

(No Model.)

P. C. ARNOLD.
BICYCLE BELL.

No. 581,387.

Patented Apr. 27, 1897.

Fig. 1.

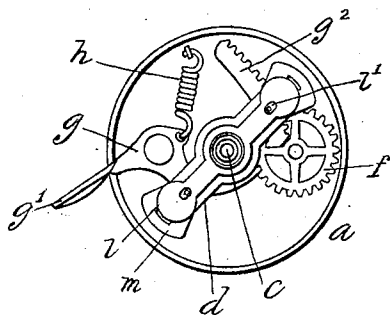


Fig. 2.

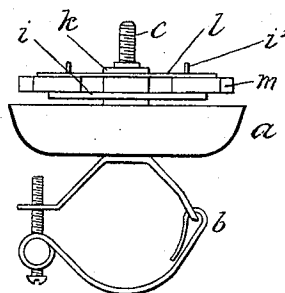


Fig. 3.

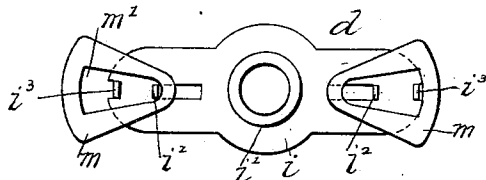
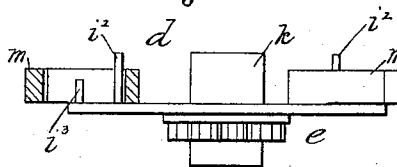


Fig. 4.



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BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 581,387, dated April 27, 1897.

Application filed January 20, 1897. Serial No. 619,933. (No model.)

To all whom it may concern:

Be it known that I, PHILIP C. ARNOLD, a citizen of the United States, and a resident of East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Bells, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a bell with simple and effective striking mechanism and one in which the striker shall have such freedom of striking and sliding movement as to improve the sound produced by the glancing stroke of the projecting part of the striker against the gong.

A further object is to provide a bell with striking mechanism that will give repeated blows and produce a certain and clear ringing sound by the impact of the striker.

To this end my invention consists in the details of the several parts of the striking mechanism and in the combination of such parts, as hereinafter described, and more particularly set out in the claims.

Referring to the drawings, Figure 1 is a plan view of the base of the bell, showing the operative mechanism. Fig. 2 is a view in side elevation of the base of the bell, showing the striker-bar and strikers in side elevation. Fig. 3 is a detail plan view, on enlarged scale, showing the striker-bar and strikers. Fig. 4 is a detail view, on enlarged scale, of the striker-bar with a striker broken away in central section.

In the accompanying drawings the letter *a* denotes the base of the bell; *b*, a clamp secured to the under side of the base for the purpose of attachment of the bell, as to the handle-bar of a bicycle. A central post *c* is secured to the base, the opposite end being threaded for the reception of a gong. On this central post is mounted a revoluble striker-bar *d*, having secured thereto a pinion *e*, adapted to mesh with a cog-wheel *f*, mounted on a post secured to the base. A swinging lever *g* is also pivoted on the base, having on its outer end a thumb-piece *g'* and on its inner end a segmental rack *g''*, in mesh with a pinion secured to the cog-wheel *f*. A spring

h is used to hold the lever at one limit of its swinging movement.

My invention has been described herein as embodied in a bicycle-bell, it being especially adapted for such purpose, although it is obvious that it may be embodied in bell-striking mechanisms adapted for use in any form of bell.

The parts above described, with the exception of the striker-bar, are of well-known construction, and form, except in combination with the striker-bar, no feature of the invention.

The striker-bar *d* consists of a base-plate *i*, struck or stamped to shape with a central opening *i'*, within which is secured a hollow hub *k*. This hub bears on the under side of the plate a pinion *e*, and a spring-bar *l* is secured to the upper side of the hub and extends outward, overlying the arms of the striker-bar. On opposite sides of the center of the striker-bar are formed openings, the metal forming these openings being upturned in a plane at substantially right angles to the base-plate and forming stops to limit the outward movement of the strikers *m*. Lugs *i''* are upturned from the substance of the striker-plate and at each end thereof for the purpose of limiting the inward movement of the strikers *m*.

The strikers *m* are formed in the general shape of a triangle having a curved base, a central opening *m'* extending lengthwise of the striker, this opening being wider at its outer than at its inner end. Stops *i''* extend inward into the central opening in the striker at each end of the bar, and the stops *i''* are made of a length to extend inward through the striker and through the openings *l'* in each end of the spring *l* to cause the spring to continually overlie the striker-bar and hold with a yielding pressure the strikers on the outer end of the striker-bar.

As the striker-bar is rapidly rotated in the swinging movement of the lever the strikers are thrown suddenly outward to impinge against the gong or a lug thereon, and the force of the blow thus struck causes the strikers to rebound, the hold of the spring being simply sufficient to prevent the striker from

bounding on the bar as the strikers come in contact with the lug on the gong.

The stops $\bar{v}^3$, in addition to their function of preventing backward movement of a striker, also limit its sidewise swinging movement and cause a sharp distinct sound as the striker comes in contact with the lug on the gong.

I claim as my invention—

10 1. In combination in a bell-striking mechanism a base, a gong, a revoluble striker-bar mounted on the base, means for revolving the striker-bar, and a striker mounted on the
15 2. In a bell-striking mechanism in combination, a base, a gong mounted on the base, a revoluble striker-bar mounted on the base, means for rotating the striker-bar, a striker mounted on the striker-bar and having a radial movement thereof, and means involving the striker-bar
20 or a part thereon for limiting the sidewise swinging movement of said striker.

2. In a bell-striking mechanism in combination, a base, a gong mounted on the base, a revoluble striker-bar mounted on the base, means for rotating the striker-bar, a striker mounted on the striker-bar and having a radial movement thereof and also a limited sidewise swinging movement, and lugs on the
25 bar limiting said movements.

3. In a bell-striking mechanism in combination, a base, a gong, a striker-bar mounted on the base, a striker mounted on the striker-bar and having a central opening wider at
30 one end than at the opposite end, and upturned lugs from the striker-bar projecting into said opening and of a less width than the greatest width of the opening.

4. In a bell-striking mechanism in combination, a base, a gong, a revoluble striker-bar mounted on the base, means for revolving the striker-bar, lugs upturned from the substance of the striker-plate, a striker
35 mounted on the striker-bar and having a

central opening of a greater width at its front than at its rear end and adapted to receive the lugs from the striker-plate, the lugs toward the end of the striker-bar being less in width than the greatest width of the opening in the striker.

45 5. In combination in a bell-striking mechanism a base, a gong, a revoluble striker-bar mounted on the base, a striker having a central opening of greater width at its front than at its rear end, a lug upturned from the striker-plate projecting into the central opening and less in width than said opening, a lug projecting upward from the striker-plate through the striker and in engagement with the spring overlying the striker-bar, and
50 the spring mounted to rotate with the striker-bar and exerting a yielding pressure on the strikers.

6. In combination in a bell-striking mechanism a base, a gong, a revoluble striker-bar mounted on the post supporting the gong and extending on opposite sides thereof, a striker mounted on the striker-bar at each end, a central opening in each of the strikers of less width at the inner than at the outer end, two
55 lugs projecting upward from and integral with the striker-plate, a lug projecting into the central opening of the striker at each end of the striker-bar, and a lug projecting through each of said openings and engaging
60 the end of the spring, and the spring mounted to rotate with the striker-bar and exerting a yielding pressure upon each of the strikers.

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Witnesses:

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