

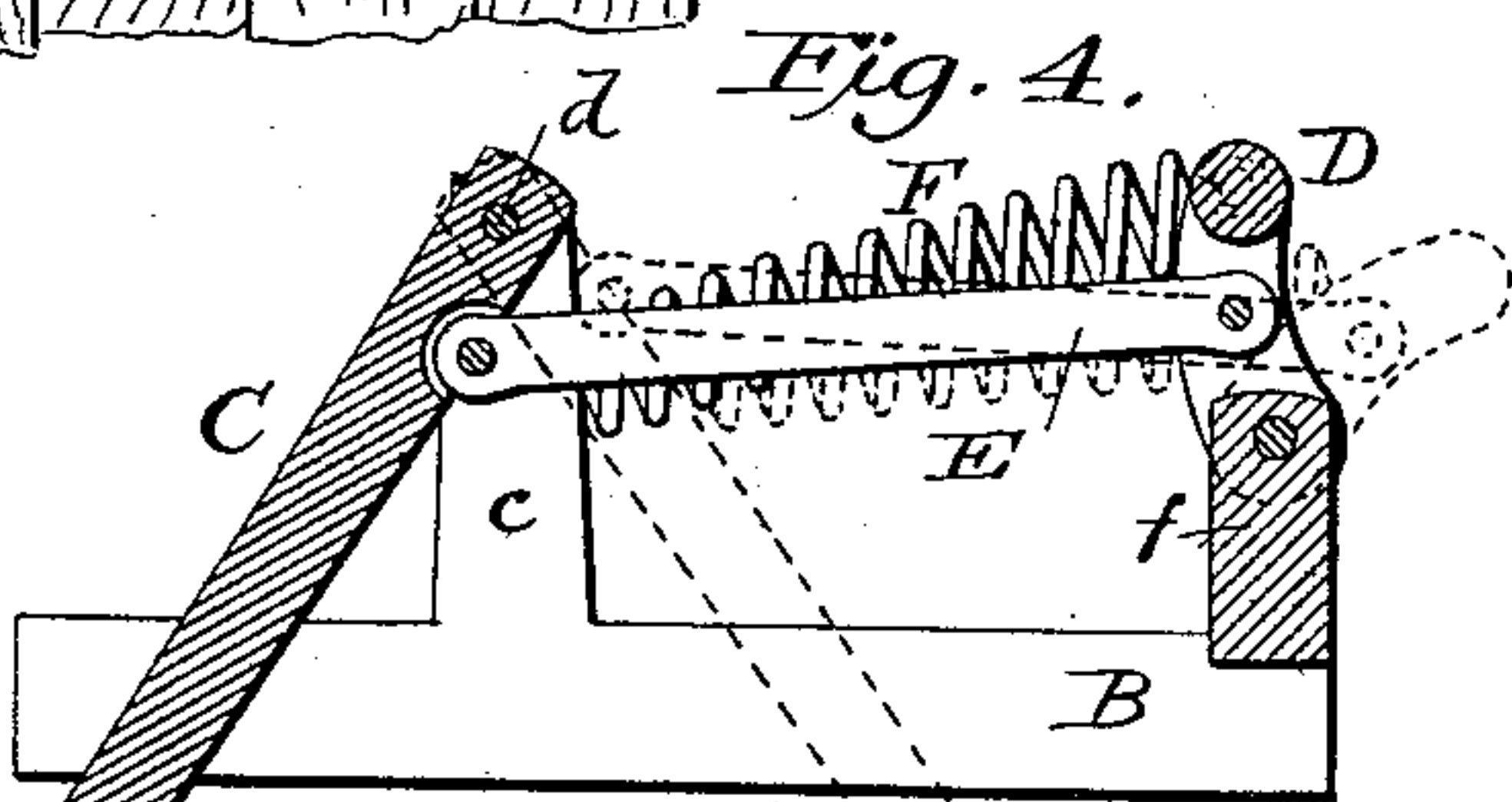
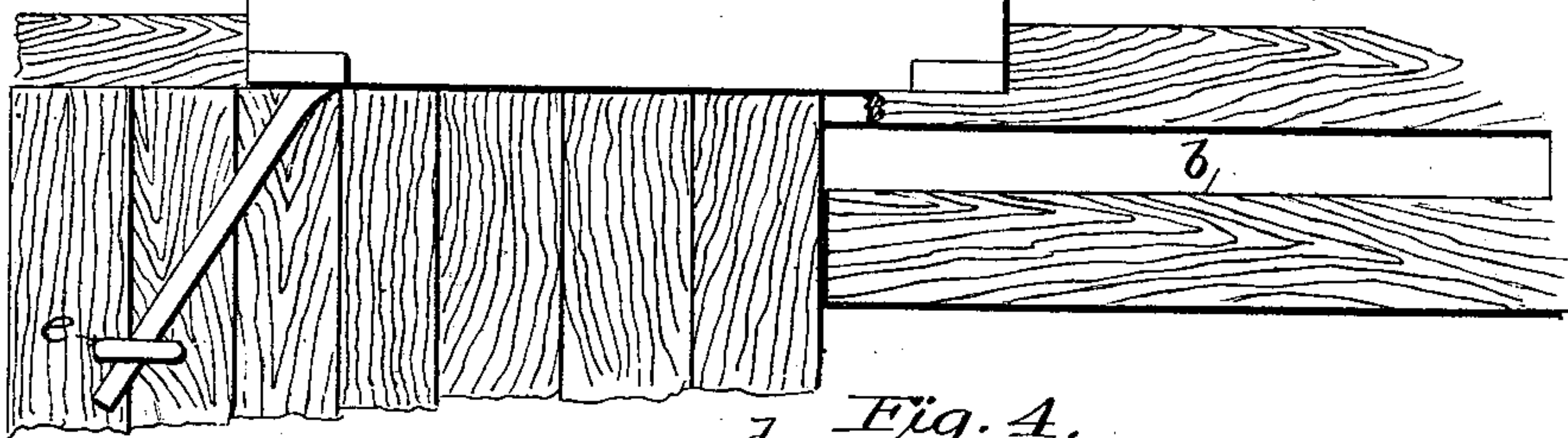
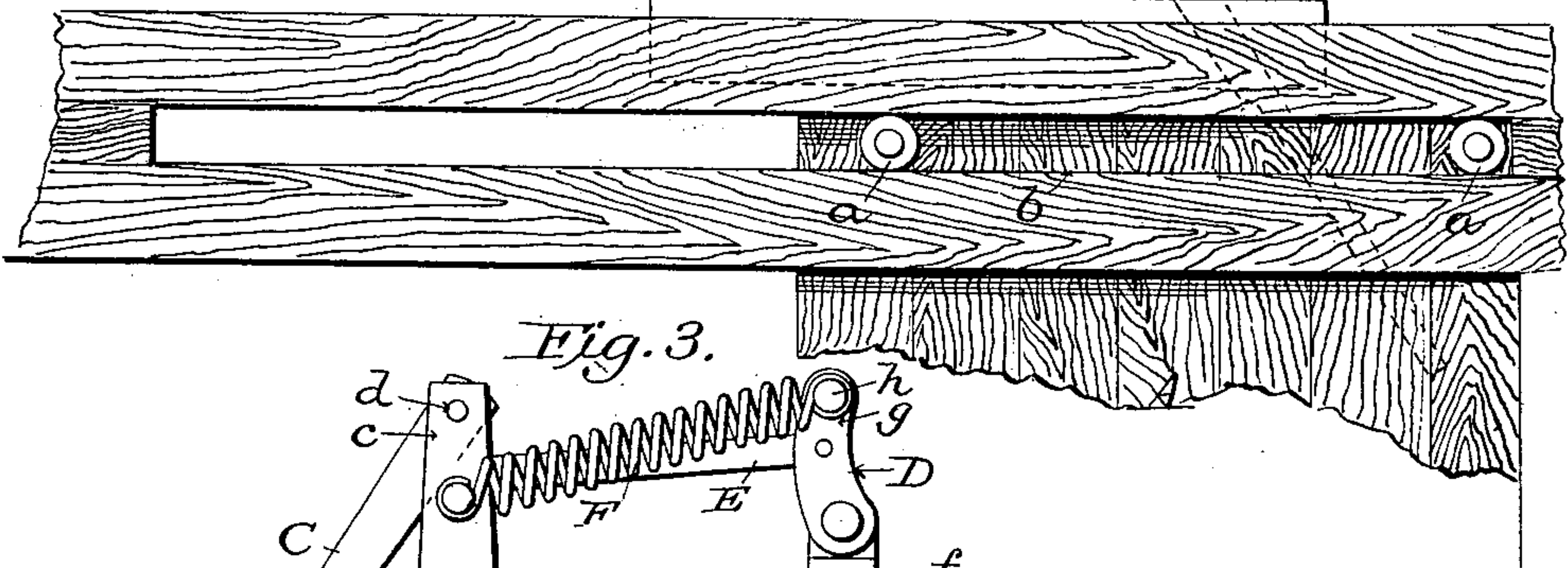
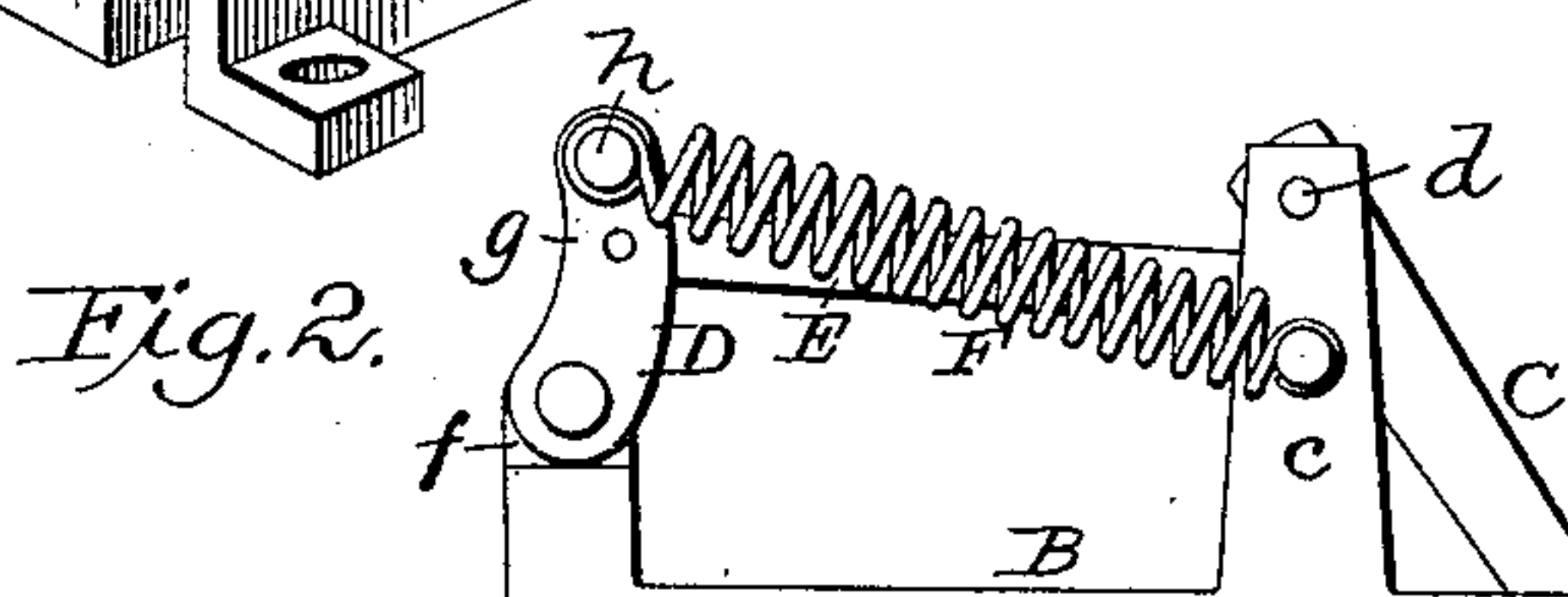
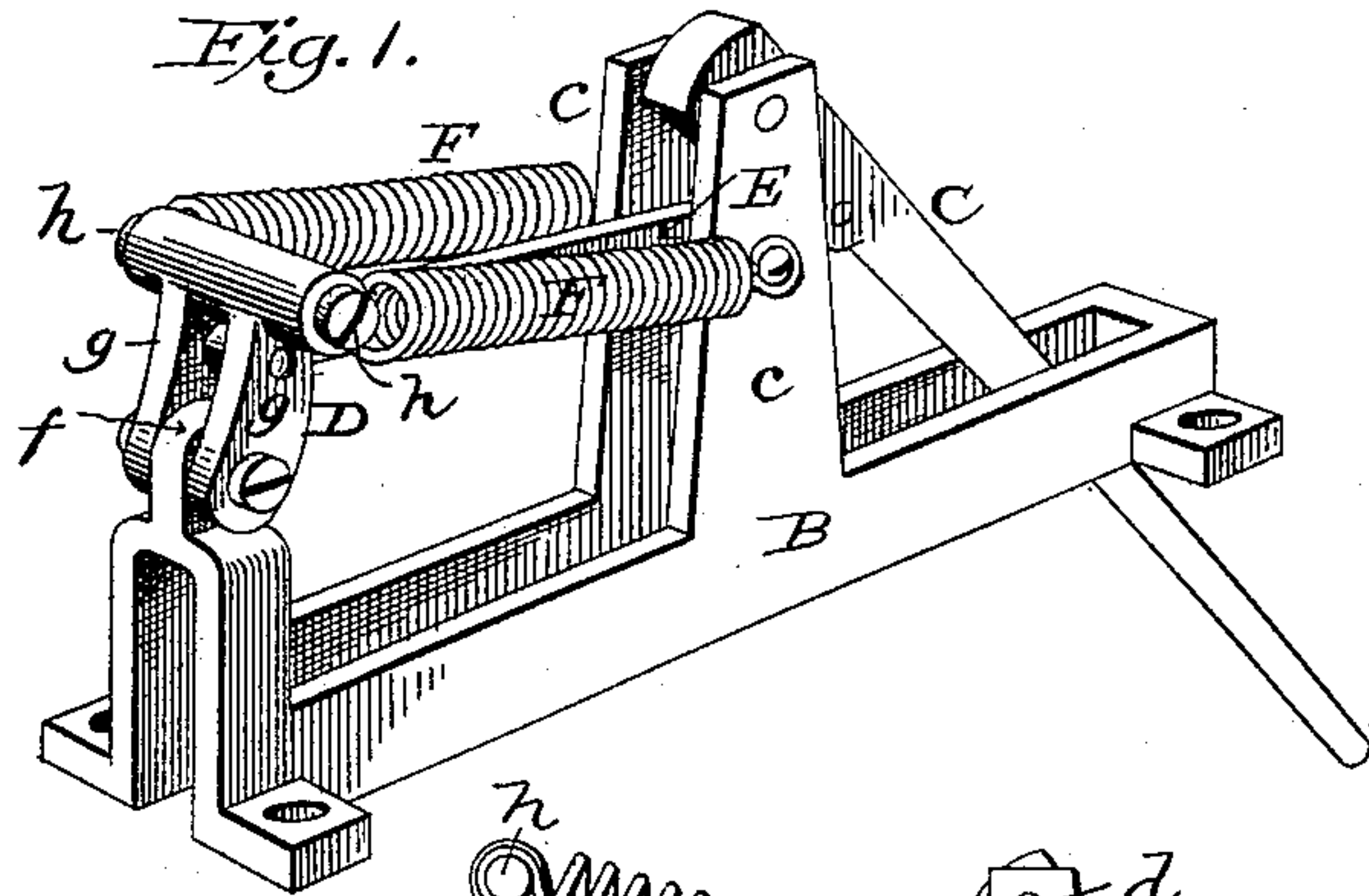
(No Model.)

J. D. SEAGRAVE.

DOOR SPRING.

No. 366,889.

Patented July 19, 1887.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN D. SEAGRAVE, OF WORCESTER, MASSACHUSETTS.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 366,889, dated July 19, 1887.

Application filed April 23, 1887. Serial No. 235,886. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. SEAGRAVE, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain
5 new and useful Improvements in Door Springs or Closers, of which the following is a specification.

My invention relates to springs or closers for doors, more particularly sliding doors; and it consists in various features and details,
10 hereinafter set forth and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improved door spring or closer; Fig. 2, a side view showing it applied to a door; Fig. 3, a similar view,
15 but from the opposite side; and Fig. 4, a sectional view of the spring or closer, showing the position the parts occupy when the door is opened and closed.

Referring again to the drawings, A represents a door, provided with rollers *a a*, running upon a track, *b*, and supporting the door, as shown in Figs. 2 and 3. Immediately above the sliding door A are two uprights, *c c*,
20 between and to the upper ends of which is pivoted, by a bolt or pin, *d*, a long arm or lever, C, as shown in all the figures, the said lever C extending downwardly alongside of the door, and has its lower end passed through a guide, *e*, upon the door, as shown in Fig. 3.
25 This loop or guide *e* may consist merely of a U-shaped staple, or the arm C may be arranged to work between two small and preferably grooved friction-rollers; but in either case sufficient play should be allowed to permit the door to slide freely back and forth without undue friction between the lever C and its guide *e*.

The uprights *c c* may be made of wood or
40 metal, advisably the latter, and will form, preferably, a part of a frame, B, in which the spring or closer as a whole is mounted. When made of metal, the arms or uprights *c c* will be made in a single casting with the other
45 parts of the frame B. It is obvious that the uprights *c c* may, however, be made separate from the frame B, and secured above the door in the desired position, the uprights in such case forming a part of the studding, if desired.

At one end of the framing B is an upwardly-
50 extending arm or lug, *f*, to which is pivoted a

block, D, as shown in Figs. 1, 2, 3, and 4, said block comprising two arms, *g g*, separated to pass upon opposite sides of and clasp the lug
55 *f*, and it is also provided with lateral arms *h h* at its upper end. It is not essential that the block D be provided with two arms, *g g*, as one will be found sufficient in some cases where light springs and doors are used. A link or bar, E, is connected at one end to the block D
60 and at the other end to the lever C, as shown in all the figures, while spiral or coiled springs F F are connected at one end to the arms *h* of block D and at their other ends to the up-
65 rights *c c*.

Owing to the fact that the uprights *c c* of the framing B, like the arms *g g* of the block D, are separated from each other, the lever C and the link E are permitted to move longi-
70 tudinally through the framing B as the lever C is swung back and forth upon its pivot.

As the door is slid back the lever C is swung upon its pivot *d*, as shown by the dotted lines in Fig. 4, and by means of the link E the block D is rocked or thrown outward, thereby
75 distending the springs F. As soon as the hand is removed from the door the spring, drawing upon the block D, will rock said block inward upon its pivot and, acting through the link E and lever C, return the
80 door to its normal position.

It is obvious that instead of passing the lower end of the lever C through an eye or loop, *e*, the lever may be connected to the door by means of a chain or a link.
85

I am aware that the pivoted block, lever, pitman, and springs have before been combined in a door-spring for hinged doors, and of course make no broad claim to these fea-
90 tures.

Having thus described my invention, what I claim is—

1. In combination with a sliding door, a lever pivoted at its upper end and extending downward to engage the door, and a spring
95 connected with said lever, substantially as shown.

2. In combination with a sliding door, as A, an open frame, B, a lever, C, pivoted at its upper end in the frame B, and loosely con-
100 nected at its other end to the door, and arranged to swing back and forth through the

frame, a rocking block, as D, a link, as F, connecting the block D and the lever C, and a spring connected at one end to the block and at the other end to a fixed part of the frame-work.

3. In combination with a sliding door, an open framing, as B, secured in position above the same and comprising uprights *c c* and lug *f*, a lever journaled at the upper end of the uprights and engaging with the door, a block, D, pivoted to the lug *f*, a link, E, connecting the lever C with the block, and a spring, F, connected at one end to the block D and at the other end to the upright *c*.

4. In combination with a sliding door pro-

vided with a guide, as *e*, framing B, located above the same and comprising uprights *c c* and lug *f*, a lever, C, pivoted to the uprights *c c* and engaging the loop or guide upon the door, a block, D, comprising arms *g g* and *h h*, pivoted to lug *f*, a link or bar, E, connecting the block D and lever C, and springs F F, connected at opposite ends to the arms *h h* and uprights *c c*.

In witness whereof I hereunto set my hand in the presence of two witnesses.

JOHN D. SEAGRAVE.

Witnesses:

PITTS A. LARNED,

EUSTIS B. FULLER.