(No Model.)

L. E. ERICSON.

BICYCLE BELL.

No. 491,012. Patented Jan. 31, 1893.

Fig. 1

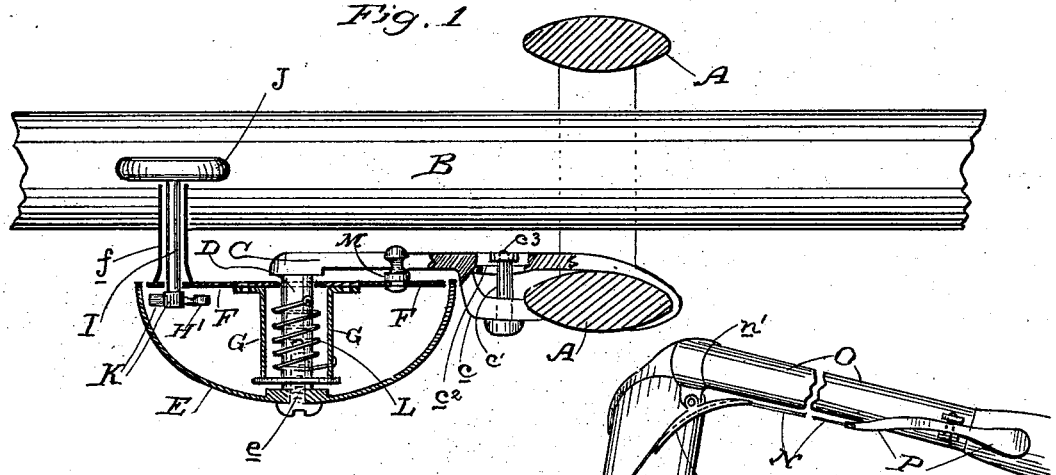
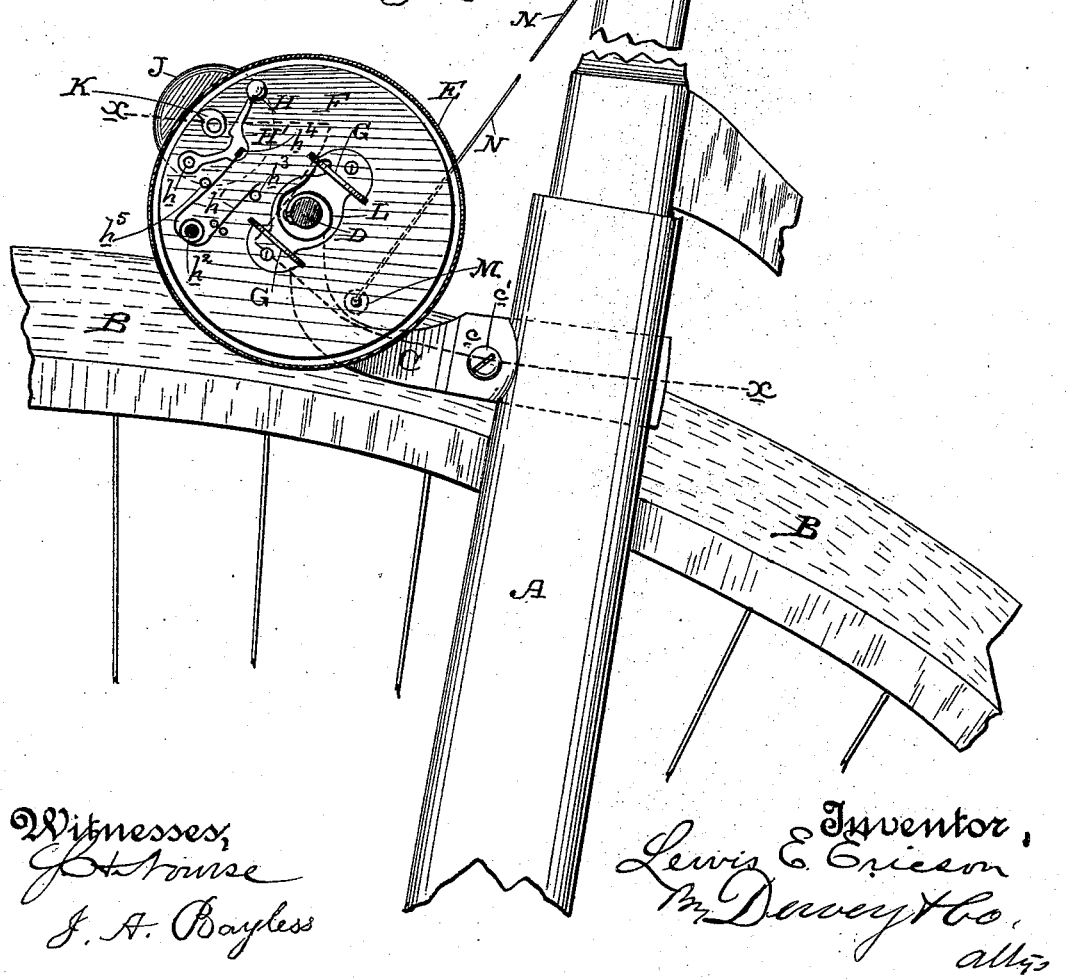


Fig. 2



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UNITED STATES PATENT OFFICE.

LEWIS E. ERICSON, OF SAN FRANCISCO, CALIFORNIA.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 491,012, dated January 31, 1893.

Application filed April 25, 1892. Serial No. 430,601. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. ERICSON, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Bicycle-Bells; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of bells for bicycles and other velocipedes in which the sounding of the bell is due to the frictional contact of the wheel of the machine with power transmitting connections.

My invention consists essentially in an oscillatory plate or disk carrying the striker and operating mechanism therefor, said plate or disk by its movement, being adapted to throw its striker operating mechanism into and out of engagement with the bicycle wheel to actuate it or to allow it to remain at rest.

It also consists in the novel constructions, combinations and arrangements hereinafter fully described and specifically pointed out in the claims.

The object of my invention is to provide a simple, compact and effective bell for bicycles and other velocipedes which can be readily adjusted to the machine, and which can be thrown into and out of action with ease and rapidity.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a section of my bell on the irregular line x—x of Fig. 2. Fig. 2 is a side elevation, the gong being in vertical section to show the inner side of the oscillatory plate or disk with its attached parts.

A is the front fork of a bicycle or other velocipede, and B is a portion of the rim or tire of its front wheel.

C is the bell supporting bracket. This consists of a bar, the rear end of which is hooked around the fork A, preferably on its inner side, and it is provided with a clamping lug c adapted to be set up to the fork to hold said bracket firmly thereto. The lug may be an adjustable one by being carried on a bolt c' passing through a slot c^2 in the bracket and set by a nut c^3. The forward end of bracket C has a side projecting pin D upon the outer end of which the gong E is secured, as by a screw e. The gong is supported in a vertical position to one side of the wheel rim.

F is a plate or disk, pivoted upon the pin D, and lying within the inner side of the gong forming a cap therefor, though without touching it. This plate is adapted to have an axial or rotary oscillating movement on the pin D for a purpose I shall presently explain. To make its journal bearing on the pin D firm and stable I have bearing arms G extending from it and journaled on the pin near its outer end. Carried by the plate is the swinging striker H adapted to strike the gong. The handle H′ of the striker is pivoted at h, and is operated to deliver its blow by means of a spring h'. This spring is one whose middle is fitted on a post h^2 on the plate. One of its ends bears against a pin h^3 in the plate and its other end fits into a socket h^4 on the striker handle. This end comes in contact with a fixed stop h^5 in the plate, which is so located that it will arrest said end before the striker comes into contact with the gong, said striker completing its stroke by momentum and instantly rebounding to avoid impairing the quality or tone of the gong.

Extending through the plate F in a suitable hub or bearing f is a shaft I, on the outer end of which is carried a friction roller J, which lies in the plane of the wheel rim and is adapted to be brought down into and to be raised from contact therewith. Upon the inner end of the shaft I is a cam K. The striker handle H′ lies in the path of rotation of this cam.

L is a spring encircling the pin D of the bracket C. One end of this spring is fastened to the pin and the other end bears on one of the arms G of plate F. Its tension is such that it normally keeps the plate F turned so that the friction roller J is raised above and out of contact with the wheel rim.

M is a pin secured to the plate F and projecting therefrom over the bracket C whereby it forms a stop for said plate. Secured to this pin M is a wire N which extends upwardly to a curved guide n carried by a sleeve n' on the handle bar O, and thence outwardly to a pivoted finger lever P on the outer end of the handle bar.

The operation is as follows:—The bracket

C is a rigid stationary one and it holds the gong in a fixed position at all times. The plate F, under the power of the spring L, is normally turned so that the friction roller J is out of contact with the wheel rim. Now, by pressing on the lever P, whereby the wire N is pulled upon, the plate F is turned axially on the pin D, so that the roller J is carried down into contact with the wheel rim. The shaft I is thereby rotated, and the cam K operating against the striker handle H′ forces the striker back and the spring *h′* throws it forward, thus producing a rapid succession of blows of the striker. As soon as the finger lever P is released the spring L returns the parts to an inoperative position, by turning the plate F back again, and thus throwing the friction roller out of contact with the machine wheel.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is—

1. In a bell for bicycles and other velocipedes an oscillatory plate or disk mounted to turn in the rear of the gong, and complementary striking mechanism carried by said plate and adapted by the movement thereof to be thrown into and out of action by contact with and removal from the bicycle or velocipede wheel.

2. In combination with a gong carried by the frame of a bicycle or other velocipede, an oscillatory plate or disk carrying a striker adapted to operate on said gong, mechanism carried by said plate or disk for transmitting the power of the bicycle or velocipede wheel to operate the striker, and means for turning said plate or disk to throw its power transmitting mechanism into and out of contact with said wheel, substantially as herein described.

3. In combination with a gong carried by the frame of a bicycle or other velocipede, an oscillatory plate or disk fitted and adapted to turn freely in the inner side of the gong and carrying a striker adapted to operate on said gong, mechanism carried by said plate or disk for transmitting the power of the bicycle or velocipede wheel to operate the striker, and means for turning said plate or disk to throw its power transmitting mechanism into and out of contact with said wheel, substantially as herein described.

4. A bell for bicycles and other velocipedes consisting of a bracket secured to the fork of the machine and extending beside its wheel, a gong supported upon the outer end of the bracket, a plate or disk centrally pivoted on the outer end of the bracket and fitted and adapted to turn freely in the inner side of the gong and carrying a striker adapted to operate on said gong, mechanism carried by said plate or disk for transmitting the power of the bicycle or velocipede wheel to operate the striker, and means for turning said plate or disk to throw its power transmitting mechanism into and out of contact with said wheel, substantially as herein described.

5. In combination with the gong supported from the frame of a bicycle or other velocipede, an oscillatory plate or disk fitted and turning freely in the inner side of the gong, a spring-controlled striker carried by the plate or disk, a cam for operating said striker and a friction roller for operating the cam, said cam and wheel being carried by the plate or disk, and means for turning said plate or disk to throw its friction roller into and out of contact with the bicycle or velocipede wheel, substantially as herein described.

6. In combination with the gong supported from the frame of a bicycle or other velocipede, an oscillatory plate or disk fitted and turning freely in the inner side of the gong, a spring-controlled striker carried by the plate or disk a cam for operating said striker and a friction roller for operating the cam, said cam and wheel being carried by the plate or disk, and means for turning said plate or disk to throw its friction roller into and out of contact with the bicycle or velocipede wheel, consisting of the spring L, pull wire N and connections therewith, substantially as herein described.

7. A bell for a bicycle or other velocipede consisting of a bracket secured to the fork of the machine and having a journal pin at its outer end, a gong secured upon said pin, a disk or plate journaled on said pin and fitted and adapted to turn freely in the inner side of the gong, a pivoted striker carried by the plate or disk and having a spring to throw it forward to strike the gong, a shaft journaled in the plate or disk, a cam on the inner end of the shaft adapted to force the striker back, a friction roller on the outer end of the shaft adapted to be thrown into and out of contact with the wheel of the bicycle or velocipede, the spring L for turning the plate or disk in one direction to throw and hold the friction roller out of contact with the wheel, the stop pin on the plate or disk coming in contact with the bracket for limiting its movement in this direction and the pull wire and connections for turning said plate or disk in the other direction to force the friction roller into contact with said wheel, substantially as herein described.

8. In a bicycle bell, the combination of the oscillating plate or disk with the rear of the gong and provided with a striker having a pivoted handle, the rotating cam operating on the handle to force the striker back, the spring for throwing it forward and the fixed stop for arresting the spring, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

LEWIS E. ERICSON.

Witnesses:
S. H. NOURSE,
J. A. BAYLESS,