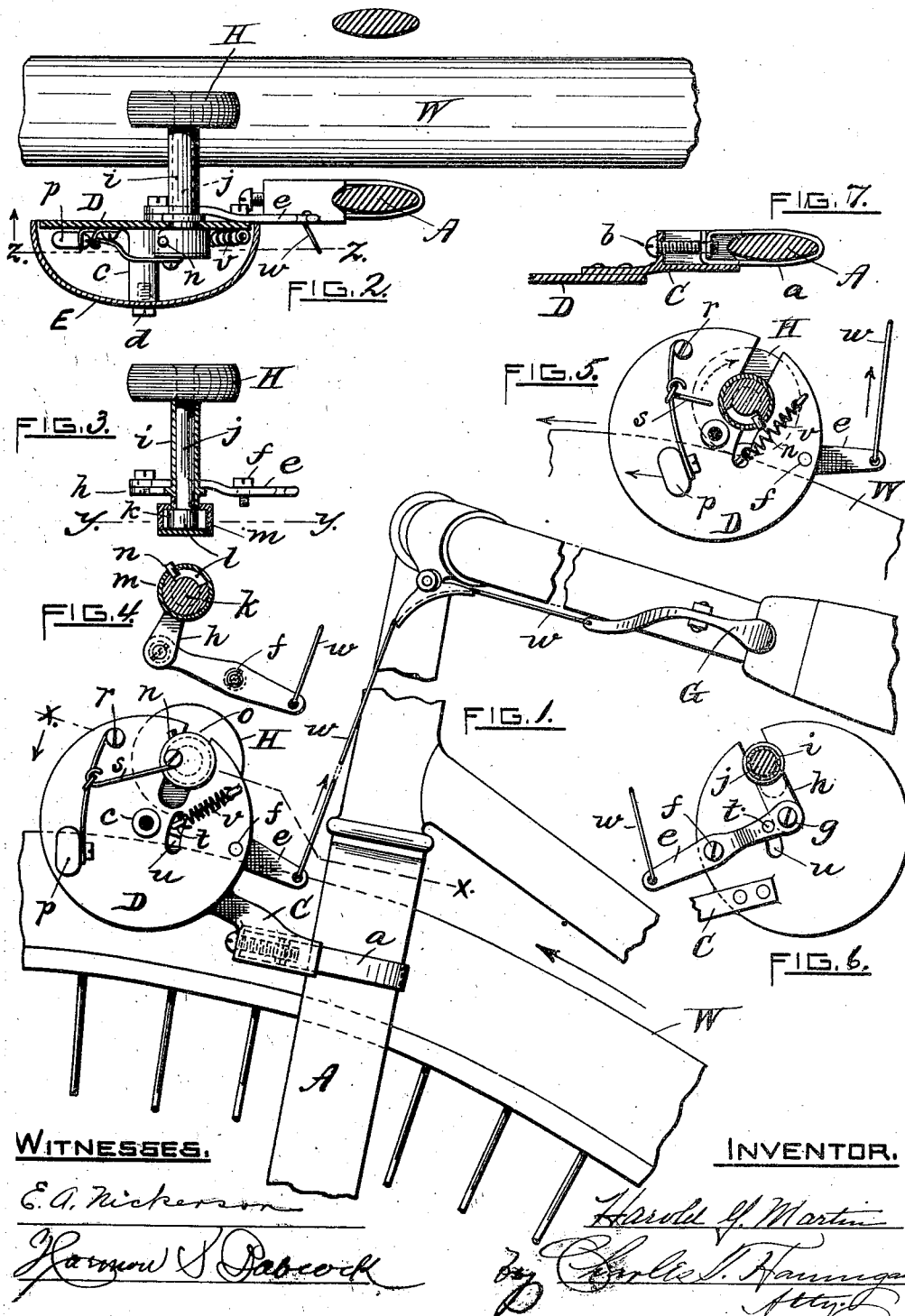


(No Model.)

H. G. MARTIN.
BICYCLE BELL.

No. 586,954.

Patented July 20, 1897.



UNITED STATES PATENT OFFICE.

HAROLD G. MARTIN, OF PROVIDENCE, RHODE ISLAND.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 586,954, dated July 20, 1897.

Application filed December 17, 1896. Serial No. 616,084. (No model.)

To all whom it may concern:

Be it known that I, HAROLD G. MARTIN, of the city and county of Providence, in the State of Rhode Island, have invented an Improvement in Bicycle-Bells; and I declare the following to be a specification thereof, reference being had to the accompanying drawings.

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

It consists, essentially, in an operating-lever pivoted on a stationary disk or plate, said lever to operate the friction-roller and adapted to throw the hammer-operating mechanism into and out of engagement with the bicycle-wheel or to allow it to remain at rest, as will be hereinafter described.

The object of my invention is to provide a simple, compact, and effective bell for bicycles which can be readily adjusted to the machine and at the same time be thrown in and out of engagement with ease and rapidity.

Figure 1 represents a side elevation with the sounding-bell removed. Fig. 2 is a top sectional view in line *x x* of the same. Fig. 3 is a top view of the friction-roller with shaft and operating-lever, with the connecting-lever sleeve, and inner-cylinder casing shown in central section. Fig. 4 is a cross-sectional view in line *y y* of the same. Fig. 5 is a cross-sectional view in line *z z* of Fig. 2, showing the arrangement of the parts when the friction-roller is in contact with the rim or tire of the wheel. Fig. 6 is a rear elevation of the disk or plate with the operating-lever and its connection with the roller-shaft. Fig. 7 is a top sectional view of the clamping device.

Like letters indicate like parts.

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

C is the bell-supporting bracket, which consists of an arm attached to the rear side of the disk or plate D and having its lower end of a channel form, into which the band *a*, which hooks around the fork A, is inserted. The inner ends of said band are made to overlap one another, and an adjusting-screw *b*, which fits loosely in the flange of the bracket C, engages with the overlapping ends of the

band and draws the same firmly to the fork A of the machine. (See Fig. 7.) In referring to Fig. 1, which shows the operative parts of my improvement as applied to the machine—

D is the stationary disk or plate, mounted on a bracket C, said plate having a centrally-projecting stud *c*, upon the end of which the bell E is secured by a screw *d* and which supports said bell in a vertical position to one side of the rim of the wheel.

The disk or plate D lies within the inner side of the bell, said bell forming a cover thereon, though without touching it. (See Fig. 2.) On the rear side of the plate D and pivoted thereon at *f* is the operating-lever *e*. (See Fig. 6.) This operating-lever connects at *g* with a secondary lever *h*, which is provided with a hollow sleeve or hub *i*, extending outwardly from its upper end, and said sleeve carries the friction-roller shaft *j*. This shaft *j* has its inner end *k* of a greater diameter, and this enlargement has a circumferential slot *l*, extending around about one-half the cylindrical enlargement of said shaft. A casing *m* fits loosely over the portion *k*, and a pin *n* is inserted through the casing and which engages in the slot *l*, as hereinafter particularly described.

The sleeve *i* of the secondary lever works up and down in the slotted opening *o*, formed in the plate D, by the operating-lever *e* and brings the friction-roller H in contact with the rim of the wheel. Carried by the plate D is the swinging hammer *p*, adapted to strike the bell. Said hammer is provided with a spring-rod attached thereon and having its upper end secured to the plate by a clamping-screw *r*.

A rod *s* connects from the front side of the casing *m* to about midway of the hammer-spring, and by the revolving of the shaft *j*, the friction-roller being in contact on the rim of the wheel, the slotted end *l* of said shaft draws the pin *n*, attached to the casing *m*, around till it arrives at the position shown in Fig. 5, where the hammer-spring attached to the disk acts upon the loose casing and causes it to travel to the position shown in Fig. 1 and with greater speed than the revolution of the shaft.

A pin *t* is secured to the operating-lever *e* and projects through a slotted opening *u* in the plate *D*, and a coil-spring *v* is made fast to said pin and extends upward to a fixed pin in the plate, said main spring being for the purpose of keeping the friction-roller out of contact of the rim of the wheel.

The operation of my improved bicycle-bell is as follows: The disk or plate *D* is stationary and holds the bell in a fixed position at all times by the clamping-bracket *c*, secured to the fork of the machine.

By pressing on the lever *G* pulls on the wire *w* and brings the operating-lever *e* upward and carries down the friction-roller in contact with the rim of the wheel. The shaft *j* thereby revolves and with the enlarged slotted end *k* of said shaft *j* carries the pin *n* with it, and at each and every revolution of the shaft the hammer-spring attached to the plate *D* draws the loose casing more rapidly around, and when said pin *n* comes in a direct line below the center line of the shaft, the distance is equal to the length of the slotted opening *l* of said shaft, thus throwing the hammer forward and producing a rapid succession of blows on the bell.

As soon as the hand-lever *G* is released the

main spring *v* returns the parts to their inoperative position, as seen in Fig. 1.

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

The combination, with a bell, supported from the frame of a bicycle, having a stationary disk or plate *D*, with an operating-lever *e* pivoted thereon, and carrying the friction-roller shaft mounted to swing on said plate, the shaft *j* having its inner end *k* of an enlarged diameter and provided with a circumferential groove or slot *l*, a casing *m* loosely fitted over the enlargement of said shaft, with the pin *n* to engage in the slotted opening of the same, a spring-controlled hammer attached to the plate, with a connection therefrom to the side of the casing and eccentric thereto, and means for throwing the friction-roller into and out of contact with the wheel of the bicycle, consisting of the spring *v*, pull-wire *w*, and connections therewith, substantially as shown and described.

HAROLD G. MARTIN.

Witnesses:

HARMON S. BABCOCK,
LEWIS L. RICHARDS.