

(No Model.)

W. R. MACKAY.  
BELL.

No. 523,899.

Patented July 31, 1894.

Fig. 1.

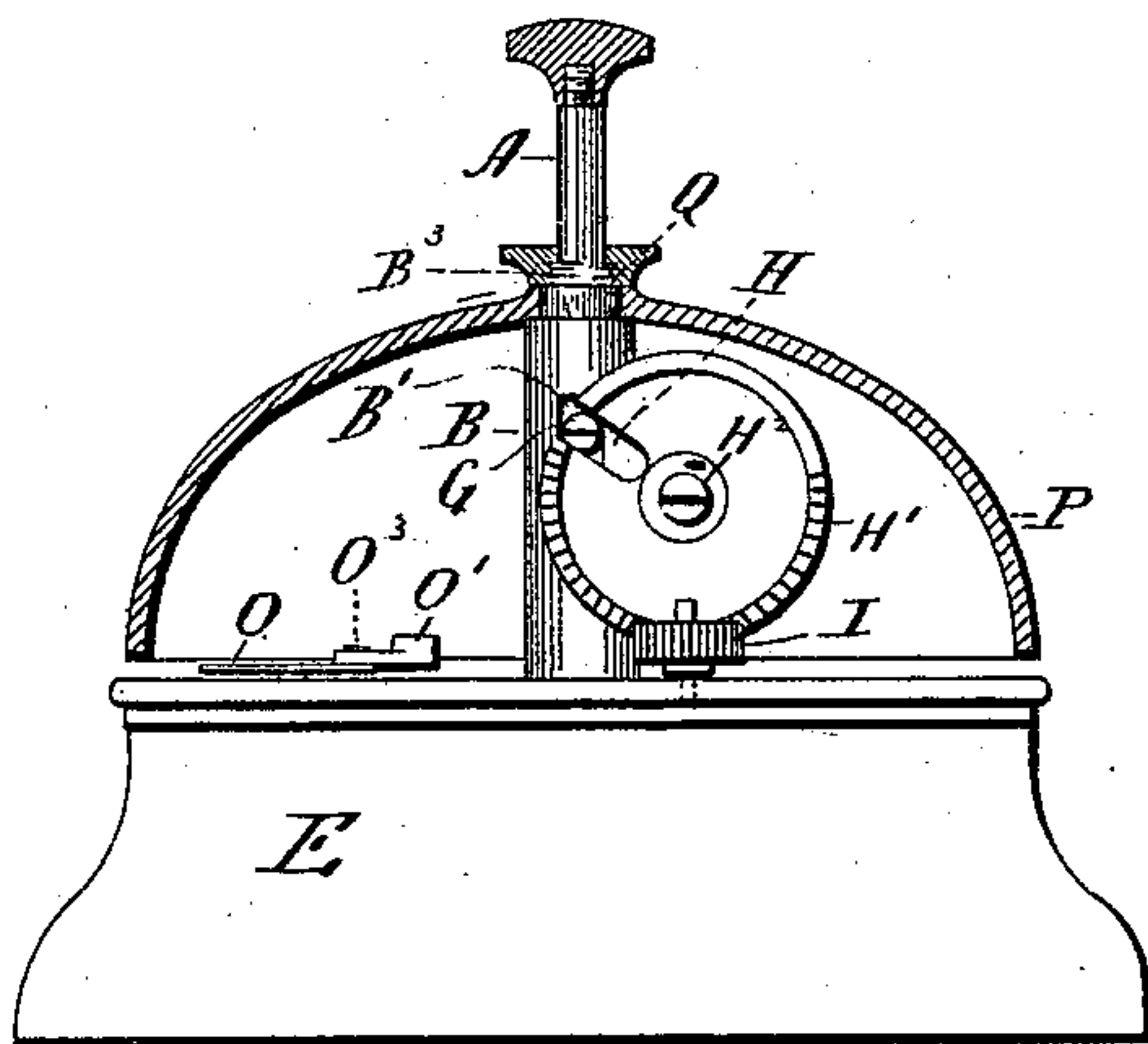


Fig. 2.

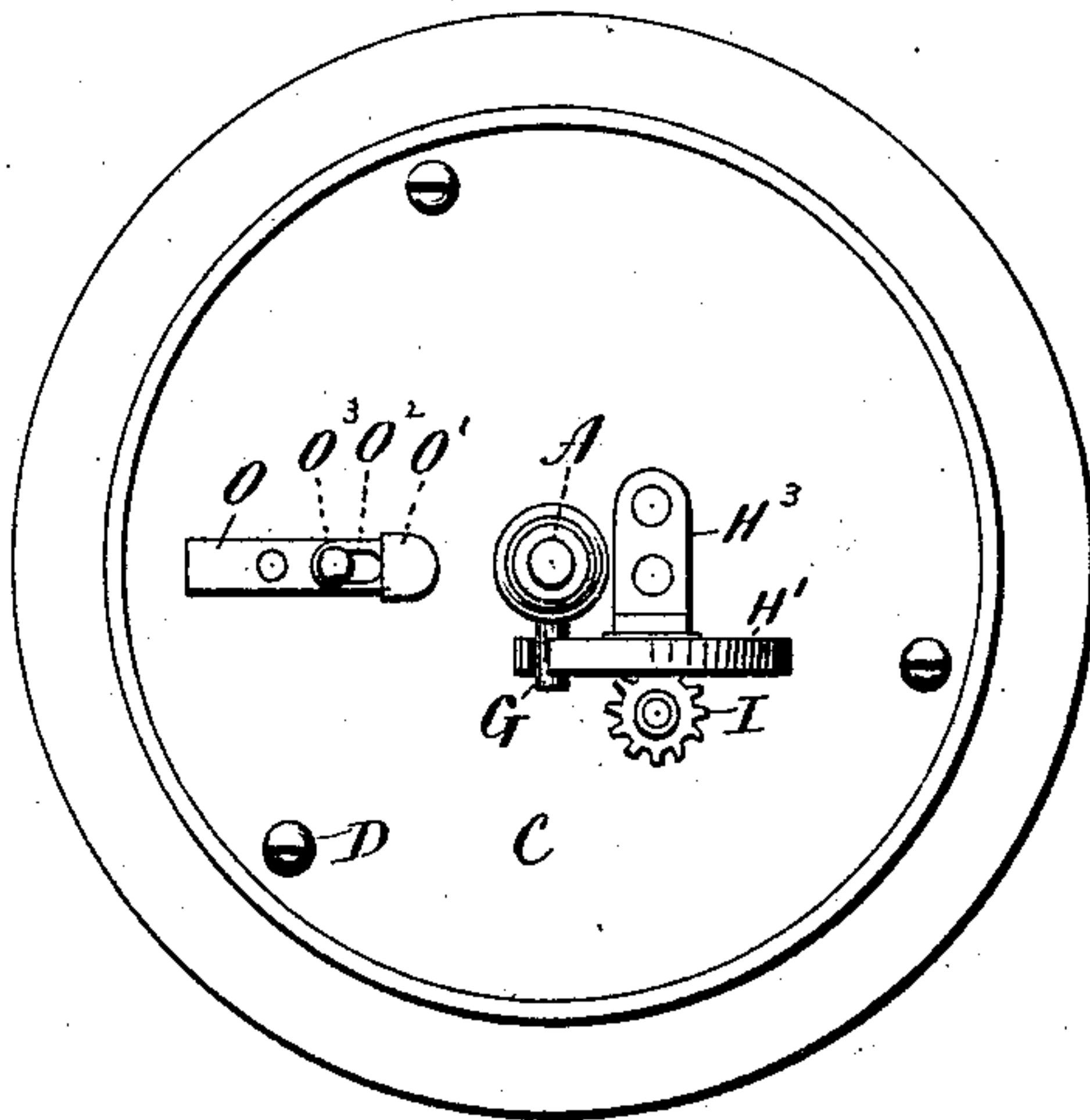


Fig. 4.

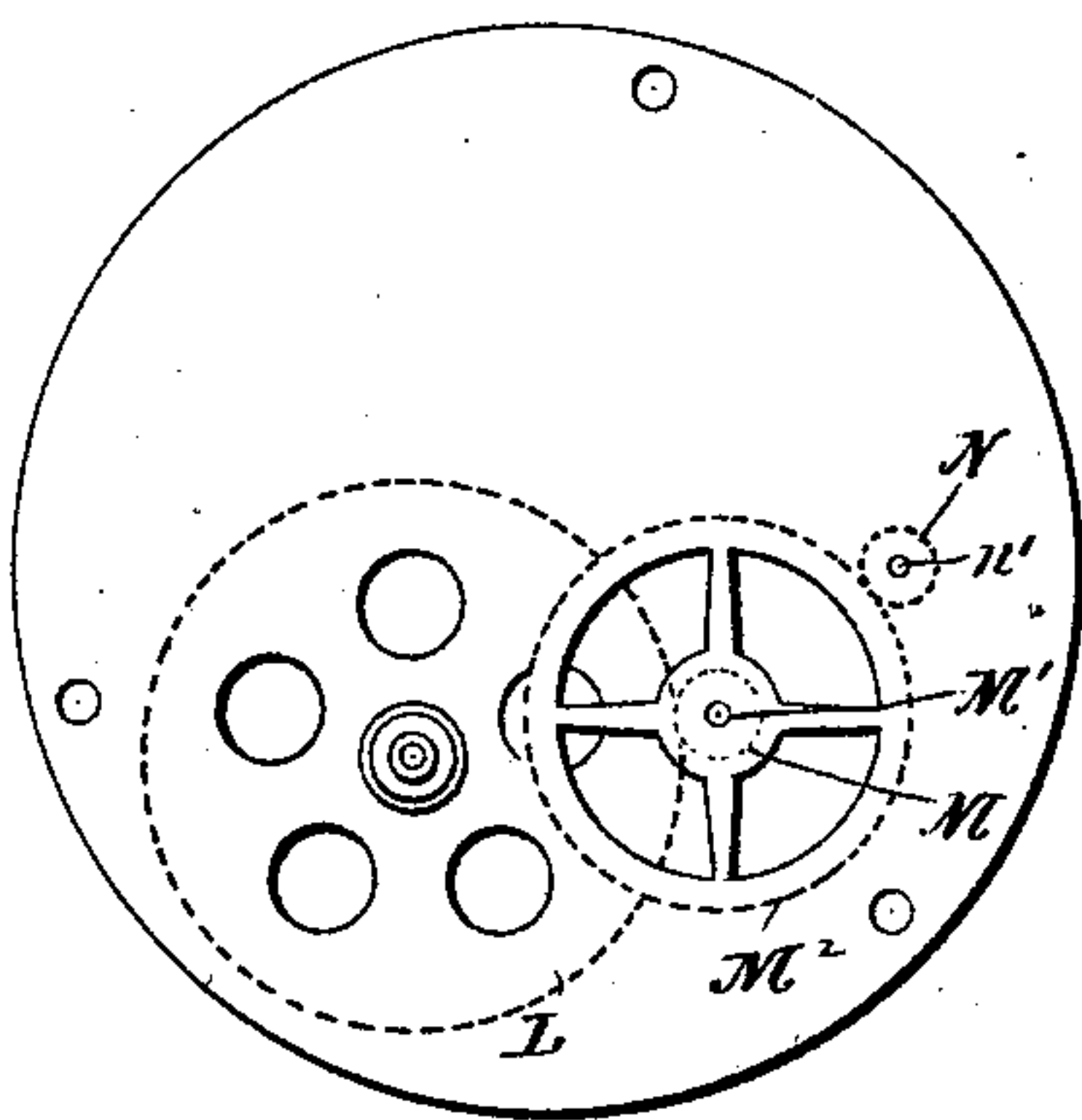
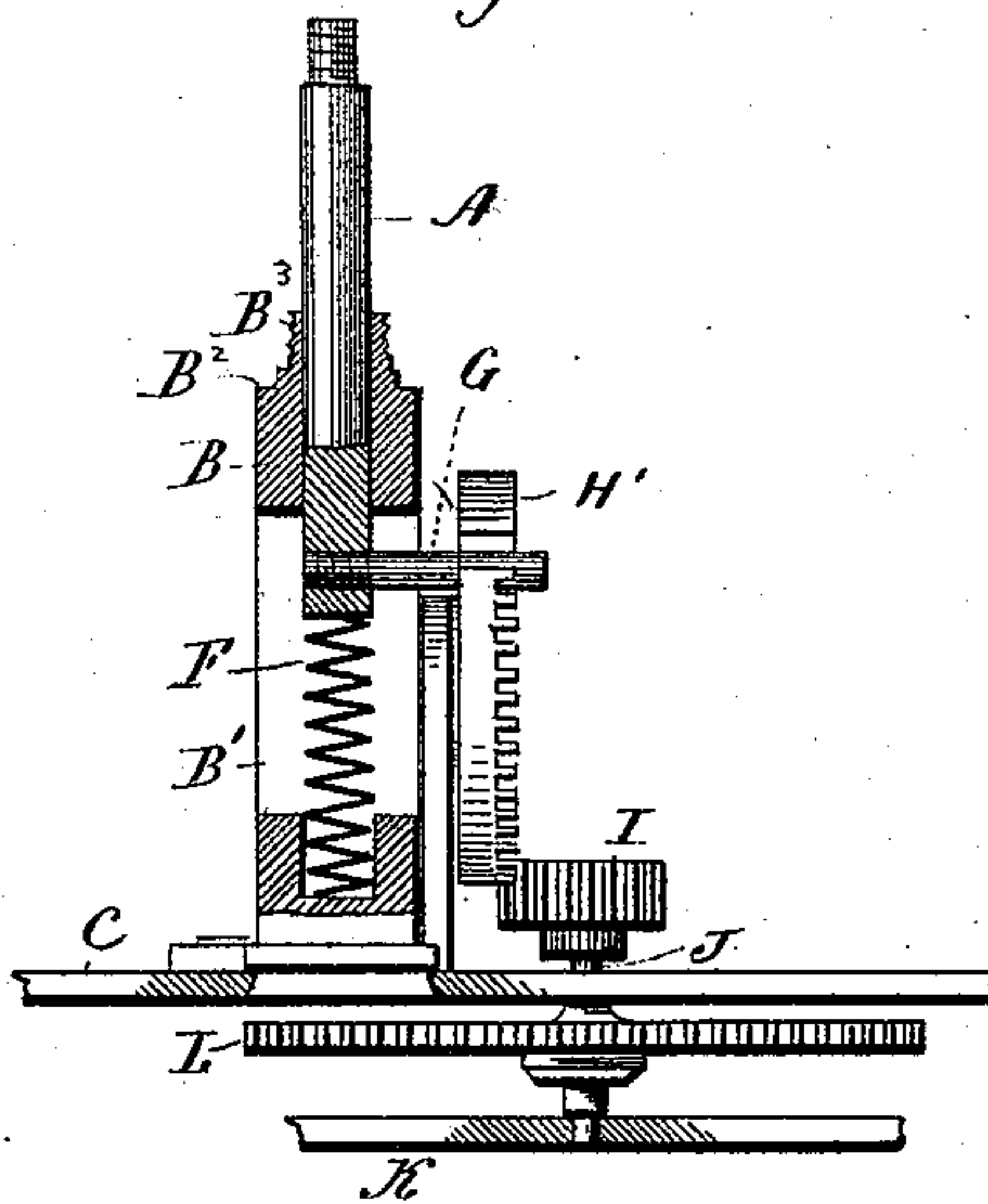


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM R. MACKAY, OF MERIDEN, CONNECTICUT.

## BELL.

SPECIFICATION forming part of Letters Patent No. 523,899, dated July 31, 1894.

Application filed May 28, 1894. Serial No. 512,727. (No model.)

*To all whom it may concern:*

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

Figure 1, a view in vertical section of one form which a bell constructed in accordance with my invention may assume; Fig. 2, a plan  
15 view with the bell removed; Fig. 3, a broken sectional view drawn on a larger scale and designed to particularly show the push-rod, the radially slotted operating-wheel, and the connection of the latter with the train; Fig.  
20 4, a detached reverse plan view of the movement-plate of the device.

My invention relates to an improvement in that class of call and door bells in which the bell-hammer is actuated in striking the bell  
25 by means of a spring-actuated train primarily set in motion by means of a push-rod, the object being to produce a simple, durable, convenient and effective bell of the class described, which will have few parts, and not  
30 be liable to derangement.

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  
35 claims.

In carrying out my invention, I mount a push-rod A having a removable knob A' in vertical position in a tubular box B, secured by its lower end to a circular movement-plate  
40 C, attached by screws D, to an ornamental circular base E, which may be of any approved construction. A spiral spring F, interposed between the lower end of the rod A and the bottom of the box B, exerts a constant effort  
45 to lift the rod, which is provided with a laterally projecting pin G, extending outward through a vertical slot B' formed in the box, and taking into an open radial slot H, formed in the operating-wheel H', which is mounted  
50 in a vertical position upon a screw stud H<sup>2</sup>, carried by a bracket H<sup>3</sup>, firmly secured by its foot to the upper face of the movement plate

C. The said wheel is provided with a peripheral flange a portion of which is cut to form a segmental series of face teeth, which mesh 55 into a pinion I, rigidly secured to the projecting upper end of an arbor J, having bearing near its upper end in the plate C, and having its lower end set into the base K, as shown in Fig. 3. The said arbor is provided below the  
60 plate C, with a main wheel L, which meshes into a pinion M, carried by an arbor M', mounted in the plate C, and in the base K, and also carrying a wheel M<sup>2</sup>, which meshes into a small pinion N, mounted upon the ham- 65 mer-arbor N', which is also mounted in the said plate C and base K, and projects at its upper end above the said plate, and is provided with a horizontally arranged hammer-carrier O, furnished at one end with a hammer 70 O', constructed with a shank O<sup>2</sup>, having an elongated slot receiving a headed pin O<sup>3</sup>, mounted in one end of the said carrier. I would have it understood, however, that I do not limit myself to constructing and arrang- 75 ing the train and hammer as described, because the construction set forth may be widely varied, so long as it is adapted to be driven by the spring-actuated push-rod and slotted operating-wheel H'. The upper end of the 80 box B is shouldered, as at B<sup>2</sup>, to afford a bearing for the bell P, which has a central opening adapted in size to cause the bell to rest upon the said shoulder, as clearly shown in Fig. 1. The upper end of the box B is also 85 provided with an externally threaded hub B<sup>3</sup>, over which fits a threaded jam-nut Q, employed to hold the bell in place. The means just described for supporting the bell and holding it in place may also be varied without depart- 90 ing from my invention.

In view of the changes suggested, and of others which may be made, I would have it understood that I do not limit myself to the exact construction herein shown and described, 95 but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention. Thus, while the bell illustrated is designed for a portable call-bell to rest upon a table, it is ap- 100 parent that it may be readily adapted for use by an obvious modification of its base, for a door-bell.

Having fully described my invention, what



I claim as new, and desire to secure by Letters Patent, is—

1. In a call and door bell, the combination with a push-rod, of a pin projecting laterally therefrom, a radially slotted wheel, the slot of which receives the said pin, a train, one member of which meshes into the said wheel, a bell-hammer connected with the train for rotation thereby, and a bell arranged to be struck by the said hammer, substantially as described.

2. In a call and door bell the combination with a push-rod, of a vertically arranged box in which the said rod is mounted, a spring located within the box and arranged to exert a constant effort to push the rod outward, a pin

mounted in the rod and extending outward through a slot in the box, an operating-wheel having an open radial slot receiving the said pin, an operating train one member of which is meshed into by the said wheel, a rotary bell hammer driven by the said train, and a bell arranged to be struck by the said hammer, substantially as described.

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

WILLIAM R. MACKAY.

Witnesses:

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