

(No Model.)

C. E. CARROLL.
ALARM BELL.

No. 459,778.

Patented Sept. 22, 1891.

Fig. 1

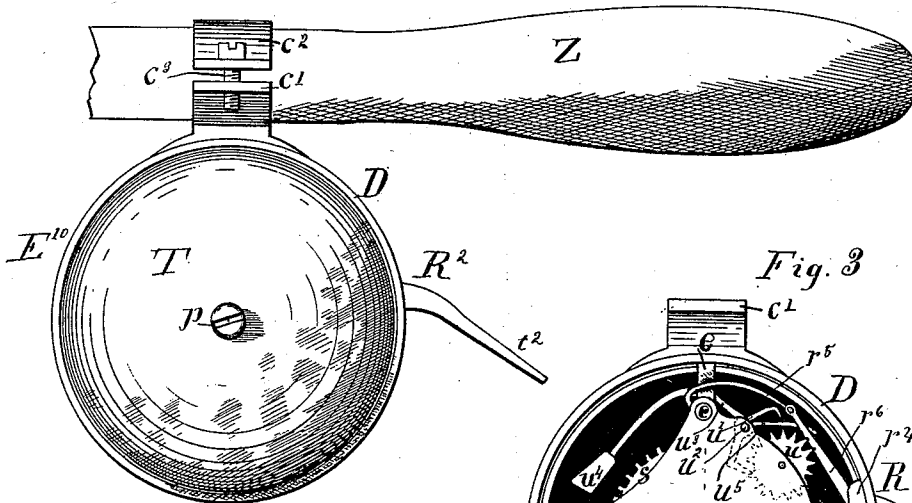


Fig. 2

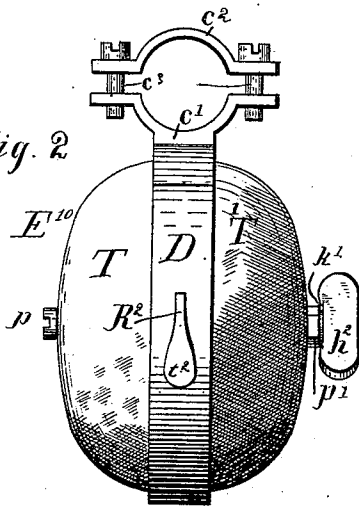


Fig. 3

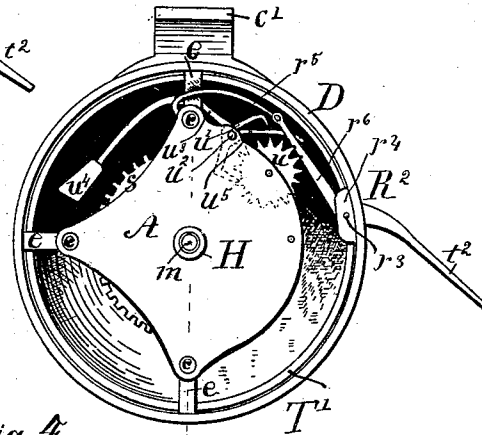
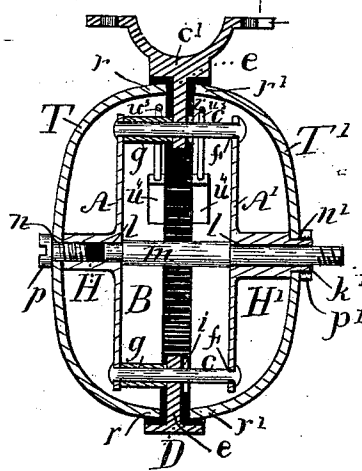


Fig. 4



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ALARM-BELL.

SPECIFICATION forming part of Letters Patent No. 459,778, dated September 22, 1891.

Application filed January 12, 1891. Serial No. 377,462. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. CARROLL, a citizen of the United States, residing at New Haven, in the county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Alarm-Bells, of which the following is a specification.

My invention has for its object to provide an alarm-bell for bicycles or other uses requiring particular adaptation of the mechanism for portability and exposure to weather.

The improvement consists in the novel combination and arrangement of a pair of gongs or cupped bells and an annular encircling band forming an inclosing case for the actuating mechanism, all as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of my improved alarm-bell shown attached to the handle of the steering mechanism of a bicycle. Fig. 2 is a side elevation of the same. Fig. 3 is a view corresponding to Fig. 1, with the bell or gong removed to show the interior construction of the device and the alarm mechanism; and Fig. 4 is a vertical section on the line *x*, Fig. 3.

Referring to the drawings, the reference-letters A A' respectively designate the plates or sides of a supporting-frame B, which side plates are arranged parallel to each other and connected or secured together by suitable transverse rivet-rods *c*, passing through the plates and riveted over at the ends, as shown. The supporting-frame is suspended within an encircling band D, which is provided with interior radial suspending-arms *e*, having their inner ends perforated to receive the rivet-rods *c*. The said rods are each formed with a shoulder *f* at the ends adjacent to the frame A', against which the frame is held by the end of the rod being riveted over, as shown, whereby all the rods are secured stationary in the said plate. Suitable pins *i* are passed through the rods to form shoulders against which the radial arms abut on the side opposite the plate A', and suitable sleeves *g* are slipped on the rods between the radial arms and the plate A, forming shoulders against which the said plate A abuts and is held by

the riveted ends of the rods, as shown. Thus arranged the supporting-frame is firmly fastened and suspended within the encircling band D.

The plate A' is formed with a central outwardly-projecting hub H', having a screw-threaded boss *k'* on the end thereof, and the plate A has a corresponding hub H. Each of the hubs is perforated throughout its length to provide bearings *l* for the reception of the central mainspring-arbor *m* of the clock-work mechanism, both of said journals being in alignment and at right angles to the encircling band D.

A gong or cup-shaped bell T', having a central perforation *n'* fitting the boss *k'*, is supported upon the said boss, secured in place by the nut *p'* and having its flange or rim *r'* inserted within the encircling band D, adjacent to the arms *e*. A similar gong T is secured to the hub H by means of a screw *p*, inserted through its central perforation *n* and screwed into the hub, clamping the bell firmly against the end thereof and securing it, with the flange or rim *r* inserted within the band D from the side opposite the bell-flange *r'*. Thus arranged the gongs and their encircling band form a case E¹⁰, which is ornamental in design and well adapted for portability, exposure to weather, and is sufficiently proof against the admission of dust or rain to the mechanism within the case.

The arbor *m* projects through the hub H' and is provided with a thumb-piece *h*², screwed thereon, by which it may be turned. A cog-wheel S is secured on the arbor, and a suitable train of gearing (not shown) is arranged intermediate of the said wheel S and an escapement-wheel *u* and driven by a suitable mainspring (not shown) on the arbor *m*, all of which mechanism is ordinary clock-work well known and here needs no further description.

A suitable escapement or detent device *w'* is arranged to vibrate in engagement with the wheel *u* on a rock-shaft *w*², journaled through the plates A A', to which rock-shaft a pair of arms *w*³ is suitably fastened and provided with hammers *w*⁴ at their ends and arranged in position to strike the flanges of the gongs.

The rock-shaft also carries a bent arm u^5 , the end of which is normally in engagement with a lever R^2 , arranged through the encircling band D and fulcrumed on a pivot r^3 , inserted through a suitable projection r^4 on the inner side of the band. A spring r^5 , secured on the supporting-frame, is arranged in engagement with the inner end r^6 of the lever R^2 and adapted to hold the lever outward against the end of the arm u^5 ; but when in operation the opposite end l^2 of the lever is raised the escapement mechanism is thereby freed, and the hammers u^4 will be vibrated and repeatedly struck against the gongs actuated by the clock-work. For this purpose the lever R^2 is so placed that its outer end will hang in position to be readily lifted with the thumb when the bicycle-handle Z is held in the grasp, and the alarm-bell is fastened thereon by means of the flange c' on the band D and the clip c^2 and suitable screws c^3 .

It will be seen that the novel inclosing case formed by the peculiar arrangement of the pair of bells and the encircling band is well adapted for use as an ordinary call-bell, door-bell, or alarm of any sort, and that the spring-actuated clock-work may be wholly dispensed with and only the hammers and their rock-shaft left to remain, as in door or call bells which are not "winding" alarms, but actuated by pressing the hammers either directly or by pressing suitable mechanism connected with

the hammers, the clock-work forming no part of my invention.

I claim—

1. In an alarm-bell, the combination of the supporting-frame, the pair of gongs or cup-shaped bells arranged with their flanges or rims in juxtaposition and respectively secured at their centers upon projecting arms or hubs on the said supporting mechanism, and the encircling band encircling the flanges of the bells and covering the joint between them and secured to the supporting mechanism by arms projecting through said joint, substantially in the manner and for the purpose specified.

2. In an alarm-bell for bicycles, the combination of the supporting-frame, consisting of the side plates A A' and connecting rivet-rods, the side plates being provided with the hubs H H', the encircling band D, having the radial arms supporting the said rivet-rods and frame, the pair of gongs or cupped bells T T', respectively attached or secured on the said hubs, with their flanges or rims entered within the said encircling band to form an inclosing case for the bell mechanism or alarming devices, substantially as and for the purpose specified.

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Witnesses:

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