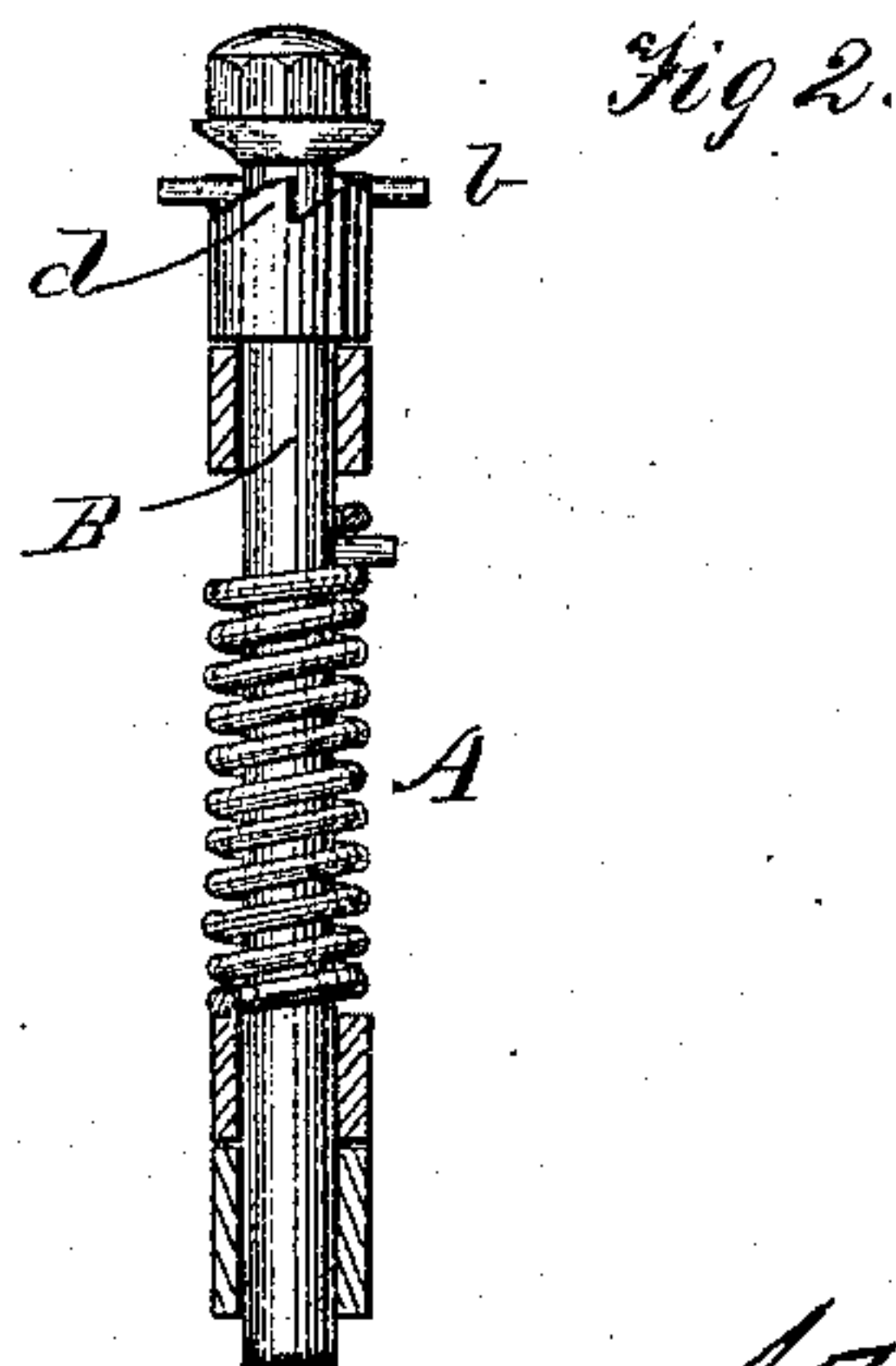
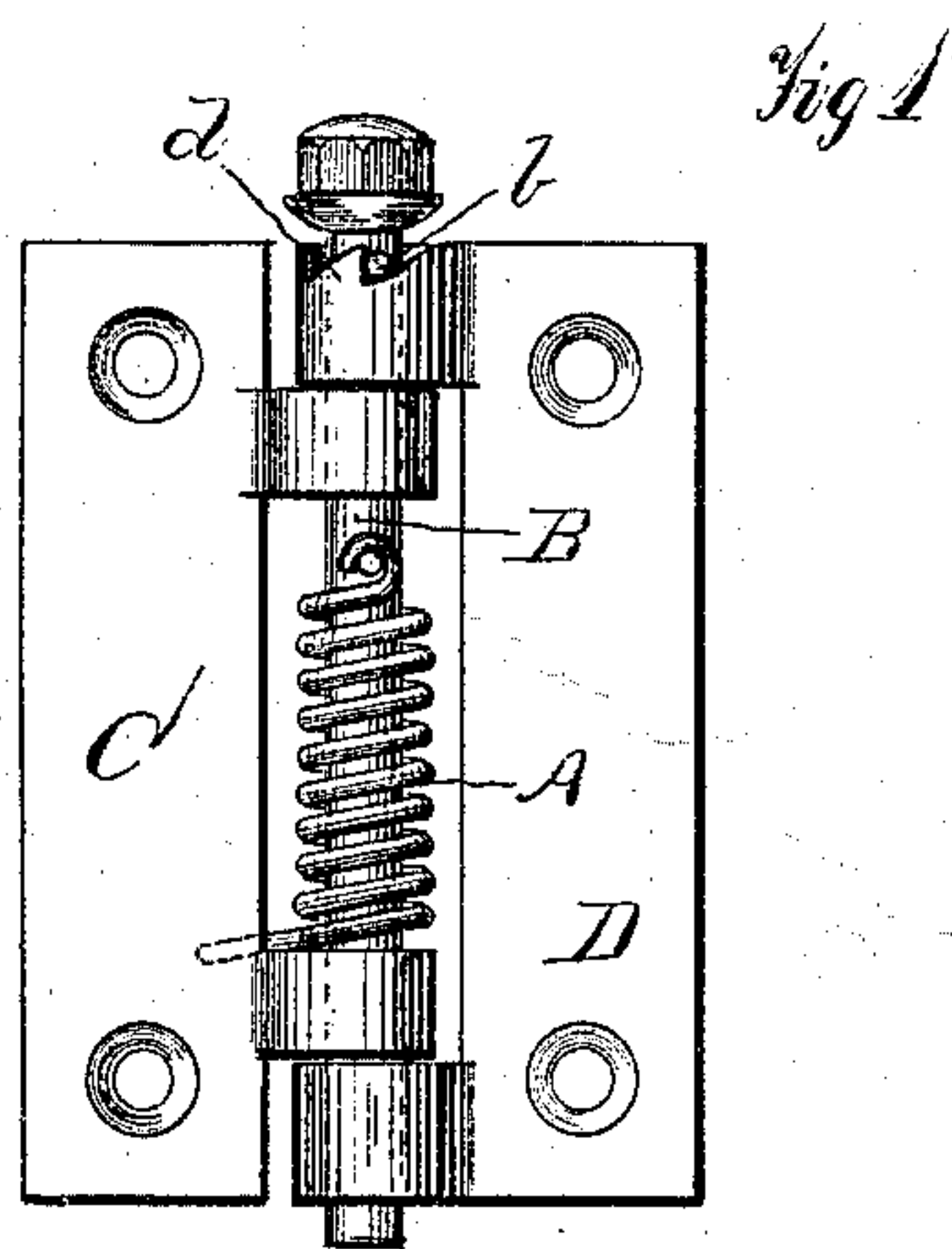


J. PALMER.
Spring Hinges.

No. 137,951.

Patented April 15, 1873.



Witnesses.

N. Bradford
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John Palmer
Inventor.

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Atty.

UNITED STATES PATENT OFFICE.

JOHN PALMER, OF CINCINNATI, OHIO.

IMPROVEMENT IN SPRING-HINGES.

Specification forming part of Letters Patent No. **137,951**, dated April 15, 1873; application filed September 24, 1872.

To all whom it may concern:

Be it known that I, JOHN PALMER, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain Improvement in Spring-Hinges, of which the following is a specification:

This invention relates to that class of spring-hinges in which a spiral spring encircles the pintle of the hinge, being fastened at one end to one of the leaves and at the other end to the pintle, which is in turn fixed to the other leaf of the hinge. My improvement, intended to provide for the adjustability of the tension or power of the spring, consists in connecting the pintle and the leaf, to which it is adjustably fixed by means of a laterally-projecting stud on the former and a ratchet upon the edge of one of the knuckles of the latter, so that by simply turning the pintle the power of the spring may be regulated to adapt it for use on doors of different sizes and weight; the spring being also held under a slight longitudinal tension for holding the stud and ratchet locked together.

Figure 1 is an elevation of my improved spring-hinge, the leaves being shown as held unfolded. Fig. 2 is a sectional elevation thereof.

The same letters of reference are used in both figures in the designation of identical parts.

The spring A encircles the pintle B between the respective knuckles of the leaves C and D, one of its ends being fastened or bearing against the face of the leaf C, while its other end is suitably connected to the pintle. One of the knuckles of the leaf D has ratchet-teeth *d* formed upon its exterior edge, and the pintle is provided with a laterally-projecting stud, *b*, which engages with the ratchet-teeth, the spring being so arranged that its tendency will be to turn the pintle in

a direction which shall cause its stud *b* to bear against the vertical edge of such teeth. Above this stud the pintle is constructed with an angular head for convenience in turning it when the power of the spring is to be changed; for this purpose other means may be adopted. The spring is also held under a sufficient longitudinal tension to cause the automatic locking of the stud and ratchet. To increase the power of the spring it is only necessary to turn the pintle so as to cause its stud to ride up and over the inclined edges of the ratchet-teeth; to decrease its power the pintle must be slightly lifted before it can be turned back, as required.

It is proper to state here that in a prior application for Letters Patent for a gate and door spring I have shown and claimed a spiral spring fastened at one end to a bolt having its bearings in a socket with ratchet-teeth upon one edge which engage the flat head of the bolt automatically, by turning which bolt the tension of the spring can be regulated. Therefore I broadly disclaim here these means for regulating the tension of a spring. My invention lies in converting a common hinge into a spring-hinge containing the above principle of adjusting the tension of the spring.

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

The combination, in a spring-hinge, of the spring A, pintle B, stud *b* thereon, and ratchet-teeth *d* on one of the knuckles, to which the pintle is adjustably fastened, substantially as and for the purpose specified.

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

JOHN PALMER.

Witnesses:

D. P. HOLLOWAY,
B. EDW. J. EILS.