

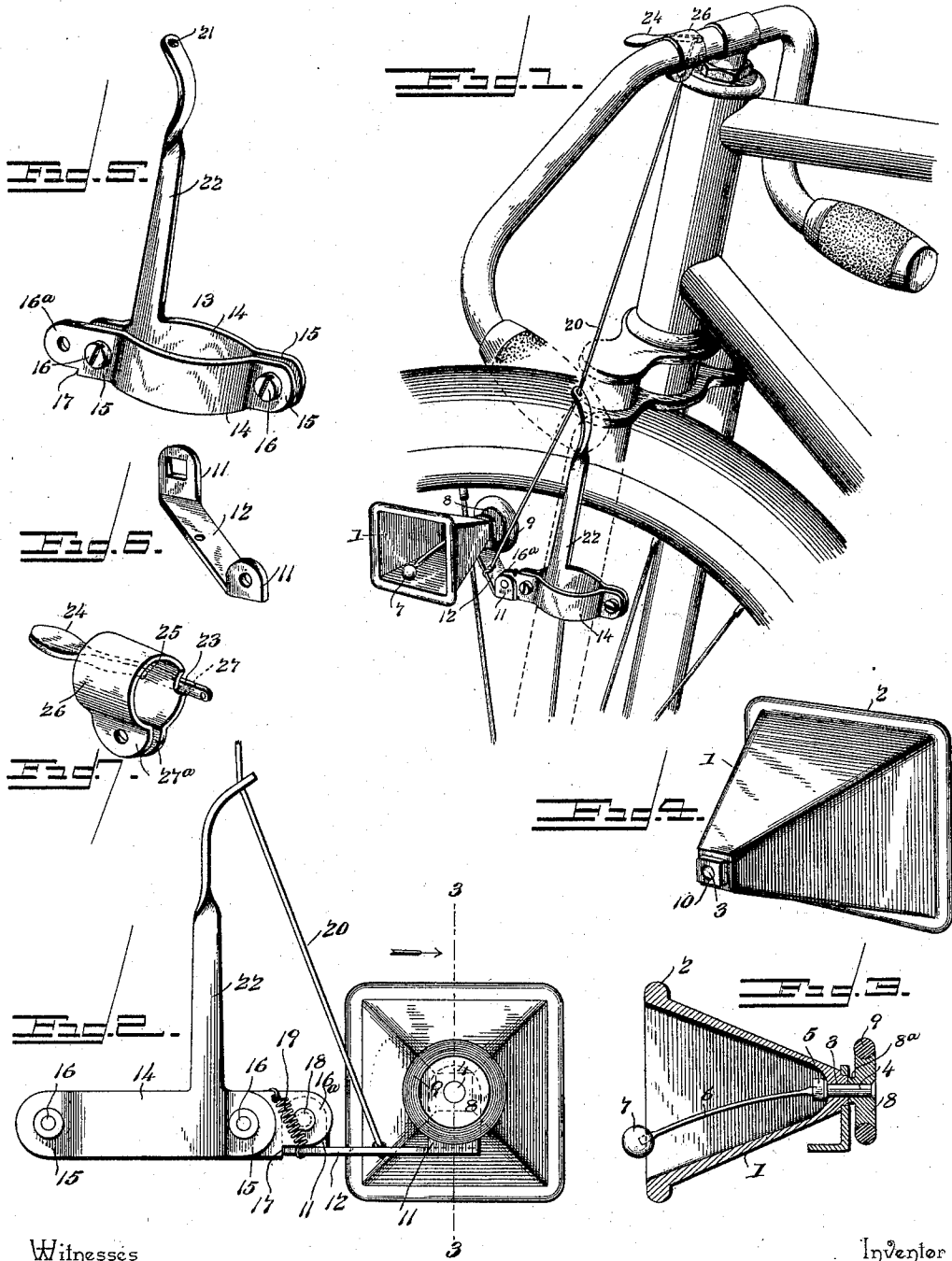
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Patented Aug. 30, 1898.

D. P. WOLHAUPTER.
BICYCLE BELL.

(Application filed Apr. 9, 1898.)

(No Model.)



Witnesses

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ASSIGNOR OF ONE-HALF TO EDWARD G. SIGGERS, OF SAME PLACE.

BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 609,983, dated August 30, 1898.

Application filed April 9, 1898. Serial No. 677,084. (No model.)

To all whom it may concern:

Be it known that I, DAVID P. WOLHAUPTER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Bicycle-Bell, of which the following is a specification.

This invention relates to bicycle-bells, and more particularly to that type of bells which are continuous in their operation when set into action to provide a continuous alarm as distinguished from the intermittent alarm of most types of bicycle-bells, especially those that are carried by the handle-bar of the bicycle.

To this end the invention primarily contemplates an improved continuous-alarm bicycle-bell operated by one of the wheels of the bicycle, preferably the front wheel, and so constructed that the same shall be positive in operation, while exceedingly simple in its make up, with an entire absence of ratchets, gears, and other parts liable to easily get out of order and quickly wear out.

A further object of the invention is to provide a novel manner of supporting and operating a continuous-alarm bicycle-bell and also to provide a new and useful shape of gong which, in connection with a simple form of striker, will produce a maximum amount of noise and also dispense with the cast striking lugs or projections with which many types of circular gongs or bells are provided.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

While the improvements contemplated by the present invention are necessarily susceptible to modification for the purposes of this application, the preferred manner of embodying the improvements in a simple form of continuous-alarm bell is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a continuous-alarm bicycle-bell constructed in accordance with this invention and shown applied to a bicycle. Fig. 2 is a side elevation of the bell. Fig. 3 is a longitudinal sectional view through the gong and the striking mech-

anism on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the pyramidal gong. Fig. 5 is a detail in perspective of the fork-clamp. Fig. 6 is a detail in perspective of the bracket-arm which carries the gong. Fig. 7 is a detail in perspective of the handle-bar clamp and operating-lever.

Referring to the accompanying drawings, the numeral 1 designates the improved gong or bell proper, which gong is of a pyramidal shape, and by reason of this shape presents a plurality of flat striking-faces. The gong could obviously be of any polygonal shape in cross-section, according to the desired number of flat striking surfaces or faces to be presented to the striker; but the preferred shape of the gong in cross-section is rectangular or perfectly square in order that each of the four flat sides will be disposed at substantially right angles to each other and may be uniformly and successively engaged by the striker to be presently referred to.

The pyramidal cross-sectionally square or polygonal gong 1 tapers in the thickness of its walls toward the apex thereof, so that the greatest thickness of metal will be at the mouth of the gong, and at this point the latter is further provided with an annular bead 2, which lies within the plane of the striking-bow of the gong. By reason of this construction the pitch or tone of the gong is made sufficiently high to have a pleasing and resonant effect, it being well understood in the art that the tone or pitch of a bell increases proportionately to the thickness thereof.

The gong 1 is provided at the apex thereof with a bearing 3, in which is journaled a short shaft 4, provided at its inner end with an enlargement or head 5, which prevents longitudinal movement of the shaft in one direction, and which also has fitted fast therein one end of a spring striker-arm 6, which preferably is slightly bowed or inclined to conform to the slope of the gong 1, and the said spring striker-arm 6 carries at its outer end a clapper 7, which is adapted to be thrown by centrifugal force successively against the flat sides of the gong as the striker-arm rotates with the shaft 4. The said shaft 4 has fitted on its outer extremity, outside of the gong 1, a small operating-wheel 8, preferably provided at its inner

side with a spacing-boss 8^a, which holds the wheel away from the gong and also prevents longitudinal movement of the shaft 3 in one direction. The wheel 8 is provided with an annular groove, in which is seated a rubber or similar tire 9, which is adapted to frictionally engage with the rim of the bicycle-wheel at one side of the spokes, as clearly indicated in Fig. 1 of the drawings.

The shaft 4 and the striker-arm 6, carried thereby, are arranged longitudinally of the gong 1, so that the latter provides a complete housing for the striker, while at the same time by reason of this disposition of the parts the rotation of the shaft 3 would cause the spring-arm 6 to spread away from the longitudinal center of the gong and fly out against the separate flat sides of the gong directly at the mouth thereof within the plane of the bead 2. The successive engagement of the clapper with the flat sides of the gong is necessarily so exceedingly rapid that a continuous ring is consequently produced, and which ring will also be sufficiently violent to cause a loud penetrating sound.

In its operative position the gong 1 is arranged horizontally, with its apex disposed inward toward the bicycle-wheel, and at its apex the said gong is preferably provided with a squared boss 10, permanently secured within a correspondingly-shaped opening in one of the upturned ears 11 of the pivotal bracket-arm 12. The pivotal bracket-arm 12 has bent up from its opposite ends the oppositely-located ears 11, which are arranged parallel with each other and at an angle to the length of the arm, whereby the latter will occupy an oblique position relative to the gong 1 and the fork-clamp 13, this disposition being necessary in order to dispose the operating-wheel 8 within the plane of the rim of the bicycle-wheel, as shown in Fig. 1 of the drawings. The fork-clamp is adapted to be secured on one of the side bars or tubes of the front fork of a bicycle, as illustrated in Fig. 1 of the drawings, and essentially comprises a pair of reversely-bowed clamp plates or members 14, provided at their contiguous ends with clamp-ears 15, adapted to have fitted therein the clamping-bolts 16, which when tightened serve to securely fasten the clamp in the position referred to, it of course being understood that the separate clamp plates or members are arranged, respectively, at opposite sides of the fork-bar, to which they are clamped.

One of the clamp plates or members 14 has projected from one of its clamp-ears 15 an integral ear extension 16^a, at the lower edge of which is formed a stop-shoulder 17, engaged by the bracket-arm 12 when the latter is in its normal lowered position, as clearly illustrated in Fig. 2 of the drawings, and one of the ears 11 at one end of the bracket-arm 12 is pivotally secured to the ear extension 16^a by means of the pivot-pin 18, which permits the bracket-arm to swing up and down.

In order to prevent rattling of parts and to

hold the gong from "jumping" when not in use, a retractile spring 19 is preferably employed and connects the bracket-arm 12 with the fork-clamp 13, as shown in Fig. 2 of the drawings, and to provide for swinging the bracket-arm 12 upwardly to operate the bell a pull-wire or similar flexible operating connection 20 is fastened at its lower end to the said bracket-arm and passes from its connection with said bracket-arm to the guide-opening 21, formed in the extreme upper end of the upwardly-disposed guide-arm 22. This guide-arm is extended integrally from the inner clamp plate or member 14, so as to lie at the inner side of the fork-bar and thereby hold the pull-wire or connection 20 as close to the head-tube of the bicycle as possible, so that the said pull-wire or connection will not interfere with the steering of the machine. The upper end portion of the arm 22 is twisted and bent forwardly, so as to project out of the fork.

The upper end of the pull-wire or connection 20 is secured to one end of a short operating-lever 23, provided at its opposite end with a thumb-plate 24 and pivoted intermediate of its ends, as at 25, to one side of a handle-bar clip or clamp 26. The handle-bar clip or clamp 26 is provided with a short outstanding stop projection 27 for the lever 23 to rest against, and thereby support the same in an operative position, and said clip or clamp is of a circular form, so as to embrace the handle-bar of the bicycle, and is provided at its contiguous extremities with the bolt ears or flanges 27^a to receive a suitable clamping screw or bolt for fastening the clip or clamp on the handle-bar, preferably in the position shown in Fig. 1 of the drawings.

To operate the bell, it is simply necessary to exert a slight pressure on one end of the operating-lever 23, which movement elevates the bracket-arm 12 and carries the operating-wheel 8 in contact with the rim of the bicycle-wheel, and the rapid rotation of said operating-wheel will flirt the striker around within the pyramidal cross-sectionally square gong and thereby produce a continuous alarm, as previously explained. The bell will remain in operation until the pressure of the thumb or finger is relieved from the lever 23, when the bell returns to an inactive position by its own gravity and partly with the assistance of the spring 19.

While I am aware that it is not broadly new to operate a continuous-alarm bicycle-bell from the wheel of a bicycle, I am not aware that it is old to construct a gong of a pyramidal shape in combination with a striker housed longitudinally therein and thrown out against its flat walls by centrifugal force, so I claim herein this construction and also the specific manner of supporting and operating the bell herein described. I will also have it understood that changes in the form and proportion of parts and in the details of construction may be made without departing

from the spirit or sacrificing any of the advantages of this invention.

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

1. In a bell, a gong having its wall shaped to form a plurality of striking-faces, and a rotatable striker adapted to engage each of said faces in succession, the latter being equidistant from the axis of rotation, substantially as described.

2. In a bell, a pyramidal-shaped gong, and a rotatable striker arranged longitudinally within the gong and carrying a clapper adapted to engage the flat faces thereof, substantially as described.

3. In a bell, a pyramidal-shaped gong, of a square form in cross-section, and a rotatable spring-arm arranged longitudinally within the gong and carrying at one end a fixed clapper adapted to spring against the flat faces thereof, substantially as described.

4. In a bell, a pyramidal-shaped gong, and a rotatable spring-arm arranged longitudinally within the gong and carrying at one end a fixed clapper adapted to spring against the flat faces thereof, substantially as described.

5. In a bell, a pyramidal-shaped gong having a bearing at its apex, a suitably-rotated shaft journaled in said bearing, and a spring-arm arranged longitudinally within the gong and rigidly connected at one end with said shaft, said arm carrying at its free end a clapper normally out of contact with flat faces of the gong, substantially as described.

6. In a bell, a pyramidal-shaped gong having a bearing at its apex, a movable support for said gong, a shaft journaled in the bearing, a spring-arm arranged longitudinally within the gong and rigidly connected at one

end with the inner end of the shaft, said arm carrying at its free end a clapper, an operating wheel or disk fitted to the outer end of shaft, and means for moving said wheel or disk against a rotating object, substantially as described.

7. In a bicycle-bell, a pyramidal-shaped gong, a fork-clamp carrying a pivoted bracket-arm rigidly connected with the gong at the apex thereof, a shaft mounted in the apex of the gong and carrying at its outer end an operating-wheel adapted to engage the bicycle-wheel, a spring striker-arm arranged longitudinally within the gong and rigidly connected at one end with the inner end of said shaft, and an operating connection with said pivotal bracket-arm, substantially as described.

8. In a bicycle-bell, a fork-clamp provided at one side with an upwardly-disposed guide-arm having a guide-opening at its upper end, and having an ear extension at one extremity, said ear extension being formed in its lower edge with a stop-shoulder, a horizontal bracket having upturned ends, one of which is pivoted to said ear extension in advance of said stop-shoulder, a gong fitted to one upturned end of the bracket-arm, the striking mechanism mounted in the gong and having a shaft carrying an exterior operating-wheel, and an operating connection connected with said bracket-arm, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DAVID P. WOLHAUPTER.

Witnesses:

HAROLD H. SIMMS,
FRANCES PEYTON SMITH.