C. W. Roberts.

Clock Striking.

No. 84,709. Patented Dec. 8, 1868.

Fig: 1.

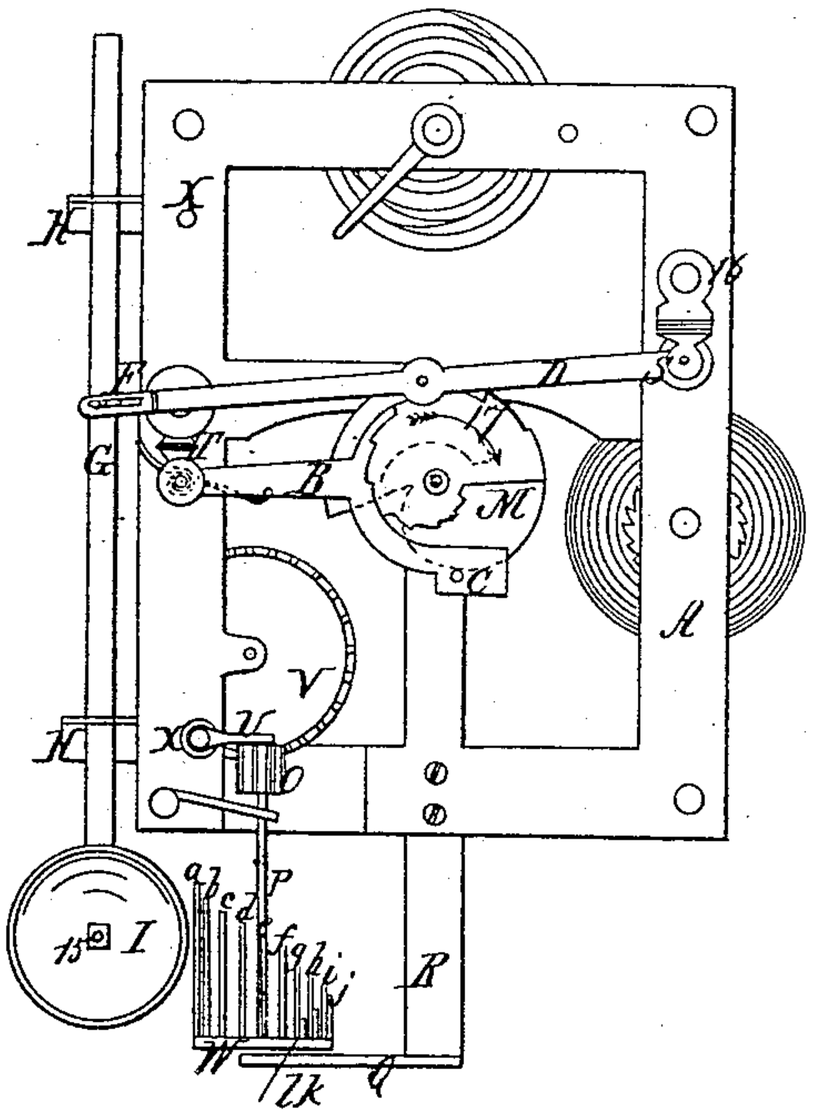


Fig: 3.

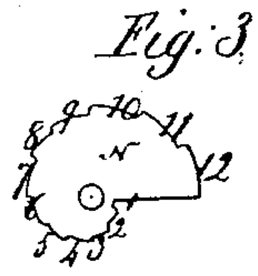


Fig: 2.

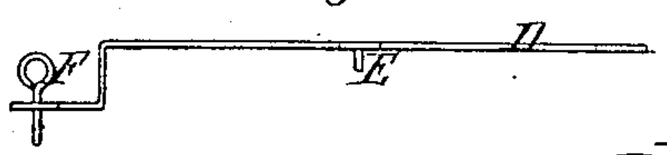


Fig: 4.

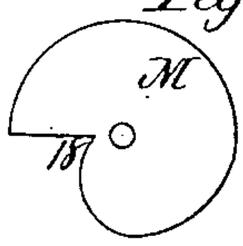


Fig: 5.

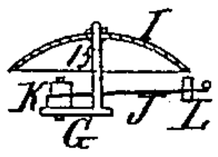


Fig: 6.

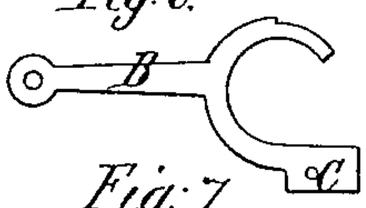
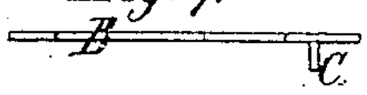


Fig: 7.



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Letters Patent No. 84,709, *dated December* 8, 1868; *antedated November* 21, 1868.

IMPROVEMENT IN REPEATING-CLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, C. W. ROBERTS, of Austin, in the county of Cook, in the State of Illinois, have invented an Improvement in Repeating-Clocks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of the front of a common brass clock, with my improvement attached.

Figure 2, a top view of the lever which operates the bell-slide.

Figure 3, an elevation of the notched cam, which operates against the aforesaid lever, and lowers the bell-slide.

Figure 4, an elevation of the cam which raises the bell-slide, in conjunction with a forked lever, shown at fig. 7, and detached from the other working-parts.

Figure 5, a section of the bell and its striking-attachment, showing also how it is secured to the bell-slide.

Figure 6, an elevation of the forked lever referred to, detached from the other parts of the invention.

Figure 7, a view of the under edge of the same.

This invention relates to an improvement in those kinds of clocks which strike, and indicate parts of hours, but differs from most of them in being arranged to strike. at certain intervals, the same number as the previous hour, and its nature will be fully understood by the following description.

In order to give a correct understanding of my invention, I have marked corresponding parts with similar letters and figures, and will now give a detailed description.

A represents the face-frame of a common brass clock, to which my device is attached.

R Q, fig. 1, represent a metal step, secured by screws to the face-frame A, at the lower edge, and has a suitable pivot-hole in the part Q, for the support of the lower end of a shaft, P, which has a pinion, O, rigidly attached to it, near the top, and a pivot fitted to run in a bridge, U, also attached to frame A by a screw, at X, said shaft having attached to its lower end, and near the lower pivot, a circular plate, W, supporting twelve cylindrical standards, *a b c*, &c., of such different lengths as will cause the hammer-spring J to strike the regular hours of the day, when operated in conjunction with the cam-wheel N, and the other devices hereafter described.

Guides H, attached to the frame A by means of screws X, have mortises made vertically through them, in which a metal bell-slide, G, is made to work up and down, and thus raise the bell I and bell-spring J, attached to said slide, from 1 to 12, and lower them from 12 to 1, relative to the standards *a b c*, &c., on the plate W, which move said bell-spring and cause it to indicate the hour, and repeat the same. This bell-spring is made of steel, and secured to the slide G by means of a clamp, *k*, held in place by a small screw.

The bell I is supported by a stud, 15, same figure, put through the lower end of slide G, and having a shoulder turned on it, and a screw-thread on which a nut is turned for clamping the bell fast.

A lever, D, is pivoted to a bridge, S, attached to frame A by a screw, 16, and is bent down at right angles at the other end, fig. 2, and has a slot through it for receiving a pin, F, put also through the slide G, said slot permitting lever D to raise and lower the said slide, when a pin, E, attached to it, and projecting inward, is operated upon by a notched cam, N, and a forked lever, B.

This cam has twelve notches in its edge, corresponding in number with the standards *a b*, &c., on the plate W, and revolves with the main dial-post of the clock, on which it is put, in the direction indicated by a dart, 17, and when the pin E rests on the part 12 of the cam, fig. 3, the bell I will be raised up, so that the bell-spring J will only strike the standard *a*, and indicate 1, and when on the part 11, the bell-spring will strike standards *a b*, and so on, to part 1, which will lower said spring down to strike them all, and indicate 12.

The bell is raised up by means of a forked lever, B, pivoted to a bridge, T, attached to the frame A, and arranged with a common coil-spring on said pivot, brought to bear on the lower edge of the lever, and cause it to press upward. A pin, C, fig. 7, operating on the edge of a second cam, M, prevents the upper fork of the lever from striking the pin E of lever D, until said pin bears on that part of the notched cam shown at 1, fig. 3.

This cam M is also made fast to the main post of the clock, and is arranged for the forked lever B to work between it and the cam N, and has a form corresponding with the latter, but has no notches, except the offset 18, which is arranged so that the pin C will rest on it at the same time that the pin E does in the notch 1 on the cam N, and also supports pin C on its edge, between the hours of 12 and 1, the lever B raising the pin E from 1 to 12 on the cam N, as soon as pin C fall into said notch 18.

A bevel-wheel, V, fig. 1, is driven by the third shaft of the clock, and can be increased or diminished in size, so as to repeat the hour, between the common periods of striking. The gearing shown in the drawing is arranged to strike every three minutes.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The combination of the bell-spring J, bell I, and standards *a b c*, &c., substantially as set forth.

2. The combination of bell I, spring J, slide G, cams M N, and levers D B, as and for the purpose set forth.

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Witnesses:

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