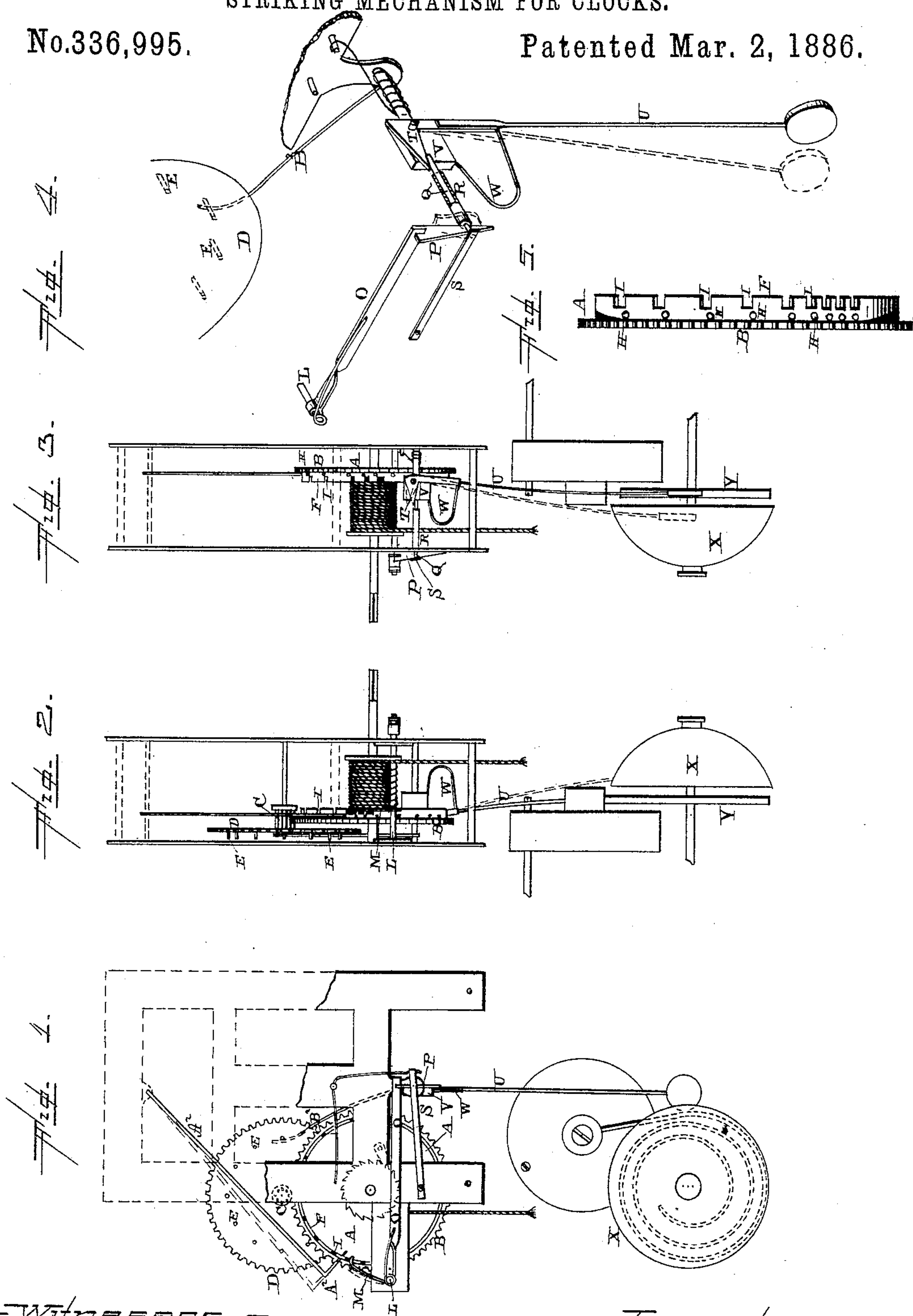


(Model.)

A. FISCHER.  
STRIKING MECHANISM FOR CLOCKS.

No.336,995.

Patented Mar. 2, 1886.



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# UNITED STATES PATENT OFFICE.

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## STRIKING MECHANISM FOR CLOCKS.

SPECIFICATION forming part of Letters Patent No. 336,995, dated March 2, 1886.

Application filed April 21, 1884. Serial No. 128,633. (Model.)

*To all whom it may concern:*

Be it known that I, AUGUST FISCHER, of Whitehall, in the county of Greene and State of Illinois, have invented certain new and useful Improvements in Striking Mechanisms for Clocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in striking mechanisms for clocks; and it consists, first, in the combination of two separate and distinct gongs or bells which will give entirely distinct sounds when struck by the hammer; second, the combination of the two separate and distinct bells or gongs which will give separate and distinct sounds, a pivoted hammer, and a mechanism for changing the hammer from one bell or gong to the other in striking the hours, all of which will be more fully described hereinafter.

The object of my invention is to provide a striking mechanism for clocks which will strike the hours from one to twenty-four and only give one hundred and twenty strokes, the different hours after nine o'clock being distinguished by the strokes upon the separate bells or gongs, or upon both together.

Figure 1 is a front elevation of a mechanism embodying my invention. Figs. 2 and 3 are side elevations taken from opposite sides. Figs. 4 and 5 are detail views.

As my striking mechanism is applied to an old and well-known form of clock, there is no need of describing all of the parts further than to refer to them in a general way.

The wheel A, which revolves once every twenty-four hours, and to which either a spring or a weight is to be applied, is provided on its outer edge with the cogs B for meshing with the pinion C upon the same shaft as the wheel D, which is provided with the pins E at even distances apart for the purpose of operating the striking hammer.

Through the flange F, which is formed upon the side of the wheel, are made a number of holes, H, into which the end of the bent lever A<sup>2</sup> catches for stopping the movement of the

hammer when the requisite number of strokes have been given, and through the outer edge of this flange are made a number of cuts or notches, I, which serve to regulate as to which one of the bells or gongs shall be struck by the hammer. These notches or recesses vary in size, according to the number of times the bell or gong with the deep tone is to be struck.

Pivoted in the frame-work just beyond the edge of the wheel A is the spring-actuated shaft L, to which is secured the arm M, which has its free end made hook-shaped. This hook-shaped end moves along upon the outer edge of the flange of the wheel A until one of the notches is reached, when it at once sinks into the notch, thereby allowing the spring-actuated shaft to which it is rigidly secured to turn partly around. Secured to the outer end of this spring-actuated shaft is the lever O, which has the V-shaped projection P secured to its outer free end. When the hook-shaped end of the arm is traveling upon the outside of the flange of the wheel A, this lever O is raised upward to its full extent; but when the hook-shaped end of the arm drops down into one of the notches and the shaft is turned partially around, the outer end of the lever O is depressed for the purpose of forcing the V-shaped projection or wedge P down through the slot that is cut in the outer end of the sliding rod Q. This sliding rod Q passes through the sleeve R, the spring S bearing against its outer end for the purpose of always forcing the rod inward to its full extent as soon as it is free to move. The inner end of this sliding rod catches under the V-shaped head T of the striking lever or hammer U, which is pivoted upon the plate V, which in turn is pivoted in the frame at right angles to the lever or hammer. To this pivoted plate or the partially-turning rod upon which it is placed is secured the lever B<sup>2</sup>, which extends over and is operated by the pins E upon the wheel D for the purpose of striking the hours. Connected to this partially-turning rod is a suitable spring, for the purpose of drawing back the hammer after it has struck either one of the bells or gongs. By pivoting the hammer upon this partially-turning plate, and having the sliding rod to operate in connection therewith, the lower end of the hammer is moved



in and out, so as to come in line with either one of the bells or gongs which it is to strike, and which bells or gongs are arranged in relation to each other as shown. When the end of the lever O is raised upward, so that the V-shaped device P no longer forces the sliding rod under the V-shaped pivoted head of the hammer, the small spring W, which is attached to the hammer, forces the end of the hammer outward, so as to strike the outer bell or gong, X. When the hook-shaped end of the arm catches in any one of the notches, the lever O is then depressed so as to force the wedge P through the slot in the sliding arm, and thus force the arm outward. The spring W forces the hammer inward, so as to bring it in a line with the inner gong, spring, bell, or other sounding device, Y. As these changes in the movement of the lever O, sliding rod, and hammer take place either while the striking of the hours is being done or just when the hours are to be struck, according to the relation in which the holes and the recesses in the flange are placed, either the bell or other sounding device X or the one Y will be struck, according to the hour. The outer bell or gong, X, will possess a light tone, while the inner one, Y, which is just under it, will be formed of a spring or any other device having an entirely separate and distinct tone, which, for the sake of illustration, I call the "deep" tone.

I do not limit myself in regard to the construction of either one of these devices, for they may be made in any other suitable manner, and may be placed in any desired relation to each other; but when struck one should produce a light silvery tone and the other a deep or heavy tone.

Through the flange F on the wheel A are made notches I, opposite or in connection with the first nine holes H, which represent the striking of the hours from one to nine. The hammer will therefore be held in such a position that it will strike the upper bell or gong, X, and will not be moved during that time, so as to strike against the bell or gong Y. When, however, the hour of ten is to be struck, the lower end of the hammer is forced inward and gives a single stroke upon the bell or gong Y, having a deep tone. When eleven is to be

struck, it strikes once on the bell or gong Y, so as to produce a deep sound, and then on the other bell or gong, X, so as to produce a light tone. In this manner the hours are struck to nineteen, the hammer always striking first the deep-tone bell or gong Y, and then one, two, three, four, five, six, seven, eight, or nine times upon the bell or gong X. When the hour of twenty is to be struck, the hammer strikes the gong Y, having the deep tone, twice. For the hours twenty-one, twenty-two, twenty-three, and twenty-four the hammer strikes the gong Y, having the deep tone, twice, and then strikes the bell or gong X, having a light tone, one, two, three, or four times.

By causing the hammer to operate as above described the hours are sounded by one hundred and twenty strokes upon the two bells or gongs and in two different tones.

Having thus described my invention, I claim—

1. The combination of the two bells or gongs, the pivoted hammer, the mechanism for operating the hammer so as to strike the hours, a sliding rod, and a spring for forcing the end of the hammer in and out in relation to the two bells or gongs, substantially as set forth.

2. The combination of the wheel A, provided with the flange which has both holes for the lever to catch in, and recesses for the arm M to engage with, the partially-rotating spring-actuated shaft, the lever O, provided with the wedge P, the sliding rod, the pivoted spring-actuated hammer, and the two bells or gongs, substantially as specified.

3. The combination of the pivoted hammer, the pivoted plate upon which the hammer is pivoted, a spring which is applied to the plate for the purpose of returning it to position, the arm or lever, and the wheel D, provided with the pins E, and a mechanism for forcing the end of the hammer in or out, substantially as shown and described.

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

AUGUST FISCHER.

Witnesses:

JAMES F. POTTS,  
HARRY A. PITTMAN.