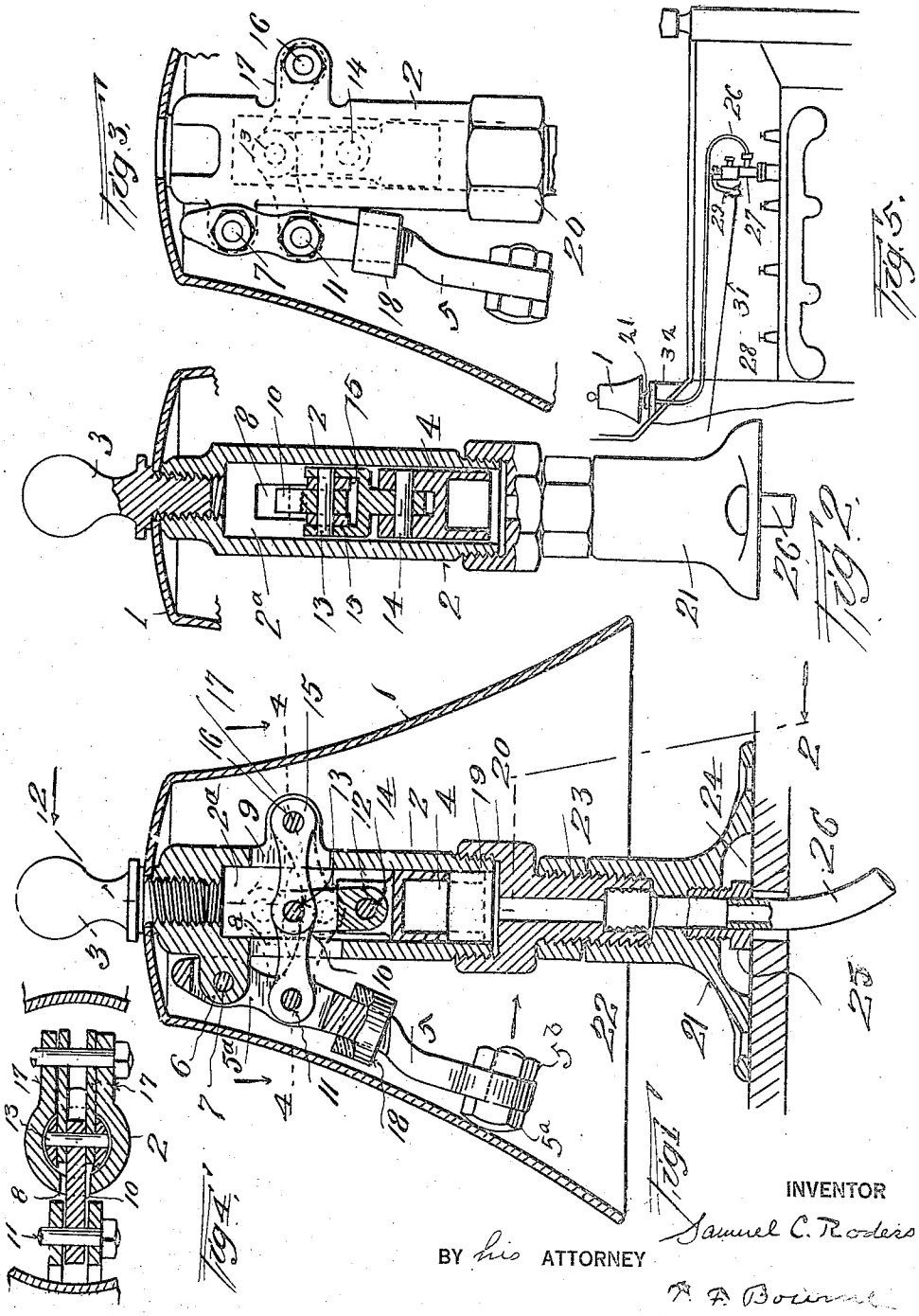
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SIGNAL BELL

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SIGNAL BELL.

Application filed August 15, 1922. Serial No. 581,936.

To all whom it may concern:

Be it known that I, SAMUEL C. RODESS, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Signal Bells, of which the following is a specification.

In my applications for improvements in signal bells, filed November 30th, 1921, Serial #541,236 and filed May 12th, 1922, Serial #560,284, I have disclosed means for operating the clappers of signal bells by means of the pressure of gases from an internal combustion engine.

The object of my present invention is to provide simplified and effective means for operating the clapper in the class of signal bells referred to whereby the clapper will be rocked during each reciprocation of the movable member or piston that is actuated by the gases and whereby the parts will not be liable to injury or deterioration through undue wear.

My invention comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein

Fig. 1 is a vertical section of a signal bell embodying my invention;

Fig. 2 is a section on line 2, 2 in Fig. 1, showing parts in a lowered position;

Fig. 3 is a partly sectional detail view;

Fig. 4 is a section on line 4, 4 in Fig. 1, and

Fig. 5 is a diagrammatic view illustrating my improvements upon a portion of an automobile.

Similar numerals of reference indicate corresponding parts in the several views.

At 1 is indicated a bell which may be of any suitable construction, and at 2 is indicated a tubular support to which the bell is attached by a threaded piece or screw 3, or in any other suitable manner. A movable member or piston 4 is adapted to reciprocate within bore 2^a of support 2 to operate a clapper 5 that is adapted to strike the bell. The clapper 5 is shown pivotally supported at its upper end upon a laterally disposed lug 6 extending from support 2 receiving pivot 7 for the clapper. Below lug 6 the support 2 is provided with slots or openings 8, 9 disposed on opposite sides of and communicating with bore 2^a. A link 10 is pivotally connected with the clapper by pivot 11, which link is shown disposed within a slot 5^a in the clapper, and said link at its inner end extends within bore 2^a and is pivotally connected with the member 4, by means of a rocker arm 12, within bore 2^a, pivotally connected by means of pivot 13 with link 10 and pivotally connected with member 4 by means of pivot 14. One or more links 15 are pivotally connected with pivot 13 and are also pivotally connected with support 2 by means of pivot or screw 16 that is carried by lugs 17 extending from support 2. By preference I use one link 10 and two spaced links 15 between which the inner portion of link 10 operates, (see Fig. 4). The pivots 7, 11 and 16 may be in the form of screws provided with nuts to retain them in position. The length of the links, the position of the pivot of clapper 5, and the point of pivotal connection of the links with bar 12 are such that when member 4 is in its upper or its lower position, the links on opposite sides of the common pivot 13 will be at an angle with respect to each other, whereby the clapper will be drawn or held away from the bell, and when the member 4 is in an intermediate position the links will be substantially in a straight line, as indicated in Fig. 1, to cause the outward movement of the clapper whereby the latter will strike the bell. During the reciprocations of member 4 the bar 12 will have lateral motion to accommodate for the rocking of links 15, since the pivot 13 follows an arc described around the axis of pivot 16.

Since the clapper is rocked or oscillated by means of the reciprocating movements of member 4 I desire to limit the upward and downward movements of member 4,

hence the inward movement of the clapper toward support 2, with an effect tending not to injure the parts, I provide a cushion between the clapper and support 2 to resist the inward strokes of the clapper. I have shown a cushion 18, which may be of rubber, shown in the form of a tube upon the clapper in position to engage support 2 when the clapper moves toward the support, (see Fig. 3). When the cushion engages support 2 the inward movement of the clapper will cease and this will cause longitudinal movement of member 4 to cease in either direction of its motion without requiring said member to engage any positive stop.

Support 2 may be attached to any desired part for supporting the bell in convenient position for use. I have shown the lower end of support 2 threaded to receive corresponding threads 19 at the upper end of a fitting 20, the lower end of which fitting may be attached to a retaining plate 21 shown provided with internal threads 22 receiving the threaded part 23 of fitting 20. The retaining plate is shown provided with a recess 24 on its under side adapted to receive a fitting 25 to connect the parts to a pipe 26. The support 2 or the fitting 20 may be attached to an automobile, boat or the like in any other desired way.

In Fig. 5 I have shown means to control pressure and exhaust through pipe 26, comprising a valve construction substantially similar to the construction shown in my application, Serial #260,284 aforesaid. The valve casing 27 may be secured to a cylinder of an internal combustion engine, indicated at 28, a lever 29 being adapted to operate a valve that will control the flow of gas to or from the engine through the pipe 26. The lever 29 may be operated by means of a connection 31 extending to any desired manually operated device which may be supported upon the dashboard of an automobile or in any other convenient position. In Fig. 5 the retaining plate 21 is shown attached upon a bracket 32 secured upon the cowl of an automobile.

In order to operate the bell the pipe 26 is placed in communication with a source of pressure and exhaust, such as in connection with an internal combustion engine cylinder, and when the valve controlling pipe 26 is opened the pressure from the cylinder will push member 4 outwardly in bore or cylinder 2^a, whereby the operation of the links before described will cause the clapper to move outwardly to strike the bell and when such pressure is released and exhaust occurs in pipe 26 member 4 will descend to cause corresponding outward movement of the clapper to strike the bell, the clapper being drawn away from the bell after member 4 has moved the links on opposite sides of a straight line through the links. The reciprocations of the member 4 may be quite rapid so that the clapper may be operated with rapidity to ring the bell.

The actuator for the clapper, comprising the links described that are pivoted to the support 2 and to the clapper, operates in the nature of toggles, actuated in opposite directions by the reciprocative member or piston 4, whereby a smooth action of the clapper is effected. The moment of contact of the clapper and the bell may be controlled by a headed screw 5^a carried by the clapper and retained by a nut 5^b, since said screw can be set for fine adjustment respecting the bell when the links are in a straight line.

Having now described my invention what I claim is:—

1. A signal bell comprising a support, a bell, a clapper, a movable member, means to operate the member by fluid pressure and exhaust, and opposing links pivotally connected with a movable part that is pivotally connected with the member, one of said links being pivotally connected with the support and the other link being pivotally connected with the clapper.

2. A signal bell comprising a support, a bell, a clapper, a movable member, means to operate the member by fluid pressure and exhaust, and links pivotally connected at adjacent ends with a movable part that is pivotally connected with said member, one of said links being pivotally connected at its opposite end with the clapper and another of said links pivotally connected at its opposite end with said support.

3. A signal bell comprising a support, a bell, a clapper, a movable member, means to operate the member by fluid pressure and exhaust, and links respectively pivotally connected at their outer ends with the clapper and the support, and a bar pivotally connected with said member and with adjacent inner ends of said links.

4. A signal bell comprising a support having a bore and provided with slots on opposite sides, a bell, a clapper pivotally carried by the support, links operative in said slots, one of said links being pivotally connected at one end with the clapper and another link pivotally connected at one end with the support, a member reciprocative within said bore and pivotally connected with adjacent ends of said links and means to actuate said member.

5. A signal bell comprising a support having a bore and having slots communicating therewith, lugs upon said support, a bell, a clapper pivotally carried by one of the lugs, one or more links pivoted to another lug and extending through one of the slots, another link pivotally connected to the

clapper and extending through another slot, a member reciprocative within said bore and pivotally connected with said links and means to actuate said member.

6. A signal bell comprising a support having a bore and having slots communicating therewith, lugs upon said support, a bell, a clapper pivotally carried by one of the lugs, one or more links pivoted to another lug and extending through one of the slots, another link pivotally connected to the clapper and extending through another slot, a member reciprocative within said bore, a bar pivotally connected with said member and with said links within said bore and means to actuate said member.

SAMUEL C. RODESS.