W. H. NICHOLS.
Call-Bell.

No. 201,041. Patented March 5, 1878.

Fig. 1.

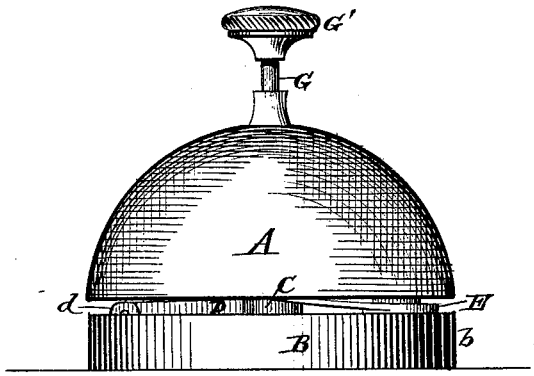


Fig. 2.

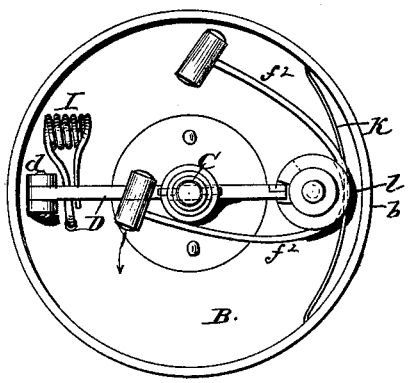


Fig 3

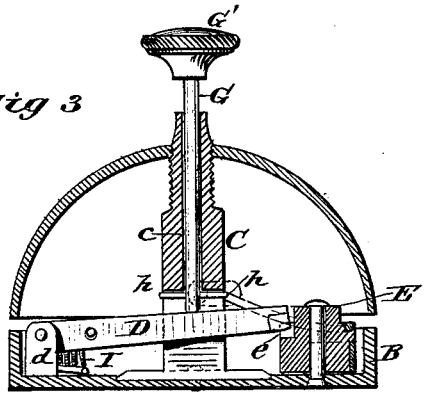


Fig. 4.

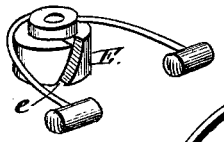


Fig. 7.

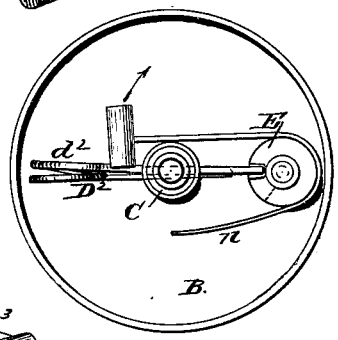


Fig. 6.

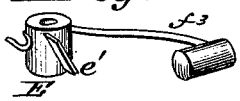


Fig. 5.

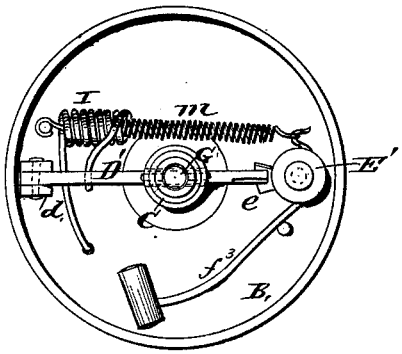
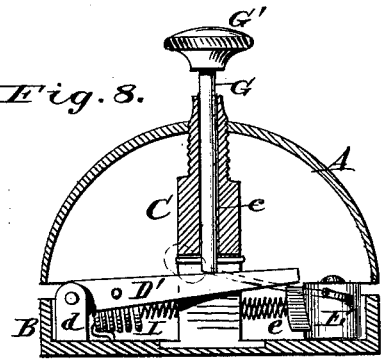


Fig. 8.



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Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. NICHOLS, OF EAST HAMPTON, CONNECTICUT, ASSIGNOR TO BEVIN BROTHERS MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN CALL-BELLS.

Specification forming part of Letters Patent No. **201,041**, dated March 5, 1878; application filed February 6, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. NICHOLS, of East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Call-Bells, of which the following is a specification:

This invention relates to an improvement in that class of call-bells operated by the depression of a rod or plunger; and consists, essentially, in the combination, with a call-bell centrally supported by a hollow standard projecting from a suitable base, of a plunger playing in said standard through the top of the bell, and actuating an arm projecting laterally from said standard through a slot therein, a rocking hub arranged upon said base, and having an oblique face arranged in the path of said arm, and a hammer-arm extending in proper direction for its hammer to strike the bell when the hub rocks on its axis.

In the accompanying drawings, Figure 1 is a view, in elevation, of a call-bell constructed according to my invention. Fig. 2 is a top view, with the bell removed, of the clapper-operating devices. Fig. 3 is a vertical section of the complete bell, and Fig. 4 is a perspective view of the clapper-heel detached. Fig. 5 illustrates a modified form of clapper and operating devices, and Fig. 6 is a perspective view of form of clapper-hub shown therein. Fig. 7 is a plan view of another modification of clapper and operating devices; and Fig. 8 is a vertical section of a bell, showing the clapper-hub and operating-arm used in the modification, Fig. 5.

Referring to Figs. 1, 2, 3, and 4, the letter A indicates the bell, and B the base, from which rises a standard, C, having its upper portion hollow and screw-threaded to engage in a correspondingly-threaded opening in the center of the bell. The lower portion of the standard C is slotted vertically, as shown at *c*, and through the diametric opening thus formed is arranged an arm, D, pivoted to a stud, *d*, arranged at the outer edge of the base. Directly opposite said stud *d*, and also at the outer edge of the base, is pivoted a hub, E, having an oblique slot, *e*, cut in its vertical surface, and into this slot extends the free end of the pivoted arm D. From said hub project two elastic clapper-arms, *f f*, provided with clapper-heads $f^1 f^2$. G is a plunger fitting in the tubular portion of the standard C, and terminating above the bell in a knob, C′. Pins *h h* project laterally from the lower end of this plunger through the slot *c*, and prevent said plunger from being withdrawn from the standard. The lower end of the plunger rests upon the arm D, and, when depressed by the finger applied to its knob, forces the said lever downward, causing its free end to strike against the inclined wall of the slot *e* in the hub E and turn said hub on its axis, thus throwing the clapper-arms in the direction of the arrow, and causing the head f^1 to strike the bell. When the plunger is relieved from pressure, a spring, I, one terminal of which is fixed to the base and the other to arm D, throws said arm and the plunger upward, the free end of the arm now striking the other inclined wall of the slot *e*, turning the hub E to its original position, and causing the clapper-head f^2 to strike the bell, thus producing a double stroke. In order to hold the hub E steady and in proper position to receive the stroke of the lever D, a band-spring, K, is arranged between the hub and the flange *b* of the base, so as to press against either side of an angle, *l*, formed at the back of said hub, as shown in Fig. 2.

In the modification shown in Fig. 5 the hub E′, instead of being slotted, has an inclined feather, *e′*, projecting from its face in the path of the free end of arm D′, which is beveled on both sides, and when the said arm is depressed, as before explained, its end strikes the feather *e′*, and turns the hub so as to throw the clapper f^3 inward, as shown in dotted lines, Fig. 5. The feather *e′* does not extend to the foot of its hub, but terminates sufficiently far above the base to permit its escape from the action of the lever D′ when said lever is fully depressed, as shown in dotted lines, Fig. 6. When this escape occurs a spring, *m*, returns the hub quickly to its original position, and the clapper, by its momentum, is carried to the position shown in dotted lines, so as to strike the bell and then recoil to the position shown in full lines, as in the ordinary operation of spring-actuated bell-clappers.

In this arrangement, it will be observed, it

is the back stroke that causes the sounding of the bell.

In the modification shown in Fig. 7 the sounding of the bell is caused by the direct stroke of the clapper, the depression of the hub-operating arm throwing the clapper in the direction of the arrow, the spring of said arm returning the clapper to its normal position, its arm resting against the standard C, as shown, which thus serves as a stop for said arm. In this modification, instead of a pivoted hub-operating arm, I employ a double spring-arm, D^2, having a coil, d^2, formed therein. One end of this arm is fixed to the base near the bottom of the hub, and the other plays in the inclined slot in said hub. A spring-arm, *n*, projects from this hub, and strikes the standard C when the clapper is thrown outward, and before it strikes the bell, so as to allow the momentum of the clapper to finish its stroke, and cause a suitable recoil to remove the clapper-head promptly from the bell, so that it will not interfere with the sounding thereof.

Having now explained the principle of my invention, and described the devices by which it may be put in practice, I claim—

1. The combination, with a call-bell centrally supported by a hollow standard projecting from a suitable base, of a plunger playing in said standard through the top of the bell, and actuating an arm projecting laterally from said standard through a slot therein, a rocking hub arranged upon said base, and having an oblique face arranged in the path of said arm, and a hammer-arm extending in proper direction for its hammer to strike the bell when the hub rocks on its axis, substantially as set forth.

2. A call-bell centrally supported by a hollow standard projecting from a suitable base, a clapper-arm pivoted to said base, and arranged to swing in a plane parallel therewith, and a plunger extending through an opening in the top of the bell and its supporting-standard, and adapted to operate said clapper-arm, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

WILLIAM H. NICHOLS.

Witnesses:
EDWIN R. BAKER,
E. P. NICHOLS.