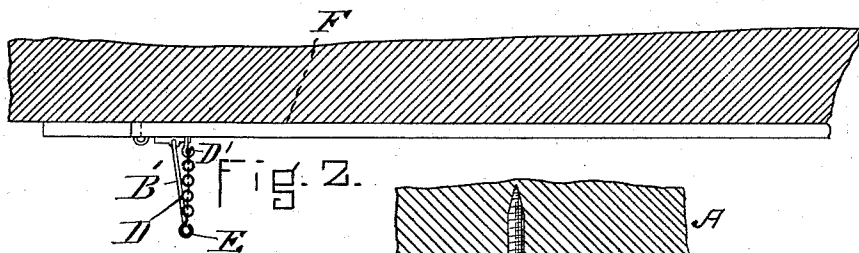
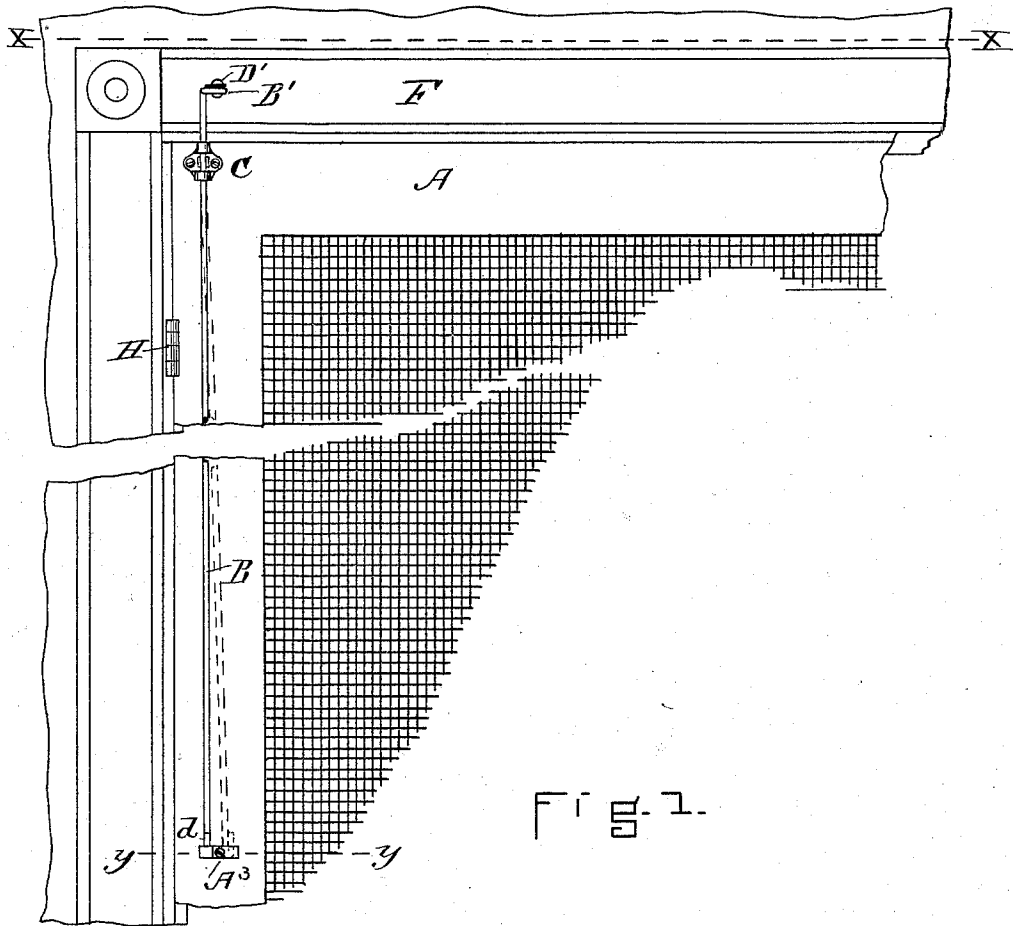


(No Model.)

A. W. PAINE.
DOOR SPRING.

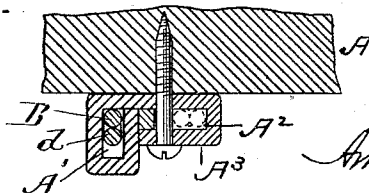
No. 477,571.

Patented June 21, 1892.



WITNESSES.

Frank G. Parker
Matthew M. Blunt.



INVENTOR.

Amel H. Paine

UNITED STATES PATENT OFFICE.

ANSEL W. PAINE, OF BOSTON, MASSACHUSETTS.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 477,571, dated June 21, 1892.

Application filed February 18, 1892. Serial No. 422,019. (No model.)

To all whom it may concern:

Be it known that I, ANSEL W. PAINE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Door-Spring Attachments, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of door-springs in which the torsional action of a long wire or rod is utilized for obtaining the spring action, the object being to so arrange the end attachments that the adjustment is more easily effected than can be by the springs in common use. This object I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing a part of the door-frame and a part of a screen-door with my spring attachments connected. Fig. 2 is a sectional view of the same, taken on line *x x* of Fig. 1. Fig. 3 is a sectional view taken on line *y y* of Fig. 1.

In the drawings I have taken for an illustration an ordinary screen-door, although my apparatus is applicable to any door.

Let *A* represent the door, and *F* the door-casing, *H* being one of the hinges by which the door *A* is attached to its frame.

B represents the torsion spring-wire. The lower end of this wire *B* is flattened or bent back onto itself, as indicated at *d*, Figs. 1 and 3, so that when the same is inserted into a slot *A'*, for instance, it (the wire) cannot turn on its axis. The upper end of the wire passes loosely through a socket-piece *C*, attached to the door. This piece acts simply as a guide, and it may be made in any desired form.

At the extreme upper end of the wire *B* an arm *B'* is formed, said arm extending at right angles to the main part of the wire *B*. (See Figs. 1 and 2.) An eye *E* is formed in the outer end of the arm *B'* and has attached to it a chain *D*. This chain *D* is also attached by a hook or other device *D'* to the door-frame *F*, so that any tension on the arm *D'* caused by the torsion of the wire *B* will, reacting through the socket-piece *A'* on the door, cause the door to close. The chain *D* may be used to vary the tension of the spring by hooking into the hook *D'* different links.

The socket-piece *A'* has two slots—viz., one at *A'* and one at *A''*—these two slots being at right angles to each other, as shown in Fig. 3. The object of having these two slots one at right angles to the other is to enable the user to get any degree of torsion on the wire *B* by inserting its flattened or doubled end into the slot *A'* or in the slot *A''*, as may be the most desirable, no key, locking-pin, or ratchet being required.

I claim—

In a door-spring, the combination of the wire *B*, having a flattened or double end, as described, with a socket-piece *A'*, having slots *A'* *A''*, situated at right angles to each other, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of February, A. D. 1892.

ANSEL W. PAINE.

Witnesses:

FRANK G. PARKER,
MATTHEW M. BLUNT.