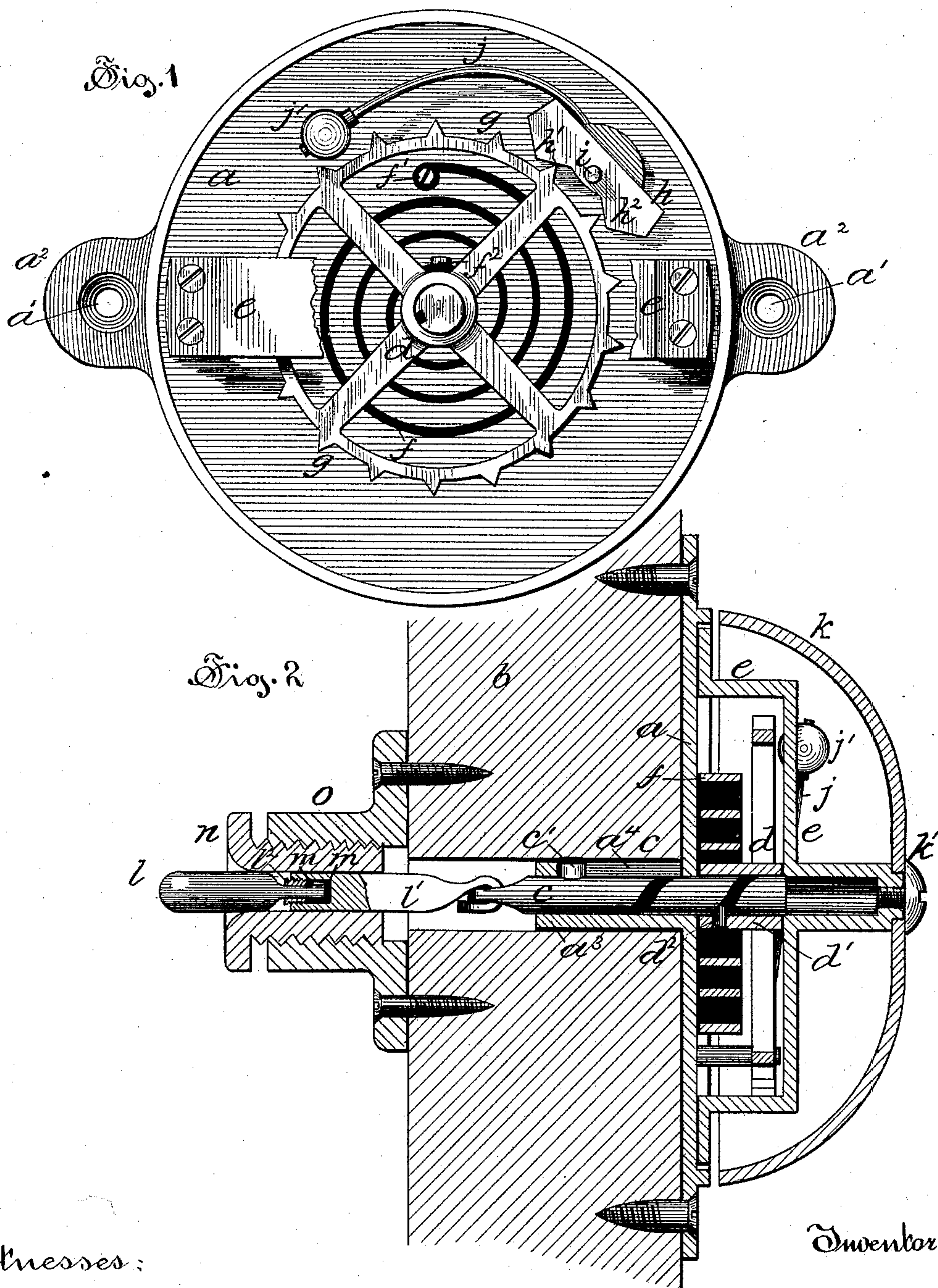


(No Model.)

A. J. BROUILLARD.  
GONG DOOR BELL.

No. 475,960.

Patented May 31, 1892.



Witnesses:

H. R. Williams,

A. B. Jenkins.

A. Joseph Brouillard  
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att'y



# UNITED STATES PATENT OFFICE.

ANTHONY JOSEPH BROUILLARD, OF NEW BRITAIN, CONNECTICUT.

## GONG DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 475,960, dated May 31, 1892.

Application filed May 19, 1888. Serial No. 274,355. (No model.)

*To all whom it may concern:*

Be it known that I, ANTHONY JOSEPH BROUILLARD, of New Britain, in the county of Hartford and State of Connecticut, have  
5 invented certain new and useful Improvements in Gong Door-Bells, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

10 My invention relates to the class of gong-bells that are capable of giving a plural number of strokes, the movement of the hammer being effected by a push or pull upon a sliding spindle.

15 The object of my invention is to provide a bell of this class that shall give the number of strokes clearly and distinctly and without the rattle that is an objectionable feature of the prior devices of this class.

20 My improvement consists in the combination of the sliding spindle, a ratchet-wheel, through the hub of which the spindle has a sliding movement and on which the wheel is caused to revolve by means of a spiral cam  
25 borne on the spindle.

It further consists in the combination of the reciprocating spindle with the cam, the ratchet-wheel driven by said spindle and having peripheral teeth, and the verge, with its arms  
30 spanning at least one tooth, that serves as a stop or brake to regulate the rate of movement of the hammer borne on the verge; and it further consists in details of the parts and their combination, as more particularly hereinafter described, and pointed out in the  
35 claims.

Referring to the drawings, Figure 1 is a plan view of the base-plate of the bell with the gong removed and part of the bridge  
40 broken away. Fig. 2 is a detail view in central section through the device shown as secured to a door.

In the accompanying drawings, the letter *a* denotes the base-plate that is made of cast  
45 metal and is provided with screw-holes *a'*, either through the base or through the projecting ears *a''*, through which screws may be driven for securing the bell to a door *b* in the usual manner. This base-plate is provided  
50 with a hub or tubular extension *a'''* on its under side, and in this tubular extension is

fitted a sliding spindle *c*, the pin *c'* traveling in a groove *a''''* in the hub and by contact with the metal at the ends of the groove tending to limit the extent of lengthwise move- 55  
ment of the spindle. This spindle is also provided with a spiral cam *c''*, into which a pin *d''*, secured in the hub *d'* of the ratchet-wheel *d*, projects. The spindle forms a pivot upon which this ratchet-wheel rotates, and 60  
the hub of the wheel *d* is held between the surface of the base-plate and the inner side of a bridge *e*, that is secured, as by screws, across the base-plate, as illustrated in the drawings. The ratchet-wheel is thus held 65  
against any movement lengthwise of its axis, and by a lengthwise movement of the spindle, which may be imparted by either a pull or a push thereon, the ratchet-wheel is caused to rotate to an extent depending upon the 70  
pitch of the spiral cam and its length. A helical spring *f* is fastened at one end to the base-plate, as by means of a screw *f'*, and at its inner end to the hub of the ratchet-wheel, as by means of a pin or screw *f''*, and when- 75  
ever the inward movement of the sliding spindle *c* from the position shown in Fig. 2 rotates the ratchet-wheel this spring *f*, as soon as the pressure upon the spindle is removed, tends to reverse the direction of rotation of 80  
the wheel and slides the spindle out again.

The periphery of the ratchet-wheel *d* is provided with a number of teeth *g*, arranged at intervals, and with the distance between any two teeth less than the distance between the 85  
wiping-faces *h'* *h''* of the verge *h*, that is pivoted on the pin *i*, fast to the base-plate. To the hub of this verge is attached a striker-arm *j*, bearing on its outer end a hammer *j'*, that is adapted to be swung against the gong 90  
*k* by the oscillation of the verge, caused by forcing the teeth of the ratchet-wheel in succession against the wiping-surfaces *h'* *h''* of the verge. The arrangement of the several teeth *g* on the ratchet-wheel with reference to 95  
the wiping-faces on the verge is such that just after one tooth, as *g'*, has passed the wiping-surface *h''* the tooth in front of it makes contact with the wiping-surface *h'* in such manner as to form a brake that regulates the 100  
rotation of the wheel and insures a clear stroke of the bell without any rattling. The



gong  $k$  is secured to a central post or projection rising from the bridge, as by means of a screw  $k'$  in the ordinary manner.

In order to operate the spindle, I prefer to use a push-button  $l$ , that may be made of glass, its inner end being shouldered and secured in a socket in the outer end of the link  $l'$  by means of an annular screw  $l^2$ , the shouldered end of the push-button bearing on both face and rear against packing rings or disks  $m$  of any suitable material, as leather or rubber. The link is hooked onto the end of the spindle  $c$ , or attached to it in any other convenient manner. The push-button is supported in the tubular bearer  $n$ , that is threaded on the outside, so as to fit within a threaded socket in the rose or base-piece  $o$ , the latter being secured to the door, as by means of screws. This method of attaching the bearer  $n$  to the base-piece  $o$  permits of a lengthwise adjustment of the bearer, so that its outer face may be located at any desired distance from the outer end of the push-button. By this arrangement of parts the distance that the push-button can be forced inward will be limited by the position of the outer face of the bearer, and by this arrangement the degree of rotation of the bell can be limited, and therefore the number of strokes that will be given by the bell from any one movement of the push-button.

It is evident that the pin  $c'$ , traveling in the lengthwise groove in the hub  $a^3$ , tends to hold the spindle against rotation, in order that the cam may be effected in causing the rotation of the ratchet-wheel, and the position of the cam-groove and pin  $a^2$  may be reversed without departing from my invention.

The bell may be made to operate either in pulling out or in pushing in the spindle, and

it may be made to operate in connection with an ordinary door-bell, as well as by means of a push-button.

I claim as my invention—

1. In combination, in a gong-bell, a base-plate, a gong secured thereto, a swinging verge having a hammer attached thereto and provided with wiping-faces, a rotary ratchet-wheel with peripheral teeth adapted to engage the wiping-faces on the verge, a pin projecting from the hub of the ratchet-wheel and engaging a spiral cam in a sliding spindle, the sliding spindle having a spiral cam, a pin projecting from the side of the sliding spindle into a groove in the wall of the socket in which the spindle slides, whereby it is held against rotation, a push-button secured to the spindle by means of the connecting-link, and the adjustable bearer through which the push-button passes, all substantially as described.

2. In combination with a gong-bell, the gong, the striking mechanism embodying as one element a sliding spindle, a push-button  $l$ , secured to the outer end of such spindle, a base supporting a bearer, and the adjustable bearer through which the push-button passes, all substantially as described.

3. In combination with a gong-bell the striking mechanism of which embodies a sliding spindle, the sliding spindle  $c$ , the link  $l'$ , the push-button  $l$ , of glass or like brittle material, with its inner end secured in a socket in the outer end of the link, the base-piece  $o$ , and the adjustable bearer  $n$ , through which the push-button passes, all substantially as described.

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Witnesses:

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