

(Model.)

E. W. VANDUZEN.
Gong and Signal Bell.

No. 229,567.

Patented July 6, 1880.

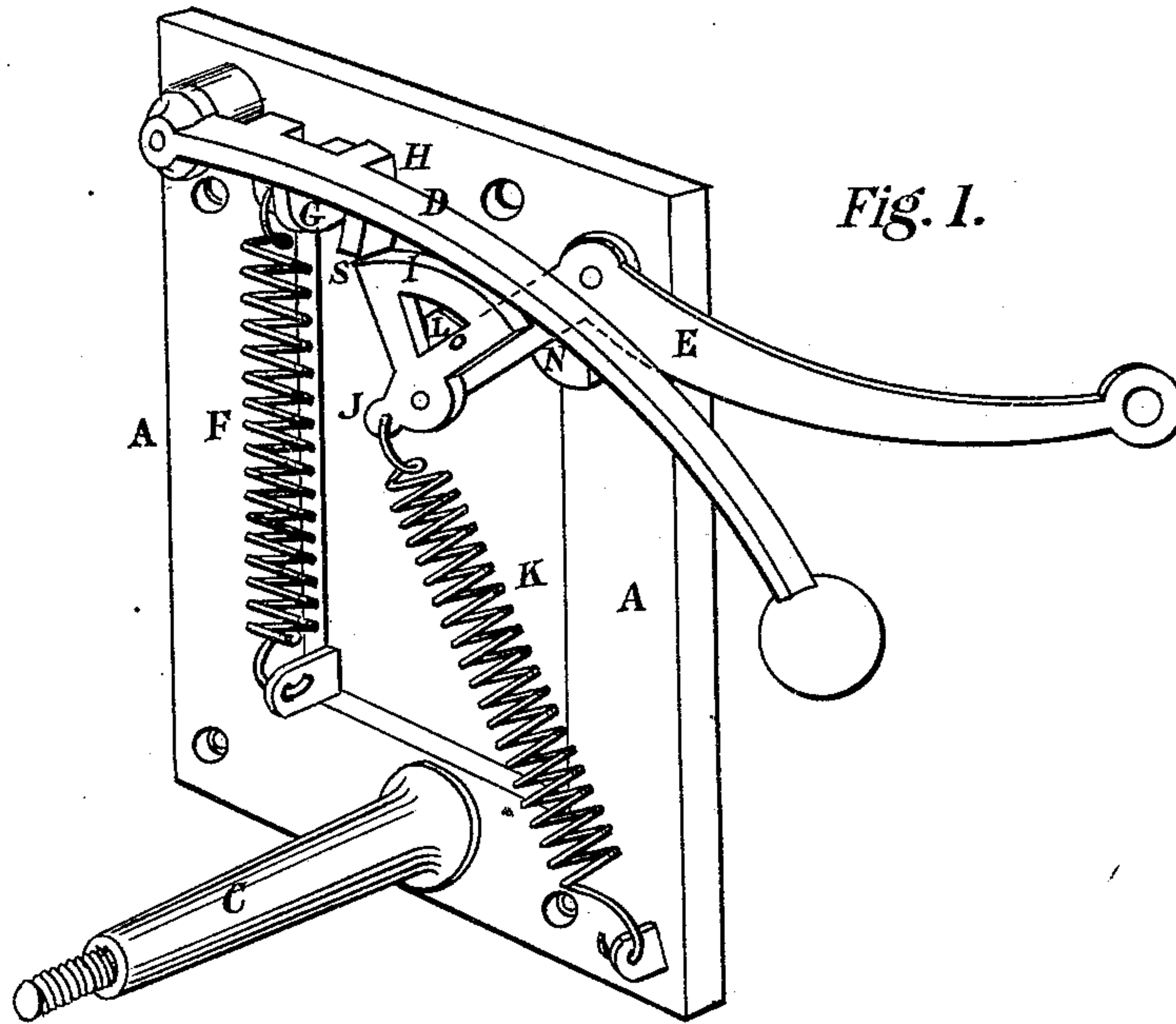


Fig. 1.

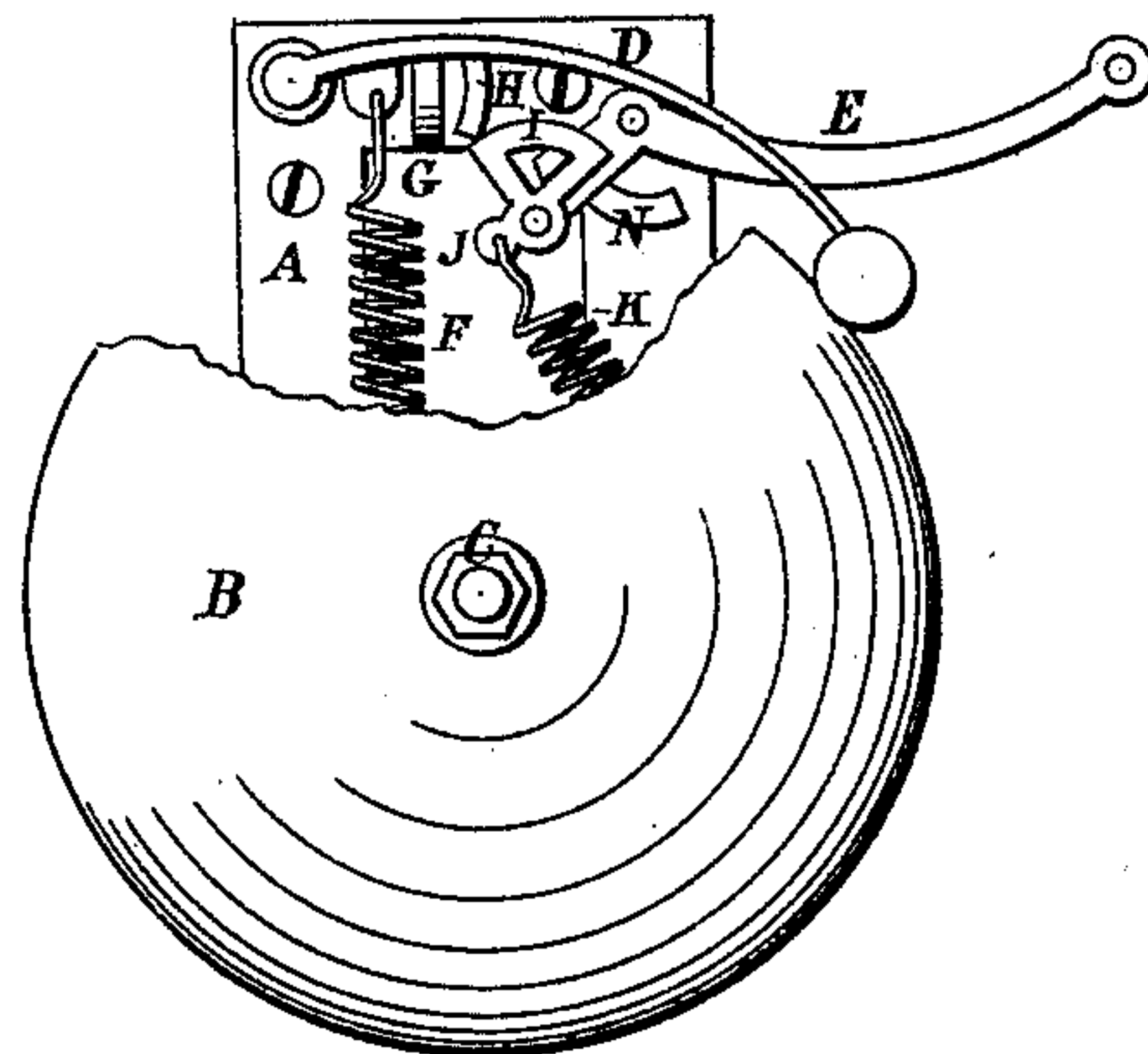


Fig. 2.

Witnesses:

J. A. Kady
W. W. Ellsworth

Inventor:

E. W. Vanduzen
By *E. A. Ellsworth*
Attorney

UNITED STATES PATENT OFFICE.

EZRA W. VANDUZEN, OF NEWPORT, KENTUCKY.

GONG AND SIGNAL-BELL.

SPECIFICATION forming part of Letters Patent No. 229,567, dated July 6, 1880.

Application filed April 12, 1880. (Model.)

To all whom it may concern:

Be it known that I, EZRA W. VANDUZEN, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have made certain new and useful Improvements in Gongs and Signal-Bells, (Case D;) and I do hereby declare the following to be a full, clear, concise, and exact description of the same, sufficient to enable others skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a perspective view of the bell frame and striking apparatus with the bell removed, and Fig. 2 is a front elevation, showing a portion of the bell.

Similar letters of reference in the drawings indicate the same parts.

Gongs or signal-bells are generally sounded by a spring-clapper placed above the bell, and adapted to be lifted and tripped by a movable spring-latch of some kind arranged upon the operating-lever, which, in its turn, is provided with one or more retracting-springs.

My invention relates to this class of bells, and has for its object to improve the tripping mechanism and reduce the number of springs, as I will now proceed to describe.

In the accompanying drawings, A represents a rectangular or other properly-shaped cast-iron frame to support the bell and its striking mechanism. B is the bell, mounted upon a front stud, C, of the frame. D is the clapper-arm, pivoted to the frame at one end and carried downward, so that the clapper when operated shall strike the edge of the bell; and E is the latch-lever pivoted to the side of the frame opposite the clapper. The clapper-arm is held by a spiral spring, F, against a stud, G, cast on the frame, and near the stud it is provided with a short curved lug, H, projecting downward from its edge or under side.

The short arm of the latch-lever extends inward and downward from the pivot a considerable distance, and a quadrant-shaped latch, I, is pivoted to its extremity, having upon one side of the pivot a lateral projection, J, which still further extends the short arm of the lever. A retracting-spring, K, secured to the

frame, is attached to the projection J of the latch, and an angular or other shaped stop, L, cast on or fastened to the short arm of the lever, extends into the angular opening formed in the latch and prevents the spring from throwing the latch off the lever. When the latch and lever are not in operation the spring K holds the short arm of the lever down against one end of a stop, N, cast on the frame, and presses the edge of the opening in the latch against the stop L. In this position one corner, S, of the latch stands just under the end of the curved lug H, ready to bear against it, and thus lift the clapper-arm, when the latch-lever is pulled downward by the operating cord or wire attached to its outer end. When this is done the latch carries the clapper-arm upward a certain distance, and then releases it, for the reason that the lifting corner of the latch moves in the arc of a circle whose center is the pivot of the latch-lever, and the convex face of the curved lug moves in the arc of a circle centered at the pivot of the clapper-arm. When, therefore, the upward movement of the latch and lug has reached a point where these two arcs separate sufficiently to clear the latch from the lug the clapper-spring F throws the clapper against the bell, the clapper-arm being arrested by the stud G, and the further upward movement of the latch-lever prevented by the contact of its long arm with the outer end of the stop N. Upon the release of the latch-lever the spring K resets it with its short arm against the inner end of the stop N; but in this return movement the latch bears against the convex face of the lug H with a yielding pressure, which prevents the two from binding until the corner of the latch clears the lug, when the spring again throws it forward in a position for lifting the clapper.

By this means a single spring is employed to operate both the latch and latch-lever, thereby dispensing with the use of several springs for this purpose and insuring a more certain and positive action with less friction of the contact parts and with a less expenditure of force to operate the whole mechanism.

Having thus described my invention, what I claim is—

1. The latch-lever and latch combined with

a single retracting-spring, substantially as described, for the purpose specified.

2. The latch-lever and latch combined with a single retracting-spring and a stop, L, secured to the lever and projecting within the opening in the latch, substantially as described, for the purpose specified.

3. The stop N on the frame, operating in combination with both arms of the latch-lever, substantially as described, for the purpose specified.

4. The combination of the clapper and its retracting-spring with the latch and latch-lever jointly operated by one spring connected to the latch, substantially as described, for the purpose specified.

5. The angular latch pivoted to the short arm of the latch-lever, and having the projection J, whereby the short arm of the latch-lever is extended to increase the leverage of said lever under the action of the spring, substantially as described, for the purpose specified.

In testimony of which invention I have hereunto set my hand this 30th day of March, A. D. 1880.

EZRA W. VANDUZEN.

Witnesses:

E. A. ELLSWORTH,
N. K. ELLSWORTH.