B. K. KIRK.

BELL ACTUATING MEANS.

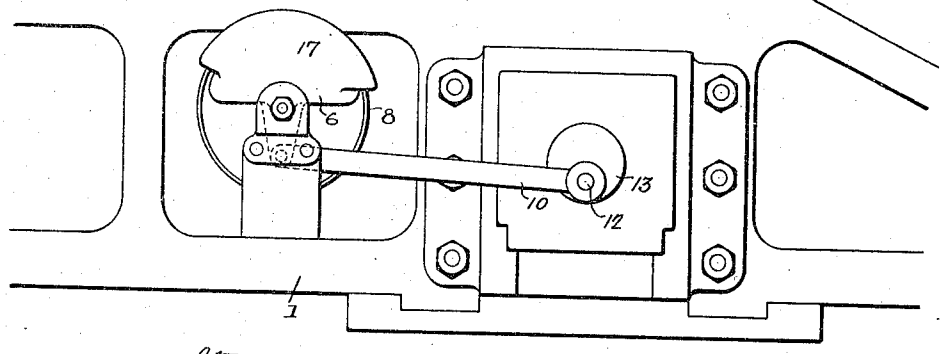
APPLICATION FILED DEC. 23, 1918.

1,300,737.

Patented Apr. 15, 1919.

2 SHEETS—SHEET 1.

Fig. 1.



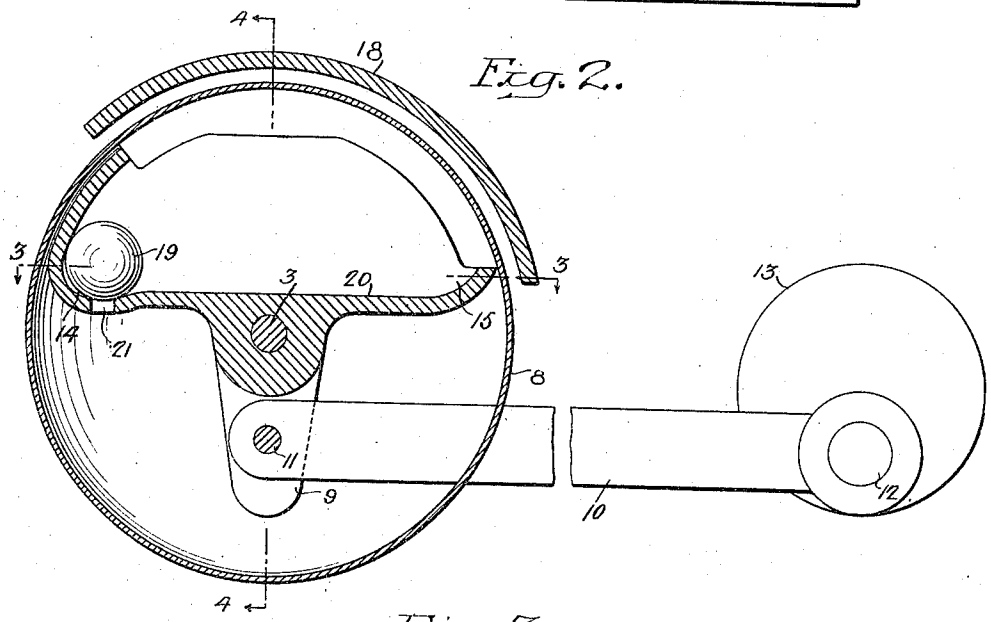
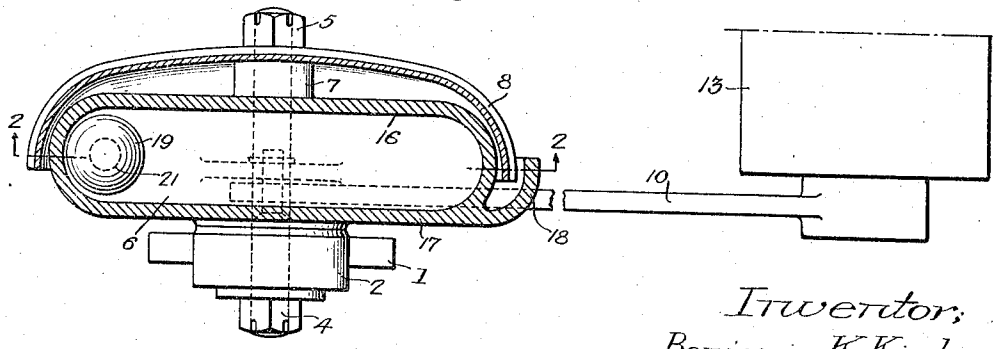


Fig. 2.

Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 5.

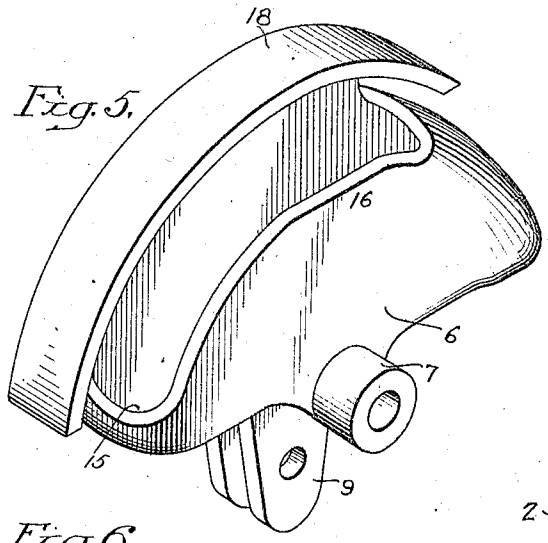


Fig. 4.

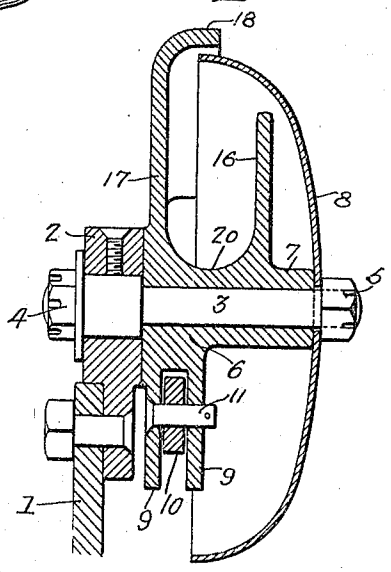


Fig. 6.



Fig. 7.

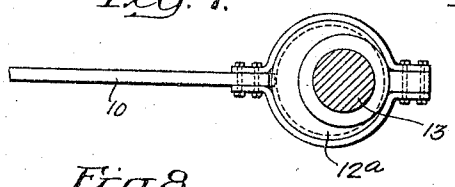
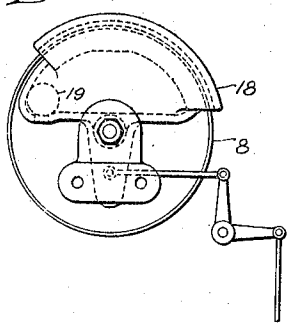


Fig. 8.



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THE HARRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BENJAMIN K. KIRK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE BALDWIN LOCOMOTIVE WORKS, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

BELL-ACTUATING MEANS.

1,300,737. Specification of Letters Patent. Patented Apr. 15, 1919.

Application filed December 23, 1918. Serial No. 268,005.

To all whom it may concern:

Be it known that I, BENJAMIN K. KIRK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Bell-Actuating Means, of which the following is a specification.

One object of my invention is to provide means for striking a bell from a driven element.

A further object of the invention is to dispense with springs, or other intricate mechanism, and yet to provide means for giving the bell a resonant tone.

A still further object of the invention is to provide a bell which can be used in connection with a locomotive, such as a mine locomotive, in which the rapidity of the strokes will be governed by the speed of the locomotive, or other vehicle, to which it is connected.

In the accompanying drawings:

Figure 1 is a side view, showing my improved bell striking apparatus connected to the driven axle of an electric mine locomotive, sufficient of the frame of the locomotive being shown to illustrate the location of the bell;

Fig. 2 is a sectional elevation on the line 2—2, Fig. 3;

Fig. 3 is a sectional plan view on the line 3—3, Fig. 2;

Fig. 4 is a transverse sectional view on the line 4—4, Fig. 2;

Fig. 5 is a perspective view of the rocker which carries the ball;

Fig. 6 is a view of the ball which strikes the bell;

Fig. 7 is a view of a modification illustrating an eccentric instead of the crank illustrated in Fig. 2; and

Fig. 8 is a view of a further modification.

Referring to the drawings, 1 is a part of a frame of a locomotive, or other structure, to which the bell is to be secured. 2 is the bearing through which projects a standard 3 having a nut 4 at the inner end and a nut 5 at the outer end. 6 is a rocker mounted on the standard 3 and mounted between the hub 7 of the rocker and the nut 5 is the bell 8, which is of the ordinary type.

On the rocker is a depending arm 9, forked as shown in Fig. 4, to which is connected an operating rod by a pin 11. This rod 10, as shown in Fig. 2, is connected to the crank 12 on an axle 13 of a mine locomotive, the frame of which is partly shown in Fig. 1, but it will be understood that it can be applied to any locomotive, car, or other structure, in which there is a rotating element, such as an axle.

Instead of the crank illustrated in Figs. 1 and 2, an eccentric 12^a may be used, or any other device for actuating the rocker. The rocker 6 is preferably shaped as illustrated in Fig. 5, and has a pocket 14 at one end and is slightly curved at the opposite end 15. One side wall 16 extends above the pivot and is preferably shaped as shown in Fig. 5, so that the rocker will rock freely within the bell. The other side wall 17, which is outside of the line of the bell, is clearly shown in Fig. 4 and has a flange 18 which extends over the edge of the bell so that a portion of the edge of the bell is between the flange 18 and the body of the rocker.

19 is a ball which is adapted to the socket, which normally rests in the pocket 14 and when the rocker is actuated by the crank the ball is thrown forward and strikes the bell and immediately rebounds, dropping onto the floor 20 of the rocker and falling back so as to be in position to be thrown again at the next revolution of the operating shaft. This movement causes the ball to strike the bell with a sharp blow, which will allow the bell to resound. The extension of the flange 17 prevents the accidental displacing of the ball and allows it to strike the bell at the proper point. At the bottom of the pocket, in the present instance, is a drip opening 21 to allow any water, which may accumulate in the rocker, to escape, and it also forms a seat for the ball, as clearly shown in Fig. 2.

By this invention, it will be seen that I dispense entirely with all springs and clappers usually employed with this type of bell or gong. In some instances, the bell may be used as a hand operated bell, in which instance a cord can be attached to the rocker, either direct or through the bell crank lever, as shown in Fig. 8, so as to give the required movement.

I claim:

1. The combination of a standard; a bell mounted on the standard; a rocker also mounted on the standard and having a flange located within the bell and another flange on the outside of the bell and inclosing a

space; and a ball adapted to move freely in said space and to be thrown against the bell when the rocker is actuated.

2. The combination of a bearing; a spindle projecting therefrom; a bell on the outer end of the spindle; a rocker mounted between the bell and the bearing, said rocker having an arm through which it is actuated; a pocket at one end of the rocker; a ball normally mounted in the pocket, said rocker having inner and outer flanges; and walls extending from the pocket, the inner wall being located within the bell and the outer wall having a flange extending over the edge of the bell.

3. The combination of a bearing adapted to be secured to the frame of a locomotive; a spindle projecting from the bearing; a bell mounted on the outer end of the spindle; a rocker mounted on the spindle and between the bell and the bearing, said rocker having a pocket at one end; a ball loosely mounted in the pocket and arranged to be thrown against the bell on the actuation of the rocker, said rocker having side walls for retaining the ball and having an arm; an axle; and means, on the axle, connected to the frame of the rocker for actuating the rocker to cause the ball to strike a succession of blows on the bell.

In witness whereof I affix my signature.

BENJAMIN K. KIRK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."