

C. FERCHLANDT.

Spring-Hinges.

No. 154,599.

Patented Sept. 1, 1874.

Fig: 1

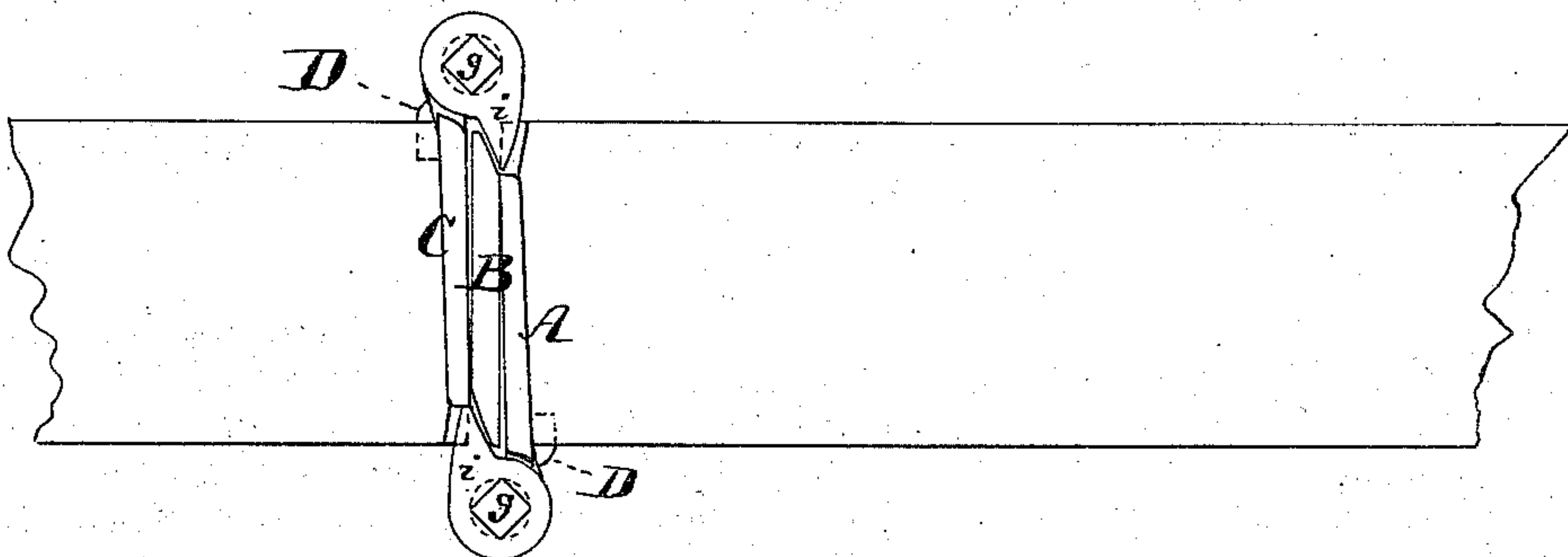


Fig: 3

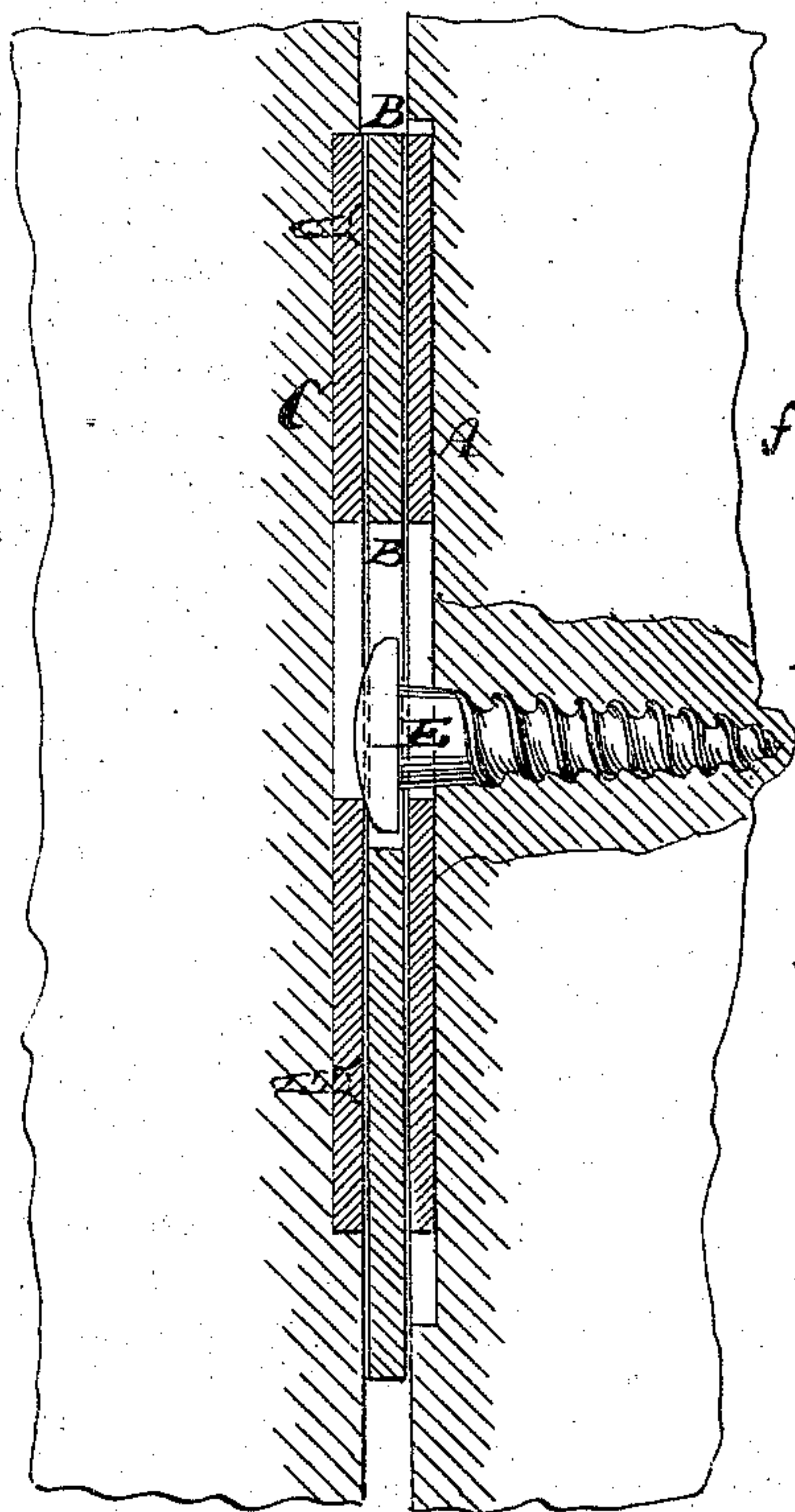
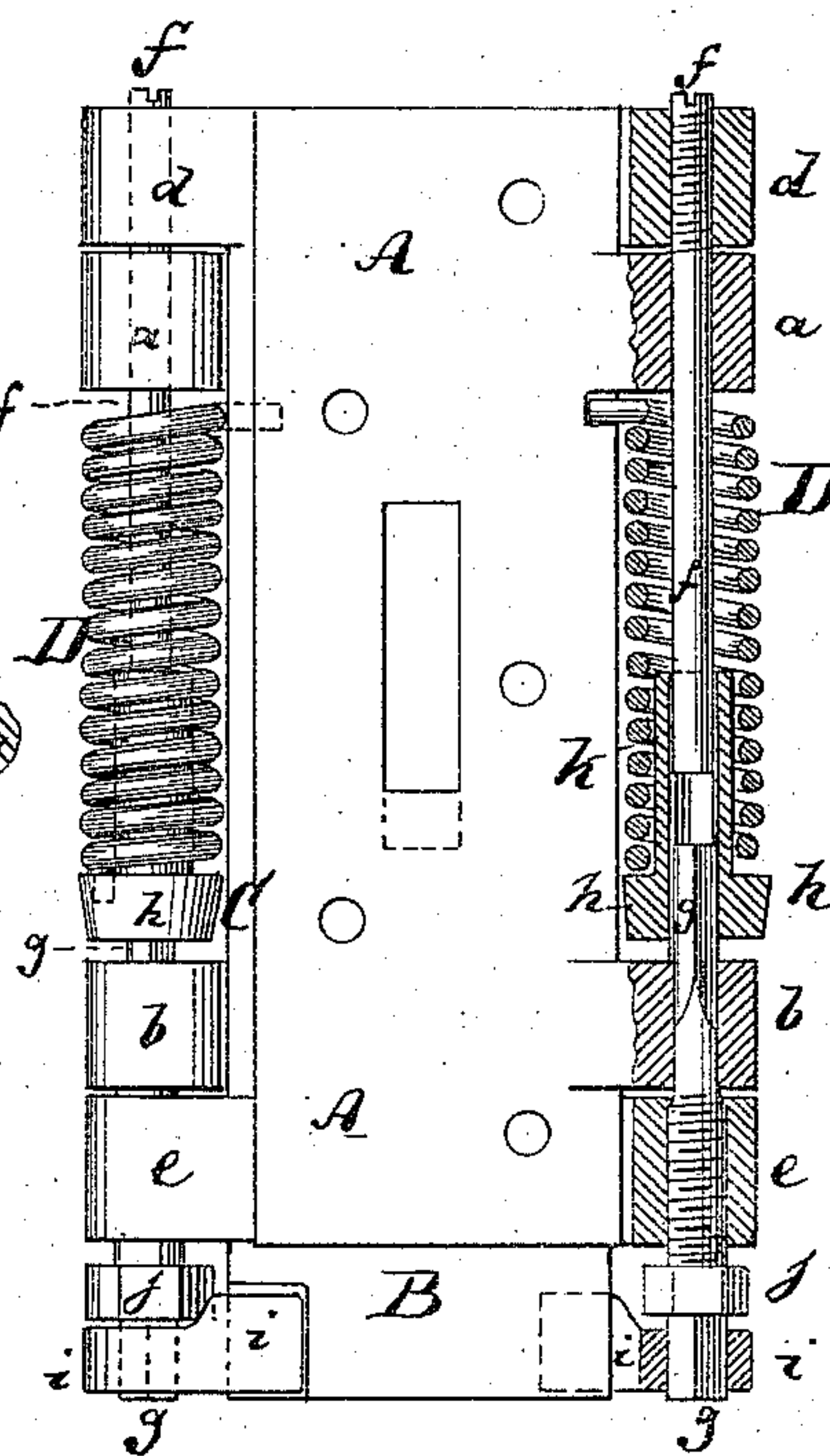


Fig: 2



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL FERCHLANDT, OF NEW YORK, N. Y.

IMPROVEMENT IN SPRING-HINGES.

Specification forming part of Letters Patent No. **154,599**, dated September 1, 1874; application filed June 1, 1874.

To all whom it may concern:

Be it known that I, CARL FERCHLANDT, of New York, in the county and State of New York, have invented a new and Improved Door-Hinge, of which the following is a specification:

This invention relates to a new combined door hinge and spring, having for its object to so arrange the spring around the hinge-pivot that its power may be readily regulated, and also to make the expense of such spring-hinge as light as possible.

The invention consists in the novel arrangement of the pintle of the hinge, it being made in two parts, so that one part, through the medium of a sleeve, which its squared end enters, to which one end of the spring is attached, is made to hold the spring, and by means of which it may be tightened or loosened at pleasure, said pintle being provided with a catch or cam arrangement, whereby it is locked in any desired position. The invention further consists in a new device for securing the hinge to a door or style by means of a hook screwed therein, on which the leaves of the hinge are hung.

In the accompanying drawing, my invention is shown to be applied to a treble hinge—i. e., a hinge made with three leaves—so that the door can be swung open to either side; but the invention is also applicable to ordinary two-leaf hinges.

Figure 1 in the drawing is an end view of a hinge having my improved spring attachment. Fig. 2 is a side view, partly in section, of the same; and Fig. 3, a vertical transverse section of the same through the middle of the hinge, to show how the door is suspended.

Similar letters of reference indicate corresponding parts in the figures.

A, B, and C are the three leaves or plates of a treble hinge, made of cast-iron or other suitable material. The leaf A is hinged to the middle leaf B in the same manner as the leaf C is hinged to said middle leaf. It is, therefore, only necessary to consider in the following one of said connections. The leaf A has, near its ends, respectively, two projecting eyes or sockets, *a b*, whose axes are in line with each other, and with the axes of two projecting eyes or sockets, *d e*, on the leaf B, that are

near the ends of the latter, respectively, as shown in Fig. 2. When the leaf A is applied to B, its eyes *a b* enter against and between the eyes *d e*. Two pins, *f* and *g*, constitute the pivot by which the leaf A is hinged to B, the pin *f* passing through the eyes *a* and *d*, and the pin *g* through the eyes *b* and *e*. The pin *f* is screwed through the eye *d*, and passes loose through *a*, so that the leaf A can freely turn on said pin. The pin *g* is screwed through the eye *e*, and passes loosely through *b*, so that thus the leaf A can readily turn on both said pins *f g* as though they were one. The eyes *d* and *e* are, of course, provided with female screw-threads to receive and hold the threaded portions of the pins *f g*, respectively. D is the spring by means of which the door is to be held shut. It is an ordinary coiled spring, of which one end is soldered or otherwise securely fastened to a sleeve, *h*. This sleeve is tubular, and has part of its bore cylindrical to receive the round inner end of the pin *f*, and the other part squared to receive the square inner end of the pin *g*, as is clearly shown in Fig. 2. The free end of the spring D is bent and laid against the leaf A, near the eye *a*. When the door—i. e., the leaf A—is swung open, it carries the free end of the spring around with it, and twists and contracts the spring, whose other end is immovable on the square pin *g*. The spring has, therefore, the constant tendency to keep the door shut. In order to permit an adjustment of the power of the spring with respect to the weight of the door, &c., and to prevent the pin *g* from turning in the eye *e* during the opening of the door, I place a detachable pawl, *i*, over the squared outer end of the pin *g*, said pawl bearing with its back against the face of the leaf B, as shown in Fig. 1. When it is desired to increase or reduce the power of the spring a suitable wrench is applied to a head, *j*, of the pin *g*, and the pin *g* thereby slightly turned to bring the pawl off the plate B. The pawl is then withdrawn, the pin *g* turned in the requisite direction, and the pawl then replaced to lock said pin, and with it the spring, in the new position, it being evident that the spring was more or less contracted or unwound by the turning of the pin *g*.

For applying a door to a treble hinge of the

kind shown in the drawing, I prefer to make use of a hook, E, which is screwed into the door or style, and whose head is then passed, through a slot in the leaf A or C, into a slot in the leaf B. In order to admit the head of the hook E the slot in the leaf B must be longer than in A or C, so that the shank of said hook may bear against the end of the slot in A or C, as is clearly shown in Fig. 3. The door will then be firmly connected to the hinge and style by means of said hook E, but can be readily taken off by raising it slightly until the head of E will come in line with the slot in A or C, and then drawing said head through such slot in A or C. This mode of hanging the door to the hinge or style is much more convenient than the ordinary method of securing both leaves of the hinge by means of countersunk screws.

I claim—

1. In a spring-hinge, the combination of the exposed spring D and pintles *f* and *g* with the sleeve *h* and pawl *i*, to hold pintle *g*, for the purpose of regulating the force of the spring and locking it in any desired position, substantially as and for the purpose hereinbefore described and set forth.

2. The treble hinge A B C, having slots through the three leaves, the slot in the middle leaf B being longer than the other two slots, for suspending the door from a hook, E, substantially as specified.

The above description of my invention signed by me this 29th day of May, 1874.

CARL FERCHLANDT.

Witnesses:

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