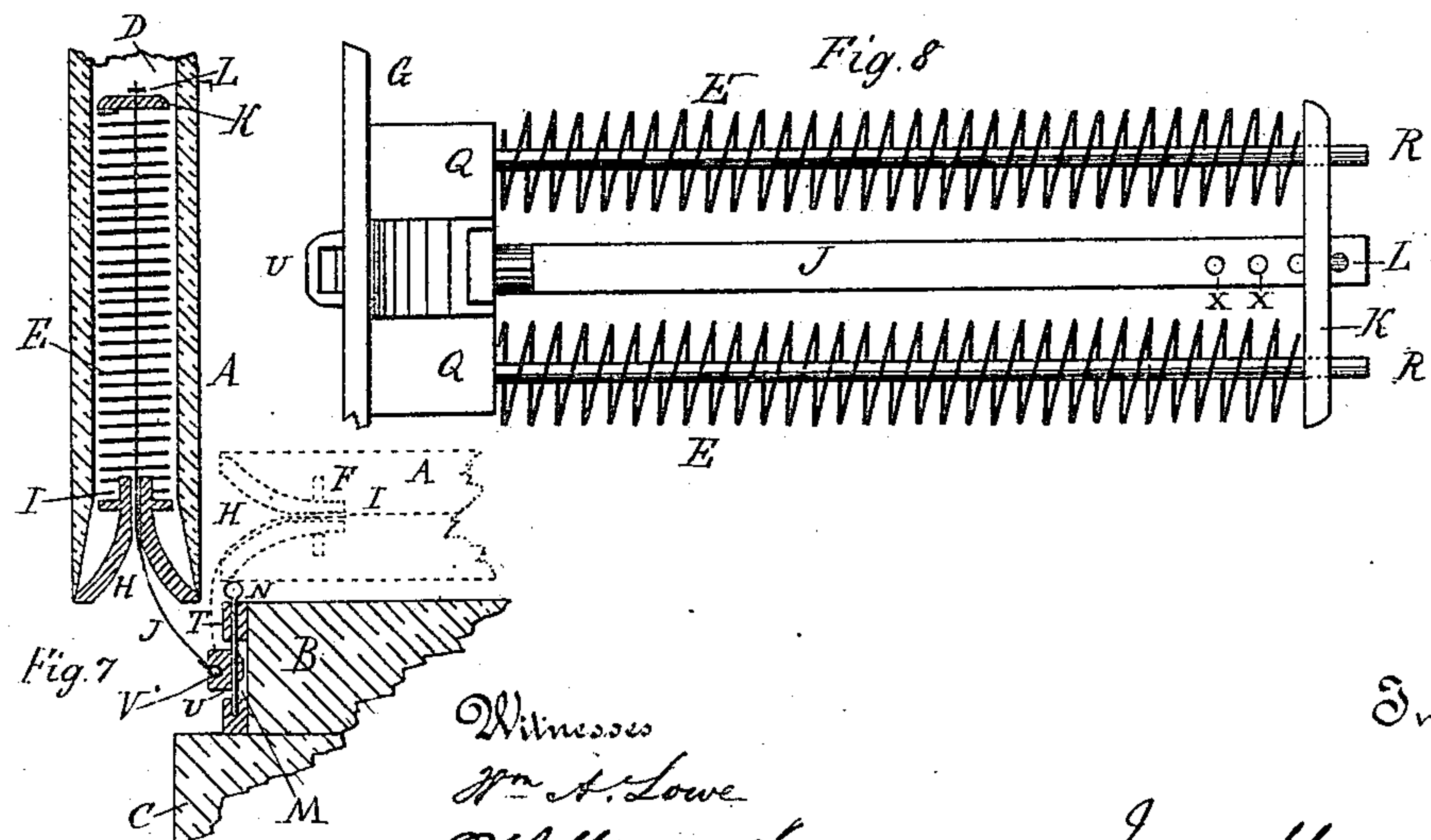
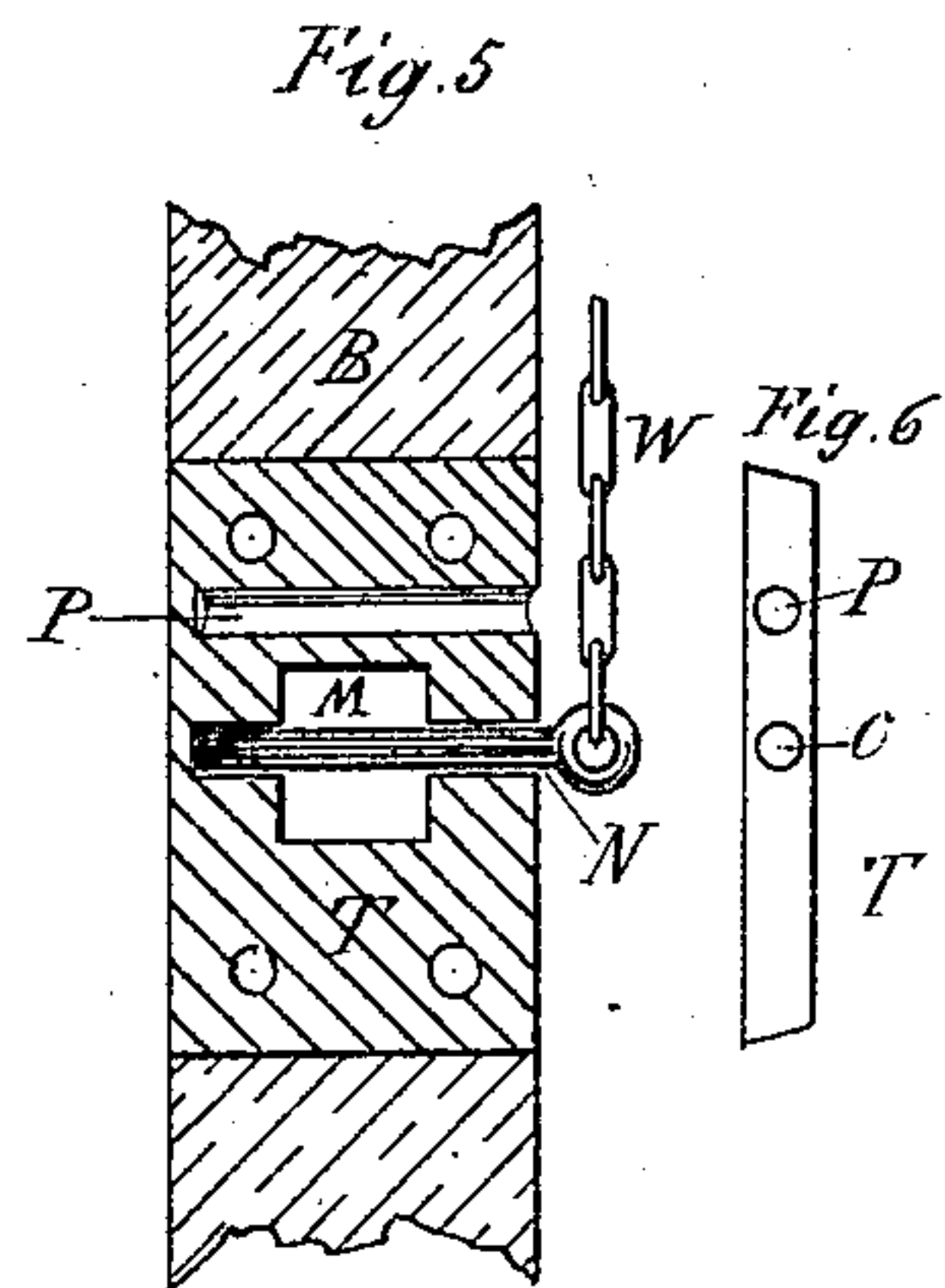
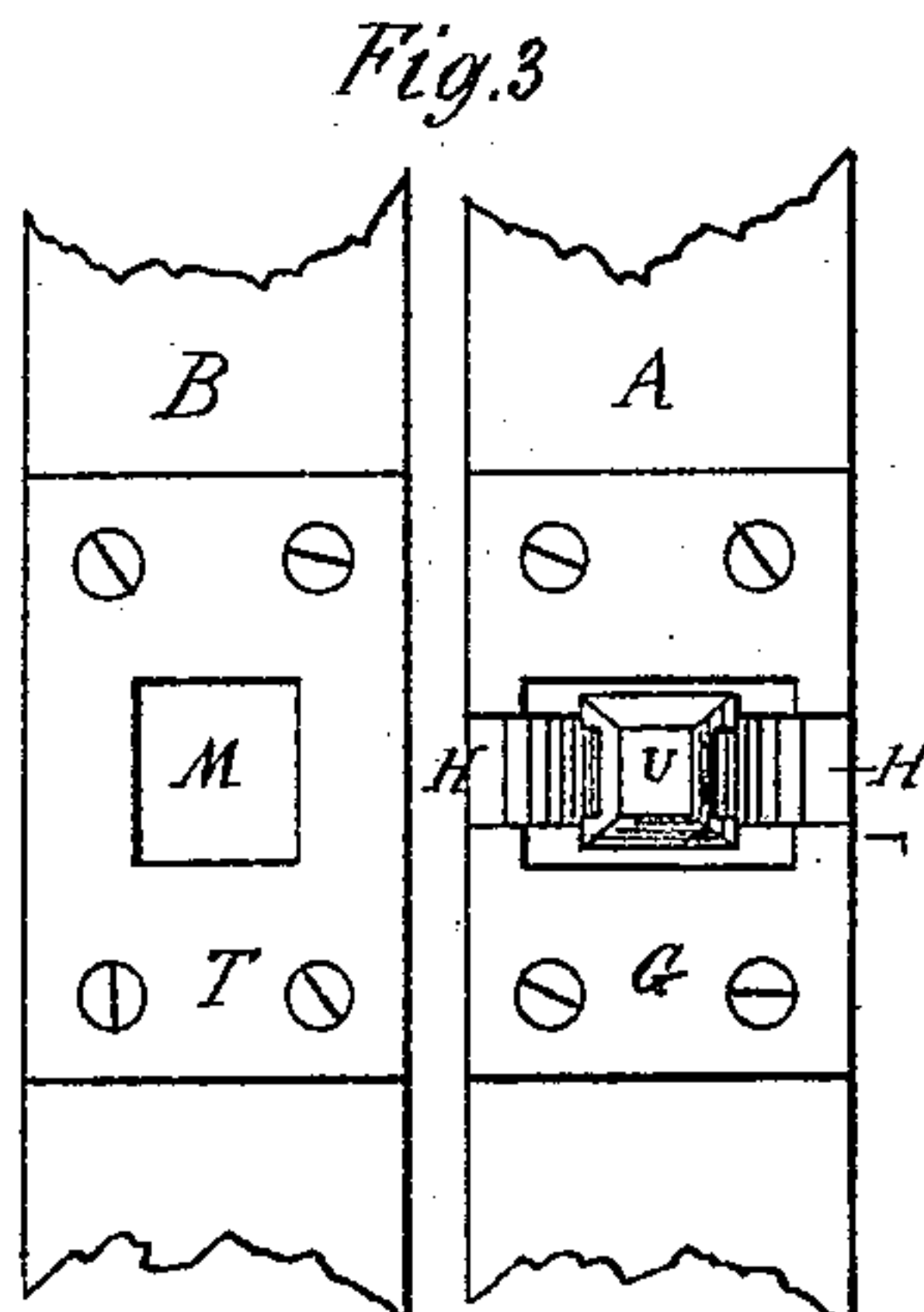
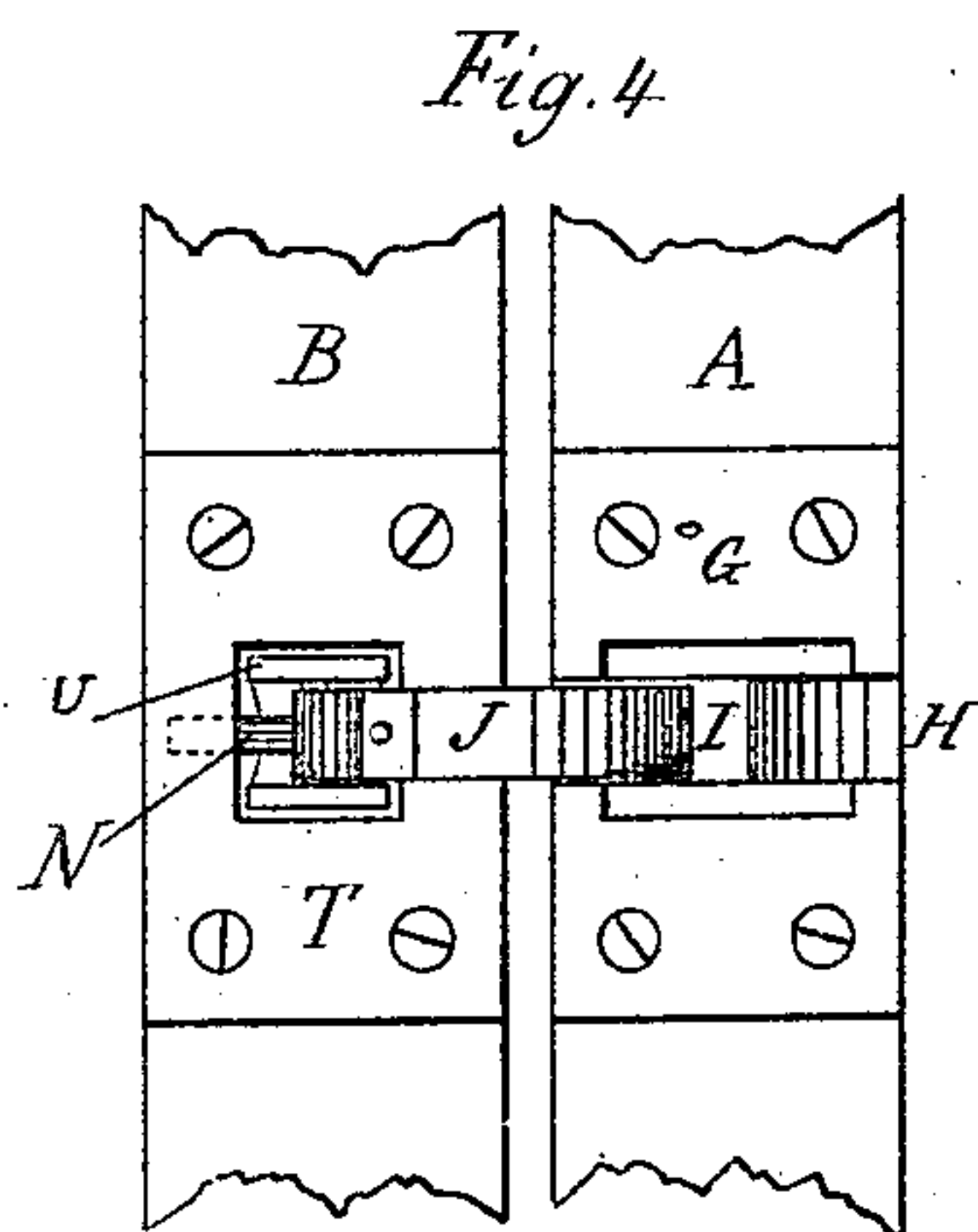
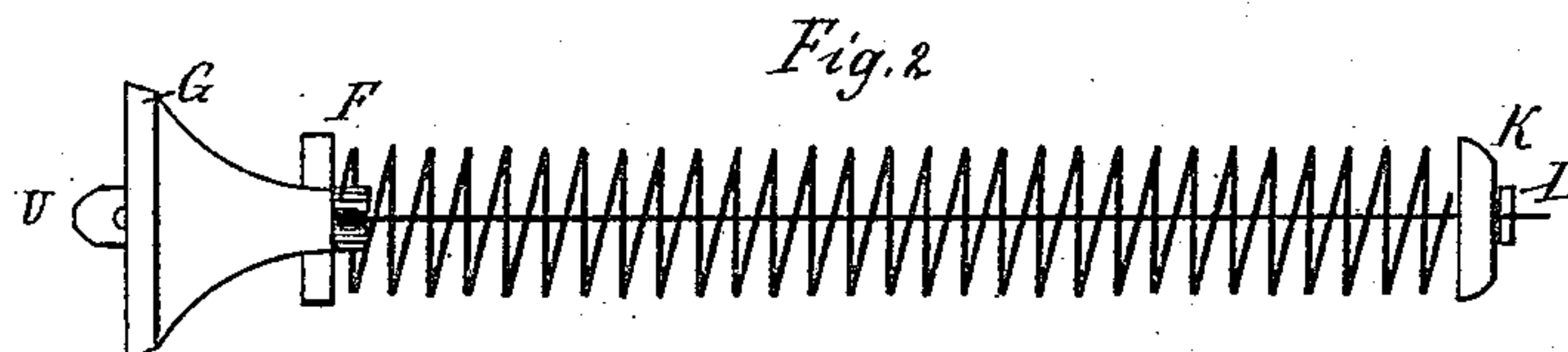
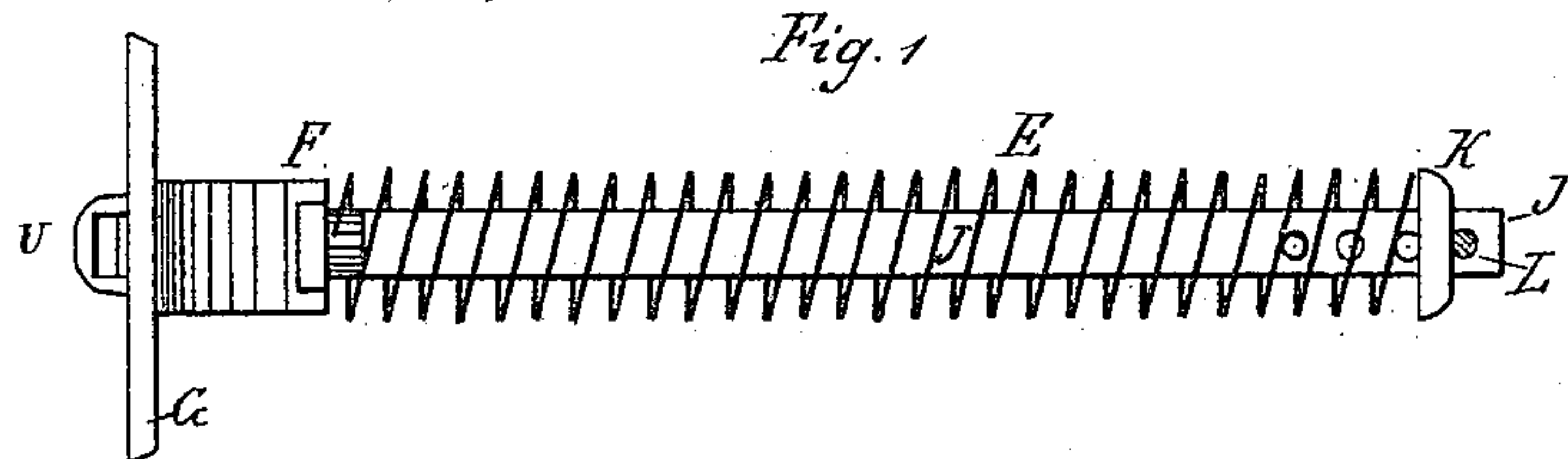


(No Model.)

I. MOORE.  
DOOR SPRING.

No. 271,649.

Patented Feb. 6, 1883.



Witnesses  
Wm. A. Lowe  
J. H. Morgan.

Inventor

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By A. P. Thayer,  
att'y



# UNITED STATES PATENT OFFICE.

IRA MOORE, OF NEW YORK, N. Y., ASSIGNOR TO THOS. C. BACH, OF  
SAME PLACE.

## DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 271,649, dated February 6, 1883.

Application filed March 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, IRA MOORE, of the city, county, and State of New York, have invented a new and useful Improvement in Door-Springs, of which the following is a specification.

This invention relates to a coiled door-spring contrived to be located in a socket made in the edge of the door and connected to the jamb for closing the door.

The invention consists of an improved device by which the spring is attached to the door, and out of which the spring draws when the door opens; and it also consists of improvements in the devices by which the spring is connected to the jamb, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of the spring and the parts to be attached to the door. Fig. 2 is a top view of the same. Fig. 3 represents face views of the door and the jamb with the spring devices attached thereto, but not connected together. Fig. 4 is a view similar to Fig. 2, with the spring connected to the jamb. Fig. 5 is a vertical section through the jamb parallel with its face, showing the method of connecting the spring thereto. Fig. 6 is an edge view of the jamb-plate. Fig. 7 is a horizontal section of the door and jamb, illustrating the working of the spring device, the door being shown opened to a right angle, with the jamb in full lines and turned around against the wall in dotted lines. Fig. 8 is a side elevation of a double spring for heavy doors.

A represents the door, B the jamb, and C the door-frame. At any suitable place in the door, but preferably in the face of the middle cross-piece or lock-rail thereof, I make a hole or socket, D, with a bit or otherwise, of suitable depth for the reception of a coiled compression-spring of one or two members, E, long enough to have ample range for the purposes of a door-spring without compressing it too much when contracted, and insert such spring therein behind and bearing against the hub F of an attaching-plate, G, projecting into the socket and having the flaring mouth H at the front thereof. I form an opening, I, through the hub for the ribbon-spring J, which extends

back to the inner end of the compression-spring, either through it if single or between the two members if double, to connect with the inner end thereof by a washer, K, and pin L or other means, the outer end of said ribbon-spring being connected to the jamb, so that as the door swings on its hinges eccentrically to the point where said ribbon-spring is connected to the jamb the spring E will be compressed, and thus will have power to close the door when it is released after being opened.

It will be seen that by reason of the flaring side to the opening H the spring J has greater range for flexure, whereby the action is more easy and it is less subject to damage than it otherwise would be. The mouth H is made to flare alike both ways, so that the attachment is alike useful for doors hinged so as to swing both ways; also, to provide for the opening of the door against the wall without binding the spring J on the corner of the jamb-plate T. I arrange the pivot or connecting-pin V in a position projected beyond the face of the jamb-plate, so as to clear the corner of the latter, as shown by the dotted lines, Fig. 7. For so projecting it I connect it to a head, U, extending into a slot, M, of the jamb-plate far enough to receive the connecting-pin N, inserted through a hole, O, bored edgewise in the plate, the pin being detachable for disconnecting the spring. Another hole, P, is represented in the jamb-plate, in which the pin may be inserted for keeping when the spring is detached, and the pin may be connected to the door-frame by a chain, W, for safety; but I do not limit myself to this method of connecting the spring for detachment, for a spring-catch may be lodged in the jamb suitably for engaging it with a latch-lever or thumb-bit projecting out through a slot for disengaging it.

It is preferred to use steel for the ribbon-spring; but sheet iron or brass may be used.

It is to be understood that the washer K is to be set so as to avoid any tension of spring E when the door is closed, but so as to begin to compress it as soon as the door begins to open.

Although I have represented the spring as being located in the door and connected to the

jamb, I desire it to be understood that my invention includes the reverse arrangement of placing the spring in the jamb and connecting it to the door, if desired, the one being the equivalent of the other; and I propose for heavy doors to use the double-spring arrangement of Fig. 8, which is substantially the same as the other, with the addition only of the extensions Q to hub F, center rods, R, for the springs, and the elongated bar-washer K, together with the duplicate coiled spring.

The ribbon-spring J may have a series of holes, X, for the connecting-pin I, to adjust the washer from time to time, as the spring may shorten by compression or any other equivalent arrangement therefor.

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

1. In a door-spring substantially as described, the attaching-plate G, constructed with the hub F, projecting into the socket of the door, and having the flaring mouth H, and an opening through said hub for the spring, substantially as described.

2. The spring J, attached to the door, substantially as described, and connected by pivot V to the head U of the device that connects the spring with the jamb, which head projects outwardly from the face of the jamb, in combination with the door-plate G, having flaring mouth H and spring E, substantially as described.

IRA MOORE.

Witnesses:

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BENJN. A. DARE.