(No Model.)

J. R. SAUTTER.

DOOR BELL.

No. 518,077. Patented Apr. 10, 1894.

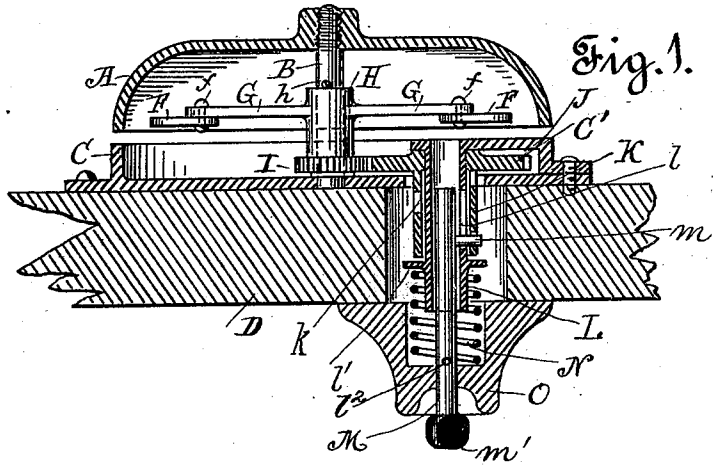


Fig. 1.

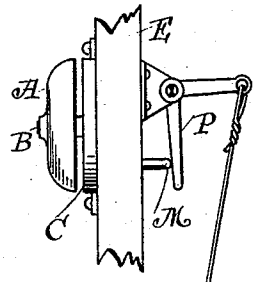
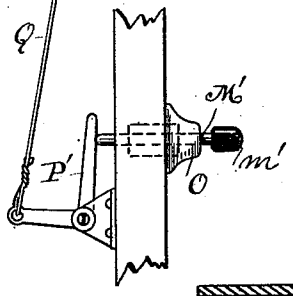


Fig. 5.



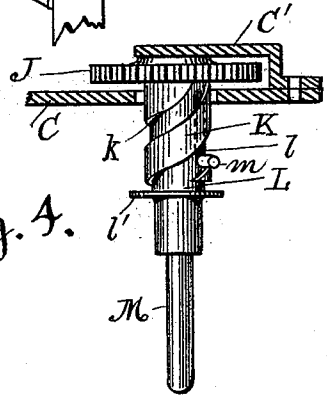


Fig. 4.

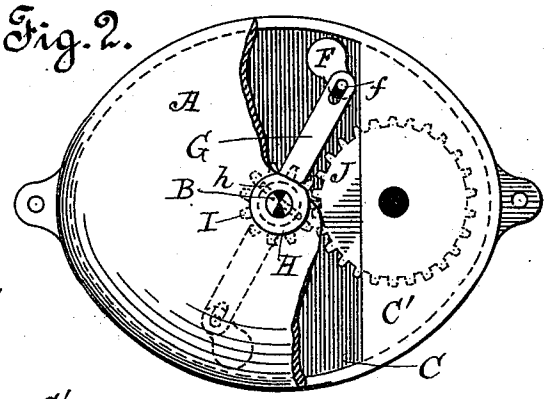


Fig. 2.

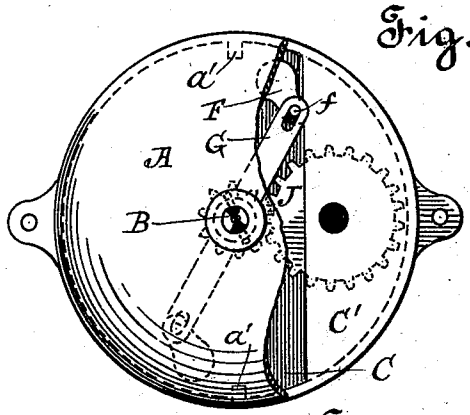


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN R. SAUTTER, OF SAN FRANCISCO, CALIFORNIA.

DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 518,077, dated April 10, 1894.

Application filed December 26, 1893. Serial No. 494,674. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. SAUTTER, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Door-Bells, of which the following is a specification.

The object of my invention is to produce a door-bell that outwardly will have as neat an appearance and will work as easily as an electric bell, although rung by mechanical means and without the use of a battery. A further object is to produce a bell simpler in construction and more reliable in operation than any bell of the same class heretofore devised.

Referring to the accompanying drawings, in two sheets, which form part of this specification,—Figure 1 is a sectional plan of my improved bell as it appears when secured to a door-case. Fig. 2 is a partly-broken rear view of the same, showing a bell of oval shape. Fig. 3 is a view similar to Fig. 2, but showing a round bell with ribs inside on which the bell-hammer is adapted to strike. Fig. 4 is a detailed view of the push-rod used to operate the bell-hammer. Fig. 5 is a broken side elevation showing an arrangement whereby the bell may be rung in an upper story of a building from a ground floor entrance.

Similar letters of reference are used to indicate similar parts throughout the five views.

The letter A represents the metal drum or gong that emits the sounds and which is secured to the threaded end of a screw B projecting from the center of a metal case C. This metal case may be fastened either to a door, as at D, at the entrance of a building or to any part of a wall or partition E where it is desired to attach the bell when it is set up in an upper story.

The form of the case or gong may be varied to suit the taste or preference of the user. In Fig. 3 I have shown a circular gong provided with inwardly projecting ribs against which the hammer is adapted to strike but the ribs may be dispensed with, however, if the sounding drum be made oval or elliptical as shown in plan in Fig. 2, thereby affording two surfaces on the elongated sides of the drum against which the hammer heads can strike.

The bell-hammer is composed of the two heads F and the handle G to which the heads are pivotally secured by pins *f*. The hammer-heads are thus made movable and can swing past the ridges *a* or ribs *a'* or the contracted sides of the bell, as the case may be, after striking. The handle G is made rotary by being bored centrally and provided with a sleeve H fitting over the stem of the screw B around which it revolves. A pin *h* passing through the screw at the rear end of the sleeve H prevents the latter from moving lengthwise along the screw. The sleeve H, and consequently the hammer, is revolved by means of a pinion I formed around its base and engaging a gear-wheel J set within the case C under a small plate C' that extends over one side of it. The gear-wheel J forms part of a spirally-slotted tube K that fits and turns over a fixed tube L projecting outwardly from the plate C' and the bottom of the case C, and also slotted, but lengthwise and straight as at *l*. In the fixed tube passes and slides a push-rod M which is provided with a transverse pin *m* projecting to one side that engages both the straight slot *l* of the fixed tube L and the spiral slot *k* of the tube K. Upon pushing the rod M inward the pin *m* is forced along and through both the straight and the spiral slots and therefore causes the tube K to turn, thereby revolving the gear-wheel J, the pinion I, the sleeve H and the hammer, the heads of which are thrown by centrifugal force against either the ridges *a*, the ribs *a'*, or the sides of the bell, according to the make or shape of the sounding drum. The hammer-heads being pivoted to their handle, they swing back as they strike, and the rotary movement of the hammer is therefore not interfered with. The push-rod is returned back to place by a spiral spring N placed around it inside a hollow knob O through which the rod slides and bearing on a circular flange *l'* on the fixed tube L and a transverse pin g^2 near the front end of the push rod. A head or button *m'* is formed on the outer end of the rod M to afford convenience in working it. This head or button enters a recess in the outer portion of the knob O, and consequently in structure and mode of operation looks like the button of an electric bell.

Fig. 5 shows how my improved bell may be

arranged to ring at any desired height or distance in a building. As indicated in that figure, the bell may be secured to a partition, wall, frame, or any suitable part of an apartment, as at E, and rung from a distance by a supplementary push-rod M′ placed at the door below, as at D. The only connections needed are oppositely-placed bell-crank levers P P′ bearing respectively on the rods M M′ and a wire or string Q uniting the same. Pushing the rod P′ inward causes the lever P′ to pull down on the wire Q, which in turn swings the lever P and causes it to press upon the rod M, thereby ringing the bell.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The combination of a gong, a rotary hammer to sound the same, a gear wheel and pinion adapted to impart motion to the hammer, a spirally-slotted tube formed integral with and extending outward from the gear wheel, a longitudinally slotted tube extending through the spirally slotted tube and forming a bearing for the same and the gear wheel, and a push rod playing in the said inner tube and provided with a transverse pin passing through the straight slot therein and engaging the spiral slot in the outer tube.

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

JOHN R. SAUTTER. [L. S.]

Witnesses:
A. H. STE. MARIE,
HENRY P. TRICOU.