No. 658,501. Patented Sept. 25, 1900.

A. B. HUNN.

BELL.

(Application filed Jan. 11, 1900.)

(No Model.)

Fig. 1.

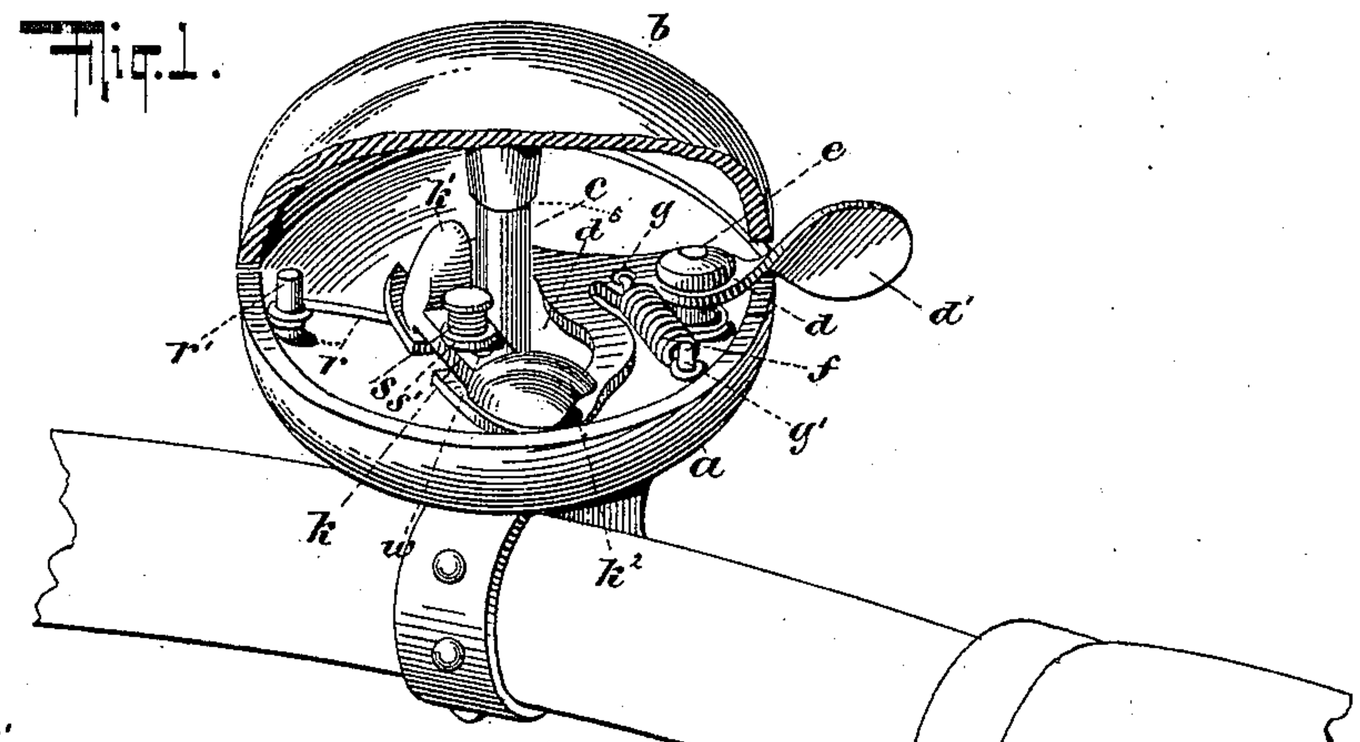


Fig. 2.

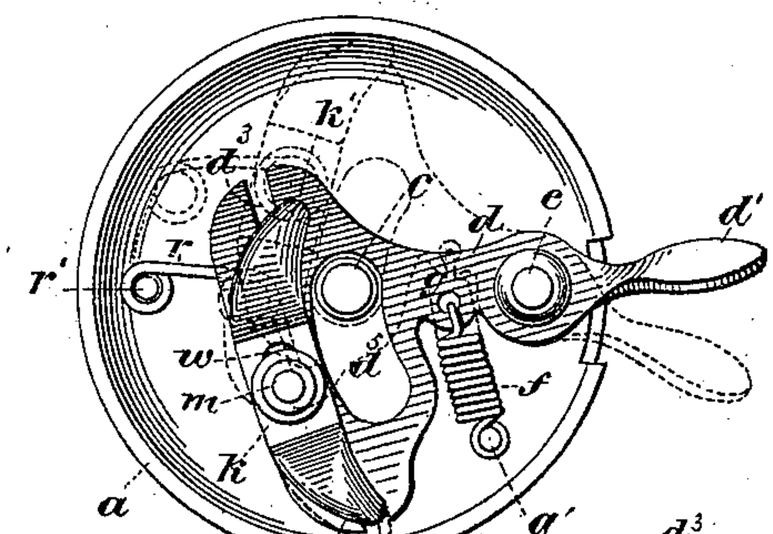


Fig. 5.

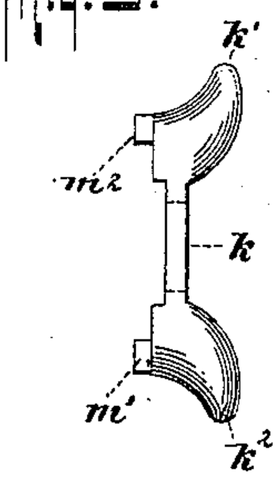


Fig. 4.

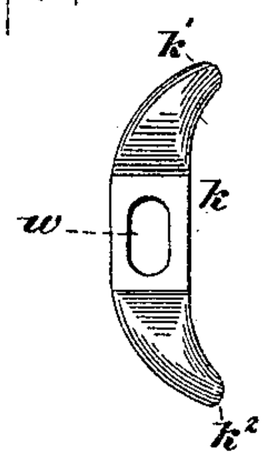


Fig. 3.

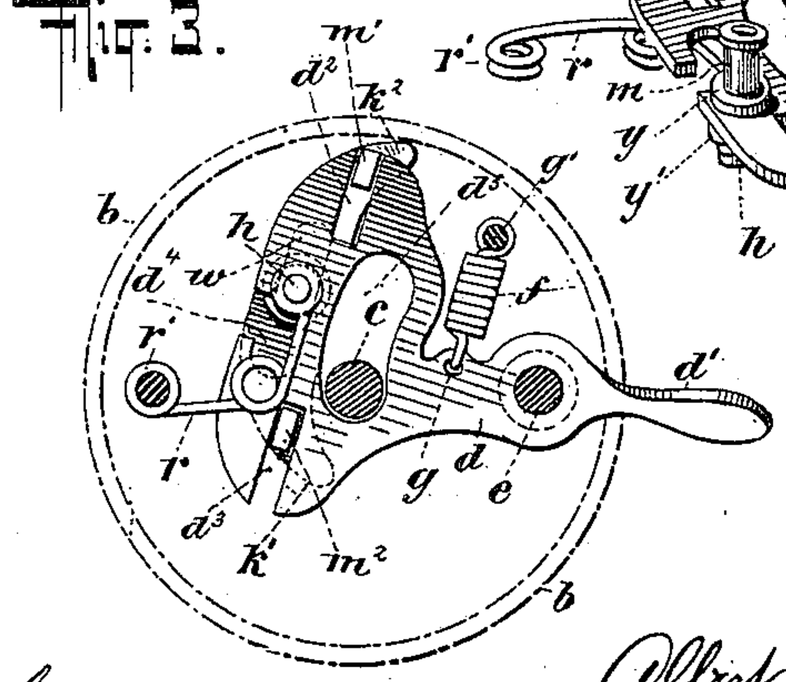
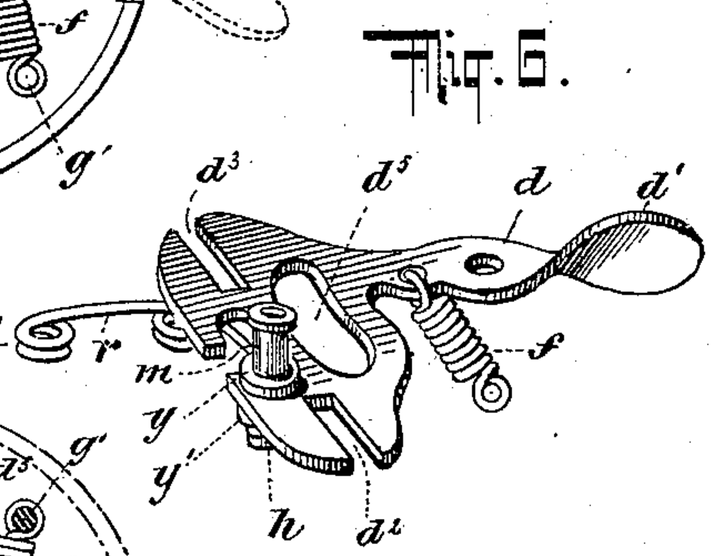


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALBERT BOYD HUNN, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE NEW DEPARTURE BELL COMPANY, OF SAME PLACE.

BELL.

SPECIFICATION forming part of Letters Patent No. 658,501, dated September 25, 1900.

Application filed January 11, 1900. Serial No. 1,056. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BOYD HUNN, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented new and useful Improvements in Bells, of which the following is a specification.

The present invention relates to bells, and more particularly to a bell for bicycles and like vehicles; and its object is to produce a bell of simple construction in the class of what has been termed "double-stroke" bells—that is to say, a bell which by a single pressure of a lever may be made to give forth two sharp and distinct sounds.

To this end the present invention consists of the devices and combination of devices which will be hereinafter described and claimed.

The present invention in one of its forms is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the bell attached to the handle-bar of a bicycle, with a portion of the gong broken away, so as to show the arrangement of the parts. Fig. 2 is a plan view of the bell with gong removed, the dotted lines on the left indicating the position of the striker in the act of impinging against the gong and on the right the position of the parts after pressure upon the lever. Fig. 3 is a like plan view of the striking mechanism viewed from below after the lever has been actuated in one direction. Fig. 4 is a view in detail of the striker. Fig. 5 is a side view in detail of the striker; and Fig. 6 is a plan view of the lever, springs, and striker-mount with the striker removed.

Similar letters of reference represent corresponding parts throughout the views.

In the accompanying drawings the letter *a* designates the base-piece, which may be provided with any one of the usual means of attachment to the handle-bar of the bicycle or other support.

b is the gong, also of any usual desired form, size, material, and construction. A post *c*, fixed, preferably, in the center of the base, is shown to support the gong, which may be secured thereto by a screw-thread or any other suitable means.

d is a lever pivoted to the base-piece, as at *e*. This point is preferably located as near as possible to the circumference of the gong, both for convenience in manufacture and for obvious advantages in use. A spiral spring *f*, with one end bent into a hole in the lever at *g* and the other coiled or bent around a post at *g'*, holds the lever firmly in its normal position and returns it thereto when pressure upon the finger-piece *d'* is removed.

My invention is represented in the drawings as embodied in a bicycle-bell. It is equally adaptable to embodiment in a bell for any other appropriate use, in which event the outside end of the lever may be provided with a means for attaching thereto a rope or crank or any other means to actuate the same. The inner end of the lever is provided with slots and channels to limit and control the motion of the lever, striker-mount, and striker. d^3 on the right and d^2 on the left maintain the striker in its proper position upon the lever.

d^4 is a slot or channel in which the striker-mount rides and which permits a limited play in a right and left direction.

d^5 is a slot which, in the embodiment illustrated in the drawings, is used to limit the backward-and-forward motion of the lever, the central post projecting through the same and the sides of the slot striking the central post according as the lever is driven in one direction or the other.

A double-ended striker *k*, with right-hand striking-point *k'* and left-hand striking-point k^2, is maintained upon the lever by the striker-mount *m*. This is constructed in any suitable way to maintain the striker in place upon the lever and, as shown, is maintained in a vertical position by shoulders *y y'* upon the post *h*. The aperture *w* in the striker, through which the post *h* passes, is enlarged, so as to permit horizontal play to the striker to a limited extent. A small spring *s*, coiled about the post *h* and bearing upon a washer *s'*, may be used in a familiar manner to hold the striker in place and prevent noise and rattling in operation.

r is a wire spring, coiled around a post *r'* at one end, which is preferably located upon the base substantially opposite the post *c*, which carries the lever. The spring at the other end is coiled loosely around the post *h*.

This spring is either bent into a semicircular form or formed with one or more intermediate coils in such a manner as to drive the striker-mount to its extreme limit of motion in either the right or left hand direction as the lever moves the striker-mount past a point substantially central of the bell and to maintain it in that position.

The operation of my improved bell is as follows: The mechanism is shown in normal position in full lines in Fig. 2. In this instance the spring *f* is holding the lever to its extreme left position. A pressure upon the finger-piece *d'* will move the posterior end of the lever, carrying the striker past what I call the "center of equilibrium" and drive the said end of the lever toward the right position, as shown in dotted lines. When the lever is past the center, the coiled spring *r* will become effective and aid in driving the lever toward the right position and at the same time will throw the striker-mount *m* sharply toward the right side of the slot d^4. Thereupon the striker *k* will spring forward, on account of the impetus thus given it, to the limit of play which it has upon the striker-mount *m* by reason of the elongated slot *w* and will impinge against the gong, immediately recoil, and be held in a non-contact position by force of the small spring and washer *s s'*. Thereupon the pressure upon the finger-piece *d'* being released the spring *f* will retract the lever to its extreme left position, when the striker will be caused to impinge upon the gong upon that side in a similar manner.

It will be observed that this bell can be used as a single-stroke bell, a double-stroke bell, and by a rapid manipulation of the lever *d* it will be made to produce a sound very similar to that of a so-called "electric-stroke" bell. I have found in practice that a bell constructed in the manner described is exceedingly effective as well as pleasant in use, and I call particular attention to the fact that difficulties in manufacture are overcome for the reason that the expenses for inspection and adjustment are reduced to a minimum, the action is positive, and all parts can be manufactured in quantities and substantially automatically. The parts are thus all interchangeable and can be assembled rapidly and cheaply with positive and reliable results.

It is manifest that there are numerous modifications as to form and arrangement which can be made in this mechanism without departing from the spirit of my invention, and I do not therefore limit myself to the exact form and arrangement above described, but hold myself at liberty to make such modifications as may be found desirable in practice.

I claim as my invention the following-described novel features, substantially as hereinbefore specified, namely:

1. An alarm-bell comprising in its construction a base-piece and gong, and a lever carrying a spring-actuated striker, with means to limit the reciprocating motion of the lever and means to limit the reciprocating motion of the striker upon the lever, substantially as described.

2. An alarm-bell consisting of a base-piece and gong, a lever-spring actuated in one direction; a striker-mount upon the lever and carrying a striker; a spring to actuate said striker-mount in either a right or left direction, and means to limit the motion of the striker upon the striker-mount and the striker-mount upon the lever.

3. An alarm-bell comprising in its construction a base-piece and gong; an actuating-lever; a striker-mount upon the lever, and cooperating means to permit control, and limit its motion thereupon; a striker upon the striker-mount and coöperating means to permit, control, and limit its motion thereupon; a spring to actuate the striker-mount in either direction to cause the striker to impinge against the gong; and means to maintain the striker in normal non-contact with the gong.

4. An alarm-bell consisting of a base-piece and gong; a lever limited in its motion carrying a striker-mount, and provided with channels coöperating with projections upon said striker-mount so as to permit, control, and limit the motion of the striker-mount upon the lever; a striker upon the striker-mount with projections engaging channels upon the lever and a slot coöperating with the shaft of the striker-mount to permit, control, and limit the motion of the striker upon the striker-mount and lever, a spring to actuate the striker-mount sharply in either direction and frictional means to hold the striker at rest upon the striker-mount, all constructed, combined, and arranged so that a movement of the lever in either direction will effect a sharp impingement of the striker against the gong and except at the moment of contact maintain the same in normal non-contact with the gong.

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

ALBERT BOYD HUNN.

Witnesses:
LAURA B. PENFIELD,
ALICE E. BROWN.