C. H. FOSTER.

MEANS TO PREVENT OVERTURNING OF LOCOMOTIVE BELLS.

APPLICATION FILED JULY 10, 1908.

915,023.

Patented Mar. 9, 1909.

FIG. I.

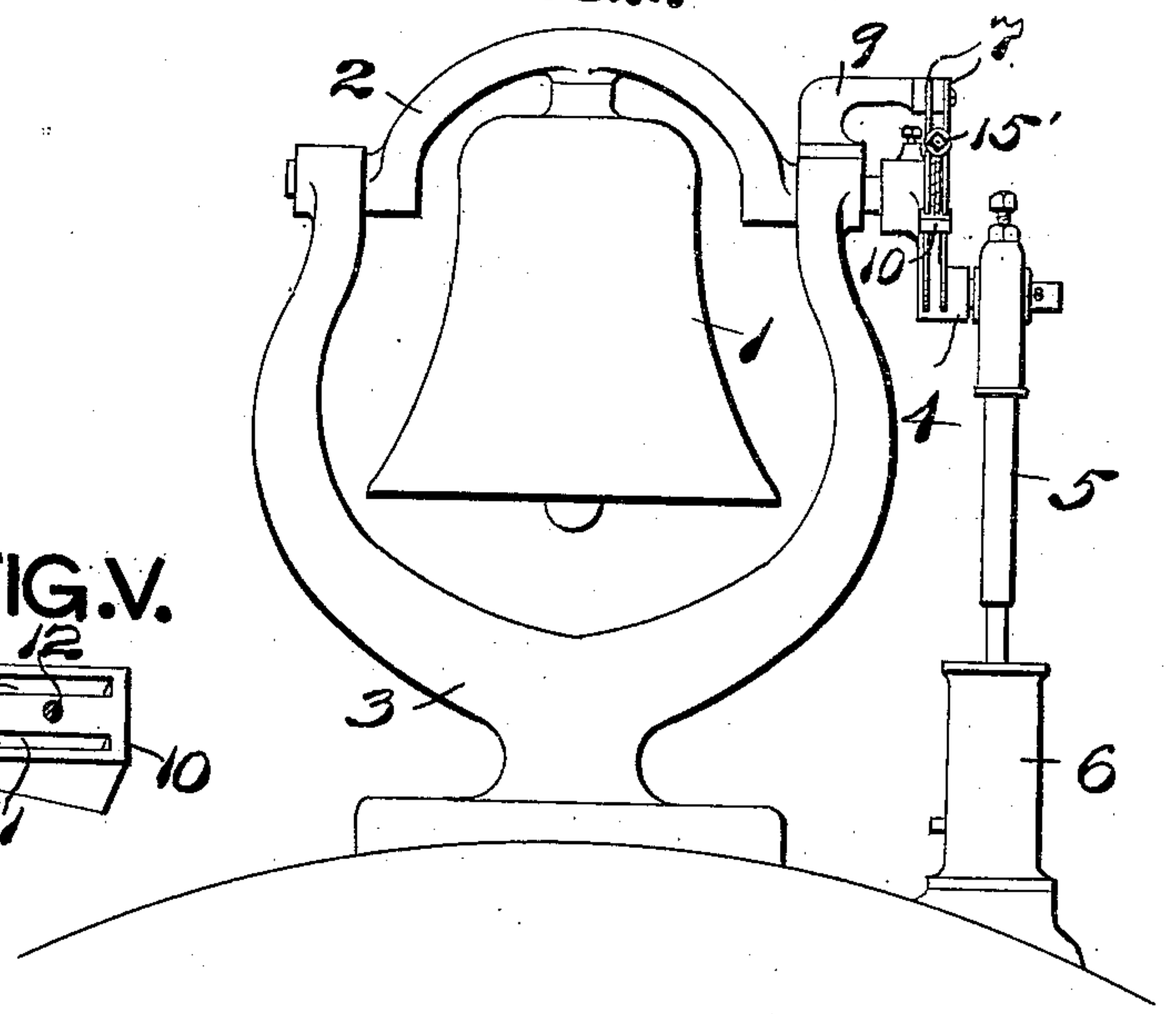


FIG. V.

FIG. VI.

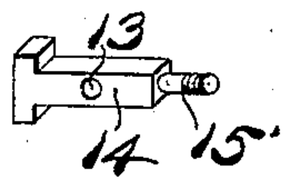


FIG. III.

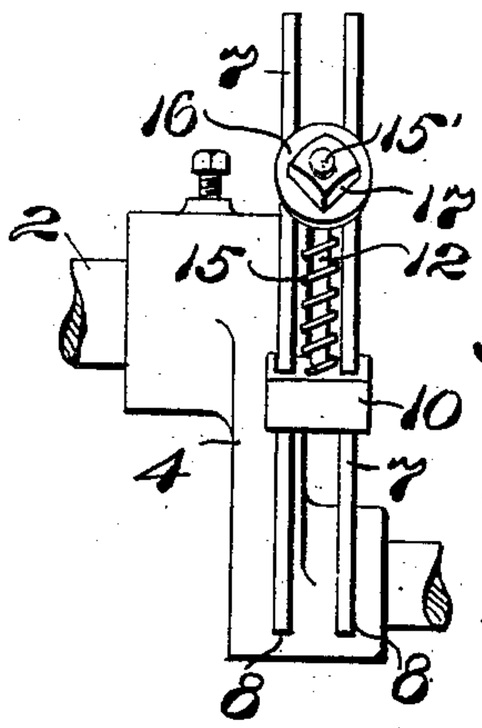


FIG. II.

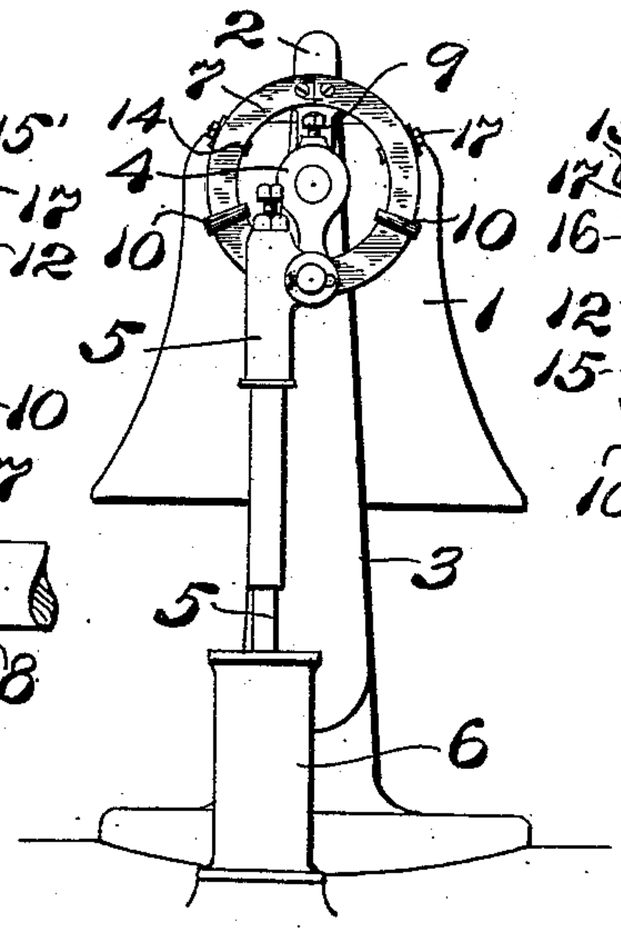
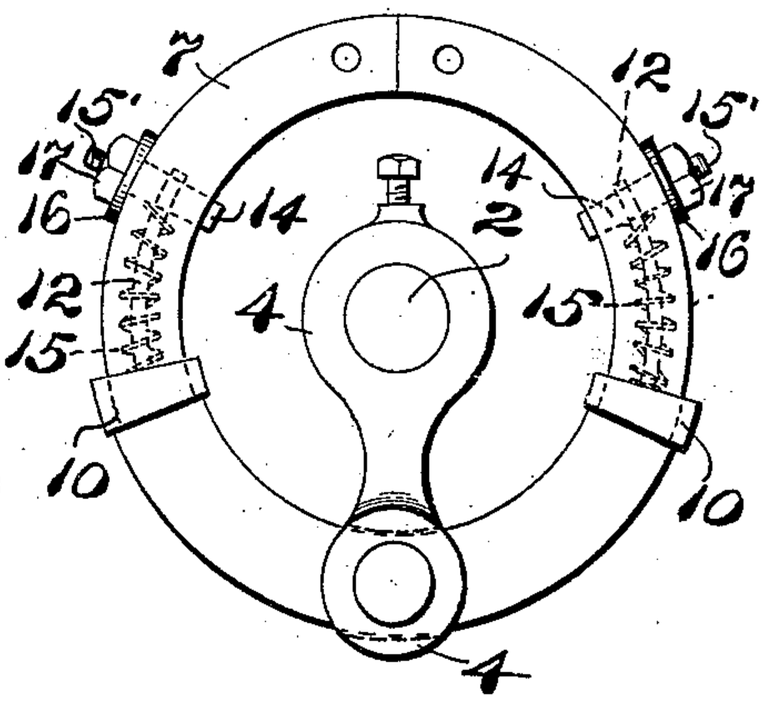


FIG. IV.



Witnesses

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UNITED STATES PATENT OFFICE.

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MEANS TO PREVENT OVERTURNING OF LOCOMOTIVE-BELLS.

No. 915,023. Specification of Letters Patent. Patented March 9, 1909.

Application filed July 10, 1908. Serial No. 442,863.

To all whom it may concern:

Be it known that I, CLARENCE H. FOSTER, citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Means to Prevent Overturning of Locomotive-Bells, of which the following is a specification.

My invention relates to means to prevent the overturning of bells and is particularly adapted for use in connection with bells employed upon locomotives.

In locomotive bells, especially where they are operated by compressed air instead of the usual rope, frequently turn over during operation, causing the oscillating piston to become displaced and for the time being throw the bell out of order and the object of my invention is to provide a simple and practical attachment to obviate the difficulty.

In the accompanying drawings which form a part of this specification, I have illustrated my invention by various views, in which—

Figure I, is a front elevation of a bell, its attending support and operating mechanism, together with my improved stopping means operatively attached thereto. Fig. II, is a side elevation of the same. Fig. III, is a side elevation of the bell crank and my improved stop mechanism as it would appear on a larger scale and disconnected from the remaining mechanism. Fig. IV, is a front elevation of the same. Fig. V, is a perspective view of the stop member proper, detached from the other parts, and Fig. VI, is a perspective view of the adjustable abutment for the stop member spring, in all of which views similar detail parts are designated by like numerals of reference.

The bell 1, with and by its attending yoke shaft 2, is supported upon a harp-shaped support 3 attached upon the boiler or its casing, which shaft 2 carries at one end the bell crank 4, which in turn, is connected to the collapsible piston 5 of the open topped air chamber 6, all as heretofore.

My improvement consists of a pair of spaced annular and divided rings 7, which pass loosely through slots 8 in the bell crank and are fastened at their upper divided portions to a bracket 9, of suitable form, attached to the bell harp, which rings are so arranged as to be concentric with the bell shaft, the lower portions of the rings which pass through the bell crank being of greater width so as to form shoulders thereon to limit the downward movement of and retain the stops 10 in operative position. These stops, which have openings 11 therein through which the rings pass, are provided with segmental shaped shanks 12 which pass through openings 13 in the abutment blocks 14, which segmental shanks carry spiral springs 15. These abutment blocks which engage the springs are of T-shape and engage at their heads with the inner edges of the rings and are provided at their opposite ends with a threaded shank 15′, said blocks being adjustable to increase or diminish the tension of the springs and are held in adjusted position by washers 16 and nuts 17.

With the mechanism described it will be readily apparent that as a swinging motion is imparted to the bell, through the medium of the collapsible piston actuated by the air impulses in the cylinder, that the bell crank will come in contact with the stops and thus limit the movement of said crank and its actuated bell and thereby limit the movement thereof to prevent the bell over-turning. Furthermore, the stops being yielding, owing to the spiral springs, the blow of the crank on said stops is broken.

Any or all of the detail parts of the stop mechanism may be modified within the scope of the appended claims without departing from the spirit of invention.

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

1. Means to prevent locomotive bells over-turning, comprising a yielding stop arranged at each side of the bell-crank each adapted to form abutments alternately engageable by said crank during oscillation.

2. Means to prevent locomotive bells over-turning, comprising yielding stops disposed upon a support concentric with the bell crank axis said stops being in the path of and adapted to be engaged by said crank.

3. Means to prevent locomotive bells over-turning, comprising an annular member concentrically disposed with the axis of the bell crank, and in the path of its travel, and yielding stops carried by said annular member and adapted to be engaged by the bell crank.

4. Means to prevent locomotive bells

over-turning, comprising an annular member concentrically disposed with the axis of the bell crank and passing through the extremity thereof, stops supported upon said member and adapted to be engaged by the crank, springs engaging said stops, and means to vary the tension of said springs.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE H. FOSTER.

Witnesses:
J. F. RIDENOUR,
R. S. HARRISON.