

W. H. WATROUS.

Door Bell.

No. 53,366.

Patented March 20, 1866.

FIG. 1

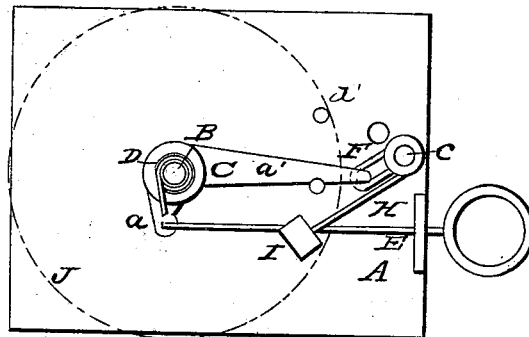
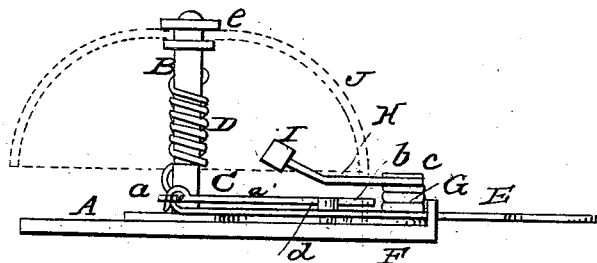


FIG. 2



WITNESSES

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UNITED STATES PATENT OFFICE.

W. H. WATROUS, OF HARTFORD, CONNECTICUT.

DOOR-BELL.

Specification forming part of Letters Patent No. 53,366, dated March 20, 1866.

To all whom it may concern:

Be it known that I, WILLIAM H. WATROUS, of the city and county of Hartford and State of Connecticut, have invented a new and Improved Door Bell or Gong; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of my invention; Fig. 2, a side view of the same, the bell being bisected vertically.

Similar letters of reference indicate like parts.

This invention relates to a new and improved door bell or gong of that class in which the hammer is operated by a pull in connection with a spring. The object of the invention is to obtain a hammer-operating mechanism which will, by a short movement of the pull-wire, give a requisite sweep or length of stroke to the hammer, and also impart a quick movement to the latter, so that it will impinge suddenly against the bell and be suddenly relieved therefrom, and cause the same to give a loud, clear, and distinct tone.

A represents a plate which has a fixed pin, B, projecting from it at right angles, and C is a bent lever which is fitted loosely on the pin B, and has a spiral spring, D, connected with it, the lower end of said spring being attached to one arm, *a*, of the lever C and the opposite end connected to the pin B.

The arm *a* of the lever C is made shorter than the other arm, *a'*, and the pull-wire E is attached to the center end of the short arm *a*.

The long arm *a'* has a pin, *b*, through it near its end, and this pin is fitted in a loop, F, formed at the lower end of a spiral spring, G, which is fitted loosely on a pin, *c*, projecting at right angles from the plate A.

The upper end of the spiral spring G is straightened out to form a hammer-rod, H, on the outer end of which the hammer I is secured.

To the plate A there are attached two pins, *d* *d'*, between which the long arm *a'* of the lever C plays, said pins determining the length of the movement or vibration of said lever.

The spring D has a tendency to keep the long arm *a'* of the lever C in contact with the pin *d*, as shown clearly in Fig. 1.

On pulling the wire E the long arm *a'*, on account of the short leverage of arm *a*, will be rapidly moved toward and brought in contact with the pin *d'*, and the hammer I, when the arm *a'* is suddenly arrested, will, under its momentum, quickly strike the bell J, the spring G admitting of this movement of the hammer, and also causing the latter to recede from the bell the instant after striking it. On releasing the wire E the spring D turns the hammer back, so that the long arm *a'* will be brought in contact with the pin *d*, and the hammer strikes the bell at the opposite side and recedes from it. The bell J is secured on the outer end of the pin B by a screw-nut, *e*.

By this arrangement the bell is made to produce a loud, clear, tone, free from all jingling or rattling, which would occur if the hammer were allowed to remain in contact with the bell after striking it. The quicker the bell is struck and the quicker the hammer is thrown from it after being struck the clearer will be the tone.

The hammer-operating mechanism, it will be seen, is extremely simple and may be manufactured at a very moderate cost. There are no parts liable to get out of repair or become deranged by use.

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

The bent lever C, fitted loosely on the bell-pin B, provided with long and short arms, *a* *a'*, connected respectively with the pull-wire E and the loop F, in connection with the spiral spring D, placed on the pin B and connected with the lever C, and the spiral spring G, fitted on pin *c* and connected to or formed with the loop F and hammer-rod H, all arranged to operate substantially as and for the purpose set forth.

The above specification of my invention signed by me this 16th day of December, 1865.

WILLIAM H. WATROUS.

Witnesses:

HENRY H. MOORE,
SARAH F. WATROUS.