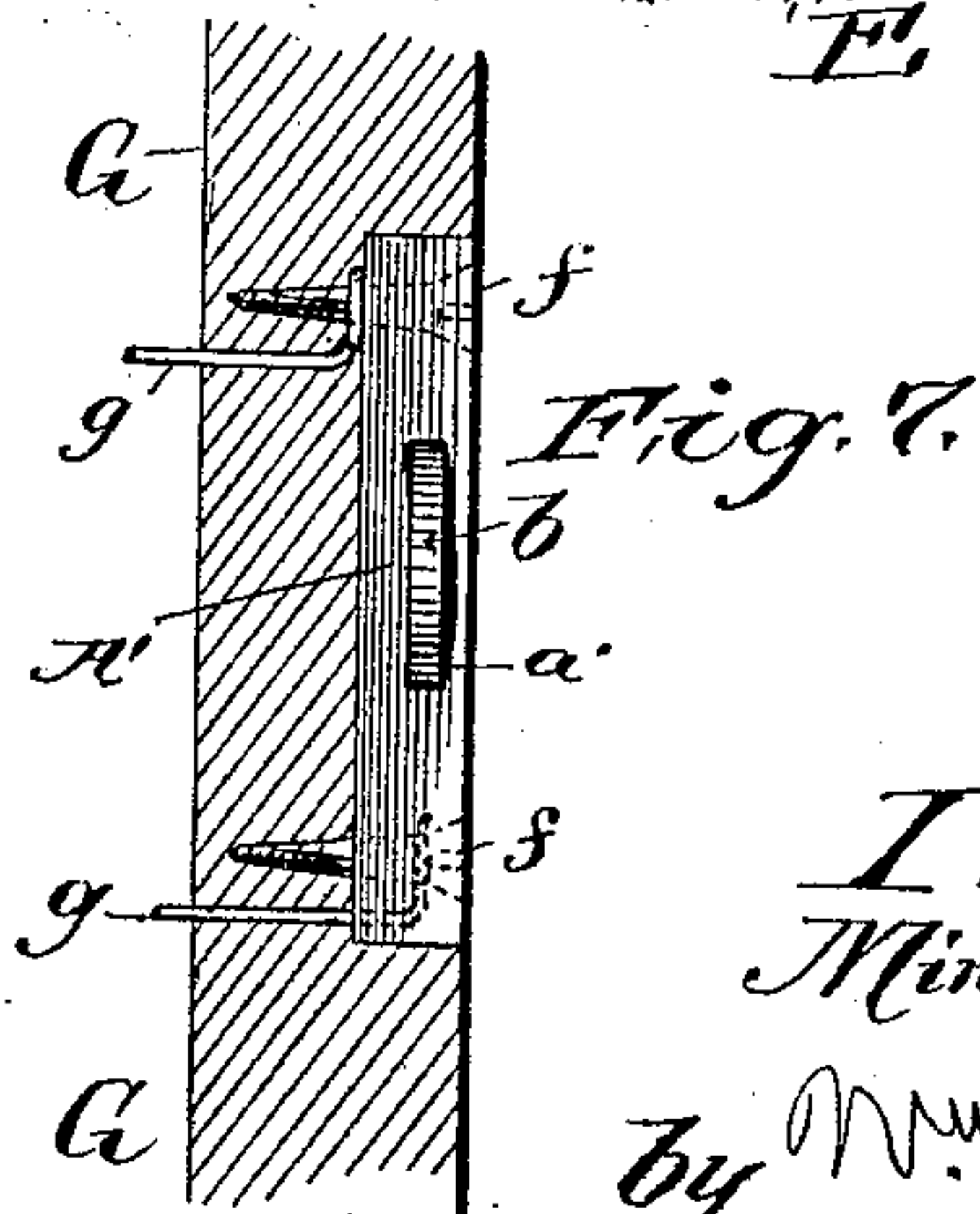
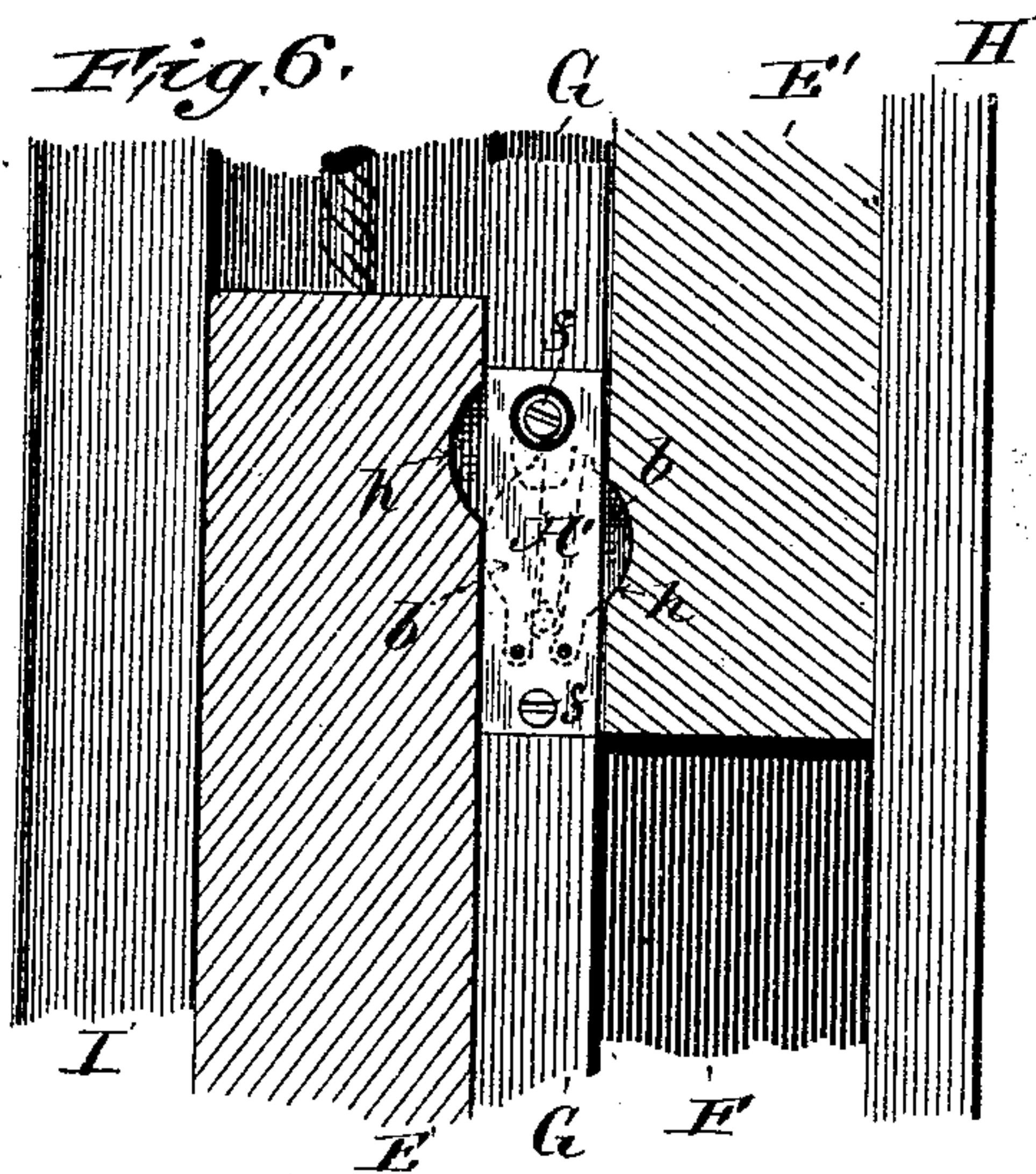
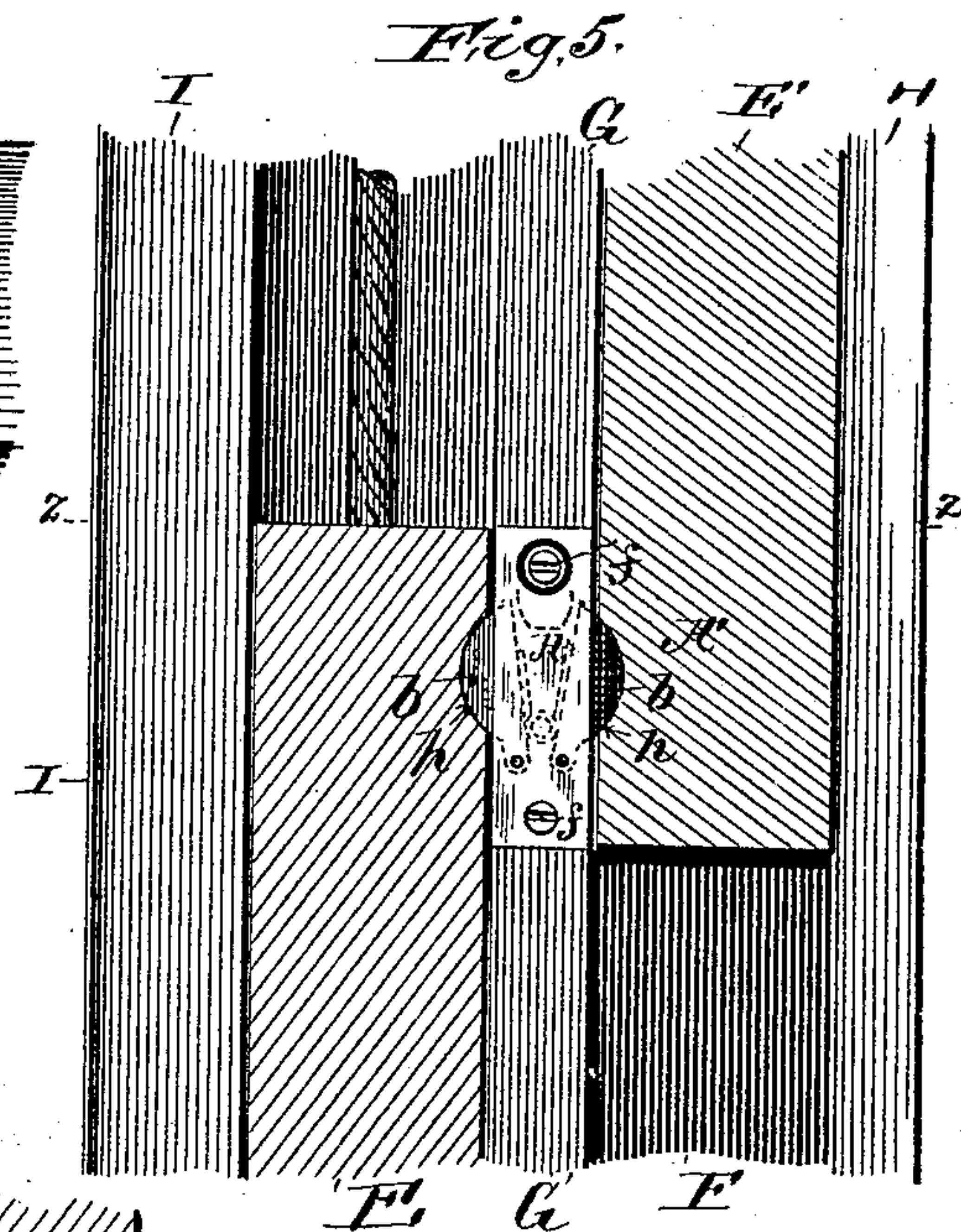
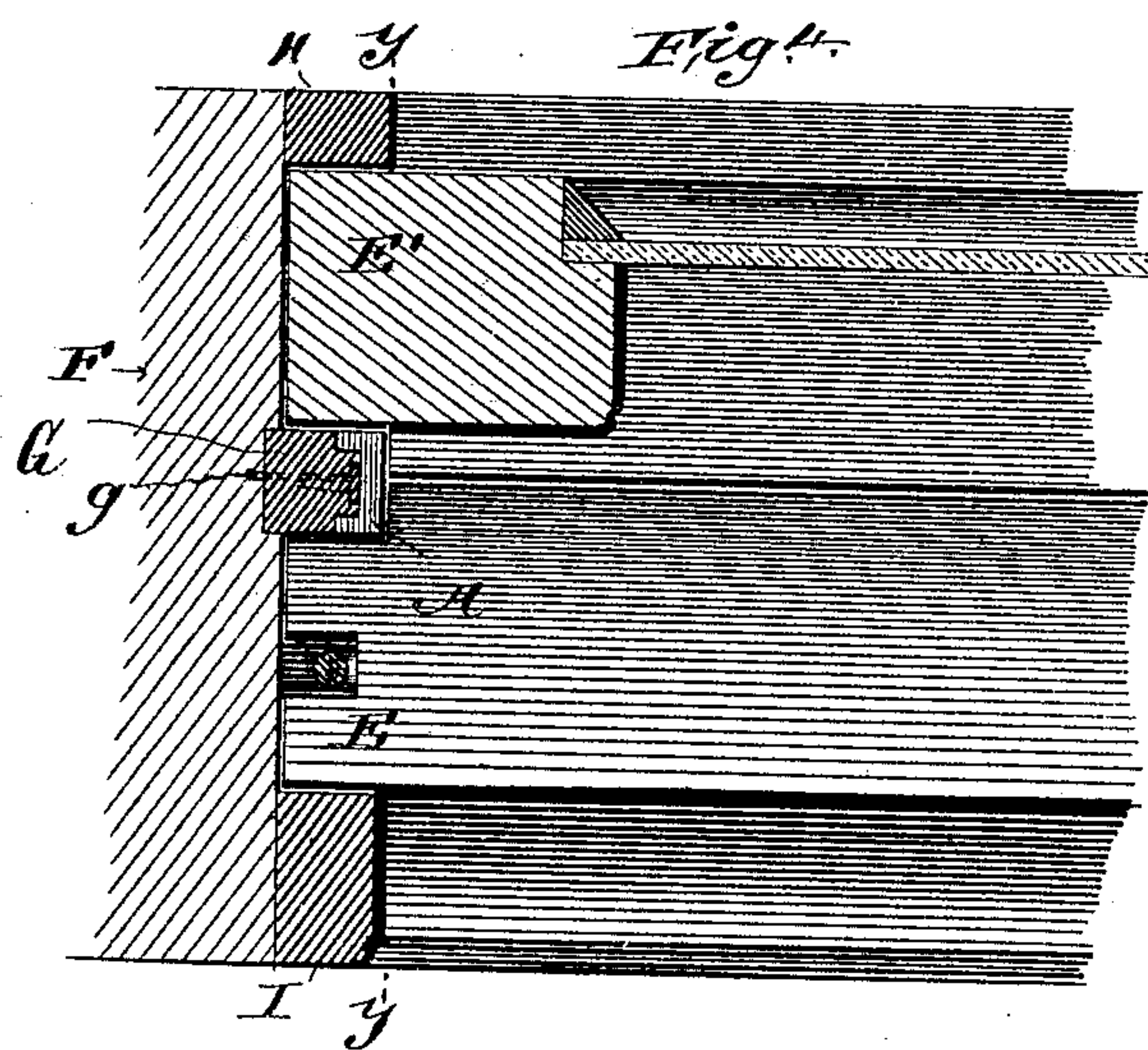
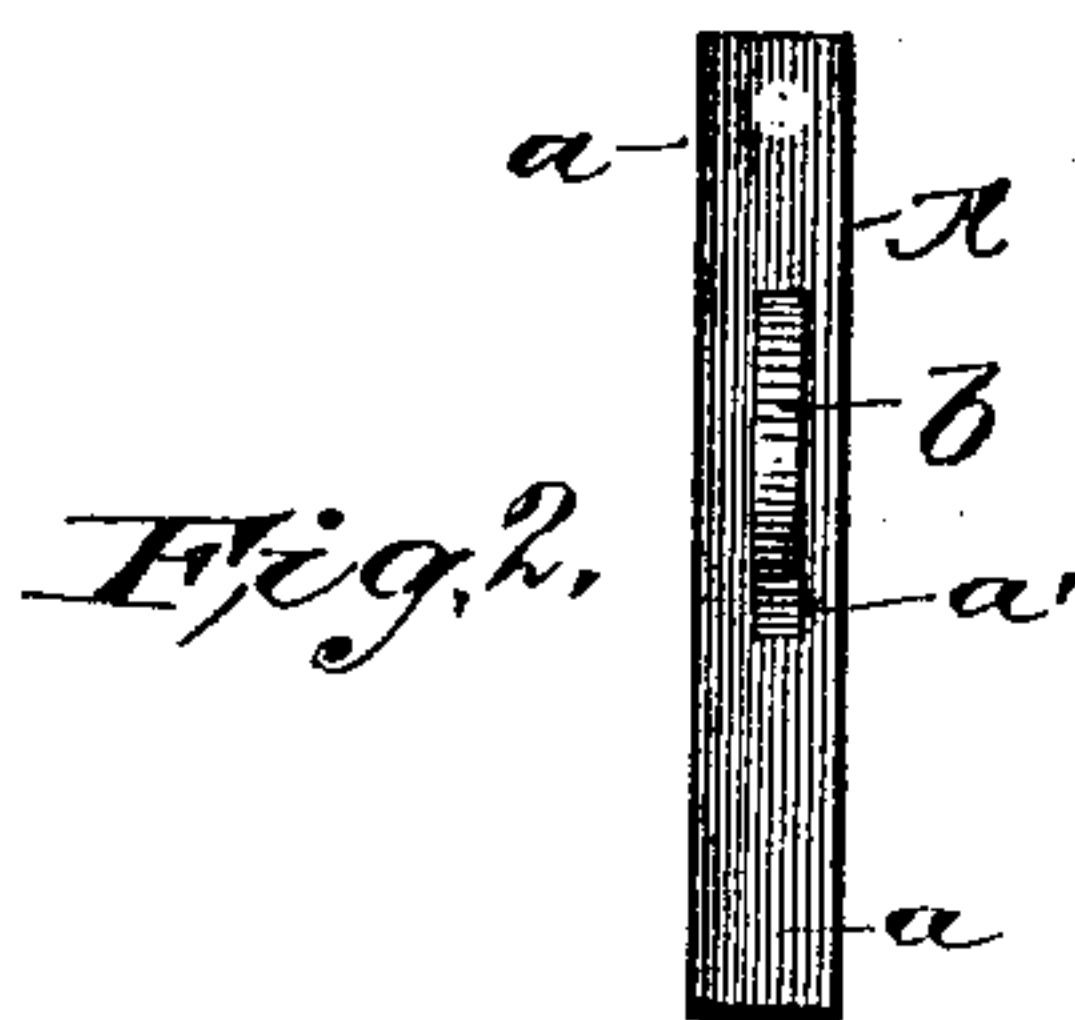
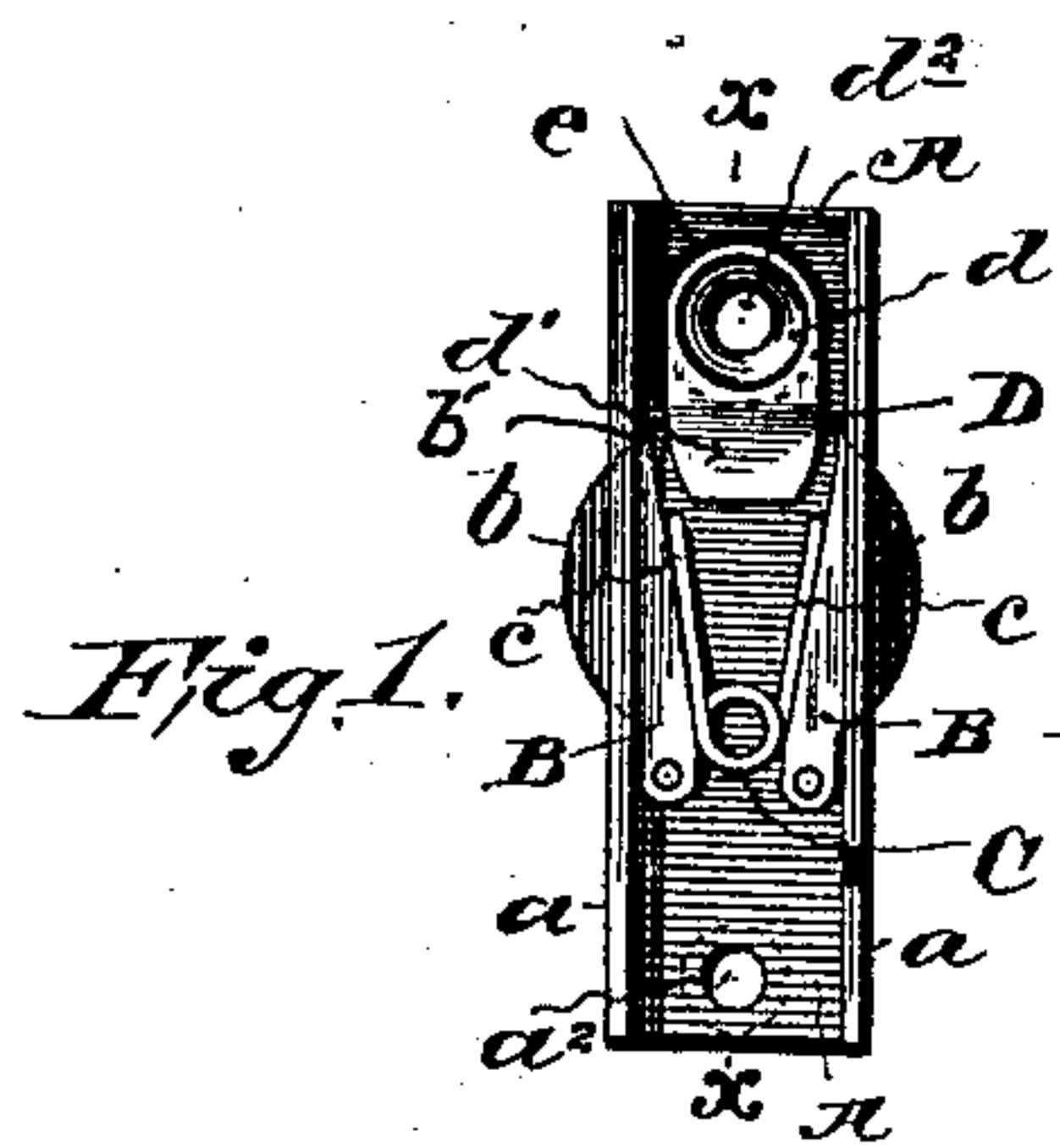


(No Model.)

M. T. GORDON.
BURGLAR ALARM SPRING.

No. 517,547.

Patented Apr. 3, 1894.



Attest:
C. W. Benjamin,
Wm. E. Treffer.

Inventor:
Minthorne T. Gordon,
by Wm. E. Treffer,
att'y.

UNITED STATES PATENT OFFICE.

MINTHORNE T. GORDON, OF STAPLETON, ASSIGNOR OF ONE-HALF TO
CHARLES RUDMAN, OF NEW YORK, N. Y.

BURGLAR-ALARM SPRING.

SPECIFICATION forming part of Letters Patent No. 517,547, dated April 3, 1894.

Application filed December 12, 1893. Serial No. 493,490. (No model.)

To all whom it may concern:

Be it known that I, MINTHORNE T. GORDON, a citizen of the United States, and a resident of Stapleton, county of Richmond, and State of New York, have invented certain new and useful Improvements in Burglar-Alarm Springs, of which the following is a specification.

My invention, while alike applicable to windows, doors, drawers, and other similar articles, to indicate, through a bell or other suitable alarm, when such parts are surreptitiously opened, by closing an electric circuit, is exemplified herein as applied in connection with a window; its object being to provide a burglar alarm spring of the character mentioned, which, while simple, cheap, and compact in construction, and capable of easy application to the part or parts in connection with which it may be employed, shall, at the same time, be efficient in operation and not liable to become disarranged.

To the ends thus specified, the invention consists, in certain details of construction and combination of parts, all as will hereinafter more fully appear.

Referring to the accompanying drawings, which form a part of this specification, Figure 1, is a rear elevation of one embodiment of a burglar alarm spring constructed in accordance with my invention; Fig. 2, an edge view thereof; Fig. 3, a longitudinal section of such spring taken in the plane xx of Fig. 1; Fig. 4, a transverse sectional view of a portion of the top and bottom sashes of a window, and of one of the window casings, with a burglar alarm spring constructed in accordance with my invention applied in connection therewith, the section being taken in the plane zz of Fig. 5; Fig. 5, a vertical section of the same parts taken in the plane yy of Fig. 4, showing the position of the parts of the spring when the top and bottom sashes of the window are closed; Fig. 6, a similar view of the same parts with the bottom sash of the window slightly raised, and Fig. 7, a longitudinal sectional view of a parting bead, showing the manner of applying the spring thereto, and the connection of the electric wires with such spring.

In all the figures like letters of reference are employed to designate corresponding parts.

A designates a base-plate or body which is constructed of any suitable material, and is preferably provided with downwardly and rearwardly projecting flanges, a , through each of which is formed an aperture, a' . Pivoted to the rear of the base plate A, between the flanges a thereof, are levers, B, which are each provided on its outer edge with a curved segmental portion, b , that is adapted to enter one of the apertures a' in the flanges a . In their normal positions, these curved segmental portions are held protruded through the apertures a' in the flanges a , with their outer curved edges extended some distance beyond the outer surfaces of such flanges by a spring or springs, C, the extent of such protrusion being limited by the extreme ends b' of the levers B abutting against the interiors of the flanges, as shown.

The springs C may be constructed in various forms, and may be composed of a separate spring for each of the levers B, when a plurality of such levers are employed, or a single spring for both as may be desired. In the drawings, I have shown it as made from a single piece of wire coiled in its center, as at c , and provided with two outwardly projecting ends, c' , and this is the form I prefer in practice. As thus constructed, the spring is interposed between the levers B with its outwardly extending ends c' pressing against the inner edges of such levers B, and, in order to hold it in proper position between them, I find it convenient to insert the extremities of their outwardly extending ends c' into apertures formed in the levers, as shown at b^2 in Fig. 3.

Secured to the rear side of the base plate A, in close relationship to the levers B, by a stud d , is a contact piece, D, which is preferably made of sheet metal of the proper degree of electrical conductivity, and of substantially the form shown in the drawings. This contact piece is raised some distance above the base plate A, and is insulated from it, as is also the supporting stud d , by a strip of suitable insulating material, such, for instance, as rubber, glass, vulcanized fiber and

other equivalent material, which is interposed between them, as shown at *e* in Fig. 3. As the contact piece *D* is thus disposed, it permits of the free ends of the levers *B* passing under its projecting end *d'*, and, in order to permit of such free ends engaging therewith as they are forced inward under the same, its projecting end *d'* is preferably bent downward, as shown, and formed as a spring whereby to be capable not only of contacting with them, but of yielding outwardly by their action as they are forced under the same.

Formed through the lower end of the base plate *A*, is an orifice, *a*², for the reception of a screw *f*, or the equivalent fastening device, whereby to secure the spring to the part to which it may be attached, while through the stud *d* is formed a similar orifice, *d*², for a like purpose as the orifice *a*², and receives a second screw, *f*. In addition to thus serving as a means for securing the spring to the part to which it may be applied, these orifices *a*² and *d*² and the screws *f*, which are inserted through them, also serve as a means for connecting the electric wires *g* to the spring, such wires being passed around the screws *f* in close contact with the rear face of the base plate *A*, as shown more clearly in Fig. 7.

The parts being arranged in their normal positions, as shown in Fig. 1, with the screws inserted in the orifices *a*² *d*², respectively, and the wires *g* properly connected with the screws, it is obvious that, in consequence of the insulation of the contact piece *D* and stud *d* from the base plate *A*, and the absence of engagement of either of the levers *B* with the contact piece *D*, any current traveling along the conducting wire *g* will be interrupted on arriving at either the insulation or at the ends of the levers *B*, as it travels in one or the other direction, and hence the circuit will be broken and no bell or other alarm placed therein operated. On the other hand, when either one or both of the levers *B* are forced backward until its or their free end or ends are brought into engagement with the contact piece *D*, the circuit will be closed, thereby allowing of the current traveling uninterruptedly along the same and of operating a bell or other alarm that may be placed in it.

As thus constructed, the device may be applied to any part or article that is at times moved relatively to another, to close an electric circuit and sound an alarm, it only being essential that it be so secured to the one as to permit of the lever or levers *B* remaining in its or their normal positions when the co-operating parts are in their normal positions, and of its or their being depressed to bring its or their free end or ends into engagement with the contact piece *D* when such parts are moved relatively to each other.

In Figs. 4, 5, 6, and 7, I have shown the device applied to an ordinary window to indicate when either the bottom sash is raised or

the top sash lowered. In these figures, *E* indicates the bottom sash; *E'* the top sash; *F* the window casing; *G* the parting bead; *H* the outside stop; *I* the inside stop, and *A'* the burglar alarm spring. As here shown, the spring is secured to the parting bead *G* at the point where the bottom and top sashes *E* *E'* overlap, whereby to conceal it as much as is possible, and is connected with the conducting wire *g* by screws, *f* *f*, about each of which it is coiled in close contact in the one case with the rear of the base plate *A*, and in the other with the contact piece *D*. When thus applied, a single spring co-operates with both the bottom and top sashes, and serves to close the electric circuit and sound the alarm whenever either the bottom sash is raised or the top sash lowered; and, in order to permit of this result being accomplished by the raising of the one or the lowering of the other of the sashes, and, at the same time break the circuit and arrest the alarm when they are in their closed positions, I provide each of the sashes with a recess, *h*, formed therein at a point opposite its respective levers *B*, when such sash is in its closed position, as shown in Fig. 5. By this means, as will be seen, the levers *B* are free to move outward under the influence of the spring *C*, when the sashes are in their closed positions, carrying their free ends away from engagement with the contact piece *D*, and thereby breaking the circuit, but upon raising either the bottom sash *E*, or lowering the top sash *E'*, the portion of the sash above or below the recess, as the case may be, will be brought into engagement with the curved portion *b* of the respective levers *B*, pressing such lever inward against the stress of the spring *C*, until its upper free end is brought into engagement with the contact piece *D*, when the circuit will be formed and the bell or other alarm sounded.

While the application of the device to the parting bead is the one I prefer in practice, when used in connection with a bottom and a top sash which move in relation to each other, it is obvious that it may be applied to either the inner or outer stops *H*, or *I*, or to the casing *F* itself, in which event a separate spring *A'* will be required for each of the sashes.

When the spring is employed in connection with a door or drawer, I find it convenient, in the one case, to apply it to the jamb and, in the other, to one of the slides in close relationship to the drawer, the door and drawer being provided with a recess for reception of the curved portion *b* of the lever *B*, when such door or drawer is in its closed position. Again, instead of arranging the parts so as to sound the bell or other alarm when the circuit is closed, I may, if I so desire, sound it when the circuit is broken, in which event the recesses *h* will be so disposed that, when the sash, door, or other article is closed, the lever *B* will be forced into engagement with the contact piece *D* and the circuit thereupon

formed, but upon opening the sash, door, or other article the recess will be brought opposite the curved portion *b* and the lever B allowed to pass outward away from the contact piece D, thereby breaking the circuit and sounding the bell or other alarm.

Although in the foregoing, I have described the best means and arrangements of parts for carrying my invention into practice, I wish it distinctly understood that I do not limit myself strictly thereto, as it is obvious that I may modify the same in various ways without departing from my invention; as, for instance, when the spring is employed in connection with a door or drawer, I may dispense with one of the levers B, it only being essential that the number of such levers shall be equal to the number of sashes or other articles in connection with which it is to co-operate.

Having now described my invention and explained certain of the ways in which it is or may be carried into effect, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a base plate A provided with flanges *a* having apertures *a'* formed therein, and a contact piece D secured to such base plate but insulated therefrom, of

levers B provided with curved segmental portions *b* working through such apertures, a spring for co-operating with said levers, means for limiting the outward movement of these levers, and means whereby the base plate and contact piece may be connected with electric conductors, substantially as described.

2. The combination, with a base plate A provided with a flange *a* having an aperture *a'* formed therein, a contact piece D raised some distance above such plate and provided with a spring end *d'*, and insulating material interposed between the contact piece and the base plate, whereby to insulate the former from the latter, of a lever B pivoted to the base plate, whereby to be capable of movement back and forth under the spring end of the contact piece, and provided with a segmental portion *b* working through said aperture, and a spring for normally forcing the lever outward from under the contact piece, substantially as described.

In testimony whereof I have hereunto set my hand this 24th day of November, 1893.

MINTHORNE T. GORDON.

Witnesses:

STEPHEN VAN WYCK,
WM. E. TREFCER.