(No Model.)

A. J. SANDGREN.

SIGNAL APPARATUS FOR BICYCLES.

No. 483,585. Patented Oct. 4, 1892.

Fig. 1

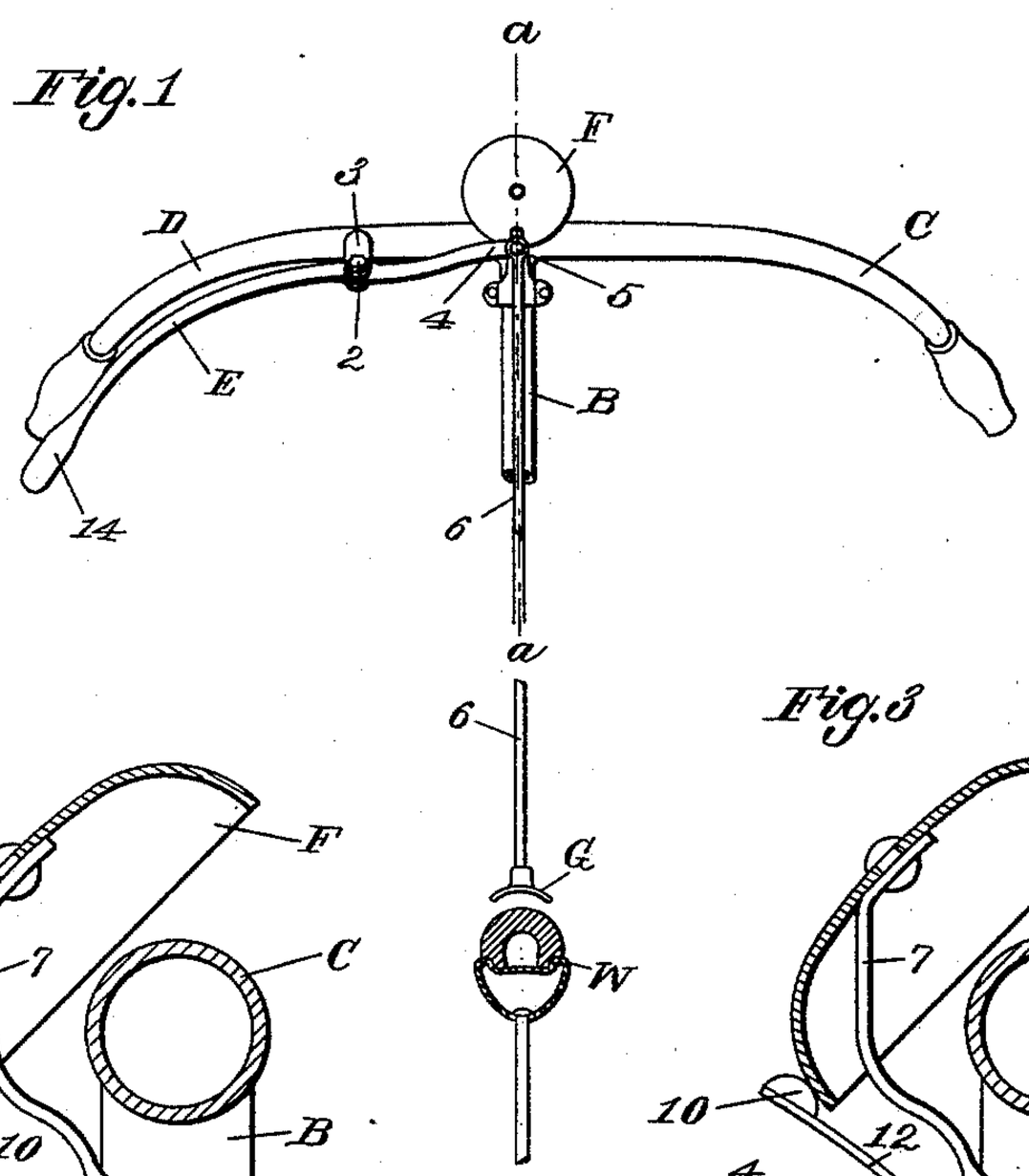


Fig. 2

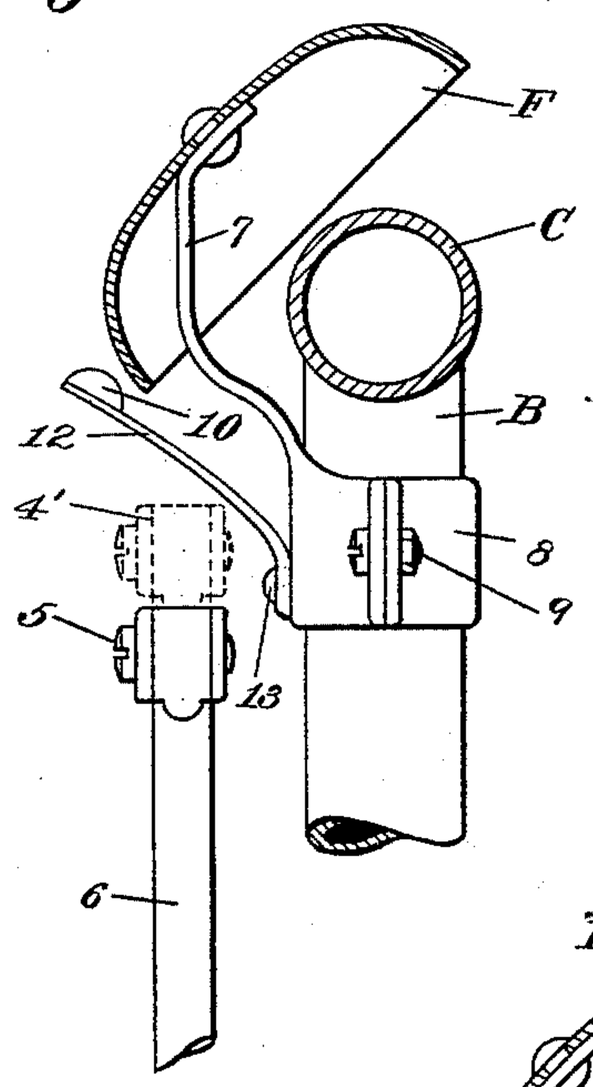


Fig. 3

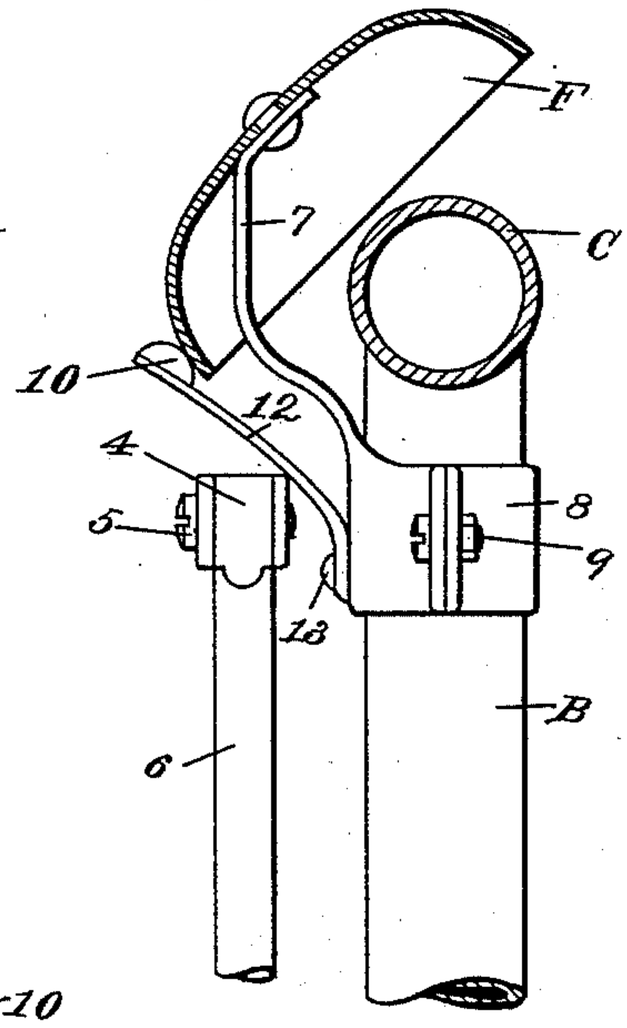
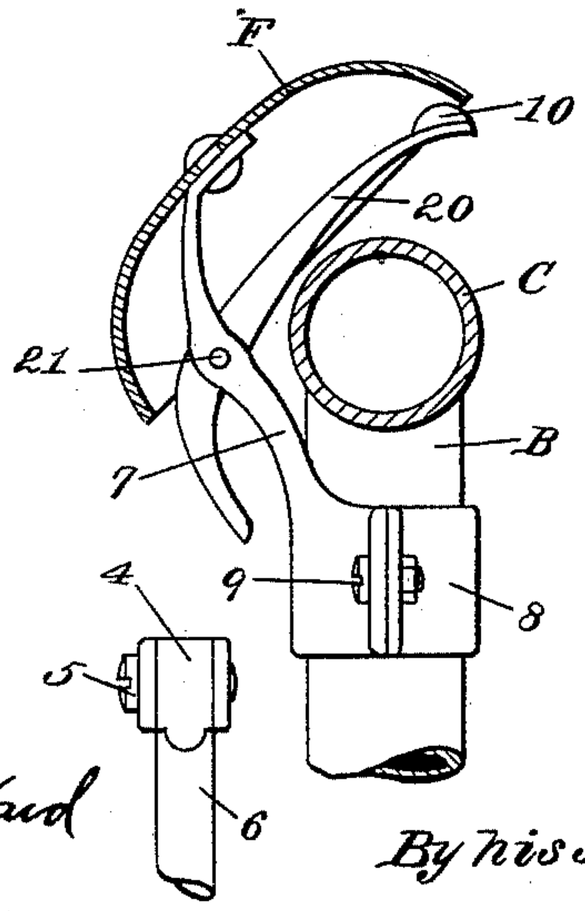


Fig. 4



Witnesses:
Henry L. Reckard
H. Maltner.

Inventor:
A. J. Sandgren,
By his Attorney,
F. H. Richards

UNITED STATES PATENT OFFICE.

ARVID J. SANDGREN, OF HARTFORD, CONNECTICUT.

SIGNAL APPARATUS FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 483,585, dated October 4, 1892.

Application filed December 7, 1891. Serial No. 414,212. (No model.)

To all whom it may concern:

Be it known that I, ARVID J. SANDGREN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Signal Apparatus for Bicycles, of which the following is a specification.

This invention relates to signal apparatus for bicycles, the object being to furnish an apparatus in which the signal-bell is operated from the brake-lever of the machine, thereby enabling the bicyclist to sound an alarm without using an additional handle or other special bell-ringing device.

In the drawings accompanying and forming a part of this specification, Figure 1 is a front view of the upper part of a bicycle, showing the handle-bars and brake-lever and comprising a signal apparatus embodying my present improvements. Fig. 2 is an enlarged view of the signal apparatus on the line *a a*, Fig. 1, as seen from the right hand of said line. Fig. 3 is a view similar to Fig. 2, illustrating the operation of the improvement. Fig. 4 is a view similar to Fig. 2, illustrating a modification of the apparatus.

Similar characters designate like parts in all the figures.

In the drawings, the upper end or shaft B of the usual head of the bicycle is furnished with the usual oppositely-disposed handle-bars C and D for controlling the forward wheel of the bicycle. The brake-lever E is shown pivotally supported or fulcrumed at 2 by a bolt or pin carried in the ordinary manner by a suitable bracket or like part, as 3, fixed on one of the handle-bars, as will be understood from the drawings. The working end 4 of the brake-lever is connected by a pivot 5 to the upper end of the usual brake-rod 6, which rod extends downward to and connects with the usual spring-retracted brake G in the ordinary manner. Said brake may be of any ordinary construction. As shown in the drawings, it is of the well-known "spoon" form and is supposed to be movable toward and from the bicycle-wheel W in the ordinary manner.

The signal-bell F is supported in a position immediately over and forward of the handle-bars where these join the shaft B, being carried by a suitable arm, as 7, which is attached to said shaft (or to the handle-bars, if so preferred) by a suitable clamp, as 8, which, as shown in the figures, is held in place by suitable clamp-screws 9. The position of the bell is such that a short space exists between the lower edge of the bell and the working end 4 of the brake-lever when this lever is in its uppermost position. (Shown in Fig. 3.) The bell-striker or "tongue" 10, as shown in Figs. 2 and 3, is carried by a spring-arm 12, which is fixed to the bell-supporting arm or standard 7 by means of a screw or pin or like fastening at 13. The bell-striker normally stands free of the bell, as shown in Fig. 2, and said working end 4 of the brake-lever (when the brake is not in use) normally stands in engagement with the bell-striker arm 12, as shown in Fig. 3. If now the handle end 14 of the brake-lever E be drawn slightly toward the handle-bar D, the working end of said lever will be thrown slightly below and away from the bell-striker arm, as shown by dotted lines at 4′ in Fig. 2, so that on suddenly releasing said lever it will be forcibly thrown by the usual lever-retracting spring (not shown) upward against said striker-arm, thereby throwing the striker by a sudden movement against the bell, as shown in Fig. 3, and making the required signal. By this means the bicycle-rider is enabled by only a slight movement of the brake-lever to strike the signal-bell, as occasion may require, without releasing his hold of the handle-bar or having to use any additional or special signal-actuating device. When the brake is to be used, the brake-lever is given a longer stroke, carrying the end 4 thereof entirely away from the bell-striker, as shown by solid lines in Figs. 2 and 4.

The proper adjustment of the bell-striker relatively to the brake-lever is, in the form of apparatus shown in Figs. 1, 2, and 3, readily effected by sliding the clamp 8 up or down, as the case may require, on the shaft B of the bicycle-head to secure the required co-action between the brake-lever and said striker. By this means the signal apparatus may be set to give the desired quality or quantity of sound by regulating the force of the striker blow.

In the modification shown in Fig. 4 the bell-

striker arm 20 is a lever of a different order, being pivoted midway of its length, at 21, to the bell-supporting arm 7, as will be understood from the drawings. In this form of apparatus the striker is within the bell, while the brake-lever operates upon the lower end of its supporting-arm. It will be evident, however, that the principle of the apparatus is substantially the same as in the preceding figures of drawings and that the mode of operation is not materially different.

Having thus described my invention, I claim—

1. In a bicycle, the combination, with the shaft carrying the handle-bars and with the brake-lever of the bicycle, of the signal-bell, and a bell-striker intermediate to the brake-lever and bell and actuated by said lever to strike the bell, substantially as described.

2. In a bicycle, the combination, with the shaft carrying the handle-bars and with the brake-lever of the bicycle, of the adjustably-fixed bell-supporting arm, the bell carried by said arm, and a bell-striker, substantially as described, intermediate to the brake-lever and bell, whereby the operation of the bell-striker by the brake-lever may be regulated by adjusting the position of said arm, substantially as described.

3. In a bicycle, the combination, with the shaft carrying the handle-bars and with the brake-lever of the bicycle, of a signal-bell adjustably supported adjacent to the brake-lever, and the bell-striker carried by a spring-arm rigidly fixed at the end thereof opposite to the striker and having its middle portion in position to be struck by the brake-lever on the retraction thereof, substantially as described.

4. In a bicycle, the combination, with the handle-bar and with the bicycle-wheel, of the brake movable toward and from the wheel, the signal device and its striker carried with the handle-bar, and a lever carried with the handle-bar and having its handle end adjacent to the handle of said bar and constructed and connected to actuate both the signal-striker and the brake, substantially as described.

ARVID J. SANDGREN.

Witnesses:
E. G. FOWLER,
HENRY L. RECKARD.