R. KINSLEY.

Ringing Bells.

No. 32,520. Patented June 11, 1861.

Fig. 1

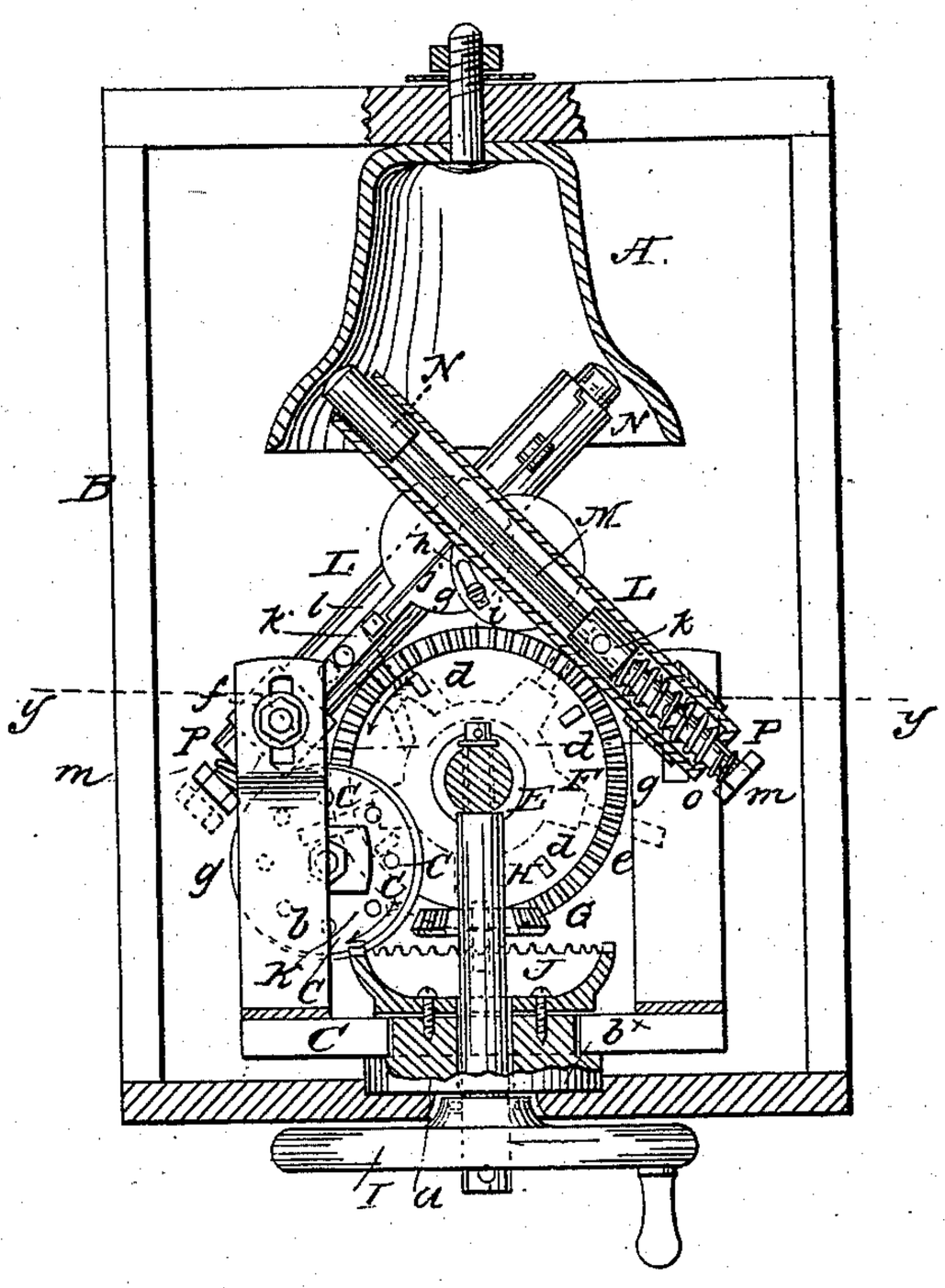
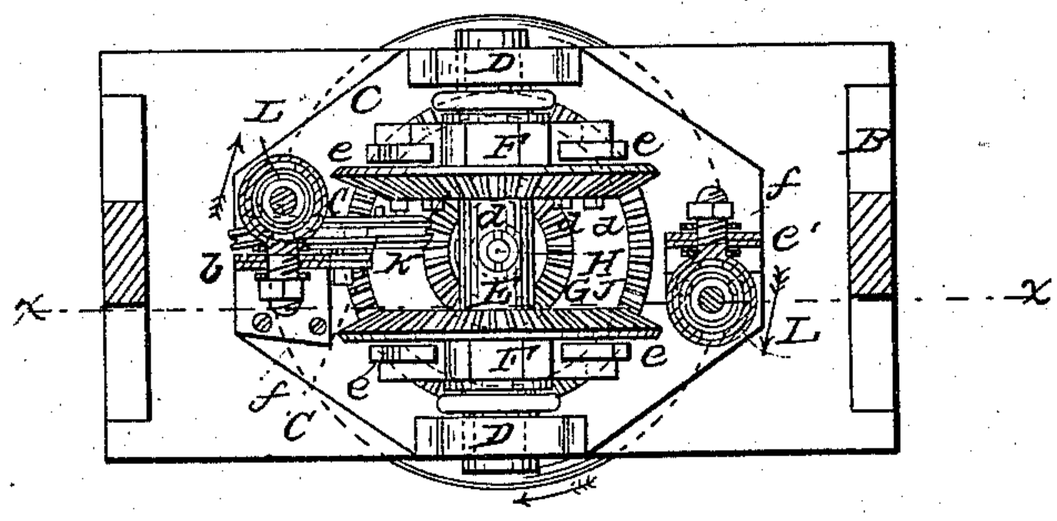


Fig. 2



Witnesses

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U. S. PATENT OFFICE.

No. 1,516. 1861. WHOLE No. 32,520.

Bell Ringing Apparatus.

RHODOLPHUS KINSLEY, OF SPRINGFIELD, MASS.

Letters Patent No. 1,516, *dated June* 11, 1861.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known, that I, RODOLPHUS KINSLEY, of Springfield, in the county of Hampden, and State of Massachusetts, have invented a new and improved apparatus or device for Ringing Bells; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, figure 2.

Figure 2, a horizontal section of ditto, taken in the line *y y*, figure 1

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a device by which a large or turret bell may be rung and struck at a different point at each blow, the hammer or hammers traversing around or having a rotary movement, as hereinafter described. By this means the bell will not be liable to crack, as all parts of its lower end are subjected to equal concussions, and the invention admits of any one ringing the bell, as the turning of a crank wheel is all that is required to effect the result, and a very moderate application of power is required for the purpose.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bell, which may be of the usual or any proper form and suspended in a suitable framing B. C is a platform, which is fitted loosely on a cylindrical hub or projection *a* at the bottom of the framing B, the platform being

allowed to rotate freely thereon. To the platform C, at opposite sides, there are attached uprights D D, in the upper parts of which the ends of a shaft E are secured, said shaft being stationary and having two bevel wheels F F fitted loosely upon it.

Into the lower parts of the wheels F F a bevel pinion G gears, said pinion being on a shaft H, which passes through the centre of the hub or projection *a*, and has a crank wheel I at its lower end. On the upper surface of the hub or projection *a* there is placed and firmly secured a stationary toothed wheel J, into which a worm wheel K gears, the axis of which is attached to an upright *b* on the platform C. To one side of the worm wheel K there is secured a series of pins *c*, which project from the wheel in the form of a circle, said pins *c* extending within the path of rotation of pins or projections *d*, which project from the inner side of one of the wheels F. To the outer side of each wheel F there are attched radial bars *e*, the use of which will presently be shown.

L L are two tubes or sockets which are secured in an inclined position, one to the upright *b*, and the other to a similar upright *e'*, which is attached to the platform C. These tubes are attached to their respective uprights by means of bolts *f*, which pass through oblong slots *g* in the uprights, and the tubes or sockets cross each other and are connected at their point of intersection by a bolt *g'* which passes through a curved slot *h* in a plate *i* on one tube or socket, and into a corresponding plate *j* on the other tube or socket. By this mode of connection the tubes or sockets are rendered adjustable and may be secured at a greater or less angle of inclination, as desired.

Within each tube or socket L L there is placed a rod M, each having a cylindrical hammer N at its end, and these hammers snugly fit in the tubes or sockets, but are allowed to work or slide freely therein. Each rod M has a pin or projection *k* extending from it at or about at right angles, said pins extending through slots *l* in the tubes or sockets and within the path of rotation of the bars *e* of the wheels F. On each rod M, and between its pin or projection *k* and the lower end of its tube or socket L, there is placed a spiral spring O. These springs have a tendency to keep the hammers N thrust out from the tubes or sockets. The rods M extend through the bottoms of the tubes or sockets, and have nuts *m* on their ends, between which and the bottoms of the tubes or sockets there are placed spiral springs P, as shown in figure 1.

The operation is as follows: By turning the wheel I in the direction indicated by the arrow the two wheels F F will be rotated, through the medium of the pinion G, and the radial bars *e* of said wheels will strike the pins *k* of the rods M and draw in the hammers N, which, as the bars *e* leave their pins *k*, are thrown against the bell by the force of the springs O; the tubes or sockets L being so adjusted that the hammers will strike the bell about at right angles, a result which is necessary in order to produce the clearest and best sound. The springs P serve as checks, and by adjusting the nuts *m* may be made to graduate the

power of the springs O, as desired. As the hammers are thus operated they are slowly rotated around the bell, at its inner side, by means of the worm wheel K gearing into the stationary wheel J, the worm wheel K being rotated in consequence of the pins *d* of one of the wheels F acting against the pins *c* of the wheel J.

By this arrangement of means any form of bell may be used, the ordinary kind, as shown in figure 1, or the semi-spherical form, as the tubes or sockets L may be adjusted so that the hammer will strike the bell at right angles, whatever the form of the latter may be.

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

1st. The employment or use of one or more hammers N secured to a rotating platform C, and operated simultaneously and automatically with the platform C, so as to strike the bell A and gradually rotate within or beneath it, for the purpose specified.

2nd. The placing of the hammers N within adjustable tubes or sockets L, arranged substantially as shown, for the purpose of adjusting the hammers so that the latter will always strike the bell at right angles.

3rd. The arrangement, as shown and described, of the gearing F F G J and K, with the radial arms *e* on wheels F F, the pins *c d* on the wheels K F, the springs O on hammer-rods M, and the rotating platform C, for the purpose set forth.

4th. I claim the combination of the hammer-springs O with the check springs P, when applied to the hammer-rods M, to operate as and for the purpose specified.

RHODOLPHUS KINSLEY.

Witnesses:

M. L. KINSLEY,

E. C. ROGERS.