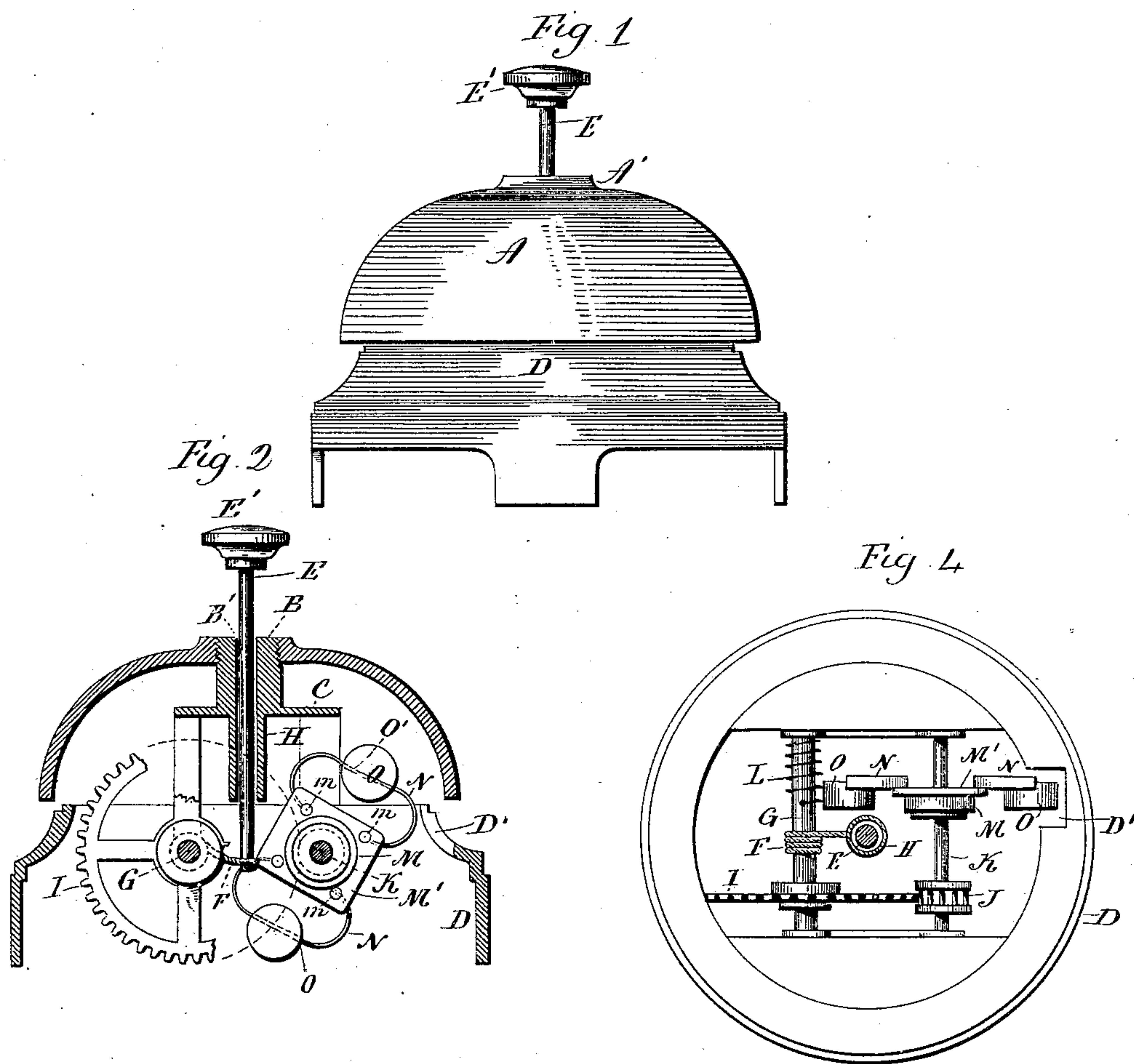


(No Model.)

E. S. PIPER.
BELL.

No. 482,983.

Patented Sept. 20, 1892.



Witnesses
J. W. Humway
Lillian D. Kelsey.

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UNITED STATES PATENT OFFICE.

EDWIN S. PIPER, OF BRISTOL, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
FRANK CLAYTON, OF SAME PLACE.

BELL.

SPECIFICATION forming part of Letters Patent No. 482,983, dated September 20, 1892.

Application filed May 9, 1892. Serial No. 432,323. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. PIPER, of Bristol, in the county of Hartford and State of Connecticut, have invented a new Improvement in Bells; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a bell constructed in accordance with my invention and adapted to be used as a call-bell; Fig. 2, a view of the bell in vertical central section; Fig. 3, a plan view of the bell with the gong removed and the movement-frame shown in transverse section.

My invention relates to an improvement in call and door bells, and has particular relation to the hammer and to the mechanism for operating the same, the object of the invention being to produce a simple, durable, convenient, and effective device.

With these ends in view my invention consists in a bell having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the gong A, which is of ordinary form, is provided with a central internally-threaded hub A', adapting it to be secured to an externally-threaded post B, which is mounted upon the upper portion of a bridge-like movement-frame C, adapted to be secured within the circular opening of the bell-support D, which may also be of any approved construction. The said post B is provided with a longitudinal bore B', which receives a push-rod E, furnished at its upper end with a button E' and having its lower end connected with a chain F, wound upon a horizontal driving-shaft G, having its ends journaled in the said frame C, the said chain being wound once or more around said shaft and attached thereto. The said push-rod E forms a manual by which the bell is primarily actuated. If desired, the chain may be replaced by a cord of fiber or gut. A tube H, secured to the movement-frame C, on the inside thereof, forms in effect a continuation of

the post B and extends the bearing of the push-rod E. The said shaft G is provided with a wheel I, which meshes into a pinion J, mounted on a horizontal driven shaft K, extending parallel with the driving-shaft G before mentioned and also having its ends journaled in the movement-frame C. A coiled spring L, attached to the driving-shaft G at one end and to the movement-frame C at the other end, is arranged so as to rotate the said shaft in the reverse direction from which it is rotated by the chain when the push-rod is depressed, the depression of the push-rod rotating the said shaft and placing the spring under tension, so that when the push-rod is relieved of pressure the spring uncoils and reversely rotates the shaft and drives the driven shaft. The said driven shaft is also provided with a collar M, carrying a plate M', which is furnished, as herein shown, with four pins m, arranged in two pairs, respectively receiving the ends of two bowed springs N, located opposite each other and each carrying a disk-shaped striker O. Each of the said strikers is constructed with a narrow diametrical slot o to receive its spring, to which it is soldered or otherwise attached. The said collar M and plate M' form, as it were, a hub for the connection of the spring-mounted bell-hammers with the driving-shaft, each striker and its spring forming a spring-mounted bell-hammer. I would have it understood, however, that I do not limit myself to constructing and mounting the strikers as shown, so long as they are carried by springs arranged to permit them to be thrown outward by centrifugal force as the driving-shaft is rotated. In order to permit the said hammers to engage with the edge of the bell, the upper edge of the bell-support D is slotted for that purpose, as at D'.

It will be readily understood that my improved bell may be adapted for use as a door-bell by modifications in the mountings and proportions of the mechanism, which will be too apparent to any one familiar with the subject to require illustration. It will also be equally apparent that it may be used with some modifications of form and proportion as a bicycle-bell, in which adaptation the push-rod might be replaced by a lever having

its outer end adapted to be manually engaged and its inner end connected with the chain wound on the driving-shaft. I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a bell, the combination, with the base and gong thereof, of a train, a manual connected with the same for actuating it in one direction, a spring for actuating the train reversely when the said manual is released, and one or more spring-mounted rotary bell-hammers which are thrown outward to strike the bell when the train is actuated and each consisting of a spring connected with a rotary member of the train and having the striker attached to its outer portion, substantially as described.

25 2. In a bell, the combination, with the base and gong thereof, of a train, a manual connected with the same for actuating it in one direction, a spring for actuating the train re-

versely when the said manual is released, and one or more rotary spring-mounted bell-hammers, each consisting of a striker and a bowed spring the ends of which are connected with a rotating member of the train, substantially as described.

3. In a bell, the combination, with the base and gong thereof, of a train comprising a driving and a driven shaft, a wheel and a coiled spring on the former, a push-rod adapted at its outer end for manual engagement, a chain wound one or more turns on the driving-shaft and connected thereto and to the inner end of the push-rod, a pinion on the driven shaft meshed into by the said wheel, a hub on the driving-shaft, and one or more spring-mounted bell-hammers connected with the said hub and thrown outward for engagement with the bell when the driven shaft is rotated with sufficient speed, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWIN S. PIPER.

Witnesses:

FRED. C. EARLE,
GEO. D. SEYMOUR.