

(No Model.)

E. LAWSON.
DOOR BELL.

No. 286,714.

Patented Oct. 16, 1883.

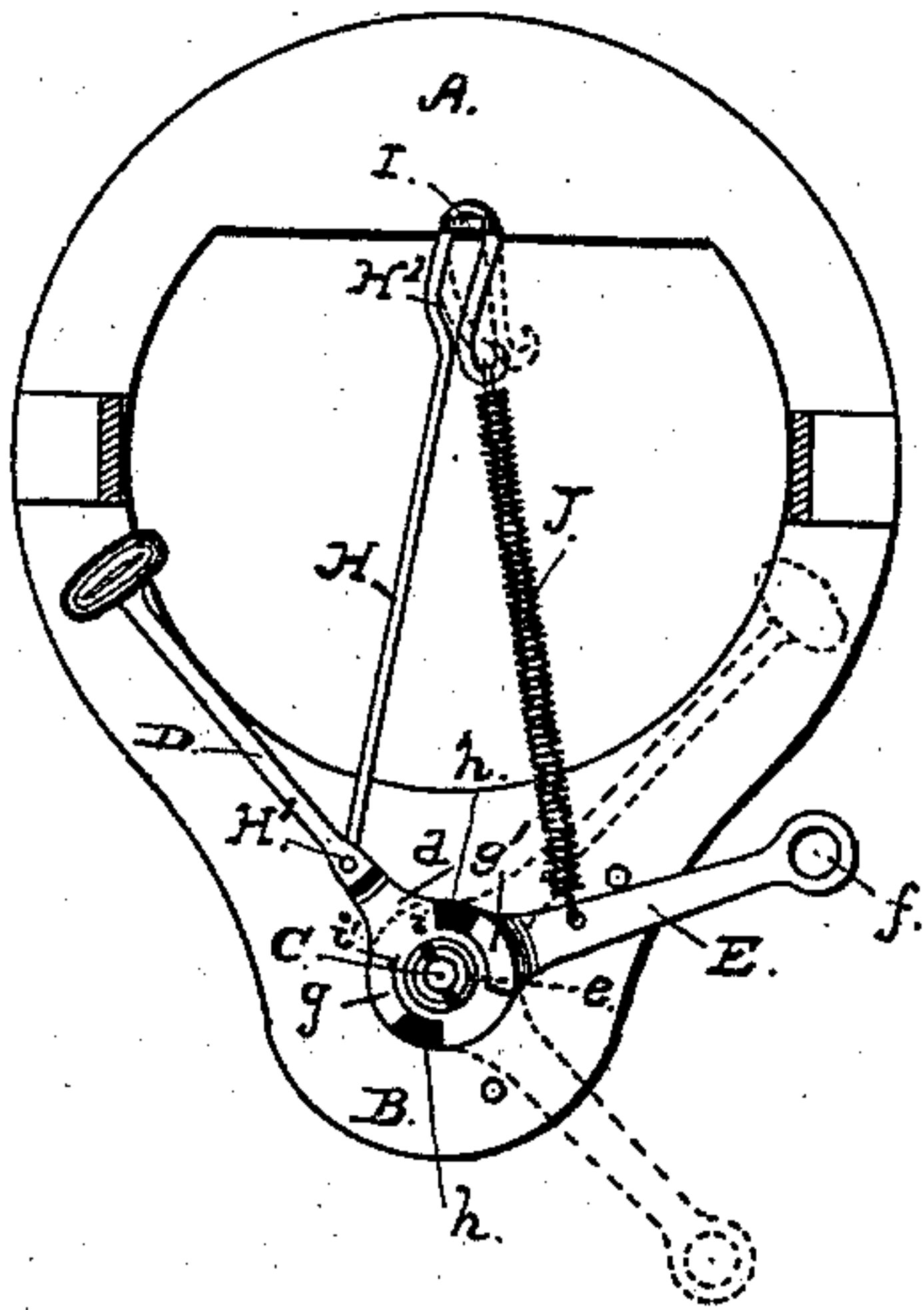


Fig. 1.

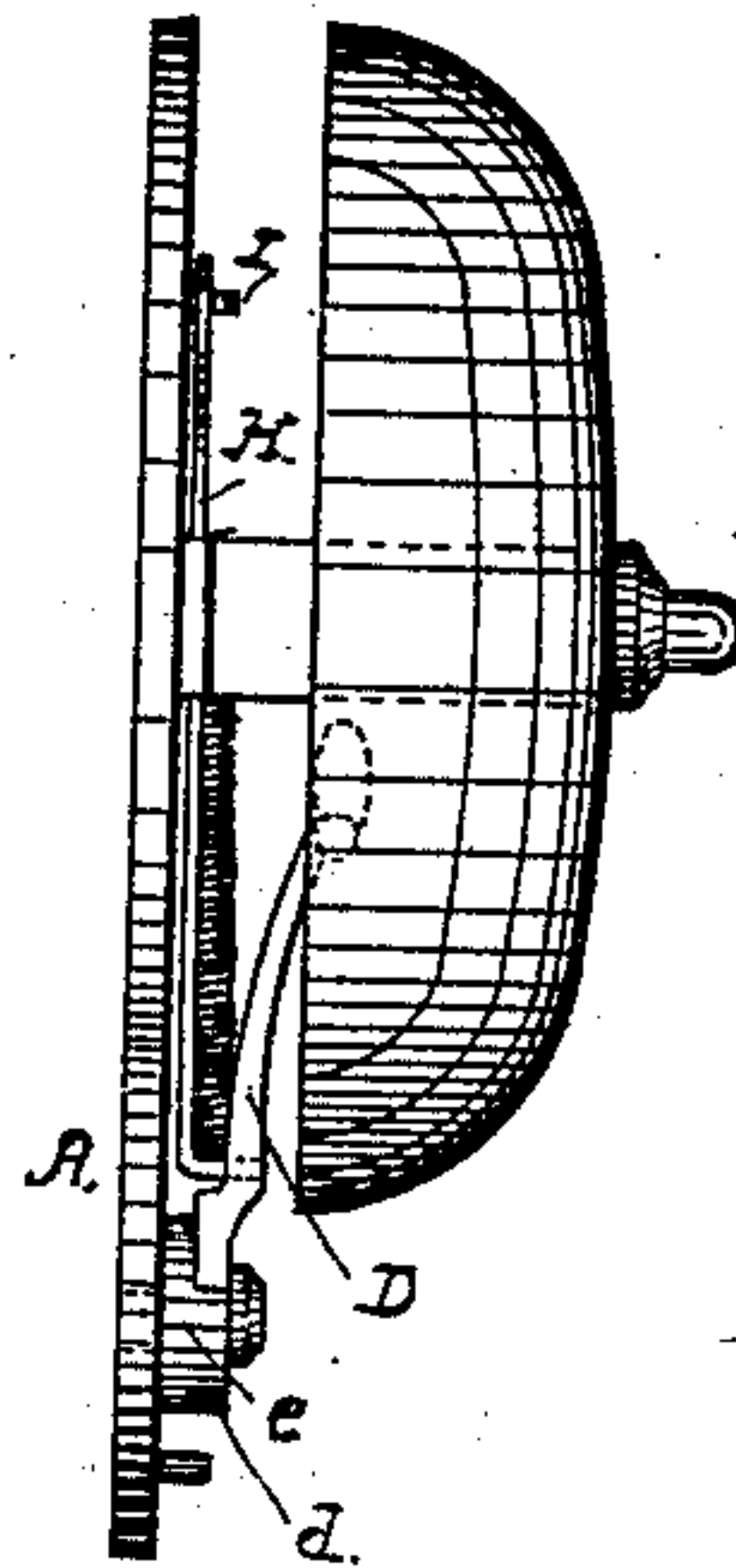


Fig. 2.

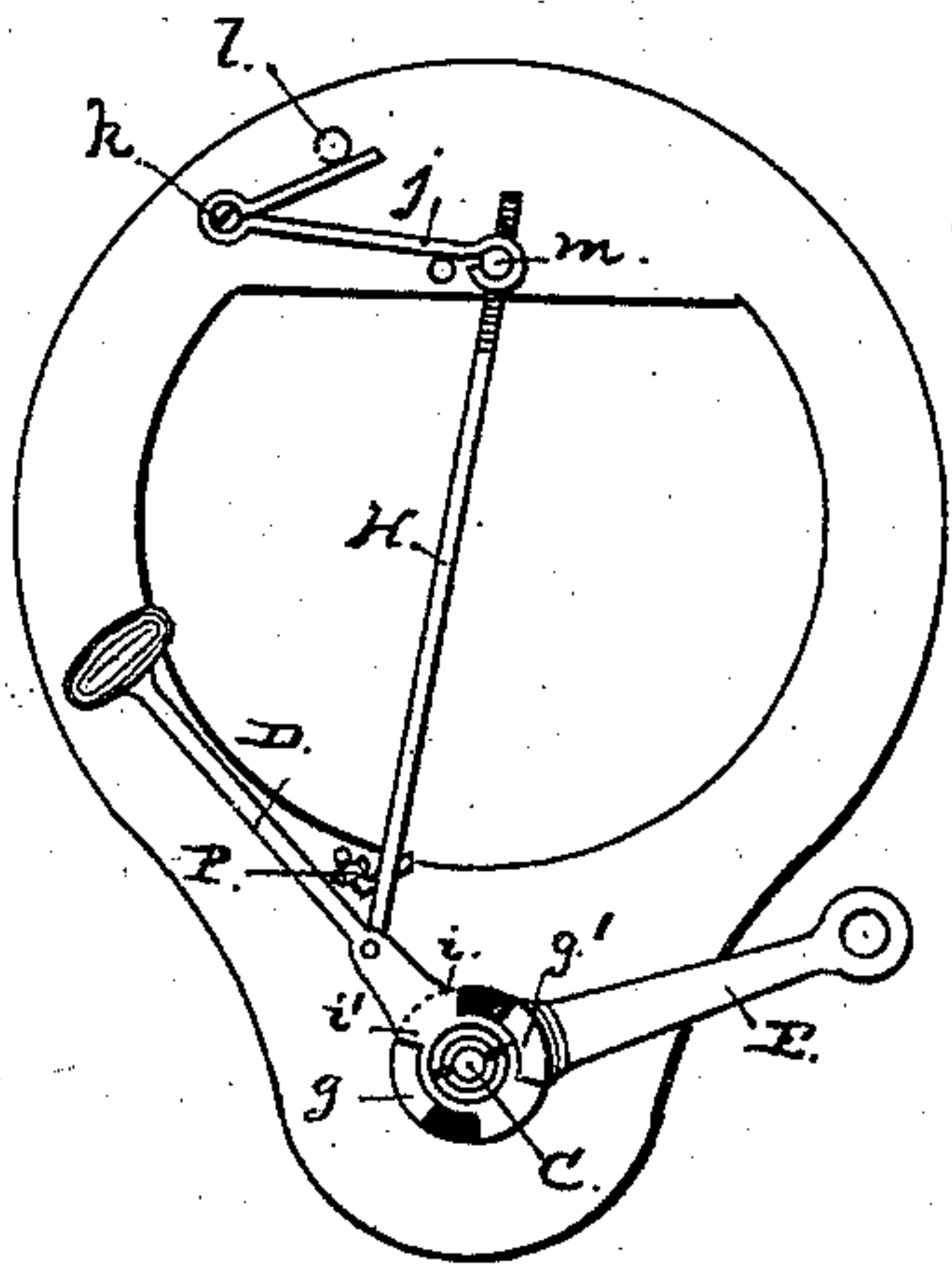


Fig. 3.

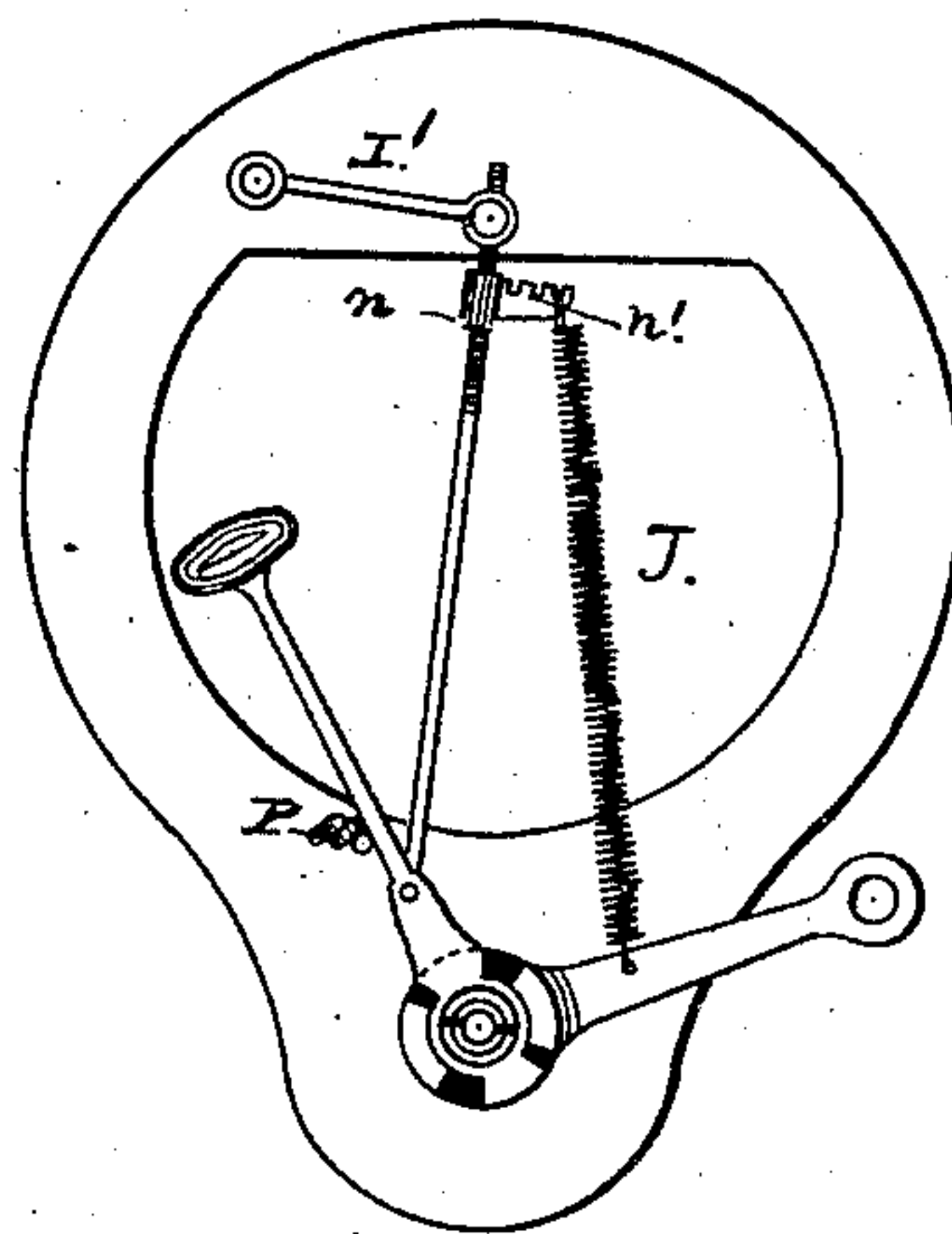


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

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DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 286,714, dated October 16, 1883.

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To all whom it may concern:

Be it known that I, ENOCH LAWSON, a citizen of the United States, residing in the city and county of San Francisco, State of California, have made and invented certain new and useful Improvements in Striking Mechanism for Bells and Gongs; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in certain striking mechanism for bells and gongs, such as are provided in cars, vessels, and in other situations for transmitting signals or giving alarms.

It consists in novel construction and combination of parts, whereby I produce a simple, cheap, and reliable striking mechanism for such signal devices.

The following description fully explains the nature of my said improvements and the manner in which I proceed to construct, apply, and use the same, the said drawings being referred to by figures and letters.

Figure 1 shows the construction and attachment of my striking mechanism to the frame or face-plate of a signal-gong of the kind employed to transmit signals in boats and railway-cars, and for other like purposes. Fig. 2 is a side view of Fig. 1, with the addition of the gong. Figs. 3 and 4 are modifications of the construction given in Figs. 1 and 2.

A represents a face-plate, to the front of which is fixed the usual gong, G, in any suitable manner.

B is a lower extension, in the center of which is a pin or stud, C, projecting to the front. This pin forms a bearing for and the center of oscillation of a striking-arm, D. This arm extends upward from a circular hub or plate, *d*, of which it is a part, and in the center of this hub an aperture is provided for the fixed pin C. The arm then turns freely on this center C.

E is a short lever, having an eye or aperture, *e*, in one end to fit on the pin C, and a ring or connection, *f*, at the outer end for the operating cord or wire. The end *e* of this lever has lugs *g g'* projecting from the circular face surrounding the pivot-hole, and formed of the segment of a circle, one, *g*, being diametrically

opposite to the other, *g'*. This lever is set on the pin before the striker D is placed on it, and spaces *h h* are cut away on opposite edges of the hub *d* to receive the lugs *g g'*. These spaces are greater than the width of the lugs to give sufficient swing or throw to the striker independent of the lever.

H is a rod, having loose connection at its lower end, H', with the striker-arm, and attached at its upper end to a point in the face-plate A about perpendicularly over or in line with the center C. In the construction shown in Fig. 1 this attachment is made by bending an edge, H², in the end of the rod, sufficiently large to fit over a pin or stud, I, with a head to hold the rod in place. This attachment leaves the rod free to swing in this point I. To a point in the rod below this attachment, at I, one end of a coil-spring, J, is connected, while the other end is secured to the pull-lever E. By this construction, the lever E being drawn down by a pull of the bell-cord, the stop *g* will strike against the shoulder *i'* of the hub and draw over the arm D until it passes the vertical and is brought out of line with the rod H, which action of course elevates the upper end, H', and draws out of the spring, and the reaction then throws over the striker to the opposite side, and the blow is struck by the contraction of the spring acting upon the arm through the rod H. When the cord is released, the spring then contracts to its normal position or condition, and in so doing the lever E is drawn up to its first position, and the stop *g'*, coming in contact with the stop *i* on the hub, throws the arm upward and over past the center again, when the rod and spring then operate to strike a blow on the other side of the bell. By pulling once on the cord and then releasing it, two strokes or signals are produced.

Figs. 3 and 4 represent modifications in the construction and application of the springs by which the blow is produced. In Fig. 3 I dispense with the coil-spring and use in place of it a flat V-spring, *j*, having attachment at *k* to the plate A, and its shorter limb bearing against a stop-pin, *l*, on the plate. To its longer member the upper end of the rod is attached at *m*. The action of this spring is the same as when the coil-spring is used. In Fig. 4 the link or short arm I' is substituted for the sim-

ple stud connection I, and an adjustable fastening, *n*, is employed. The force of the blow can then be readily adjusted by changing the point of attachment *n* up or down to alter the intensity of the spring. This adjustment is effected by forming a screw-thread on the upper end of the rod, and placing on it a nut, *u*, with a projecting finger or pointer, *u'*, having notches to receive the eye on the end of the spring J.

A stop, P, is provided in the side of the face-plate, to be used where one signal only is required. In such adjustment or use of the striking mechanism this stop is turned up, as shown in Fig. 4, so that the movement of the arm D is arrested before the hammer strikes the gong. Its position when not in use is seen in Fig. 3.

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

1. In a signal bell or gong, the combination of

the striker-arm D, operating-lever E, rod H, having connection at the lower end to the arm D at a point inside of its center of motion C, and at the upper end to a point on the face-plate A, whereon it is free to swing, and a spring, J or *j*, applied at the upper part of said rod, substantially as herein described, to operate as set forth.

2. A striking mechanism for bells and gongs, consisting of the striker-arm D, pivoted or free to oscillate on the plate A, and having the stops *i i'*, the operating-lever E, having stops *g g'*, the rod H, having connection at the lower end with the striker-arm, and free to rock or swing from its upper end, and a spring so applied that it maintains a downward pressure of said rod to throw the striker-arm outward, substantially as described.

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