

*J. Clark,
Door Spring.*

N^o 11,358.

Patented July 25, 1854.

Fig. 1.

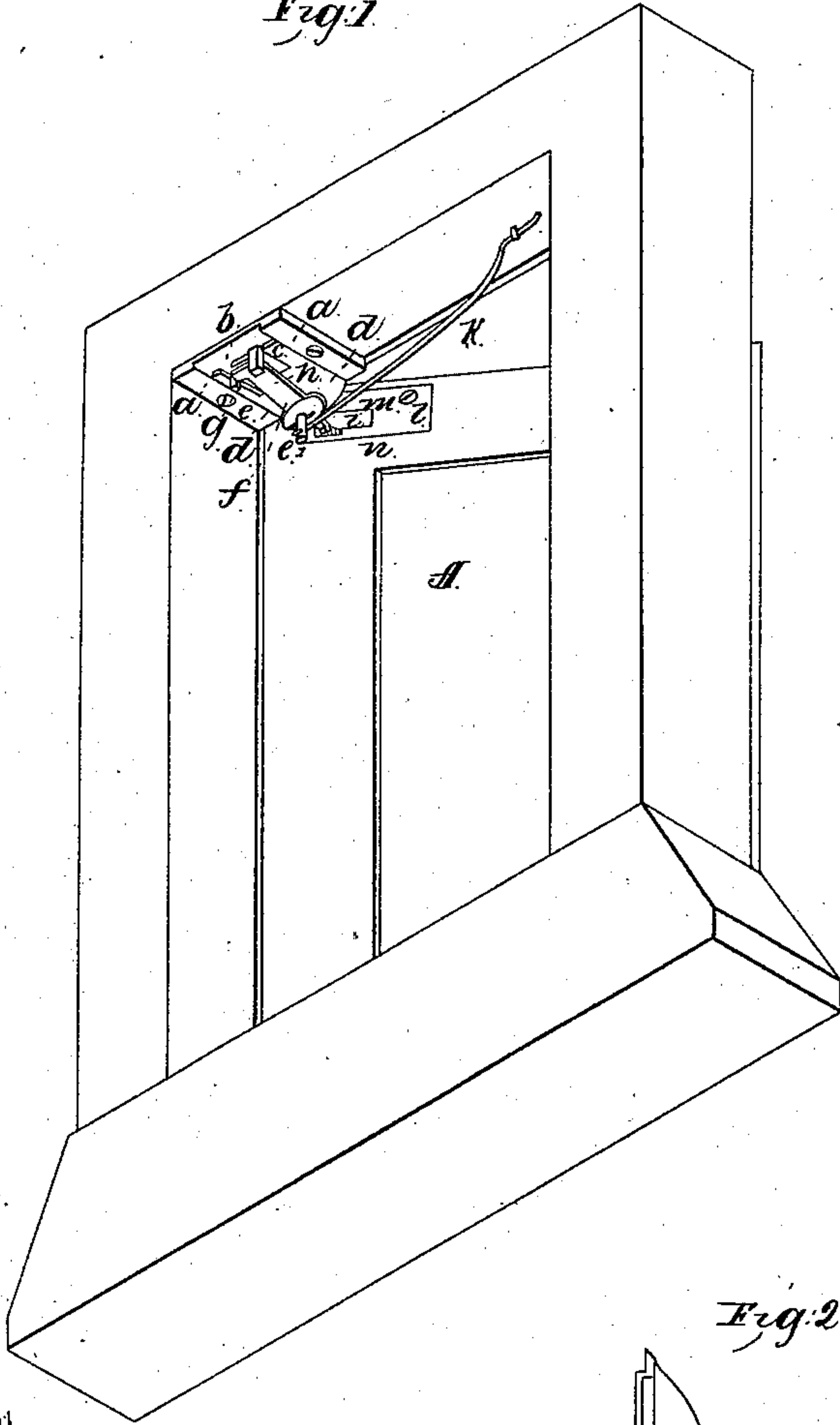


Fig. 2.

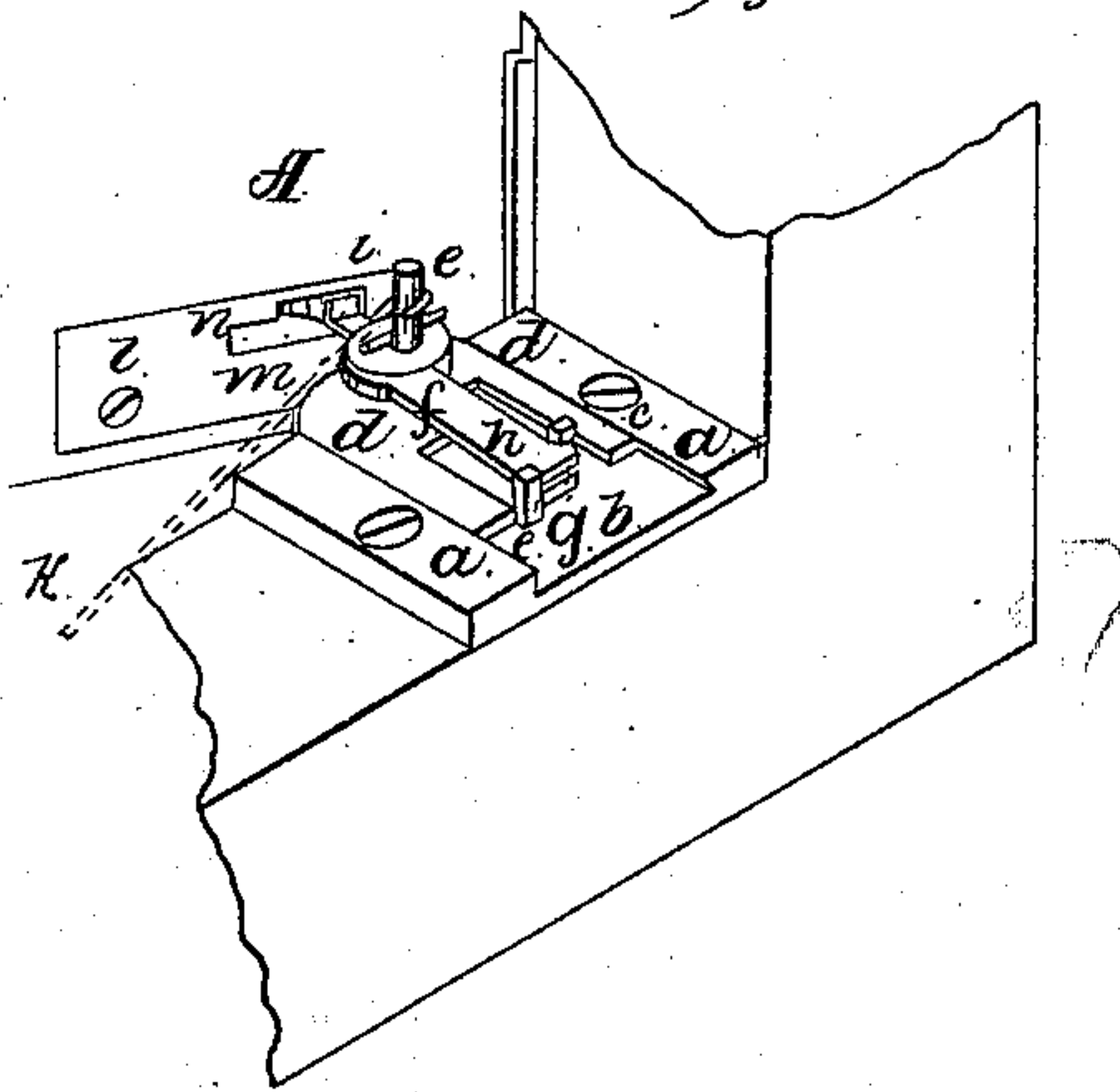
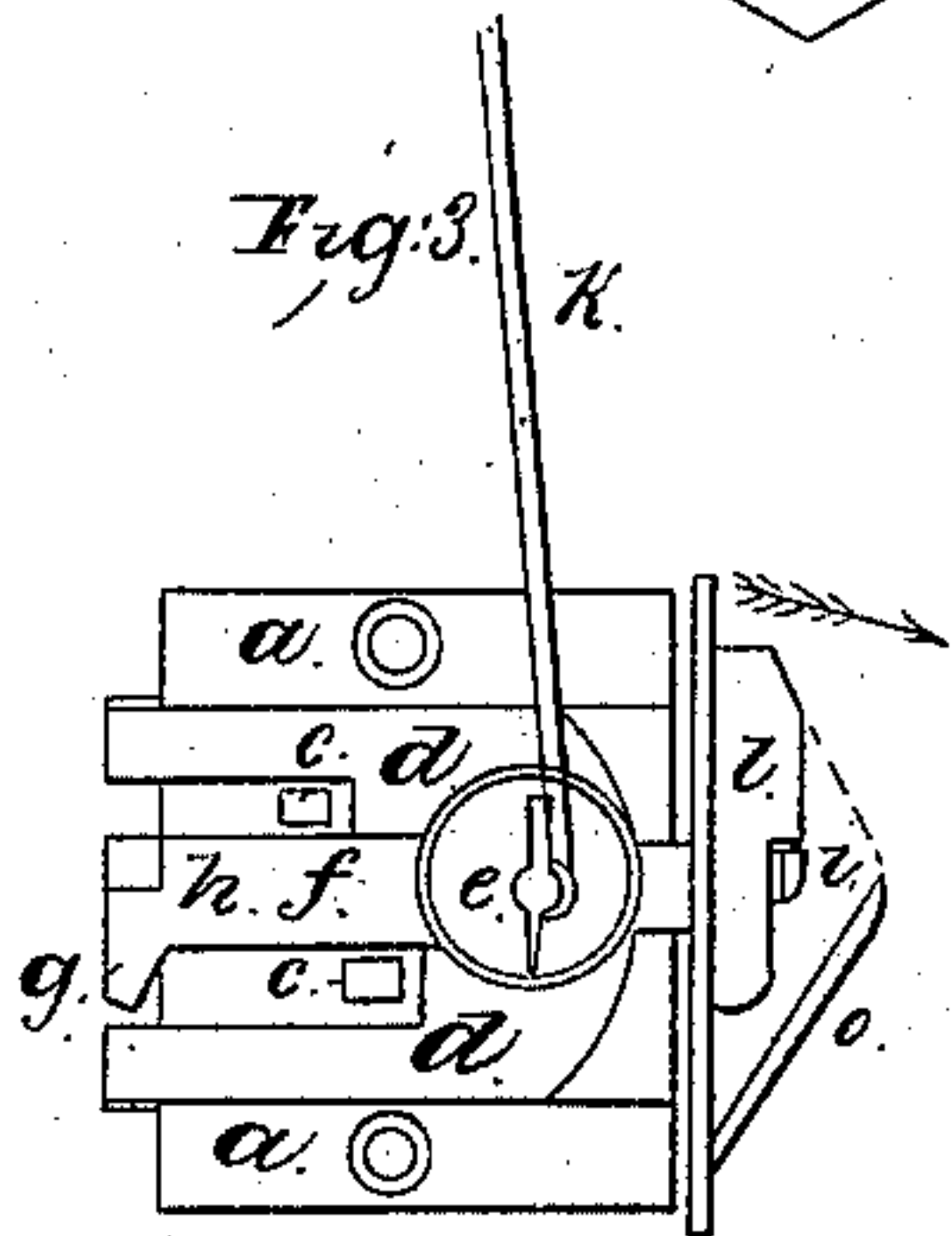


Fig. 3.



UNITED STATES PATENT OFFICE.

JOHN CLARK, OF NORTH HADLEY, MASSACHUSETTS.

ARRANGEMENT OF SPRING AND SPRING-CATCH FOR CLOSING DOORS.

Specification of Letters Patent No. 11,358, dated July 25, 1854.

To all whom it may concern:

Be it known that I, JOHN CLARK, of the town of North Hadley, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Door-Springs; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1, is a perspective view of a door casing, &c., showing the improved apparatus at the upper left hand corner, as it will appear when the door is partially open, and the parts are disconnected. Fig. 2, is a perspective view of a portion of the door casing, &c., inverted, and showing the same apparatus, on a larger scale. Fig. 3, is a plan of the improved apparatus, as seen when looking directly upon it from below, and showing the inside of the part attached to the door, and all the parts as when the door is shut.

My improvement consists in the use of a secondary spring to close the door, when it has been brought partially to by another spring, or by any other means, (which must cease to act before the door is closed, to prevent its being shut with too much violence,) in such manner as to become attached to the door by the motion of the door, and when so attached close the door closely but quietly, and will be again detached by opening the door.

I make the stationary part of the apparatus, for working this secondary spring, of a suitable piece of metal, as shown at *a, a*, Figs. 1, 2, and 3, with a recess or rabbet through its central part, as shown at *b*, Figs. 1 and 3, to be screwed onto the casing to sustain the movable part. And within this recess, *b*, I fix two studs, *c*, and *c'*, for guides, &c., as hereinafter explained.

I make the movable part, of a slotted plate, as shown at *d, d*, the two slots in which receive the two studs, *c*, and *c'*, and the whole is secured in the recess, *b*, of the plate, *a, a*, as seen in Fig. 2. In the front end of this plate, *d, d*, I fix an inflexible pin or stud, *e*. Onto this stud, *e*, I drop a movable bar, *f*, which works on the stud, *e*, as a fulcrum, or center. On the back end of this

bar, *f*, I make an inclined plane, as shown at *g*, to work against the stud, *c'*, and on the opposite corner I cut out a piece to leave a recess, *h*, to work against the stud, *c*. The front end of this bar, *f*, is extended, as shown at, *i*, with a hook, or catch, on the end, to hook into the part on the door.

I attach to the casing a common flat spring, *k*, the end of which passes over the stud, *e*, to force back the movable part, *d, d*, and so close the door.

I make the piece to be attached to the door with a plate, *l*, with a slot in it, as seen at *m*, Figs. 1, and 2, one side of which is cut away, as seen at *n*, to leave room for the hook, *i*, to enter, and an inclined plane, as shown at *o*, Fig. 3, (and indicated near *n*, in Figs. 1, and 2, to which the hook, *i*, is represented as approaching,) to work the bar, *f*.

Having made the several parts, as before described, I secure the plate, *a, a*, to the upper casing of the door frame, as represented in Figs. 1, and 2, attach and regulate the spring, *k*, and secure the part, *l*, &c., to the upper bar of the door, when all will appear as represented in Fig. 1.

Any spring, or other means, may be used to cause the door, *A*, to be brought to about the position shown in Fig. 1, (or a little nearer closed,) when it should cease to act, as the inclined plane, *o*, Fig. 3, will come in contact with the hook, *i*, as shown in Figs. 1, and 2, and by its operation release the offset, or notch, *h*, from the stud, *c*, when the hook, *i*, will catch the side, *n*, of the slot, *m*, and the spring, *k*, acting on the stud, *e*, will force the movable part, *d, d*, back to the position shown in Fig. 3, and close the door, when the hook, *i*, will be in the position shown in Fig. 3.

When the door is pushed open with a force sufficient to overcome the power of the spring, *k*, the plate, *l*, by means of the hook, *i*, will draw forward the movable part, *d, d*, to the position shown in Figs. 1, and 2, when the inclined plane, *g*, will force the bar, *f*, laterally so that the projection, or shoulder, at *h*, will rest against the stud, *c*, which will allow the hook, *i*, to pass out by the space near *n*, Figs. 1, and 2, and thus detach that part of the apparatus which is secured to the casing from that which is secured to the door, and leave the movable part, *d, d*, rest-

ing against the stud, *c*, as seen in Figs. 1, and 2.

The advantage of my improvement consists in the quietness, as well as the certainty, with which the door will be closed; as the force of main spring, weight, or other means, used to bring the door partially to, will be entirely dispensed with, or taken off at the time the secondary spring, (by means of the before described apparatus,) will commence its operation.

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

The arrangement of the several parts, (on the casing, and on the door,) as set forth, when the whole is constructed, and made to produce the result, substantially, in the manner herein described.

JOHN CLARK.

Witnesses:

LEONARD BARTLETT,
ANDREW LAMSON.