

(No Model.)

W. C. HOMAN.
BICYCLE BELL.

No. 578,513.

Patented Mar. 9, 1897.

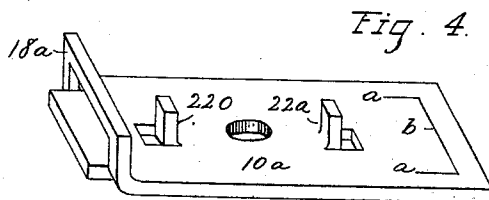
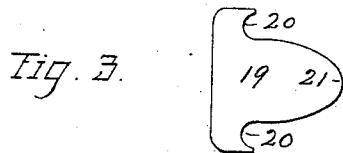
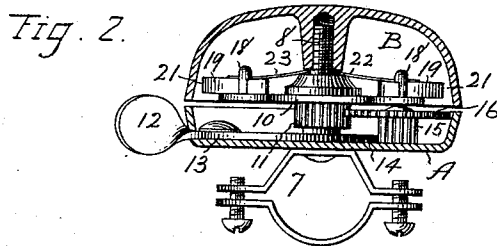
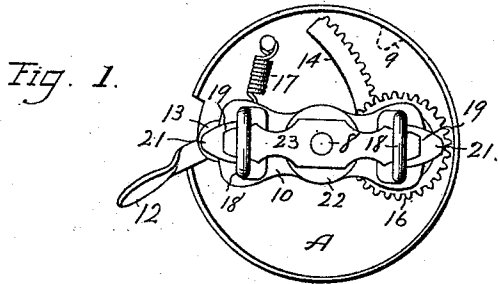


Fig. 5.

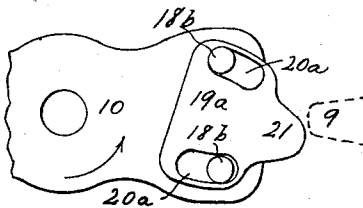


Fig. 6.

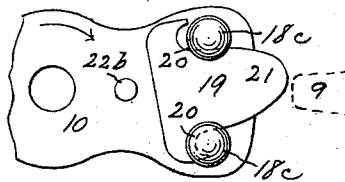


Fig. 7.

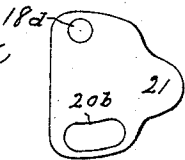
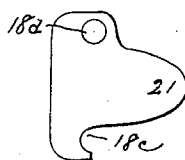


Fig. 8.



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BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 578,513, dated March 9, 1897.

Application filed December 2, 1896. Serial No. 614,167. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. HOMAN, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Bicycle-Bells, of which the following is a specification.

My invention relates to improvements in bicycle and other bells having a revolving striker; and the objects of my improvement are simplicity and economy in construction and efficiency in use.

In the accompanying drawings, Figure 1 is a plan view of my bell with the gong removed, although the gong-teat is indicated in broken lines. Fig. 2 is a sectional side elevation of my bell. Fig. 3 is a detached plan view of one of the hammers on an enlarged scale. Fig. 4 is a perspective view showing a modified form of the striker, one end thereof being represented in a partially-formed condition. Fig. 5 is a plan view of a portion of a striker and one hammer in a modified form. Fig. 6 is a like view showing a modification in the manner of securing the hammer on the striker-plate. Figs. 7 and 8 are plan views of modified forms of hammers for use on strikers that revolve in one direction only.

A designates the base, which in bicycle-bells may be provided with any desired form of clamp 7 for attaching it to the machine. Said base is provided with a central post 8, threaded at its upper end to receive the gong 3, and the said gong is provided with the usual teat or teats, as indicated in broken lines at 9, Figs. 1, 5, and 6. The revolving striker 10 is pivoted on this central post and has a pinion 11, made rigid with said striker. A lever 12 is pivoted to the base at 13 and has a rack 14, that engages with a pinion 15, made rigid with the wheel 16, that engages with and revolves the striker-pinion 11. A spring 17 acts to return the lever to its normal position, whereby on moving said lever in the direction to strain said spring the parts act to revolve the striker in one direction and at the same time put the spring under tension, and upon releasing the lever it is returned by the spring and the striker revolves in the opposite direction, all substantially as in ordinary bells. The mechanism thus far specifically described is not of

my invention, and any other known mechanism for revolving the striker may be substituted for the known mechanism herein shown and described.

Upon each end of the striker I secure a staple 18, the two legs of which form pivots for the hammer 19 to swing upon. The hammer 19 has double pivot-bearings 20, one at or near each of the rear corners, while the striking-nose 21 projects centrally from between said bearings. A stop of some kind must be employed to keep the hammers from working inwardly out of place when the striker is not revolving, and the preferred form of stop is a leather or vulcanite washer 22 on the central post 8. I also prefer to place a light friction-spring 23 over said hammers to prevent rattling, but still leave the hammers free to move under the influence of the revolving striker. While I have described a hammer for each end of the striker, it is evident that no change of construction would be required to merely omit one of said hammers. In revolving said striker rapidly in the usual manner the hammers tend to fly outwardly under centrifugal force and bring both of their pivot-bearings against the legs of the staple, as shown in Fig. 1.

When the nose 21 strikes the teat 9 on the gong, the hammer bounds back and swings on the advance one of its pivot-bearings, so as to let the nose quickly move out of the way of said teat and pass the same without any dragging action thereon. The hammer, however, soon recovers from the effects of the blow and is again thrown out to squarely rest or bear on both pivots, and so on repeatedly as often as the striker is continuously revolved. The same is true as to the reverse motion of the striker, although in that case the advance pivot bearing or axis will be the one that was before the rear pivot-bearing.

In Fig. 4 I have illustrated a striker 10^a made of sheet metal, the staple 18^a being formed thereon by slitting the end on three lines, as at *a b a*, in the right-hand end of said Fig. 4. This form of striker may be used with hammers of either of the constructions shown. Instead of the vulcanite or leather washer 22 for a stop, the lug 22^a, Fig. 4, may be cut out and bent up from the body of the

metal, or said stop may be formed by a simple pin, as at 22^b in Fig. 6.

In Fig. 5 I have illustrated the hammer as having two curved slots 20^a for its two pivots 18^b, which pivots may be the legs of a staple, as in Figs. 1 and 2, or they may be the body of a headed screw or rivet, as shown at 18^c, Fig. 6. The hammer-nose 21 is the same as before described, and the rear ends of the curved slots 20^a form the pivot-bearings, which bear squarely against both pivots under centrifugal force, and about either of which the hammer may swing to clear the teat on the gong. When the striker is moving in the direction of the dart in Fig. 5, the hammer swings on the upper one of the pivots 18^b, as shown. The pivots extending through the slots that inclose them will prevent the hammers from being detached or working out of place when the bell is not in use, so that no other stop is required.

In Fig. 6 the hammer 19 is the same as first described, and is held in place by two headed rivets 18^c, instead of a staple, and the confining-stop is formed of a simple pin 22^b. When the striker is revolved in the direction indicated by the dart in said Fig. 6, the hammer will swing on the lower one of the pivots 18^c, as shown. The action of the hammer when moving past the teat 9 in opposite directions in either of the constructions shown is illustrated by Figs. 5 and 6, respectively.

In some bells a revolving striker is arranged to move in one direction only, or, in other words, to always move in the same direction. Figs. 7 and 8 illustrate hammers adapted for use on such strikers. In both figures the advance axis or pivot-bearing 18^d is a simple hole to receive a staple-leg, pin, screw, or rivet, while the inner end of the slot 20^b in Fig. 7 and the pivot-bearing or recess 18^e in Fig. 8 only serve to square up the hammer as it is thrown outwardly by centrifugal force. In Fig. 7 the pin in the slot will prevent the hammer from making a complete revolution about its axis, while the hammer shown in Fig. 8 may be used with a stop on the striker, as in Figs. 1, 2, 4, and 6, to prevent said hammer from making a complete revolution about its axis.

In all of the constructions shown the advance pivot-bearing or axis is the one on which the hammer swings, while the other pivot-bearing for the time being, that is, so long as the striker revolves in one direction only, serves merely (in connecting with said advance axis) as means for holding the hammer squarely in position on the striker under centrifugal force.

In most bells in which a revolving striker carries a swinging hammer at one or both of its ends the hammer swings on a central axis, so that the hammer strikes the teat on the gong a little before the axis on which the hammer swings passes the teat. The axis must be carried on the striker a given distance past

the teat before the hammer can swing into its outermost position again. By having the hammer swing on an axis that passes the teat before the hammer comes in contact therewith the striker does not have to travel so far to let the hammer swing back, and consequently it is much less liable to be swung back soon enough to drag on the teat in passing the same. The hammer can be restored to its outward position in my bell when the striker has traveled a less distance than in a central-axis hammer by half the distance from center to center of its two pivot-bearings, and this in many cases is just enough to avoid the dragging action of the hammer.

I do not wish to limit myself to the precise details of construction shown and described, but desire to cover all such changes and modifications as may fairly fall within the spirit and scope of my invention, the main idea of which is a hammer-axis that passes the teat before the hammer strikes said teat.

I claim as my invention—

1. In a bell having a revolving striker, a swinging hammer mounted on said striker having its axis located to one side of its striking-nose and means for holding the hammer squarely in position on the striker under centrifugal force substantially as described.

2. In a bell having a revolving striker, a swinging hammer mounted on said striker and having duplex axes upon either of which it may swing according to the direction that the said striker is revolved, substantially as described.

3. In a bell, the revolving striker, the hammer mounted thereon and having two pivot-bearings while the said striker is provided with two pivots upon either of which the said hammer may swing, substantially as described.

4. In a bell, the revolving striker carrying two pivots, a hammer having the two open pivot-bearings 20 and a striking-nose between them, a stop to prevent the said hammer from working inwardly when the bell is not in use, and means for preventing said hammer from working off over the ends of said pivots substantially as described.

5. In a bell having a revolving striker for carrying a hammer, the swinging hammer having a striker-nose, and an axis on which it swings located to one side of the central longitudinal line of said hammer, and means for preventing said nose from swinging into a position in alinement with the striker and hammer-axes, substantially as described.

6. In a bell having a revolving striker, the swinging hammer mounted thereon having a striking-nose, and an axis located at one corner of said hammer in advance of said nose, substantially as described.

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