

No. 610,146.

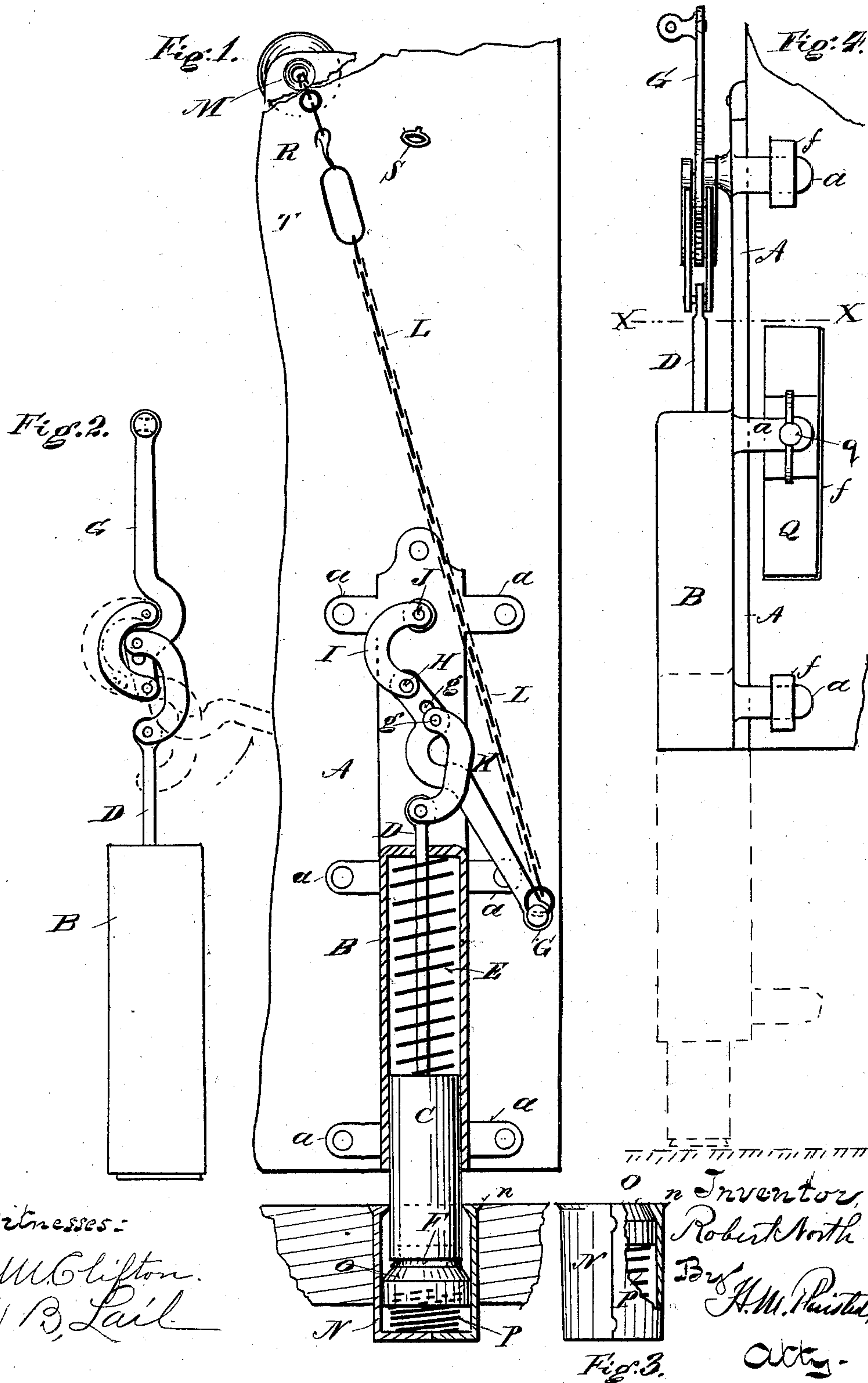
Patented Aug. 30, 1898.

R. NORTH.
DOOR HOLDER AND BOLT.

(Application filed Nov. 29, 1897.)

(No Model.)

2 Sheets—Sheet I.



Witnesses:
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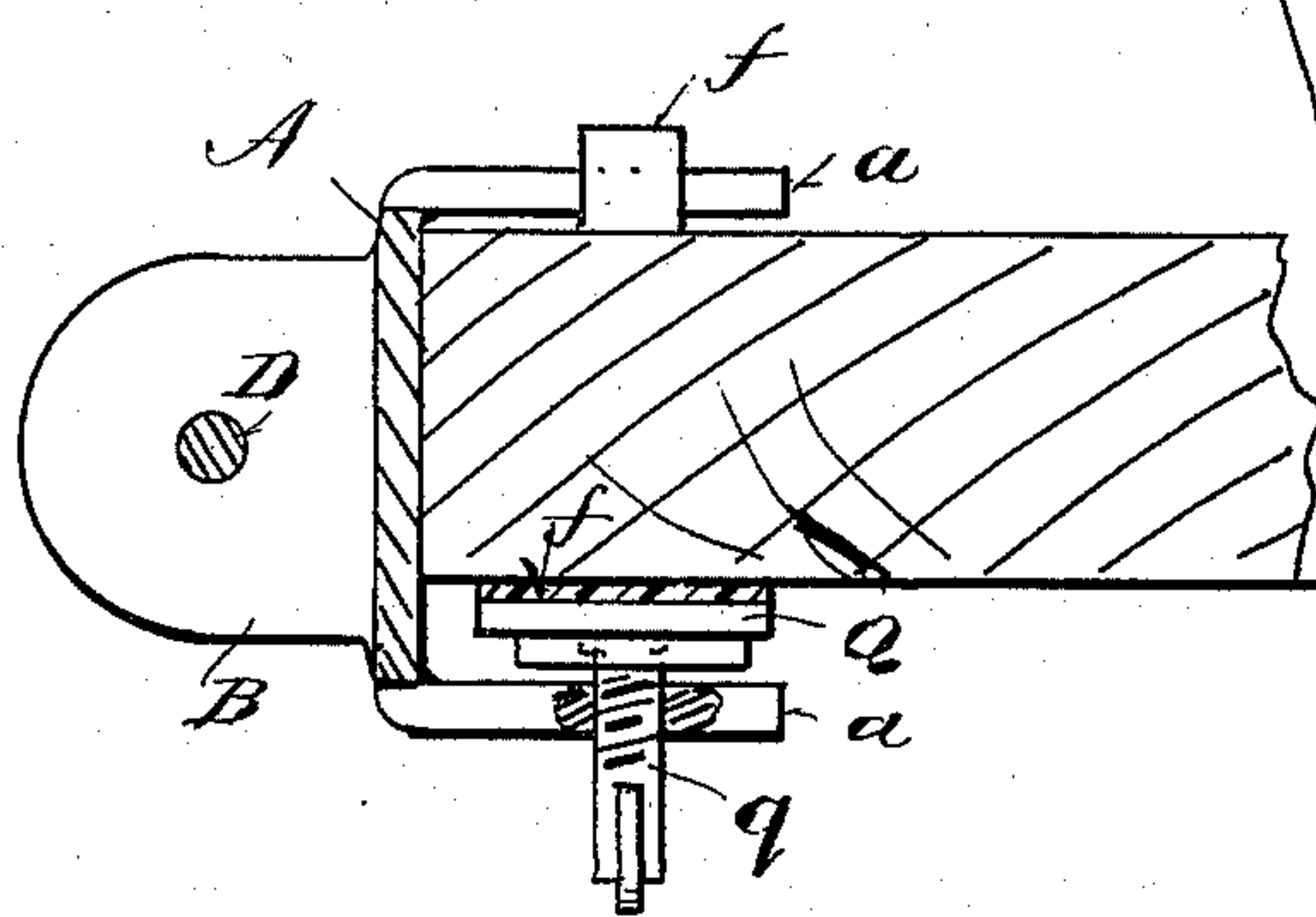
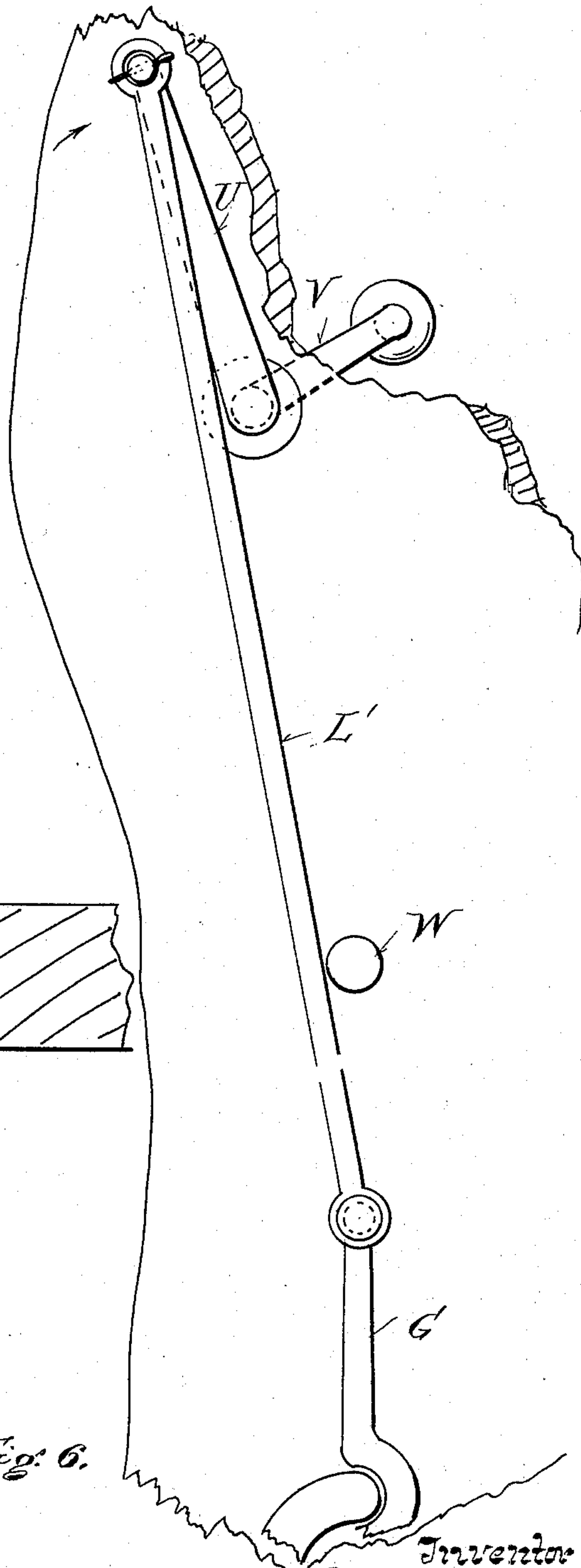


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT NORTH, OF WEBSTER GROVES, MISSOURI, ASSIGNOR OF ONE-HALF
TO WILLIAM NORTH, OF FAULKNER, KANSAS.

DOOR HOLDER AND BOLT.

SPECIFICATION forming part of Letters Patent No. 610,146, dated August 30, 1898.

Application filed November 29, 1897. Serial No. 660,068. (No model.)

To all whom it may concern:

Be it known that I, ROBERT NORTH, a citizen of the United States, residing at Webster Groves, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Door Holders and Bolts, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in door holders and bolts, the peculiarities of which will be hereinafter fully described and claimed.

15 The object of my invention is to provide an improved door-holder that may be permanently or temporarily attached to a door to hold it open to any degree or to bolt it when closed.

20 In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 represents a sectional view of my device attached to the door and a floor-socket used therewith; Fig. 2, a similar view with the bolt proper raised from engagement therewith; Fig. 3, a detail, partly in section, of said floor-socket; Fig. 4, a side view of my device temporarily attached to the edge of a door; Fig. 5, a cross-section on the line X X of Fig. 4; Fig. 6, a rigid connection to work the lever.

30 My attachment may be applied either to the bottom or the top or the edge of a door and either as a fixture or temporarily in its use by mechanics and painters, as hereinafter described. In Fig. 1 I have shown it applied to the lower outer corner of the door and in connection with a floor-socket specially adapted for use therewith.

40 The letter A designates a plate or body-piece, on which is mounted a barrel B, having a plunger-bolt C, provided with a stem D, passing outward through the end of the barrel. A spring E around said stem tends to throw the bolt outward. The bottom of the bolt is a cushion or tip F, of rubber or other material, fastened thereto by a socket or otherwise to enable firm contact with a smooth floor, for instance, without scarring it.

50 The operative means for the plunger-bolt consists of a lever G of suitable form, one end of which is pivoted at H to a link I, which

latter is pivoted at J to the plate-body A or other point substantially in line with the axis of the bolt and in a vertical plane, whereby the fulcrum of the lever is movable laterally 55 out of the vertical plane of the axis as the lever is operated. Another link K is pivoted at one end to the stem D and at the other to the lever G by adjustment in the holes g, which provide for more or less lift of the 60 plunger-bolt, according to the greater or less distance of the hole selected from the pivot-point H at the end of the lever. The links I and K are preferably bifurcated or in duplicate, as shown in Fig. 4, and the end of the 65 lever G operates between the parts of the link K, as shown in Fig. 1, thereby avoiding twisting of the parts and securing alinement in operation. The link K thus pivoted to the 70 lever G effects the lateral swing or movement of the fulcrum H, securing the substantially vertical lift on the plunger-stem as the lever is thrown upward and the spring compressed. The side motion or tendency of the stem and 75 plunger to bind in the barrel is reduced to a minimum and the reverse curves of the links interlock with one another, as shown in Fig. 2. This lateral tendency of the fulcrum is aided by the slanting direction of the chain 80 L, so that the pull thereon aids the link K in maintaining a substantially vertical pull on the plunger-stem. The outer end of the lever G has a knob or handle, preferably perforated for attachment of a chain or connection L, which passes upward (when the bolt 85 is used for the floor or downward when the bolt is used at the top of the door) to within convenient reach of the operator. In some cases it is desirable to operate the bolt from the outside, and I have therefore shown the 90 connection passing through an eyelet or other opening M in the door to the outside. Thus by pulling the connection the lever G is thrown upward and the plunger-bolt likewise raised from its engagement with the floor or 95 socket till the extreme position of the lever is reached, as in Fig. 2, and the pivot-point g is thrown past the line of centers and locks the operative mechanism and bolt in its raised position. By this movement of the lever in 100 the same direction as the plunger-bolt my device is adapted for use at the top of the

door to engage with a socket or otherwise, as the tension of the spring E is under control of the connection L of the lever in both upward and downward movement of the bolt.

5 The socket for the floor or elsewhere preferably consists of a two-part shell N, forming a cylindrical casing for the plug O, normally closing the opening of the casing by the action of the spring P. The mouth of the shell
10 is preferably beveled inward and the plunger chamfered to fit, as in Fig. 3, so that the socket is normally closed and kept clean from dirt. The edge of the shell at the top is flared at *n* to fit snugly in the opening in the floor.
15 Several of these floor-sockets may be provided in an arc about the hinge as a center, providing for different degrees of opening of the door and for bolting it when closed, or the rubber cushion F may be relied upon to af-
20 fect frictional contact only.

When the mechanic is putting a mortise-lock in the door or the painter is graining the door and wishes to hold it open, my attachment is applicable to the edge of the door by
25 the bent-down lugs *a* of the body-plate, which lugs may be formed flat, as shown in Fig. 1, when screwed or otherwise secured to the face of the door. These lugs may have a rubber or other yielding cushion *f* to prevent marking the door and provide also the yielding en-
30 gagement with the door and accommodating various thicknesses of the same. For specially thin doors the wedge Q may be inserted between the door and the lug, or other fast-
35 ening means may be employed. When the door is swung outward over the step that is lower than the threshold, as in the case of a door in the stairway, my device may be
40 slipped downward, so that the upper lugs *a a* may engage with the door, while the plunger and barrel is brought down, as indicated by dotted lines in Fig. 4, to engage with the lower
45 step. Thus whether I attach my door-holder temporarily or permanently to the door and mounted to operate upward or downward or
50 otherwise will depend upon circumstances and the use to which my attachment may be put. I do not limit myself to the exact construction shown and described.

The knob on the outside of the door that operates the connecting-chain, Fig. 1, may be disconnected at night by means of a snap-hook R, which is then hooked into an eye S to support the chain. The chain is also pro-

vided with a hand-ring T, by which it is op- 55
erated from the inside, so as to avoid stooping. The operator can use the hand-ring whether the hook is engaged with the knob or with the eye S. I also show a rigid con- 60
nection, as in Fig. 6, in which the chain is replaced by a bar L', coupled at one end to the lever G and at the other to the crank-arm U on the end of the turn-knob V, the handle of which is outside of the door. The lug W on the inside of the door stops the rod between 65
its ends like a fulcrum on a lever, thereby assisting the arm U in operating the lever G to open and close the locking-links. When the arm is turned upward in the direction of the arrow and the lever G is raised to its upper 70
position, the rod will pull sidewise upon the lever and throw its pivot *g* past the line of centers into the position shown in Fig. 2. This rod may be disconnected from the knob-
arm at night or when desired to lock the 75 door.

When used as a temporary attachment to the door, the wedge Q is preferably faced with rubber to contact firmly with the door and to prevent marring the same. This wedge 80
or strip may be forced in like a wedge or pushed in by a screw *q*, which is mounted in one of the lugs *a* of the back plate A. Thus the attachment is firmly yet detachably se- 85
cured to the door, as before described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The body-piece provided with a barrel, a plunger-bolt placed in the barrel, a stem con- 90
nected to the bolt and extending through the upper end of the barrel, a spring placed in the upper portion of the barrel, and bearing against the plunger-bolt, the curved links I, K, and the operating-lever connected to the 95
inner end of each of the links, combined with the two-part shell N, the plug O placed therein and normally closing the opening in the casing, and the spring P placed under the plug, the parts being arranged to operate 100
substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT NORTH.

Witnesses:

ALFRED A. MATHEY,
H. M. PLAISTED.