(Model.)

F. W. BROCKSIEPER.

Spring Hinge.

No. 237,476. Patented Feb. 8, 1881.

Fig. 1

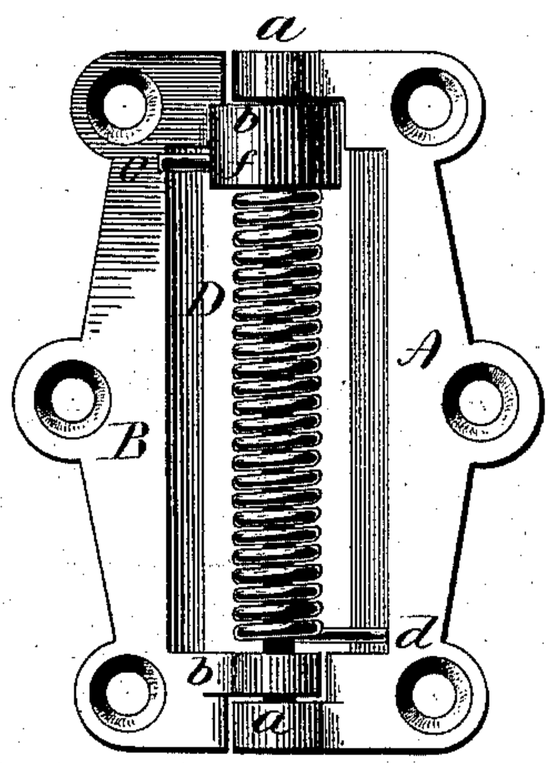
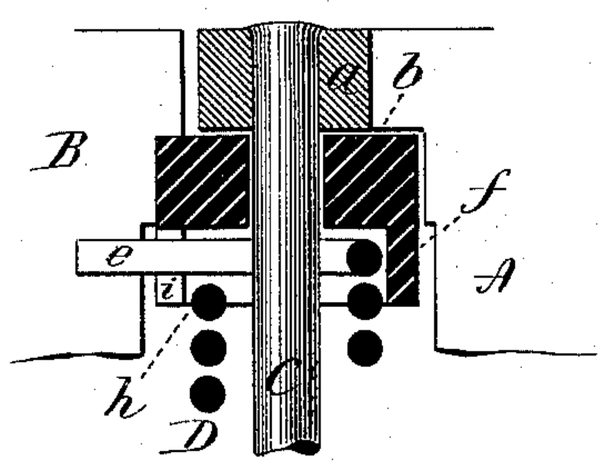


Fig. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDRICH W. BROCKSIEPER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & CO., OF SAME PLACE.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 237,476, dated February 8, 1881.

Application filed November 26, 1880. (Model.)

To all whom it may concern:

Be it known that I, FREDRICH W. BROCKSIEPER, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Spring-Hinges; and I do hereby declare the following, when taken in connection with the 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 face view with the hinge open; Fig. 2, a transverse section with one end enlarged.

This invention relates to an improvement in that class of spring-hinges in which a coiled-wire spring is arranged around the pintle between the knuckles, so that one end of the spring bears upon one leaf of the hinge, and the other end upon the other leaf, operating to force the leaves from each other, so as to serve to close the door or whatever it may be upon which the hinge may be placed.

If the pintle be in a single piece through the spring, it necessarily turns with one part or the other of the hinge, and as one end of the spring turns with one part of the hinge and the other with the other part, it follows that unless protected in some way the wire of the spring in turning comes in contact with the pintle at one end or the other, and under so great force or pressure that the spring is rapidly worn away and correspondingly weakened, if not eventually destroyed. Various devices have been resorted to to prevent the contact of the spring with the pintle. In sheet-metal hinges this is an easy thing to do, because the knuckle can be formed with that object in view; but in cast-metal hinges it is more difficult.

The object of this invention is to overcome this difficulty, and with special reference to cast-metal hinges; and it consists in the construction as hereinafter described, and particularly recited in the claim.

A is the one part, and B the other part, of the hinge, each provided, respectively, with its knuckles *a b*, through which a pintle, C, extends, in the usual manner, and secured in the extreme knuckle *a*, and so as to turn with that part A of the hinge. Around the pintle a spiral spring, D, is arranged, in the usual manner, its one end, *d*, bearing upon the part or leaf A, the other end, *e*, bearing upon the other leaf, B.

Because the pintle turns with the part A, it follows that at the end *d* the coils of the spring will turn with the pintle and part A; but at the other end I form a cup on the knuckle *b* of the other part, B, by constructing it with a flange, *f*, or its equivalent, concentric with the pintle, and so as to form a cavity, *h*, upon the inside of the knuckle *b*, as seen in Fig. 2, the internal diameter of the flange *f* being substantially that of the external diameter of the spring D, and so that the spring will set within the flange and fit closely therein. The internal diameter of the spring being, as usual, considerably larger than the pintle, leaves a space entirely around the pintle between it and the spring. Because the flange is concentric with the pintle, and the spring also held concentric, it is impossible that the spring can come in contact with the pintle at that end, because the flange prevents its being forced over on the opposite side, and consequently no abrasion can occur between the spring and pintle.

A notch or opening, *i*, is made in the flange *f*, through which the end *e* of the spring will extend. This flange may be formed in casting the hinge, and hence adding comparatively nothing to the cost of manufacture, but positively guards the spring from contact with the pintle, and accomplishes the object of the invention.

I claim—

A spring-hinge consisting of the parts A B, with the pintle extending through the knuckles of the two parts, a spiral spring arranged around the pintle, between the knuckles, one end bearing upon one part and the other upon the other part, combined with a flange, *f*, on the knuckle of one part, concentric with the pintle, and so as to form a recess within which the spiral spring will rest, and be held in a position concentric to the pintle and away from contact therewith, substantially as and for the purpose described.

FREDRICH W. BROCKSIEPER.

Witnesses:

GEO. M. VAN DEWATER,

F. H. AUSTIN.