(No Model.)

A. A. PAGE.

DOOR SPRING.

No. 478,355. Patented July 5, 1892.

Fig. 1

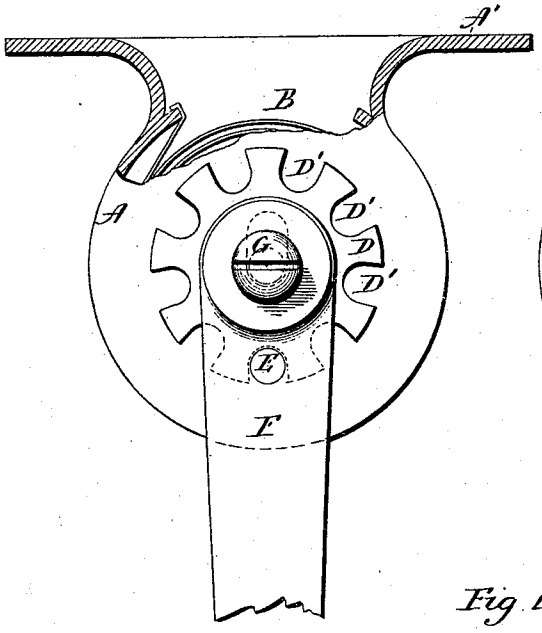


Fig. 2

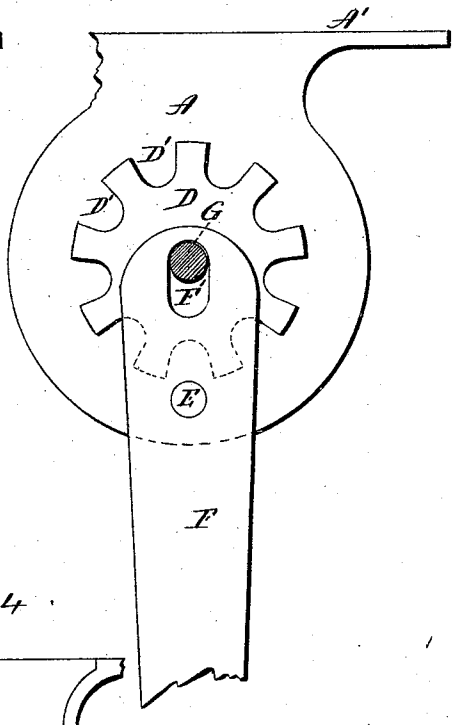


Fig. 4

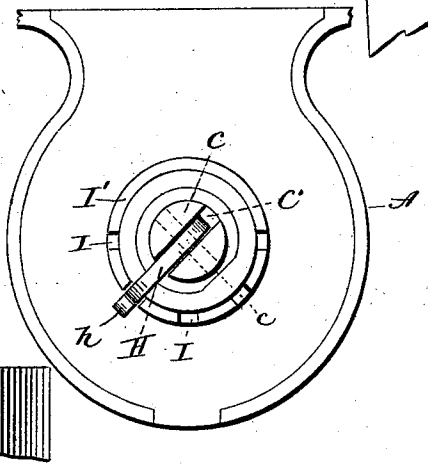
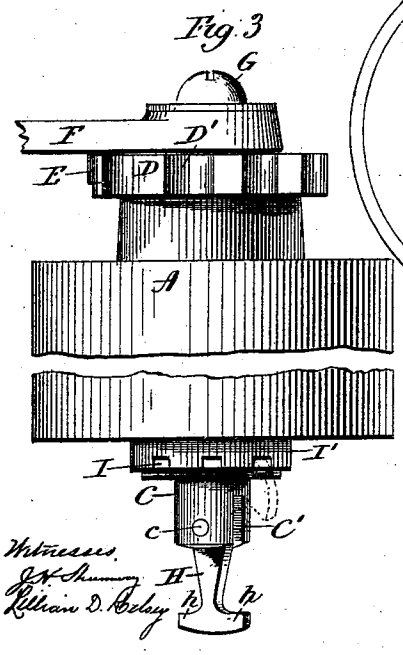


Fig. 3



Witnesses.
J. F. Shumway
Lillian D. Belay

Albert A. Page
Inventor.
By attys. Earle & Seymour

UNITED STATES PATENT OFFICE.

ALBERT A. PAGE, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE SARGENT & COMPANY, OF SAME PLACE.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 478,355, dated July 5, 1892.

Application filed January 6, 1892. Serial No. 417,137. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. PAGE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Door-Springs; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a plan view of a door-spring constructed in accordance with my invention with the lever coupled with the clutch-collar; Fig. 2, a corresponding view with the lever uncoupled from the collar; Fig. 3, a view of the device in side elevation; Fig. 4, a reverse plan view of the same.

My invention relates to an improvement in door-springs, the object being to produce a simple, cheap, efficient, and durable device adapted to be readily adjusted for changing the tension of its spring.

With these ends in view my invention consists in the combination, with a case, coiled spring, and spring-shaft, of a clutch-collar rigidly attached to a projecting end of the said shaft and having a series of peripheral retaining-notches formed in it, a lever bearing upon the upper face of the said collar and loosely connected with the said shaft through an elongated slot formed in its extreme inner end, a clutch-pin mounted in the lever in position to be entered into the said notches of the collar, and a stop for locking the shaft against rotation.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the box or case A, which may be of any approved construction, is furnished with a foot or flange A′, by means of which it is secured in place. It contains a reversible spring B, having its outer end connected with it and its inner end attached to a shaft C, the opposite ends whereof are journaled in the opposite sides of the case A, the said spring being reversible to adapt the device to be used on doors opening either to the right or to the left. A clutch-collar D, rigidly attached to one of the projecting ends of the said shaft, is constructed with a circular series of retaining-notches D′, which receive a rigid clutch-pin E, depending from the lower face of the lever F, the extreme inner end whereof is constructed with an elongated slot F′, through which it is loosely connected by means of a screw G with the said end of the shaft, whereby the lever is longitudinally movable with reference thereto, so as to permit its clutch-pin E to be entered into or withdrawn from any one of the retaining-notches D′ in the clutch-collar D. The opposite end of the shaft C also projects out of the case and is constructed with a transverse slot C′, in which is pivoted on a pin *c* a stop-dog H, having two oppositely-projecting lugs *h h* formed upon its end for engagement with a circular series of notches I, formed in a hub I′, located upon the adjacent face of the case A. I do not, however, limit myself to the use of the particular stop described in connection with the coupling device first set forth.

When it is desired to wind the spring, for instance, the lever F is moved longitudinally toward the clutch-collar and the clutch-pin E entered into one of the notches thereof, after which the collar and hence the shaft C, is turned by means of the lever as much as it is convenient to turn the same. This point being reached, the other hand is employed to engage one of the lugs of the pivotal stop-dog H with the nearest notch I in the hub I′, the said stop-dog being held up by hand into its operative position until the tension of the spring has developed sufficient friction between it and one of the walls of the notch into which its lug has been entered to hold it in place. After this the lever F is pulled outward to disengage its clutch-pin from the retaining-notch into which it was first entered, and it is swept around over the collar and engaged with another notch therein by a corresponding inward movement, and the collar is turned again, and so on. The same operation is repeated for winding the spring in the other direction or for letting the spring down in tension.

I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at lib-

erty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

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

1. In a door-spring, the combination, with a case, coiled spring, and spring-shaft, of a clutch-collar rigidly attached to a projecting end of the said shaft and having a series of peripheral retaining-notches formed in it, a lever bearing upon the upper face of the said collar and loosely connected with the said shaft through an elongated slot formed in its extreme inner end, a clutch-pin mounted in the lever in position to be entered into the said notches of the collar, and a stop for locking the shaft against rotation, substantially as described.

2. In a door-spring, the combination, with a case, coiled spring, and spring-shaft, of a clutch-collar rigidly attached to a projecting end of the said shaft and having a series of peripheral retaining-notches formed in it, a lever bearing upon the upper face of the said collar and loosely connected with the said shaft through an elongated slot formed in its extreme inner end, a clutch-pin mounted in the lever in position to be entered into the said notches of the collar, a double stop pivotally mounted in the opposite end of the shaft, and a circular series of retaining-points located upon the adjacent face of the said case for engagement by the said double stop, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT A. PAGE.

Witnesses:
H. H. WEST,
J. F. GILLETTE.