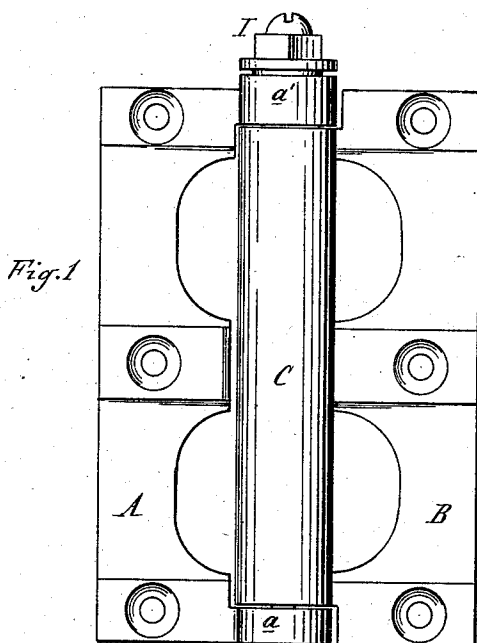
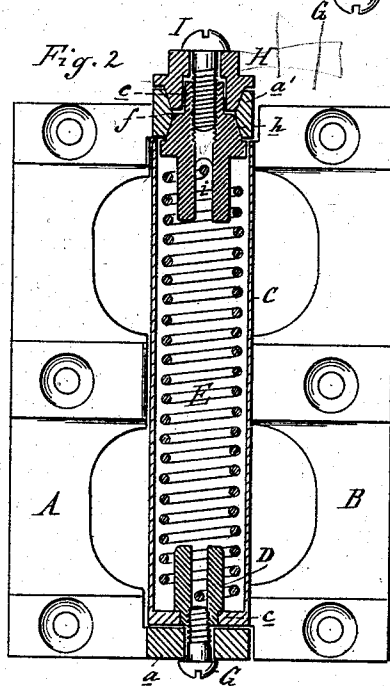
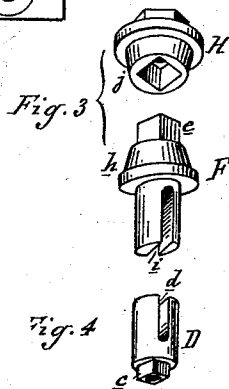
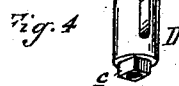


(No Model.)

A. WORDEN.
Spring Hinge.

No. 241,468.

Patented May 10, 1881.



Attest:
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UNITED STATES PATENT OFFICE.

ALVA WORDEN, OF YPSILANTI, MICHIGAN.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 241,468, dated May 10, 1881.

Application filed March 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALVA WORDEN, of Ypsilanti, Washtenaw county, Michigan, have invented an Improvement in Butt-Hinges, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of spring butt-hinges, which can be adjusted so as to automatically close the door to which they may be attached, or to perform the function of an ordinary hinge, as desired.

The invention consists in the peculiar construction, arrangement, and combinations of the various parts, all as more fully hereinafter set forth.

Figure 1 is an elevation of my improved hinge. Fig. 2 is a central sectional elevation. Figs. 3 and 4 are details of construction.

In the accompanying drawings, which form a part of this specification, A represents the female and B the male leaves of my improved hinge, the former being provided with the ears *a a'* and the latter with a cylindrical barrel or case, C. The lower end of the barrel C is provided with a head, *e*, which is perforated to receive the squared end of the pintle D. (See Fig. 4.) The inner portion of this pintle is cylindrical in form, and provided with a vertical slot, *d*, to receive the lower end of the coil-spring E. The upper ear, *a'*, of the leaf A is perforated with an opening, *f*, such opening being conical in shape from each end, as shown.

F represents the upper pintle, which is provided upon its outer end with a squared head, *e*, a conical enlargement, *h*, about the center of its length, and a slotted cylindrical portion, *i*. This pintle F is inserted in the upper end of the barrel C, the slot *i* embracing the inwardly-turned end of the spring E, said spring being inclosed within the barrel. The cone *h* of the pintle enters the inner conical opening in the upper ear, *a'*, the squared head protruding through. The expansive force of the spring is sufficient to compel the engagement of parts at that point, while the lower pintle, D, and the wings A B are held to their relative positions by means of a screw, G, which passes through the lower ear, *a*, and is tapped into

the squared end of the lower pintle, serving as a pivot.

H is a friction-nut, provided upon its inner end with a cone, *j*, while its outer end is squared or otherwise formed in order that it may be turned by a proper wrench. This nut H is centrally perforated, such perforation through the cone *j* being enlarged and squared, so as to slip over the squared head *e* of the pintle F, such pintle and nut being retained in their proper and adjusted positions by means of a screw, I, which passes through the nut and is tapped into the outer end of the pintle, as is clearly shown in Fig. 2.

In practice, the parts being constructed and arranged substantially as set forth, when it is desired to regulate or adjust the spring, so that it will keep the door closed, I loosen the screw I a trifle, which will allow the nut H to be easily turned by means of a proper wrench. By then turning the nut in the contrary direction to which the door closes the pintle F is likewise turned in the same direction, which causes a torsional strain to be exerted upon the spring, after which the screw I is screwed in, which draws the nut H and pintle F toward each other, firmly holding their respective cones to place. The door, now being opened, exerts an additional and greater torsional strain upon the spring, the reaction of which, the door being released, will cause said door to close. By loosening the screw I the spring will resume its normal condition, when the hinge will perform the function of butt-hinges as ordinarily constructed.

What I claim as my invention is—

A spring butt-hinge consisting of the leaves A B, ears *a a'*, barrel C, pintles D F, spring E, nut H, and screws G I, the pintle F and nut H having conical surfaces *h j* to correspond with the double-inclined inner surface of the ear *a'*, substantially as and for the purposes set forth.

ALVA WORDEN.

Witnesses:

H. S. SPRAGUE,
E. W. ANDREWS.