(No Model.) 2 Sheets—Sheet 1.

J. S. FOLEY & J. H. BIRCH.

BICYCLE BELL.

No. 588,860. Patented Aug. 24, 1897.

Fig. 1.

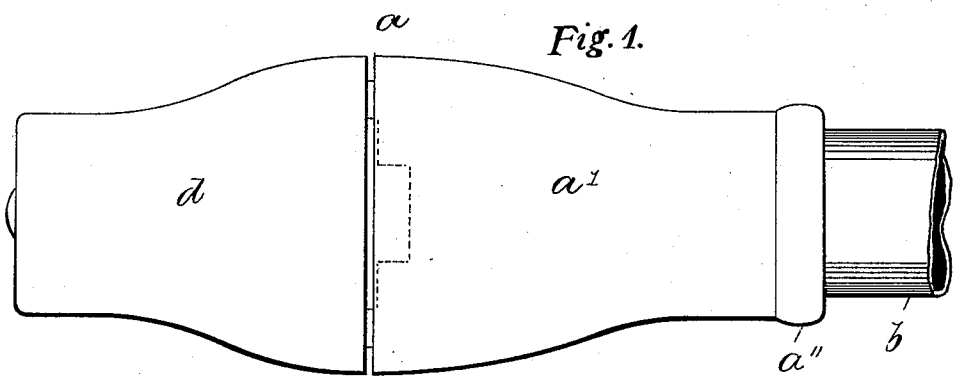


Fig. 2.

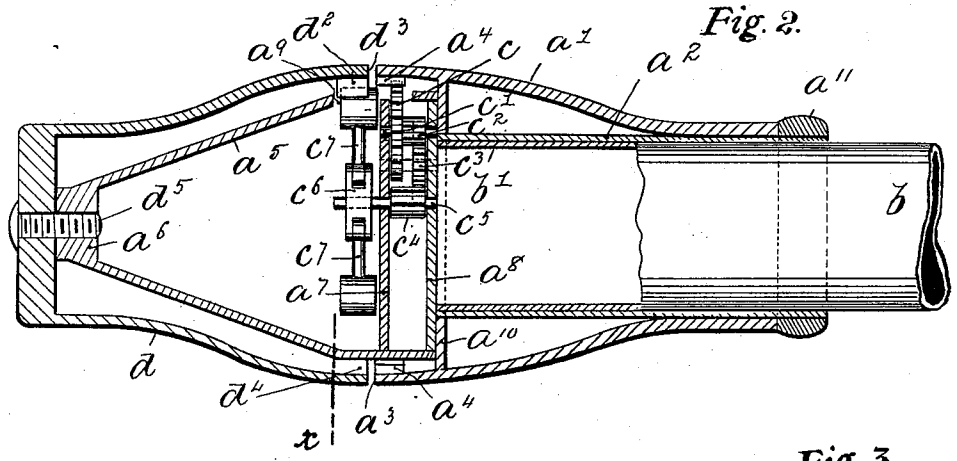


Fig. 4.

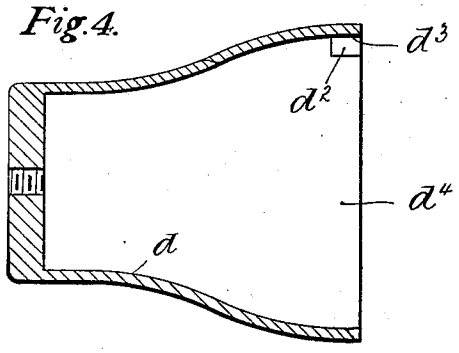
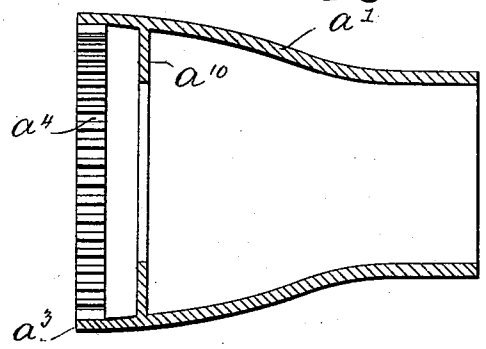


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

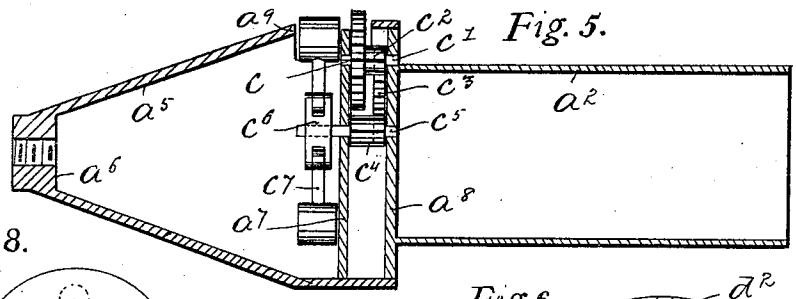


Fig. 8.

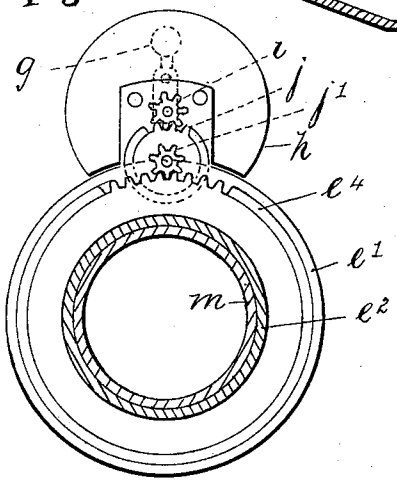


Fig. 6.

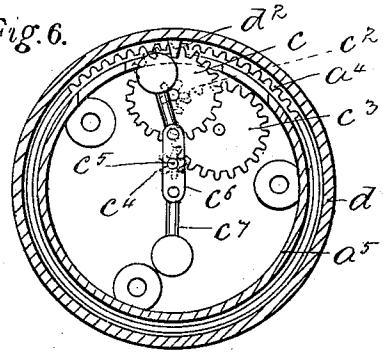
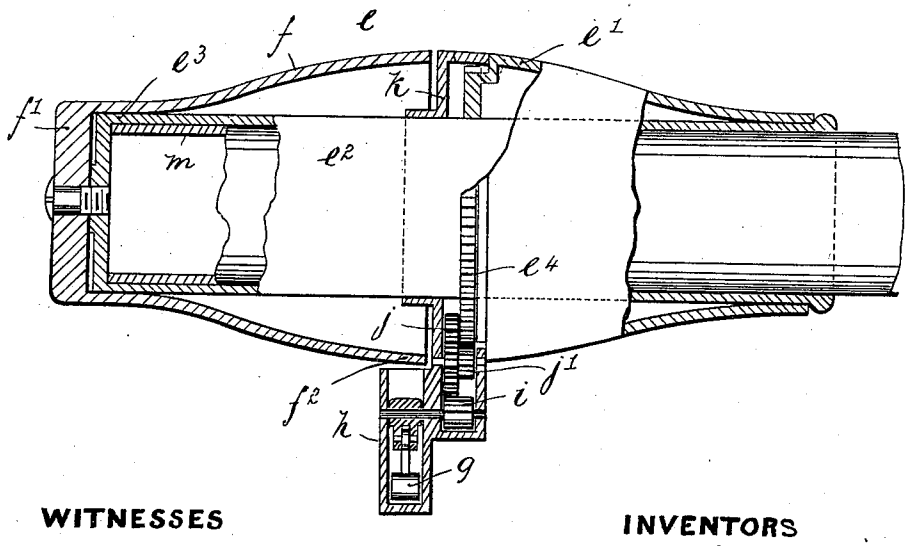


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES SAMUEL FOLEY AND JOHN HENRY BIRCH, OF WEST BROMWICH, ENGLAND.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 588,860, dated August 24, 1897.

Application filed April 12, 1897. Serial No. 631,800. (No model.) Patented in England March 22, 1897, No. 7,355.

To all whom it may concern:

Be it known that we, JAMES SAMUEL FOLEY, engineer, and JOHN HENRY BIRCH, (of the firm of George Salter & Company, manufacturers,) subjects of the Queen of Great Britain, residing at High Street, West Bromwich, in the county of Stafford, England, have invented a certain new and useful Cycle Bell-Handle, of which the following is a specification, and for which we have obtained Letters Patent of Great Britain dated March 22, 1897, and numbered 7,355.

This invention relates to bells or gongs forming a part of the handle of a cycle; and it has for its object to provide new and improved means for rapidly rotating the bell or gong sounding devices by a comparatively slow rotary motion of a part of the cycle-handle.

This object is accomplished in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 represents a self-contained cycle bell and handle made according to our invention. Fig. 2 represents a longitudinal vertical section of the same. Fig. 3 represents, separately, the inner and rotating side of the handle constituting the means for operating the bell by the clapper mechanism contained within it. Fig. 4 represents, separately, the bell or gong shell part of the said handle. Fig. 5 represents the bracket-carrier or foundation of the bell-handle which carries the clapper and its speeding mechanism. Fig. 6 is a transverse vertical section upon the dotted line x, Fig. 2, looking toward the clapper. Fig. 7 represents a modification in which the striking mechanism is located on the outside of the shell-dome and is contained within a small casing carried by a junction-piece coming between the rotating part of the handle and the fixed bell part thereof. Fig. 8 represents a vertical section of the same, showing the disposition of the clapper and the operating mechanism.

The same letters of reference indicate corresponding parts in the several figures of the drawings.

The said combined handle and bell shown in Figs. 1 to 7 comprises a two-part handle a, the one and inner part a' of which consists of a rotating shell mounted upon and revolving around a stationary inner circular sectioned sleeve or extension a^2 of the foundation a^5 of the bell-handle, the said sleeve constituting a socket wherein the end b' of a handle-bar b fits and is there fixedly secured. The fore part of the said shell a' has its inside mouth-entrance a^3 provided or formed with an annular internal gear or toothed wheel a^4, whose teeth mesh with those of a toothed wheel c, having upon its axis or arbor c' a pinion c^2, whose teeth in turn mesh or gear with the teeth of a secondary intermediate toothed wheel c^3, engaging with and driving a pinion c^4, made fast upon an eccentrically-mounted spindle or arbor c^5, carrying a clapper-arm c^6, having loosely-jointed clappers c^7, which, when the clapper-arm is rapidly revolved, strike the lug d^2, hanging from the inside lip d^3 of the free or unattached sounding end d^4 of the fixed bell or gong shell part d of the handle, made fast to the pommel end a^6 of the foundation-sleeve a^5 by the screw d^5 or by other convenient means.

The axes or arbors of the multiplying gear-wheels are carried or supported between the walls a^7 a^8 of the foundation-framing a^5, which is gapped at a^9 to admit of the clapper-heads striking the lug at the ringing-lip of the bell on the said clappers being swung round on the rotation of the inner part a^2 of the handle, which is kept in its assigned position upon the sleeve of the foundation-frame by an annular inside web a^{10}, abutting against the wall a^8, and by a fitted-on ring-collar a^{11}.

Operation: To ring the bell in either one or other direction, rotate the inner half part a' of the handle, when the teeth of the toothed annulus a^4 drives the toothed wheel c, and with it its pinion c^2, which latter drives the toothed wheel c^3, which in its turn drives the driven pinion c^4, when the clapper-arm is rapidly whirled round and the heads of its pivoted clappers successively strike and wipe past the ringing-lug d^2 of the bell part; hence the continuous ringing of the said bell or dome end.

In the modification Figs. 7 and 8 the cycle bell-handle e comprises a rotating part e', turning upon a foundation-sleeve e^2, fitted upon

and made fast to the handle-bar m, and whose outer end e^3 sockets within and has made fast to it the crown end f' of the fixed bell-shell portion f, whose lip f^2 is free from contact with the contiguous parts and is struck by a swinging clapper g, rotating within a casing h, driven by a pinion i, through a toothed wheel j, whose pinion j' intergears with an outside toothed driving-wheel or annulus e^4, carried by the rotating handle part e. Now the said casing h, which incloses the swinging clapper and part of the multiplying-gear, is carried by a junction-piece or foundation k, which intervenes between the rotating and bell parts of the handle.

By rotating the inner part e of the handle the large annular gear or toothed wheel e^4 drives the pinion j' and through it the wheel j, which in turn drives the pinion i and rotates the clapper g, whose arm is loosely jointed and striking the outside of the lip f^2, gives a continuous ring to the bell so long as the inner part of the handle is rotated.

The cycle bell-handle herein described is used as a whole as a nordinary handle and is only utilized as a bell when an alarm or warning is required to be sounded.

Having fully described our invention, what we desire to claim and secure by Letters Patent is—

1. The combination with the handle-bar of a cycle, and a bell connected therewith, of a rotating handle-section having an annular gear, a rotatable clapper-arm having a clapper, a spindle connected with the clapper-arm and having a pinion, and gearing operatively connecting the annular gear of the handle-section with the pinion on the spindle of the clapper-arm, substantially as described.

2. The combination with the handle-bar of a cycle, and a bell connected therewith, of a rotating handle-section mounted on the handle-bar and having an annular gear, a rotatable clapper-arm having a pivoted clapper, a spindle connected with the clapper-arm and having a pinion, and gearing operatively connecting the annular gear of the handle-section with the pinion on the spindle of the clapper-arm, substantially as described.

3. The combination with the handle-bar of a cycle, of a handle composed of two sections, one having an annular gear and rotatable on the handle-bar and the other connected with the latter and constituting a bell or gong, a rotating clapper-arm having a clapper to strike the bell or gong, a spindle journaled parallel with the axis of the rotatable handle-section, and connected with the clapper-arm, a pinion on the spindle, and rotatable gearing operatively connecting the annular gear of the rotating handle-section with the pinion on the spindle of the clapper-arm, substantially as described.

4. The combination with the handle-bar of a cycle, and a bell connected with one end thereof, of a rotating handle-section mounted on the handle-bar and having an annular gear, a rotatable clapper-arm having a clapper, a spindle connected with the clapper-arm and journaled parallel with and eccentric to the axis of the rotating handle-section, a pinion secured to the spindle, and rotating gearing operatively connecting the annular gear of the rotating handle-section with the pinion on the spindle of the clapper-arm, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES SAMUEL FOLEY.
JNO. HENRY BIRCH.

Witnesses:
HENRY SKERRETT,
ARTHUR T. SADLER.