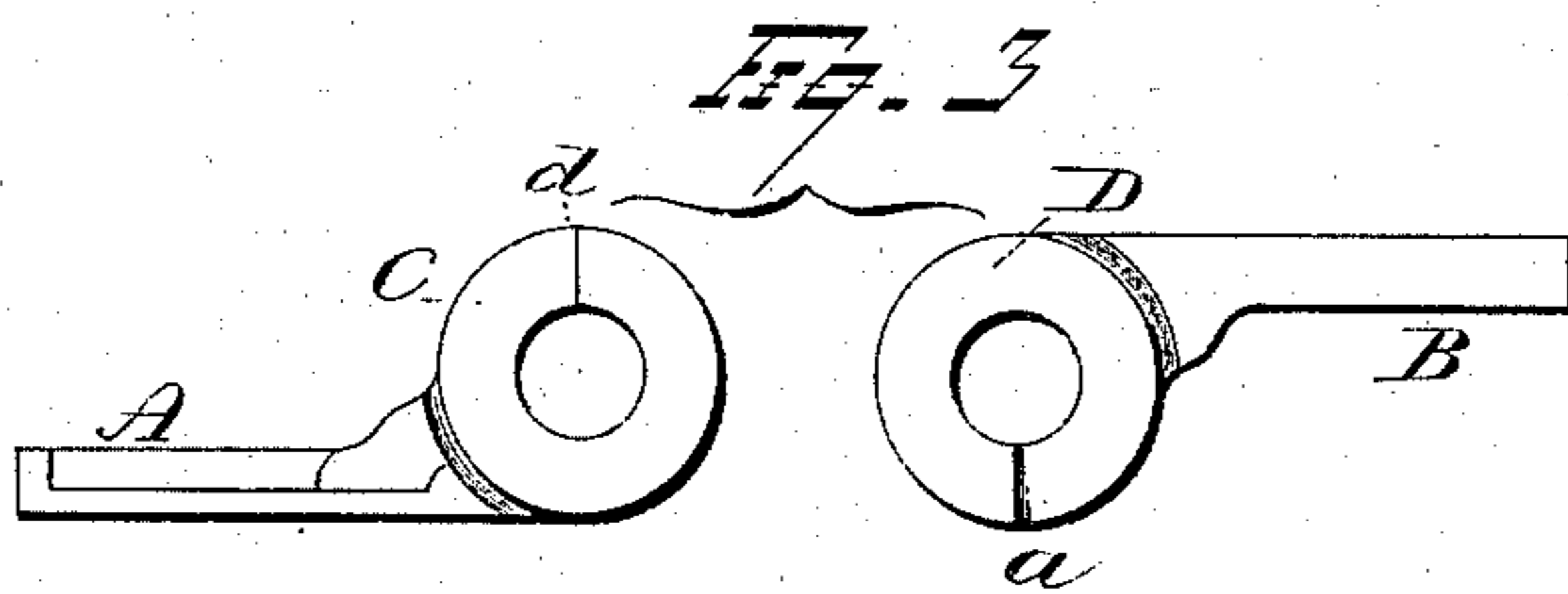
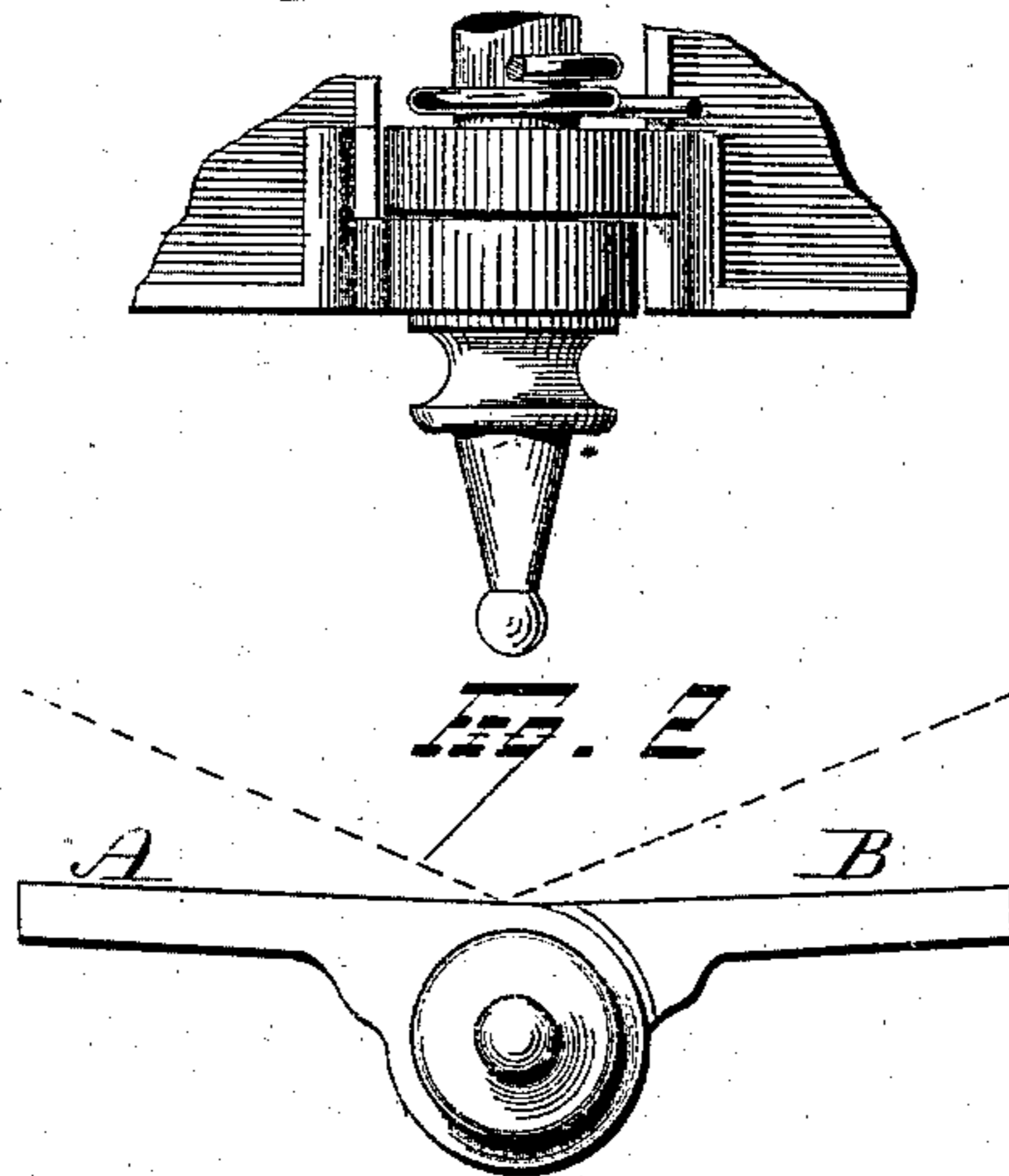
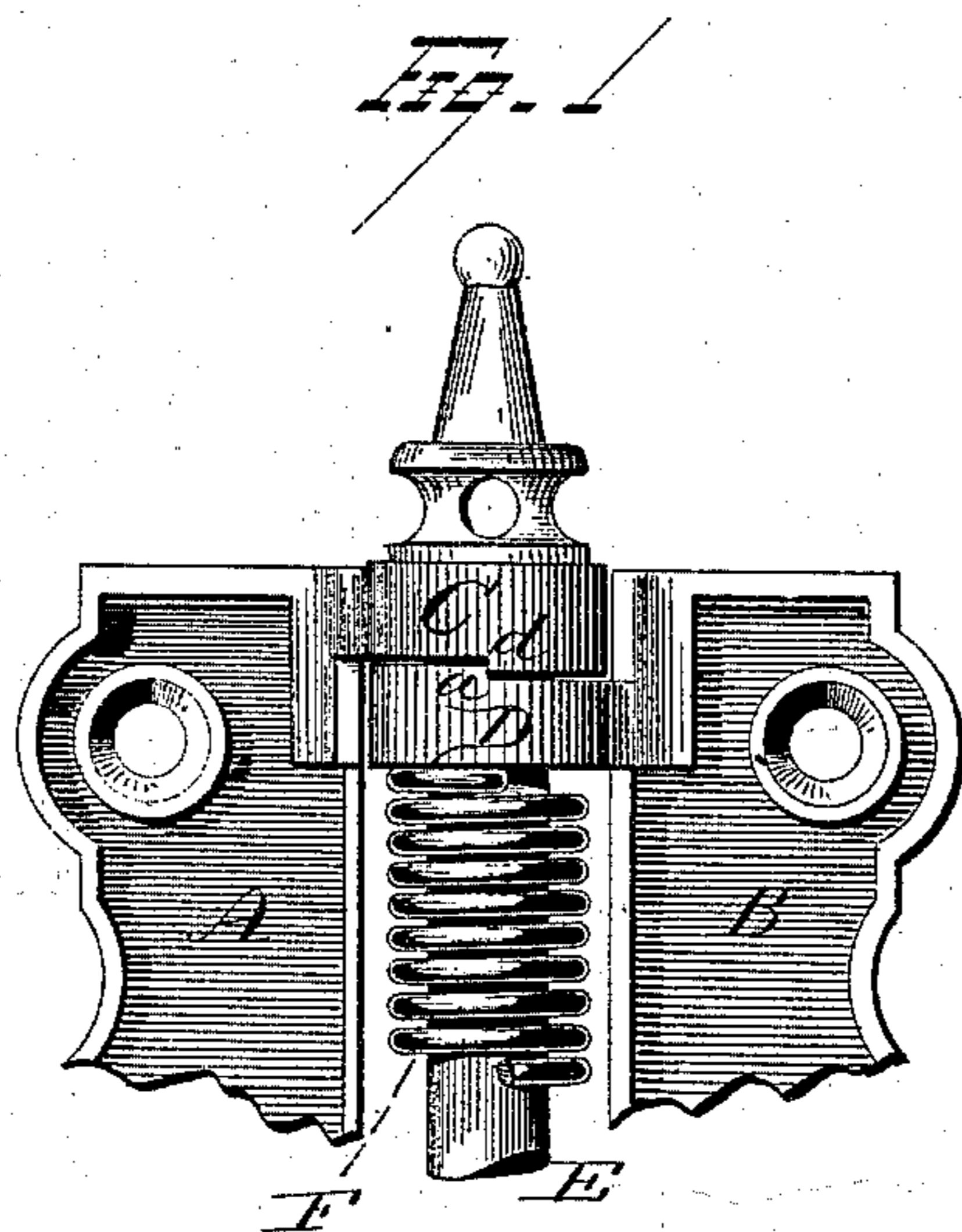


(No Model.)

A. B. TANNER.
SPRING HINGE.

No. 271,946.

Patented Feb. 6, 1883.



Witnesses,
J. N. Chumway
J. D. Earle

Alfred B. Tanner
Inventor
J. D. Earle

UNITED STATES PATENT OFFICE.

ALFRED B. TANNER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO
SARGENT & CO., OF SAME PLACE.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 271,946, dated February 6, 1883.

Application filed November 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALFRED B. TANNER, 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 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 front view; Fig. 2, an end view; Fig. 3, a transverse section showing the meeting surfaces of the two knuckles C D.

This invention relates to an improvement in that class of spring-hinges in which a spring is arranged around the pintle between the knuckles of the hinge, one end of the spring bearing upon one leaf and the other upon the other leaf, the action of the spring being to force the two parts away from each other—that is, hold the spring in the open condition, as seen in Fig. 2.

In the usual construction of this class of hinges the spring throws the leaves to a considerable distance beyond a common plane, as indicated in broken lines, Fig. 2. The hinges are applied, one leaf on the surface of the door and the other leaf on the surface of the jamb, and so that in opening the door the leaf on the door is turned over toward the other leaf and into what might be called the “closing” position of the hinge. In applying these hinges to the door it is necessary for the workman to bring the two leaves into a flat or common plane, so as to bear alike upon the door and the jamb, and he must hold them in that condition while securing them to their respective parts. This necessitates considerable force to throw the knuckle back into the same plane with the edges of the leaf, and it is difficult to thus hold the hinge and at the same time drive the screws. This same difficulty exists in removing the hinges, as so soon as the screws are loosened the tendency of the spring is to throw the knuckle outward and bind the screws.

The object of my invention is to construct

the hinge with a stop on the knuckle itself, which will arrest the opening of the two leaves when they arrive in substantially the same plane; and the invention consists in constructing the corresponding knuckles of the two parts with an offset or shoulder on the working-surface between the two parts, which will come to a bearing when the leaves are opened into substantially the same plane, but yet permit the two parts to work the one upon the other in the turning of the leaf, substantially the same as if the stop were not present, and as more fully hereinafter described.

A represents one leaf of the hinge, and B the other leaf, the leaf A constructed with a knuckle, C, and the leaf B with a corresponding knuckle, D. At the other end each leaf is constructed with corresponding knuckles, as seen in Fig. 1, the knuckles in relation to each other so that their surfaces meet, and when the pintle E is inserted will turn the one upon the other. Around the pintle, between the knuckles, is the common helical spring F, constructed so that one end operates upon one leaf and the other upon the other leaf, in the usual manner. On the upper surface of the one knuckle, D, and within the circumference of the knuckle, I make a shoulder, *a*, and on the knuckle C, I make a corresponding shoulder, *c*, so that when forced together one will stand in the path of the other, and so as to come together when the two leaves are opened to substantially a common plane, as seen in Fig. 2. The surfaces of the two parts of the knuckle each side of their respective shoulders work together, substantially the same as if the surfaces were in the same plane throughout as in the common construction. The shoulder therefore does not increase the extent of the hinge or in any way interfere with its working, adds nothing to the cost of manufacture, and overcomes a serious difficulty existing in this common class of spring-hinges.

In some hinges the pintle and knuckles have been brought sufficiently far forward to permit the leaves to come together at the back and overcome this difficulty; but such construction necessitates throwing the knuckle and pintle

forward, and adds materially to the expense of manufacture because of the increase of metal.

I claim—

5 A spring-hinge consisting of the two leaves A B, having knuckles C D at opposite ends, with a pintle through the knuckles, combined with a spring around the pintle, between the knuckles, one end bearing upon one leaf and

the other upon the other leaf, the meeting surfaces of the knuckles C D constructed with corresponding shoulders, *a d*, substantially as described.

ALFRED B. TANNER.

Witnesses:

F. A. JACKSON,
J. B. SARGENT.