

(No Model.)

G. W. WRIGHT.
DOOR SPRING.

No. 478,387.

Patented July 5, 1892.

Fig 1

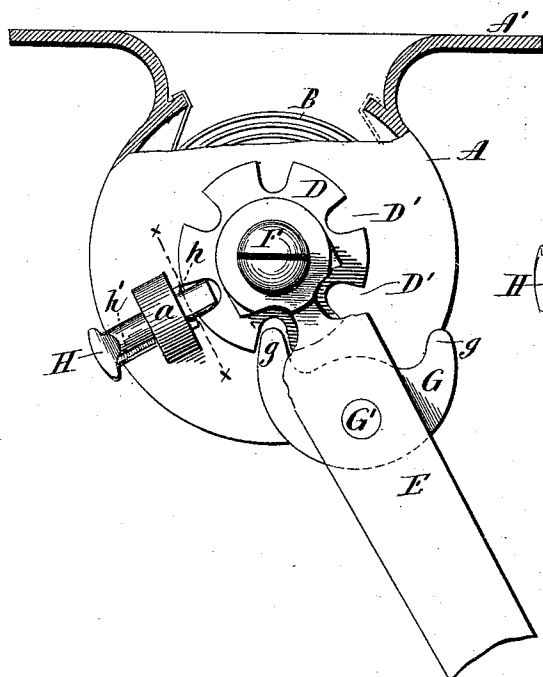


Fig 2

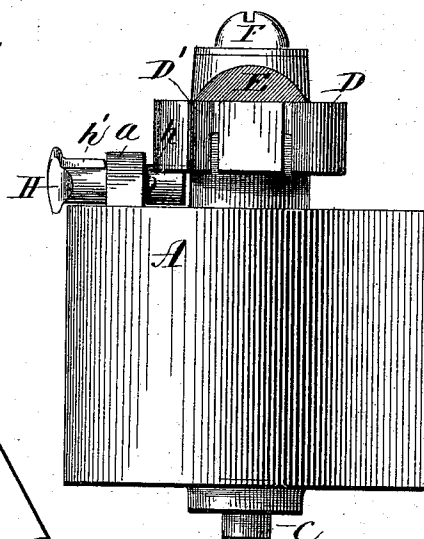
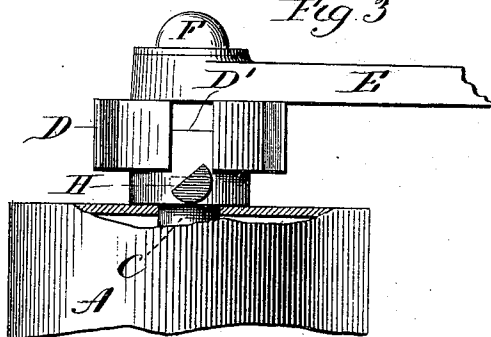


Fig 3



Witnesses.
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Inventor.
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UNITED STATES PATENT OFFICE.

GRANVILLE W. WRIGHT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO
THE SARGENT & COMPANY, OF SAME PLACE.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 478,387, dated July 5, 1892.

Application filed January 6, 1892. Serial No. 417,144. (No model.)

To all whom it may concern:

Be it known that I, GRANVILLE W. WRIGHT, 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 broken plan view of a door-spring constructed in accordance with my invention; Fig. 2, a view thereof in side elevation with the lever broken away; and Fig. 3, a view partly in side elevation and partly in section on line *xx* of Fig. 1 to show the stop-key in one of its operative positions.

My invention relates to an improvement in door-springs, the object being to produce a device having simple, strong, effective, and conveniently-operated means for adjusting the tension of its spring.

With these ends in view my invention consists in a device having certain details of construction and combinations of parts, as will be hereinafter described, and recited in the claim.

As herein shown, the box or case A, which may be of any desired construction, is furnished with a foot or flange A' for securing it in place. A coiled spring located within the box is connected at its outer end therewith, as shown in Fig. 1 of the drawings, and at its inner end with the spring-shaft C. This spring is reversible within the box or case to adapt the device to be used for doors swinging in either direction. When reversed, its hooked outer end is engaged with the opposite edge of the case, as shown by broken lines in the right-hand side of Fig. 1 of the drawings. A clutch-collar D, having a circular series of peripheral notches D' formed in it, is rigidly attached to a projecting end of the said spring-shaft. A lever E, loosely connected with the said shaft by means of a screw F and at its inner end bearing upon the outer face of the collar D, is furnished with a double clutch G, hung on a depending stud G' and constructed with two corresponding clutch-fingers *g g*, adapted to be entered

into the retaining-notches D' of the collar D by manually swinging the said clutch on its stud in one direction or the other, according to the way in which it is desired to rotate the collar and shaft, that depending on the way in which the spring is to be wound. I do not, however, limit myself to this particular construction of clutch for co-operation with the collar D, as other forms of clutches may be used in its place.

My present invention relates particularly to the stop-key H, employed for locking the clutch-collar D, and hence the shaft C, against rotation under the action of the spring B when in adjusting the tension of the spring the clutch G is uncoupled from the collar. The said stop-key H is mounted for limited axial rotation upon the adjacent face of the case in a horizontally-perforated lug *a*, formed thereupon, the inner end of the pin extending radially under the collar and being flattened, as plainly shown by Fig. 3 of the drawings, while its outer end projects beyond the periphery of the case and is flattened or otherwise constructed for convenient manual engagement. The key is prevented from end-wise movement by a pin *h*, extending transversely through it and engaging with the inner face of the lug, and by two longitudinal ribs *h' h'*, located opposite each other, formed upon its outer end, and at their inner ends engaging with the outer face of the said lug. These ribs limit the axial rotation of the key. Normally the key stands with the plane of its flattened inner end parallel with the plane of the collar. When, however, the key is rotated in either direction, one of its inner edges will be lifted, as indicated by Fig. 3 of the drawings, into the path in which the collar rotates and into position to enter one of the notches D' and obstruct the rotation of the clutch-collar D, the key being turned in one direction or the other, according to the way in which the spring is wound. If, for instance, it is desired to wind the spring one of the fingers *g* of the clutch G is manually thrown into one of the notches D' of the collar D. The lever is then moved to rotate the collar and wind the spring as far as it is convenient to move the lever. The notch nearest the inner end of the key is then brought into

alignment therewith and the key turned by the other hand into one of its operative positions. The clutch G is now engaged with another notch in the collar and the same rotated in the same direction again, the key being automatically turned back to its normal position by the engagement with its flat upper face of the opposite wall of the same notch into which it was turned.

10 The operation of the device will be the same for winding the spring in the opposite direction, and also for letting down the spring when wound in either direction.

I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

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

In a door-spring, the combination, with a

case, a coiled spring, and a spring-shaft, of a clutch-collar rigidly attached to one end of the shaft and provided with a circular series of peripheral notches, a lever loosely connected with the shaft and bearing upon the outer face of the said collar, a clutch carried by the lever for engagement with the notches of the said collar, and a stop-key mounted for limited axial rotation upon the adjacent face of the case and having its inner end extended radially under the collar and flattened and its outer end constructed for manual engagement, substantially as set forth, and whereby when the key is turned in either direction one of the edges of its inner end will be lifted into the path in which the collar rotates.

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

GRANVILLE W. WRIGHT.

Witnesses:

WM. S. COOKE,

C. P. BEEBE.