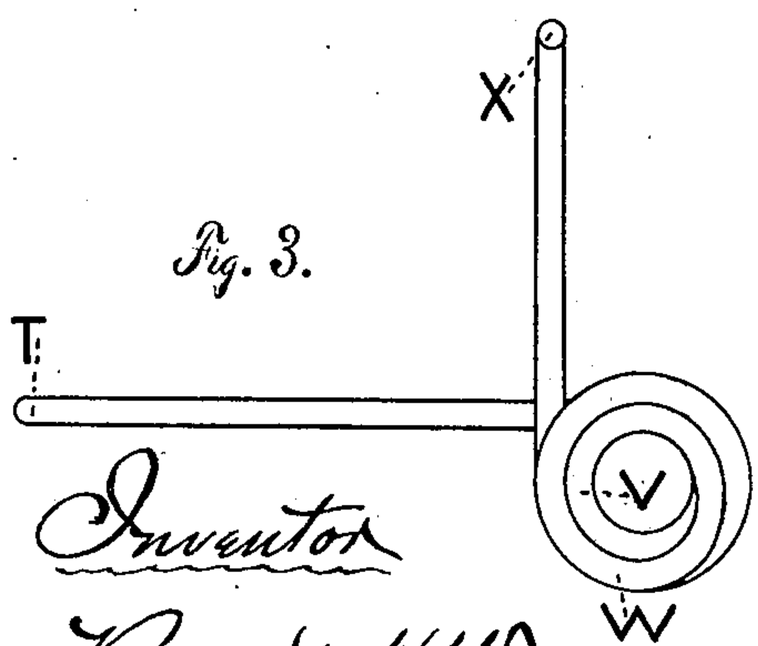

Fig. 3.

Witnesses
A. W. Greene
B. H. Brainard

Inventor
Robert H. Wiles.

UNITED STATES PATENT OFFICE.

ROBERT H. WILES, OF FREEPORT, ILLINOIS.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 251,082, dated December 20, 1881.

Application filed February 17, 1881. (Model.)

To all whom it may concern:

Be it known that I, ROBERT H. WILES, a citizen of the United States, residing at Freeport, in the county of Stephenson and State of Illinois, have invented a new and useful Improvement in Door-Springs, of which the following is a specification.

My invention relates to that class of door-springs which tend to close the door until it has been opened to a certain angle, and after it has reached that angle tend to hold it open. It is a "double-acting spring," so called, and holds the door open after it has been moved through an angle of about one hundred and thirty degrees.

The construction of the spring and manner of attaching it are shown in the accompanying drawings, in which the same letters represent similar parts in all the figures.

Figure 1 is a view of the spring and its attachments in perspective. Fig. 2 shows the spring in projection as seen from below. Fig. 3 shows the spring in projection as seen from above.

In Fig. 1, M represents the door, N the jamb, and *z z* the half-hinge or other equivalent device by which the spring is attached to the door and jamb.

In all the figures T represents the end of the spring which is attached to the jamb; *x*, the extremity which is attached to the door; *v*, the inner coil of the spring, and *w* the outer coil of the spring.

The spring consists of a single wire wound into a spiral of any given number of coils, about which spiral the same wire is wound in a second spiral, the inner coil serving as a core for the outer, and the outer acting as a case or barrel for the inner, and each strengthening and stiffening the other. In the spring as shown in Fig. 1 the inner coil is wound from the lower end upward until a sufficient number of turns have been formed, when the wire is wound around the inner coil, beginning at the top and proceeding downward until the outer spiral is of the length desired. The ends of the spring are left straight, and may be of any desired length. These ends are bent at right angles, as shown at T and *x*, forming pivots, which are inserted in half-hinges *z z*, or equivalent fastenings.

The operation of the spring is evident. As the door opens, the distance between the ends of the spring is increased, and the coils are tightened in consequence, until the points of attachment and the hinge pin of the door are in the same plane, which occurs when the door is opened about one hundred and thirty degrees. If the door be opened still farther, the distance between the points of attachment decreases, and the door is consequently held open by the force of the spring.

I am aware that other door-springs are made which act in substantially the same manner as the one described above, and that the manner of attachment shown herein is in common use.

What I do claim, therefore, as my invention, and desire to secure by Letters Patent of the United States, is—

A door-spring formed entirely of a single wire wound in spirals, one coil of which is within and forms a core, and having projecting ends of suitable length for attaching it to the door and jamb, substantially as described.

ROBERT H. WILES.

Witnesses:
A. W. GREENE,
F. W. BRAINERD.