(No Model.)

2 Sheets—Sheet 1.

L. D. JONES.

BELL STRIKING MECHANISM.

No. 387,079. Patented July 31, 1888.

Fig. 6.

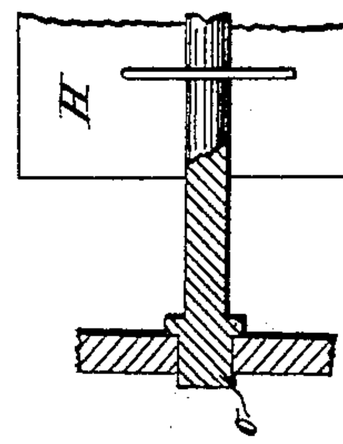


Fig. 3.

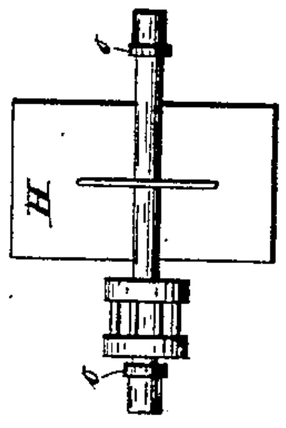


Fig. 2.

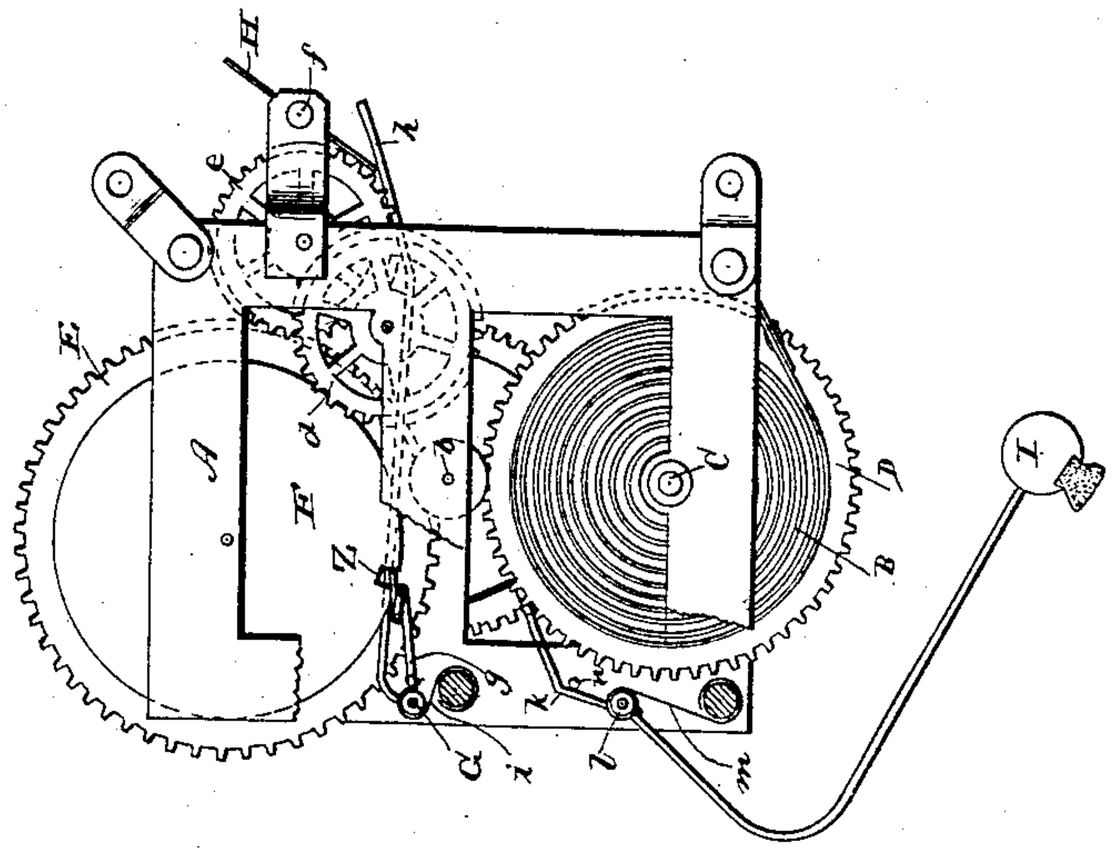
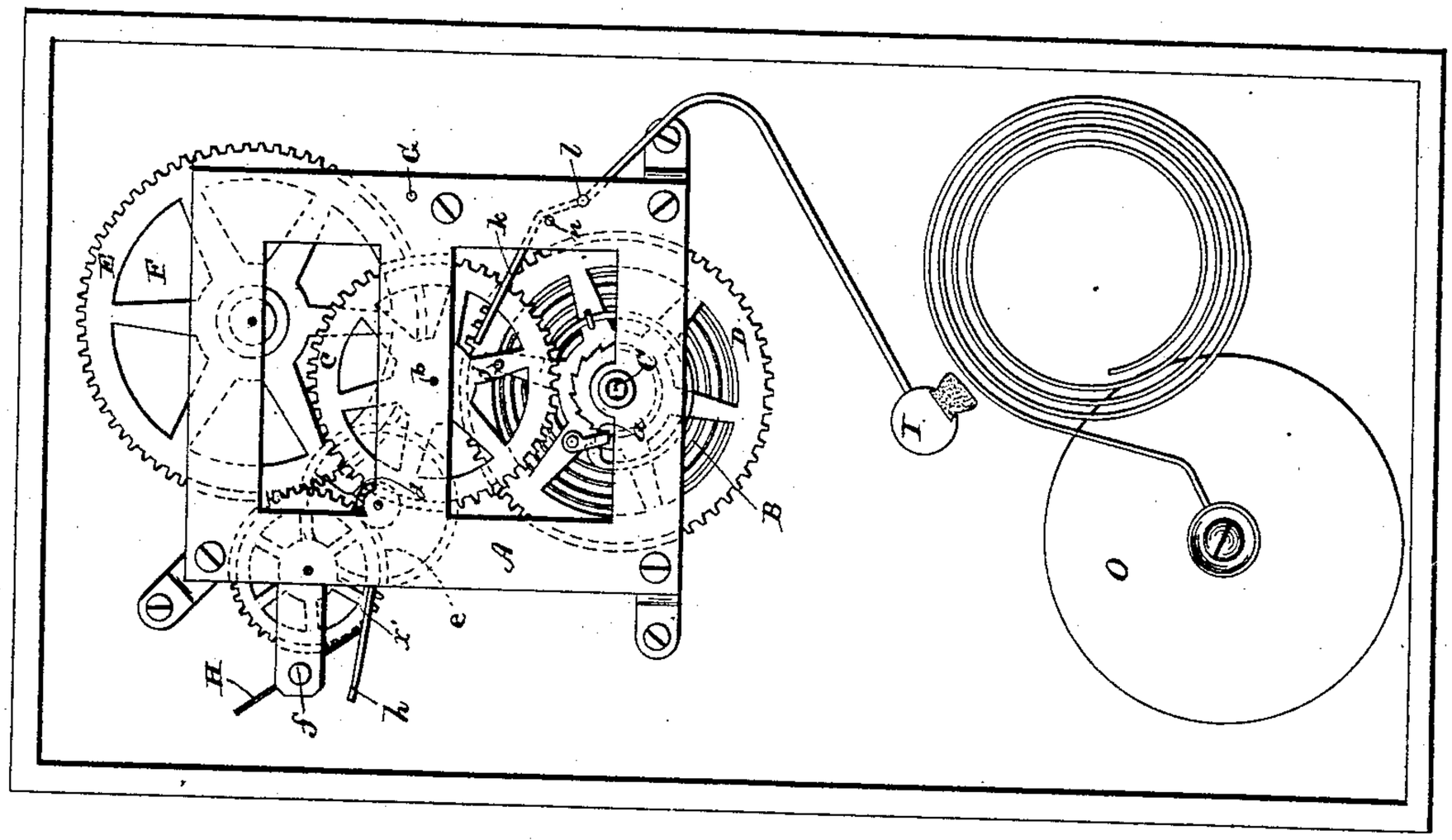


Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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BELL STRIKING MECHANISM.

No. 387,079. Patented July 31, 1888.

Fig. 5.

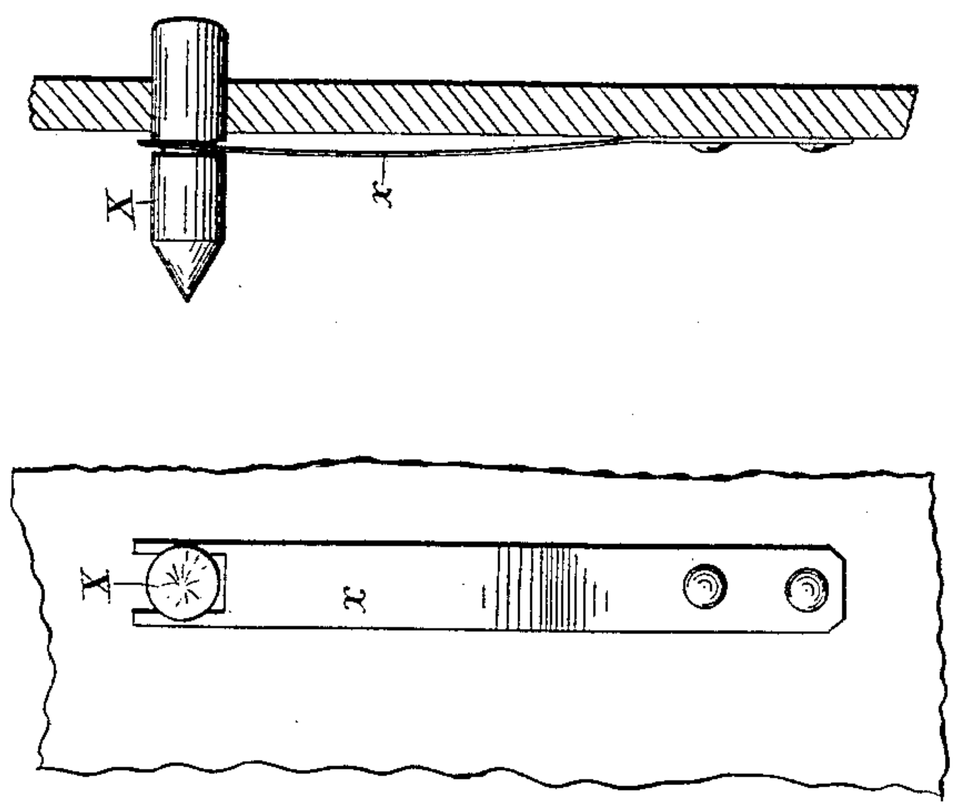
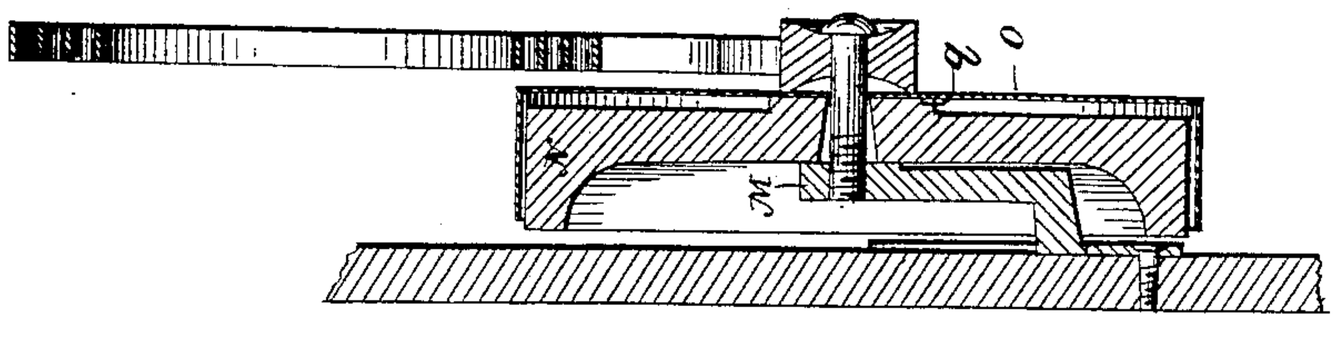


Fig. 4.



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UNITED STATES PATENT OFFICE.

LOUIS D. JONES, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM E. SHAW, OF SAME PLACE.

BELL-STRIKING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 387,079, dated July 31, 1888.

Application filed July 22, 1887. Serial No. 245,009. (No model.)

To all whom it may concern:

Be it known that I, LOUIS D. JONES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Alarms or Bell-Striking Mechanisms; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My invention has for its object to provide a mechanism for striking a predetermined number of strokes upon a suitable bell or gong, for use in signaling in lodge-meetings or other places where it is desired to signal without having to strike the bell or gong the requisite number of times by hand; and to this end the invention consists in the arrangement of striking mechanism and controlling devices to be hereinafter described, and pointed out particularly in the claims at the end of this specification.

In the accompanying drawings, Figure 1 represents a front elevation of the striking mechanism, the front of its inclosing-case being removed. Fig. 2 is a rear view of the striking mechanism with a portion of the movement-frame broken away. Fig. 3 is a view of the fly-pinion and shaft. Fig. 4 is a section of the gong and the sounding-board upon which it is mounted. Fig. 5 is a view of the under side of the cover of the inclosing-case. Fig. 6 is an enlarged view of one of the fly-shaft bearings.

Similar letters of reference in the several figures indicate the same parts.

In constructing my device I preferably employ a movement-framing, main spring, and gear-wheel, with pawl and ratchet connections for preventing the unwinding of the spring, similar in all respects to those used in the ordinary clock, as will be seen by reference to Fig. 1, wherein A represents the frame, B the spring, C the winding-shaft, and *a* the pawl and ratchet connection between said shaft and the gear-wheel D. This gear-wheel D meshes with a pinion on shaft *b*, upon which is mounted the gear-wheel *c* in train with the two idler-wheels *d* and *e*, the latter, *e*, being in gear with the pinion on the fly-shaft *f*.

Located above and gearing with the pinion on the shaft *b* is a large gear-wheel, E, preferably of such size as to rotate only once, while allowing the pinion on shaft *b* to rotate as many times as the number of signals to be struck, as will be presently explained. On the shaft of this large gear-wheel E is mounted a disk, F, having a single notch or depression, Z, in its periphery.

Assuming now that the spring is wound up, the train of gearing is prevented from running down as follows: To the shaft G are secured two arms, one of which, *g*, engages into the notch in the periphery of the disk F. The other, *h*, extends over into position for engaging the fly-wheel H and preventing its rotation, both being held up in position by the spring *i*.

The striker or hammer I is operated by the pin *j* on gear-wheel *c* coming in contact with the arm *k* on shaft *l*, to which the striker is secured, and moving it back against the tension of spring *m*. As soon as the pin has passed the arm *k*, the spring throws the striker back to its first position and the latter strikes the gong. The arm *k* is prevented from moving too far by the pin *n* on the inside of the frame.

The fly-pinion (see Fig. 3) has its journals at either end enlarged and provided with collars *o* to prevent their lateral displacement, thus practically doing away with the noise and rattle, necessary incidents of the ordinary reduced journals.

The gong is preferably of the ordinary spring type, and is mounted upon a sounding board or base secured to the casing by a bracket, M, having an upwardly-projecting arm, upon which rests the recessed iron base-block, N, and upon the latter is mounted the thin shell O, preferably of brass, it being held away from the base N by the projection *q* thereon. A screw passing through the end of the gong, shell, and base, and into the arm on the bracket, secures the parts together and the gong in proper position.

From the foregoing description the operation of the device will be readily understood. The arm *h* is drawn out of the path of the fly, and by the same movement the arm *g* out of the notch in the periphery of the disk F, allowing the fly to rotate. When it has rotated

a distance sufficient to carry the notch in the disk beyond the arm *g*, said arm is released and rests upon the smooth periphery of the disk, allowing the parts to continue in motion until the notch in the disk again comes around and engages said arm, when the arm *h* again moves into the path of the fly and arrests its motion. As before mentioned, the hammer is operated by pin *j* on gear-wheel *c*, the latter rotating as many times as the number of signals to be struck during one entire or a portion of a revolution of the disk F. I preferably move the arm *h* out of the path of the fly by means of a conically-pointed pin, X, in the cover of the casing, (see Fig. 5,) which is moved inward against the tension of spring *x* and engages the said arm at the point *x'*. When the main spring has run down, it may be rewound by applying a key to its winding-shaft through a suitable opening in the cover.

It is perfectly obvious that two or more pins may be located on the wheel *c*, and that more than one notch may be made in the disk, or the relative size of the disk and gear-wheels may be changed according to the number of strokes it is desired to strike on the gong.

Having thus described my invention, what I claim as new is—

1. In an automatic signaling apparatus, the combination, with the shaft carrying the gear-wheel, having the hammer-actuating devices thereon, and pinion, as described, of two gear-wheels engaging said pinion, one connected to the spring or motor, the other carrying a notched disk, a train of gearing for actuating the fly in gear with the wheel carrying the hammer-actuating devices, and two arms, one of which enters the notch in said disk and allows the other to engage the fly and arrest its motion, as set forth.

2. In an automatic signaling apparatus, the combination, with the shaft carrying the gear-wheel, having the hammer-actuating devices thereon, and pinion, as described, of two gear-wheels engaging said pinion, one connected to the spring or motor, the other carrying a notched disk, a train of gearing for actuating the fly in gear with the wheel carrying the hammer-actuating devices, two arms, one of which enters the notch in said disk and allows the other to engage the fly and arrest its motion, and a conical pin for moving the same out of engagement with said fly and allowing its further rotation, as set forth.

3. In an automatic signaling device, the combination, with the spring, train of gearing, and fly, as described, of the shaft for said fly, having its ends enlarged to form the bearings and provided with the collars of greater diameter than said enlarged portions for preventing the longitudinal movement of the shaft, substantially as described.

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