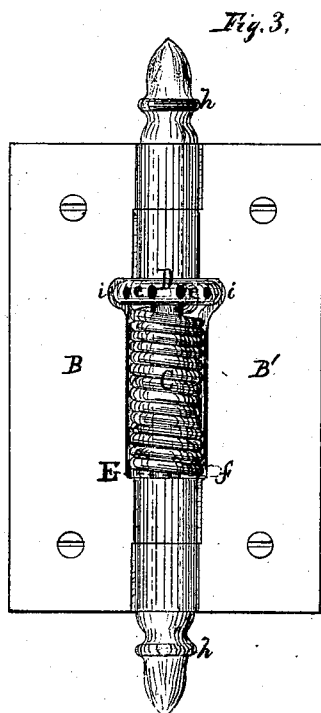
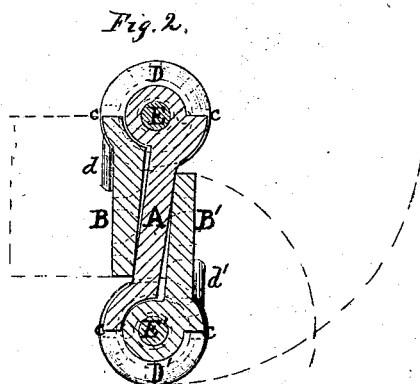
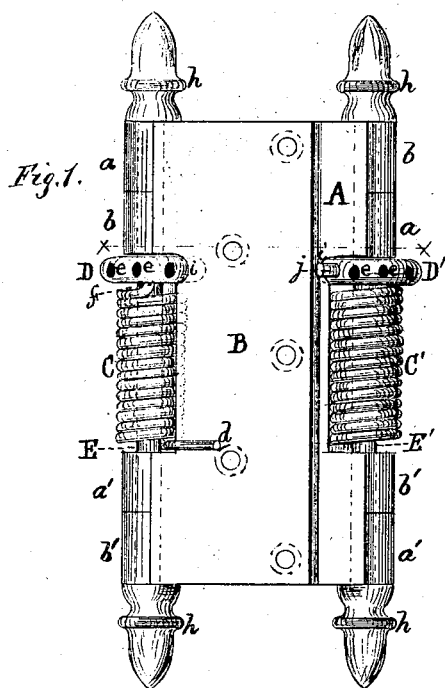


W. WELLS.
SPRING HINGE.

No. 109,855.

Patented Dec. 6, 1870.



Witnesses:

R. A. Whittier
H. S. Miller

Inventor.

Wm Wells
by Geo. W. Rothwell
att'y

United States Patent Office.

WILLIAM WELLS, OF CLEVELAND, ASSIGNOR TO HIMSELF AND JOHN WRIGLESWORTH, OF MENTOR, OHIO.

Letters Patent No. 109,855, dated December 6, 1870.

IMPROVEMENT IN SPRING HINGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM WELLS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful improved Spring Hinge; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable those skilled in the art to which my invention appertains to fully understand and to make and use the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 is a side view of a double hinge constructed according to my invention;

Figure 2 is a transverse section thereof, taken in the line *x x*, fig. 1; and

Figure 3 is a front view of an open single hinge, constructed on the same principle as that shown in figs. 1 and 2.

Similar letters of reference indicate like parts in the several figures.

My invention consists in the peculiar construction and arrangement of parts, as hereinafter fully described and claimed, whereby a much improved and very superior hinge is produced.

Referring to the drawing—

A, figs. 1 and 2, represents the central portion or leaf; and

B B', the side leaves of a double hinge.

The peculiarity in the construction of these leaves A B B' consists in casting each leaf with a tubular portion or eye near each end, as clearly shown in fig. 1, whereby an open space is left between said eyes.

a a' represent the eyes of the central portion A; and

b b', those cast with the leaves B B'.

c c are shoulders cast on the leaves to form stops.

The adjacent edges of the leaves are rounded or beveled to fit closely to the eyes and to make room for the springs, and are recessed at *i i* for the accommodation of the regulating collars.

C C' represent spiral springs, which occupy the spaces between the eyes *a b'* and *b a'*; one end, *d d'*, of each spring bearing on one of the leaves B B', while the other ends are fitted into recesses in the under side of tension-regulators.

D D' represent these regulators, which consist of annular blocks or collars, provided with radial openings, *e e*, and a recess in the under side for the reception of the end *f* of the spring, as just described.

E E' are the pintles which pass through the eyes of the leaves, and also through the regulating-collars and the springs, and are provided at one or both ends with

screw-nuts, *h h*, so that the pintles are made detachable.

To regulate the tension of the springs, the collars D D' are turned by means of a rod inserted in one of the holes *e*, or by any other suitable means, until the required tension is obtained, and then a short pin, *j*, is placed in one of the radial holes *e* in the collar so that its projecting portion shall bear against the central leaf or portion A of the hinge.

The rod which is used in adjusting the regulator may be kept in a cavity formed in one of the screw ends of the pintles.

In applying my hinge, one of the leaves, with one spring and regulator, and the central portion A attached, is secured to the frame, and the other leaf is screwed to the door. Now, bringing the parts together, the other spring and regulator are placed in position, and the remaining pintle inserted, after which the tension of the springs is regulated, as desired.

The eyes of the leaves B B' of the single hinge, fig. 3, alternate as in the double hinge. The pintle, spring, and regulator are the same, the pin inserted in the latter bearing against one leaf, B, while the end *f* of the spring rests on the other leaf.

By thus arranging the spring and regulator around the pintle between the eyes of the hinge, I dispense with all difficult and unsightly castings, and produce a hinge on which the tension can be regulated with certainty and facility, the hinge at the same time presenting a correct and symmetrical appearance.

Another advantage resulting from this construction and arrangement is the increased strength of the leaves, being hung on the pintles by eyes located at or near the ends. Also, by the central arrangement of the spring its strength is exerted on the leaves at or near the most effectual point.

I do not claim the provision of the pintle with screw-caps or ends; neither do I claim the spring and regulator as new in themselves; but

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The combination, in a single or double spring hinge, of the unclosed spring C, loose adjustable regulating-collar D, pintle E *h*, and the leaves, all constructed and arranged substantially as herein described.

WILLIAM WELLS.

Witnesses:

D. L. WOOD,
M. GALLAGHER.