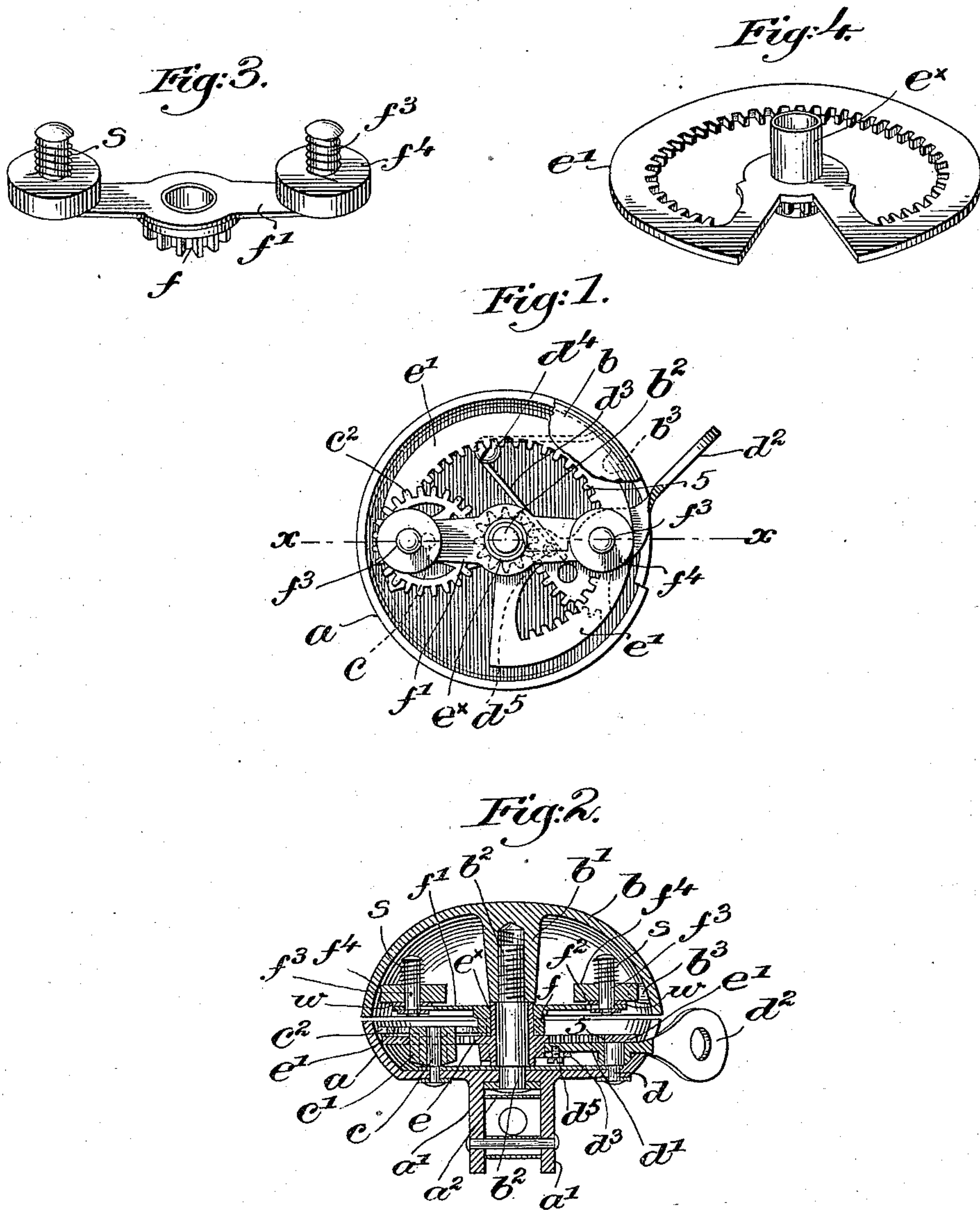


(No Model.)

N. T. MILLS.
BICYCLE BELL.

No. 547,443.

Patented Oct. 8, 1895.



Witnesses.

W. C. Harmon
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UNITED STATES PATENT OFFICE.

NORMAN T. MILLS, OF CAMBRIDGE, MASSACHUSETTS.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 547,443, dated October 8, 1895.

Application filed January 4, 1895. Serial No. 533,814. (No model.)

To all whom it may concern:

Be it known that I, NORMAN T. MILLS, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Gong-Bells, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

10 This invention has for its object the improvement of gong-bells wherein the hammer-carrier has imparted to it a rotating motion, and relates more particularly to the construction of the hammer-carrier, whereby a strong, 15 clear, and resonant sound is produced when the bell is operated.

Figure 1 shows in plan view the base and actuating mechanism of a gong-bell embodying my invention, the greater portion of the 20 gong being broken out. Fig. 2 is a vertical section thereof on the line $x x$ with the gong added. Fig. 3 is a perspective view, on a larger scale, of the hammer-carrier and its hammers; and Fig. 4 is a similar view of the 25 internally-toothed rack or gear to be described.

The base a , having suitable ears a' , with a clamp a^2 between them by which to attach the base to a desired object, and the gong b , 30 provided with a threaded socket b' to be screwed onto a threaded post b^2 , rising from the base and having a lug or projection b^3 , are and may be as common to this class of bells. A stud c , secured to and rising from the base 35 at one side of the part b^2 , acts as a pivot for a pinion c' , having an attached gear c^2 , while at the other side of the post I have shown a stud or pivot d , fixed to the base a (see Fig. 2) for the actuating-segment d' , provided 40 with a handle d^2 and acted upon by a spring d^3 , suitably secured to the base, as by a screw d^4 , the free end of the spring resting against a projection or screw d^5 on the under side of the segment (shown in dotted lines, Fig. 1) 45 and holding the segment in place on the stud. The post b^2 is surrounded loosely at its lower end by the hub of a pinion e , connected to an internally-toothed rack or gear e' , the teeth 5 of the rack engaging the pinion c' , while the 50 pinion e is engaged by the actuating-segment d' . The teeth of the gear c^2 engage the teeth

of a pinion f , the hub of which is mounted loosely on the sleeve-like extension e^x of the hub of the pinion e and rests on the latter, and to the pinion f is rigidly connected a hammer-carrier f' . I have shown the hammer-carrier as provided with laterally-extended 55 arms slotted longitudinally at f^2 near their outer ends, and through each slot a headed stud f^3 is passed from the under side, the studs 60 being loosely surrounded above the hammer-carrier by circular disks f^4 , washers w being preferably interposed between the disks and the hammer-carrier. The disks f^4 are kept 65 seated in a yielding manner by springs s , surrounding the studs f^3 between their upset ends and the disks, thereby permitting the disks, which form the hammers, to rotate on 70 their axes and also to move longitudinally thereon, while the hammers and their supporting-studs are movable as a whole in the slotted hammer-carrier. Pressure applied to the handle d^2 will move the actuating-segment d' and the intervening mechanism to 75 cause the hammer-carrier to rotate rapidly in one direction, while it is rotated in the other direction by the spring d^3 . The end of the socket b' holds the pinion e and rack e' , and also the hammer-carrier, in place upon their respective pivotal supports when the gong is 80 in position.

As will be obvious from the foregoing description, the hammer-carrier will be rapidly rotated many times for each movement of the actuating-segment, thus giving a great number of quick blows of the hammer on the gong. 85

The rapid rotation of the hammer-carrier throws the hammers f^4 outward to engage the projection b^3 of the gong, and the springs s control the movement of said hammers on the 90 carrier f' , preventing rattling or jerking, but permitting rotation of the hammers on their axes. The hammer-carrier is supported on the hub of the pinion e and rotates about the sleeve-like extension e^x thereof as a pivot, independent of the post b^2 . 95

I do not herein claim, broadly, the hammer-carrier and its attached pinion, the pivoted segment actuated in one direction by a spring, the rack and attached pinion mounted on the 100 post of the base, and the intermediate gearing between the rack and the hammer-carrier, as

the same are described and claimed in another application, Serial No. 518,324, filed by me the 23d day of July, 1894.

I claim—

- 5 1. The base, its attached gong; the post b^2 ; a pinion loosely surrounding the post and having a sleeve-like extension, and a hammer-carrier mounted on said extension and provided with a spring-controlled rotatable ham-
 10 mer, combined with an actuating-segment to rotate said pinion, and multiplying gears between it and the hammer-carrier, to rotate the latter at accelerated speed, substantially as described.
- 15 2. The base, its attached gong; the post b^2 ; the pinion c' and its attached gear; a hammer-carrier having a pinion f and a spring-controlled rotatable hammer; and an actuating segment mounted on the base and moved
 20 in one direction by a spring, combined with a pinion having a sleeve-like extension on which the hammer-carrier is loosely mounted, and an internally toothed rack attached to

said pinion, the actuating segment moving the rack, and the latter the pinion c' , substantially as described. 25

3. The base, its attached gong; the post b^2 , a pinion mounted thereon having a sleeve-like extension, an internally toothed rack attached to the pinion, and a hammer-carrier 30 loosely surrounding said sleeve-like extension and having a pinion f and spring-controlled movable hammers, combined with a pinion c' and its attached gear, and an actuating segment, both mounted on the base at opposite 35 sides of the post b^2 , the segment moving the rack, and the latter the pinion c' , substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 40 two subscribing witnesses.

NORMAN T. MILLS.

Witnesses:

JOHN C. EDWARDS,
 THOMAS J. DRUMMOND.