No. 618,107. Patented Jan. 24, 1899.

G. J. KRAUSHAAR.

BICYCLE BELL.

Application filed Dec. 30, 1897.)

(No Model.)

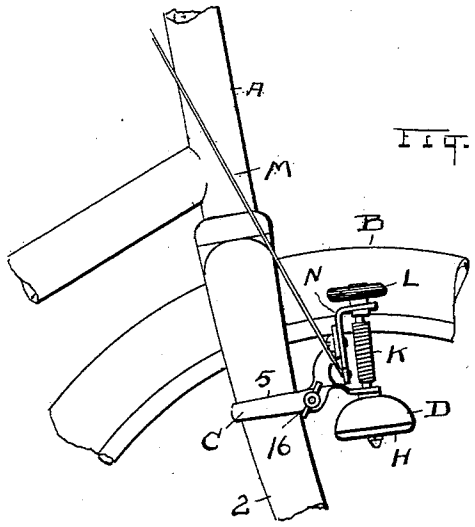


Fig. 1.

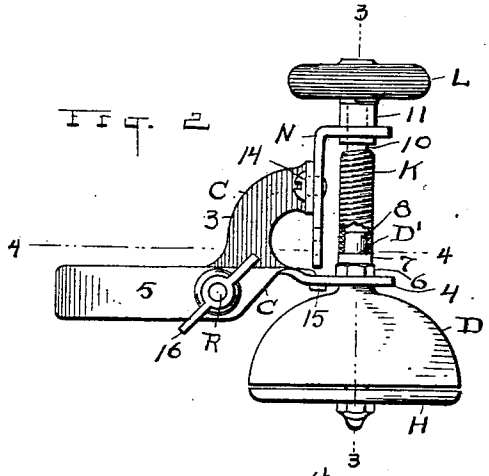


Fig. 2.

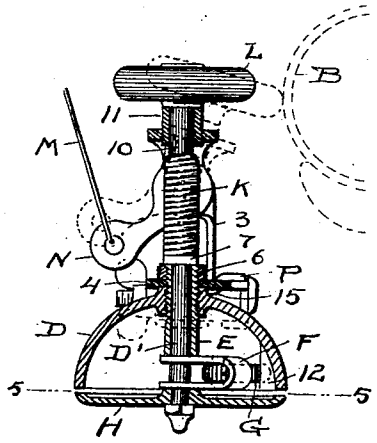


Fig. 3.

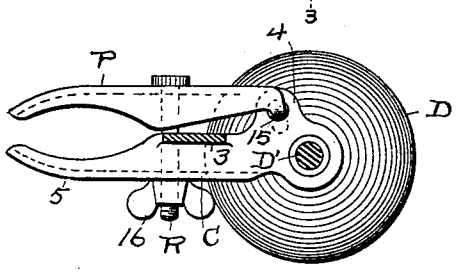


Fig. 4.

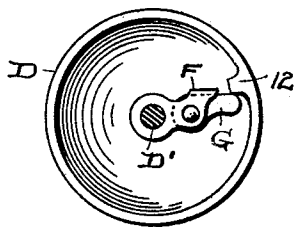


Fig. 5.

Attest.
W. Fraser
H. E. Myers

Inventor
George J. Kraushaar
By W. F. Fisher Atty

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UNITED STATES PATENT OFFICE.

GEORGE J. KRAUSHAAR, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO J. H. McARTHUR, OF SAME PLACE.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 618,107, dated January 24, 1899.

Application filed December 30, 1897. Serial No. 664,690. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. KRAUSHAAR, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Signal-Bells for Bicycles; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to signal-bells for bicycles and other like vehicles; and the object of the invention is to provide a bell which avoids the inconvenience and danger of letting go of the handle-bar to ring the bell and also of ringing it by hand; and the invention consists in a construction of bell and supporting and operating mechanism which depends on the wheel to cause the ringing, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of a section of the front part of the bicycle-frame and the tire of the front wheel and of my improved attachment of signal-bell supported on the fork of the steering-post. Fig. 2 is a side elevation of the bell and its mechanism alone, shown as in Fig. 1, but enlarged. Fig. 3 is a vertical sectional elevation on line 3 3, Fig. 2. Fig. 4 is a horizontal sectional view on line 4 4, Fig. 2, looking down. Fig. 5 is a bottom view looking up from line 5 5, Fig. 3, and designed especially to shown the means for operating the clapper.

A is the steering-post of the main frame, and 2 is the front fork thereof.

B is a section of the tire and rim of the front wheel.

D is the bell or gong, and C is the supporting-bracket therefor, constructed to be detachably but firmly supported on the fork 2 about as shown in Fig. 1 and by the means seen in plan, Fig. 4.

The bracket C is shown here as consisting of the arm 3 and the horizontal lower portion 4, adapted at its front to serve as a support for the spindle D′, which carries the bell, and having the clamping-arm 5 projected toward the rear and forming one-half of the clamp which grips the bracket onto the fork 2. If preferred, this latter portion or arm 5 may be made in a separate piece and firmly fixed to spindle D′ or to the bracket C; but a single structure of these parts is deemed preferable.

The spindle D′ is shown here as extending through the sleeve E, which is threaded into and firmly supported upon the lower bracket extension 4 and firmly supported thereon. The bell D is threaded onto this sleeve, and the said sleeve extends into the bell relatively about as shown, more or less, and the yoke or support F for the clapper G is supported on said spindle D′ within the bell and is held thereon by the disk or flat plate H at the bottom, all as clearly shown in Fig. 3. At its upper end and outside of the nut 6, which engages the sleeve E above the bracket extension 4, the spindle is shown as having a head 7 and a projecting portion 8 above said head, Fig. 2, adapted to have attached thereto the flexible shaft K. This shaft is shown here as constructed of comparatively light wire, spirally and closely wound and rigidly fastened by soldering or some other suitable way to the top of spindle D′ at 8 and of such length as to give the desired lateral flex to said shaft to make engagement with the side of the tire B relatively about as shown in Fig. 1, where the small wheel L stands at the side of said tire. The wheel L has a short rigid projection 10 fixed thereon and serving as its immediate spindle and passing through a collar 11 on the pivoted bell-crank lever N and connected at its lower end, beneath said collar, with the flexible shaft K. This construction makes the projecting part 10 rigid with the wheel L and the flexible shaft K, while the spindle D′, which carries the bell, in like manner is rendered rigid with the spring K, as hereinbefore described, so that there is a connected structure through from the wheel L to the yoke F, which carries the clapper G. Hence when the wheel L is rotated by contact with the tire B the clapper and its yoke necessarily turn with the spindle D′, and when the clapper comes around and contacts with the lug or projection 12 on the inside of the bell the

bell is sounded and the clapper is free to turn in its bearing in its yoke to pass said lug and resume its place in the yoke.

The bell-crank lever N is pivoted, as shown, upon the bracket-arm 3, and a cord M is connected therewith to turn said lever on its pivot 14 and incline wheel L into contact with the side of the tire B about as shown in dotted lines at the right of Fig. 3. In this instance the dotted lines showing the tire are farther removed from the wheel L than is usual in wheels as they are used; but this serves to show that the shaft K has such considerable flexibility that it can be carried a considerable distance to one side and yet serve every purpose of a rigid shaft for rotating the spindle D′ and ringing the bell. It of course requires very little pressure or pull upon the cord M to actuate the lever N, and when the operator releases the said cord the spring character of the shaft K immediately carries the wheel L back to its normal position and the bell ceases to ring. At the upper end the said cord M may have a convenient connection immediately with the grip of the handle-bar or at some such convenient point as will not necessitate releasing the hand from the handle-bar to operate the bell.

As already described, the arm 5 of the bracket C forms one section or member of the clamp which fastens the bracket to the fork of the steering-post. This is a fixed and rigid member of the clamp, and P is the opposite member. This member or part is shown in this instance as having a detachable engagement with the bracket C, having a lug or projection 15, which enters a hole in said bracket and makes a firm engagement or connection therewith, as seen in Figs. 2 and 4, the said lug 15 passing through the said hole and having a lip bearing against the under side of the bracket. Then in order to clamp the said parts firmly upon the steering-post I employ a transverse screw R, with a thumb-nut 16, and by these means am enabled to clamp the bell and its supporting and operating mechanism together, as a complete article, upon the steering-post by hand and also detach the same by hand when desired.

Obviously a different construction of spring-shaft K from that here shown and described may be substituted for the spiral spring shown and serve the same purpose. The lower portion 4 of the bracket C, it will also be seen, constitutes the sole support for the bell and the parts immediately connected therewith, while the arm 3 of the bracket and the pivoted bell-crank N answer for such support as the upper end of the shaft K and the wheel L may require. However, the spring K itself is sufficient to hold the wheel L in its proper position, as the said spring is quite strong and has a natural tendency to sustain the wheel in the position shown in full lines.

The disk or plate H, which closes the bottom of the bell, is designed to protect the interior of the bell from accumulations and to make a complete and symmetrical structure. It will be noticed also that by this construction and arrangement of parts the bell and its attachments and connections are out of the way of the rider and where it is very easy to bring the wheel L into operating position.

If preferred, the parts may be located at a lower point on the steering-post and the wheel L made to contact with the edge of the usual wooden rim instead of the tire proper.

Obviously any suitable roller or rolling member that will serve the purpose of wheel or roller L may be substituted therefor, and hence a roller or circular member adapted to turn when contacted with a wheel answers my purpose.

By my invention contact might be made with the periphery of the wheel, if desired.

An equivalent of the foregoing construction would be to rotate the bell instead of the clapper. In that case the flexible shaft would connect with the bell instead of the spindle D′, and the spindle would be stationary.

What I claim is—

1. The bracket to support the bell having one fixed clamp with a hole therein and a pivoted clamp with a lug and lip detachably engaged within said hole, and a transverse screw and thumb-nut to clamp said parts, in combination with the bell and the striking mechanism therein supported on said bracket, the flexible shaft and the roller thereon, and a bell-crank lever pivoted on said bracket and engaging the outer extremity of said flexible shaft, substantially as described.

2. The bell and the spindle within the bell, the disk across the bottom of the bell fixed to said spindle, a yoke having its ends attached to said spindle within the said disk and bell, and a striker pivoted within said yoke near its extremity and bearing against the back of said yoke, substantially as described.

3. The bell, the spindle therein, the flexible shaft connected with said spindle, the roller on the outer end of said shaft, a yoke within the bell having its ends attached to said spindle and a striker pivoted in the end of said yoke and bearing against the end of the same, in combination with a bracket to support said parts having a fixed and pivoted clamp detachably engaged, a screw and thumb-nut for said clamp, an upright arm on said fixed clamp, and the crank-arm lever pivoted on said bracket and attached to the outer end of said flexible shaft and arranged to bend said shaft and carry said roller into engaging position, substantially as described.

Witness my hand to the foregoing specification this 8th day of December, 1897.

GEORGE J. KRAUSHAAR.

Witnesses:
H. T. FISHER,
R. B. MOSER.