

No. 666,386.

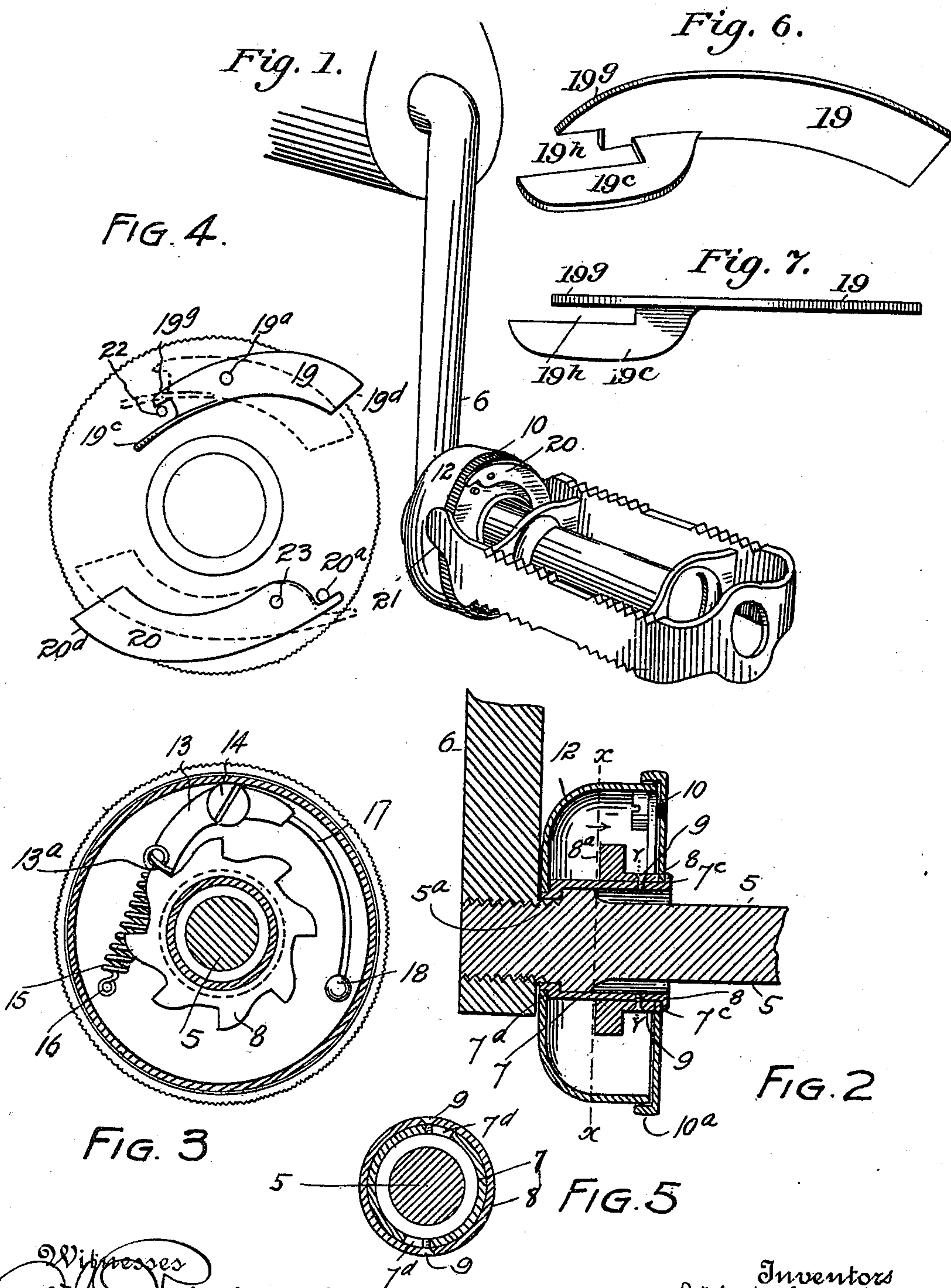
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J. W. KUYKENDALL & C. N. KIMBALL.

PEDAL BELL.

(No Model.)

(Application filed July 21, 1899.)



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# UNITED STATES PATENT OFFICE.

JAMES WESLEY KUYKENDALL AND CHARLES N. KIMBALL, OF DENVER,  
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## PEDAL-BELL.

SPECIFICATION forming part of Letters Patent No. 666,386, dated January 22, 1901.

Application filed July 21, 1899. Serial No. 724,615. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES WESLEY KUYKENDALL and CHARLES N. KIMBALL, citizens of the United States of America, residing at  
5 Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Pedal-Bells; and we do declare the following to be a full, clear, and exact description of the invention, such as will  
10 enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

15 Our invention relates to improvements in pedal-bells for use on bicycles and velocipedes generally.

This invention belongs to the class set forth in patents numbered 570,944 and 584,312, respectively, and application serially numbered  
20 714,345, filed April 25, 1899, and will now be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

25 In the drawings, Figure 1 is a perspective view of a pedal equipped with our improvements. Fig. 2 is a section taken through the bell mechanism mounted on the pedal-pin. Fig. 3 is a section taken on the line X X,  
30 Fig. 2. Fig. 4 is a detail view of the plate upon which the adjustable dogs are mounted. Fig. 5 is a section taken on the line Y Y, Fig. 2. Fig. 6 is a perspective view, and Fig. 7 an edge view, of one of the locking-dogs.

35 Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the pedal-pin, threaded to receive the crank 6. Mounted on the pedal-pin adjacent its threaded extremity is a  
40 hub 7, having an interior collar 7<sup>a</sup> at one end and an exterior collar 7<sup>c</sup> at the other end. The collar 7<sup>a</sup> engages a shoulder 5<sup>a</sup>, formed on the pedal-pin. Attached to the hub 7 is a sleeve 8, provided with ratchet-teeth 8<sup>a</sup>.  
45 This sleeve is attached to the hub by means of screws 9, which engage threaded openings in the sleeve and pass through short slots 7<sup>d</sup>, formed in the hub to allow the latter a slight movement independently of the ratchet, for  
50 the purpose hereinafter explained.

Loosely mounted on the hub between the

ratchet-sleeve and the collar 7<sup>c</sup> is a plate 10, having a flange 10<sup>a</sup> extending at right angles to the body of the plate. This flange is milled, roughened, or toothed exteriorly to  
55 facilitate the interruption of the plate's movement with the hub by the pressure of the foot thereon when the rider desires to ring the bell. The gong 12 surrounds a reduced extension of the hub adjacent the crank and  
60 engages a shoulder on the hub. The flange 10<sup>a</sup> of the plate overlaps the free edge of the gong and prevents entrance of dirt to the operating parts. The hub and gong are clamped tightly on the pin 5, whereby they are made  
65 to turn therewith by means of the crank 6. On the inside of the plate is fulcrumed a lever 13 by means of a screw-pin 14. To one arm of this lever is connected one extremity of a coil-spring 15, whose opposite extremity  
70 is attached to the plate at 16. The other arm of the lever is provided with a spring-arm 17, terminating in a hammer 18, adapted to strike the gong. The arm of the lever to which the coil-spring is attached is provided with a lug  
75 13<sup>a</sup>, projecting into the path of the ratchet-teeth 8<sup>a</sup>, whereby as soon as the movement of the plate with the pedal-pin is interrupted the ratchet teeth or cams 8<sup>a</sup> pass under the  
80 lug 13<sup>a</sup> and throw corresponding lever-arm outwardly. As soon as the cam-tooth releases the lug the spring 15 returns the lug suddenly to its normal position, throwing the hammer outwardly against the gong. The  
85 movement of the plate 10 with the pedal-pin may be interrupted by pressing the foot on the milled or roughened flange 10<sup>a</sup> of the plate. The plate is also provided with dogs 19 and  
90 20, pivoted or fulcrumed on the plate and adapted to be thrown into the path of the projections 21 of the pedal. The dog 19 is fulcrumed on the plate, as shown at 19<sup>a</sup>, and is provided with a wing or flange 19<sup>c</sup>, adapted to be engaged by the foot for the purpose of  
95 throwing the extremity 19<sup>d</sup> of the dog outwardly into the path of the pedal projections 21. The wing 19<sup>c</sup> of the dog is cut away, as shown at 19<sup>b</sup>, to allow it to pass the stop-pin  
22. (See Fig. 4 of the drawings.) A stop-pin 22, adapted to engage the tail 19<sup>e</sup> of the dog,  
100 limits the movement of the latter. The dog 20 is fulcrumed at 23, and its tail 20<sup>a</sup> is ar-



5 ranged to project outwardly a short distance beyond the plate, being arranged to just clear the pedal projections. By pressing the foot upon this tail the opposite extremity 20<sup>d</sup> is thrown outwardly into the path of the pro-  
jections. A stop-pin 24, mounted on the plate, limits the movement of the dog 20.

10 When it is desirable to return the dogs 19 and 20 to their normal position, it is only necessary to give the pedal a turn with the foot in the reverse direction, when the projections 21, acting on the extremities 19<sup>d</sup> and 20<sup>d</sup>, will throw the dogs to their normal position out of the path of the pedal during its normal action.

15 The dogs 19 and 20 are so tightly fulcrumed that they will not move by gravity alone.

In considering the drawings it must be understood that the right-foot pedal is illustrated.

20 By reason of the slots 7<sup>d</sup>, formed in the hub 7 and into which the screws 9 on the ratchet-sleeve 8 project, the said sleeve is allowed to stop momentarily during the striking action of the hammer-lever 13. If the ratchet-sleeve  
25 were allowed to continue its rotation with the hub, the inclined side of the adjacent cam-tooth in beginning its travel under the lug 13<sup>a</sup> of the lever would have a tendency to retard the striking action of the hammer.

30 Having thus described our invention, what we claim is—

1. The combination with the pedal and pedal-pin, of alarm mechanism mounted on the pedal-pin and normally turning with the  
35 pin, one part of said mechanism being fast on the pin and the other part being loosely mounted, adjustable means mounted on the last-named part and adapted to be thrown into the path of the pedal, whereby the unison  
40 of movement between the two parts is destroyed and the alarm sounded.

2. The combination with the pedal and pedal-pin, of alarm mechanism mounted on the pedal-pin and normally turning with the  
45 pin, one part of said mechanism being fast on the pin and the other part being loosely

mounted, and a dog mounted on the loose part and adapted to be thrown into the path of the pedal, whereby the unison of movement between the two parts is destroyed and the  
50 alarm sounded.

3. The combination with the pedal and pedal-pin, of alarm mechanism mounted on the pedal-pin and normally turning with the pin, one part of said mechanism being fast  
55 on the pin and the other part being loosely mounted, and a dog provided with a flange or wing at one extremity adapted to be engaged by the foot, whereby its opposite extremity is thrown into the path of the pedal.  
60

4. The combination with the pedal-pin, of a hub fast on the pedal-pin and provided with ratchet or cam teeth, a plate loose on the hub, a hammer-lever fulcrumed on the plate and provided with a lug projecting into the path  
65 of the said teeth, the outer edge of the plate being roughened to facilitate the stopping of the plate's rotation.

5. The combination with the pedal-pin, of a hub made fast thereon and provided with  
70 ratchet or cam teeth, a plate loose on the hub, a hammer-lever fulcrumed on the plate and provided with a lug projecting into the path of the said teeth, the outer edge of the plate being flanged to overlap the free edge of the  
75 gong, for the purpose set forth.

6. The combination with the pedal-pin, of a hub fast thereon, a sleeve provided with cam-teeth, attached to the hub, to permit a  
80 slight independent movement of the two parts, a plate loose on the pin, a hammer-lever fulcrumed on the plate and having a part projecting into the path of the cam-teeth, and a gong mounted on the pedal-pin and arranged to be acted on by the hammer.  
85

In testimony whereof we affix our signatures in presence of two witnesses.

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