March 9, 1926.

1,575,754

G. W. GILL

BELL RINGER

Filed Nov. 2, 1925

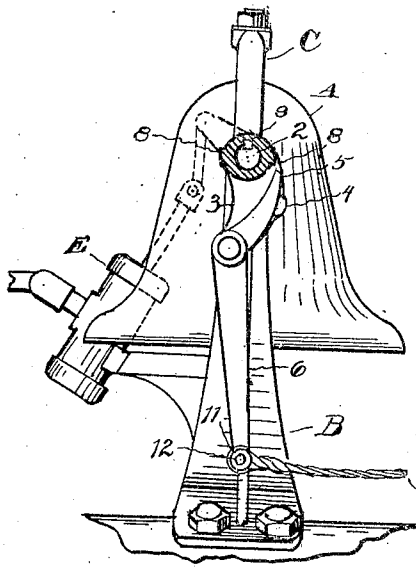


Fig. 1

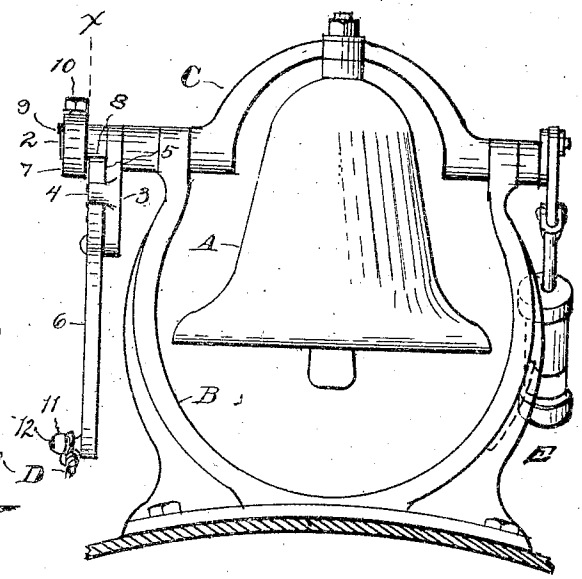


Fig. 2

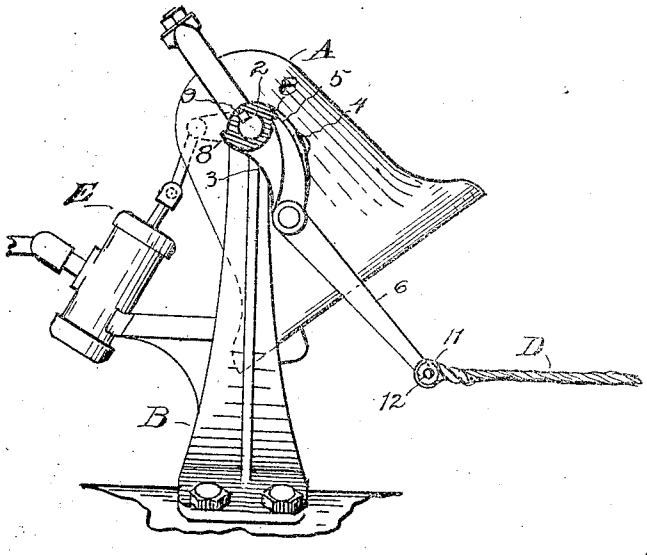


Fig. 3

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UNITED STATES PATENT OFFICE.

GEORGE W. GILL, OF BATTLE CREEK, MICHIGAN, ASSIGNOR OF ONE-HALF TO WALTER E. KNOPP, OF BATTLE CREEK, MICHIGAN.

BELL RINGER.

Application filed November 2, 1925. Serial No. 66,418.

To all whom it may concern:

Be it known that I, GEORGE W. GILL, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Bell Ringers, of which the following description, with appended claims, taken in connection with the accompanying drawing, forms a specification.

The present invention has reference to bell ringers for locomotive engines, in which a rope is connected to a lever suspended from an arm journaled on the shank of a bell yoke and adapted to engage a ratchet faced collar rigidly fixed to said shank for ringing a bell.

Bell cranks to which the bell pull is attached in the usual manner swing with the oscillation of the bell yoke operated by automatic bell ringing mechanism. This almost constant swaying of the rope affects its structure and its usefulness as a hand operated means for ringing a bell is gone long before a normal use of a rope for the purpose would result.

The principal object of my invention is to minimize the wearing out of rope and curtail the expense for its replacement by idling the bell ringing crank or lever during the ringing of the bell by automatic means. This, and other objects and advantages will be apparent to railway men generally, and particularly to firemen and engineers.

In the drawings forming a part of this specification,

Fig. 1, represents a bell bracket with a bell mounted therein looking toward the same on the side to which my bell ringer is fitted, a portion being in section on the dotted line *x*, of Fig. 2, an automatic bell ringer being shown connected with the bell on its opposite side, the parts being idle.

Fig. 2, is a front elevation of Fig. 1, looking at the bell from the pull end of its ringing rope.

Fig. 3, is a side elevation of Fig. 1, with the bell pull in operation.

Like marks of reference, refer to corresponding parts in the different views of the drawing, in which, A, is the bell; B, the bell bracket; C, the bell yoke and D, the bell rope.

The bell and its yoke are of the usual construction, the bracket as shown, being bolted to a boiler in the usual manner.

Journaled on one of the yoke shanks 2, outside of and against said yoke, is a short slightly curved arm 3. This arm between its ends, and on the side from which the pull on the bell rope is made, has an offset lug 4, which acts as a stop for the upper curved end 5, of a dead-head or rope lever 6, pivoted to the lower free end of said arm as shown.

On the outer end of the yoke shank 2, a collar 7, having a reduced portion with oppositely disposed eccentric formed teeth 8, is placed. As shown the outer end of this collar forms a side rim or flange, and between this flange and the side of the arm 3, the curved upper end of the lever 6, plays.

The collar 7, is rigidly attached to the shank 2, and as shown carries a key 9, engaging said shank and it has a set screw 10, bearing on said key to firmly secure the parts intact. The toothed portion of the collar is in close proximity to and slightly to one side of the curved end of the lever 6. This lever has a ball ended sleeve 11, which is fitted on a crank pin 12, extending from the said lever and about this sleeve a loop of the bell rope is secured, a means whereby the rope will not wind nor become entangled in the turning over of a bell, as is often done.

The formation and arrangement of the parts are such, that when the rope D, is pulled on, the curved end 5, of the lever 6, will be brought to bear upon the toothed surface of the collar 7, and into engagement with a tooth 8, a further strain on said rope causing the arm 3, to swing upwardly with the collar 7, and its attached yoke, and ringing the bell.

As shown, an automatic bell ringer E, is attached to operate the bell from the opposite side on which my improved hand bell ringer is fitted. I do not in the present instance lay any claim to the automatic bell ringer shown, the intent of the present invention being to construct and apply a bell ringer to be operated in conjunction with any approved automatic bell ringer, instead of the usual bell crank, generally in use.

It is estimated that the saving of rope in a year for an engine, would offset the expense for installing my improved bell ringer, and as the life of a ringer would

cover a period of several years, the saving of expense annually for a railway system having my improved bell ringer, would be of very great importance.

Having therefore set forth my invention, what I claim and desire to secure by Letters Patent, is:—

1. The combination with a bell yoke shank and a bell suspended in said yoke, a collar having a reduced extension with a peripheral ratchet face rigidly attached to a shank of said yoke, an arm journaled on said shank and abutting said collar, a lever pivotally suspended between its extremities to the free end of said arm and having an offset upper end positioned between the outer enlarged end of said collar and said arm, and in close proximity to said ratchet when in a normal balanced position and adapted to engage a tooth of said ratchet when tilted on its pivot and roll said bell yoke.

2. In a bell ringer, the combination with a yoke, its supporting shanks, a bracket in which said yoke is journaled to swing, and a bell carried within said yoke, an arm journaled on a shank of said yoke and abutting said bracket, a lever pivotally fulcrumed at the lower end of said arm, a collar rigidly attached to the outer end of the shank on which said arm is journaled, said collar having oppositely disposed eccentric formed teeth disposed above said lever and to one side of an upper offset end thereof and in close proximity thereto, the upper end of said lever adapted to play between the toothed portion of said collar and a limiting stop formed on said arm and to normally hang free from said collar, said lever adapted to engage a tooth of said collar when moved on its pivotal support and a rope attached to the free end of said lever to draw said lever into engagement with said tooth, as and for the purpose set forth.

3. In a bell ringer, the combination with a yoke, its supporting shanks, a bracket in which said yoke is journaled to swing, and a bell carried within said yoke, a collar rigidly attached to a shank of said yoke, an arm journaled on said shank between said collar and the supporting bracket for said yoke, said collar having an eccentric-formed tooth on one side and approximately on a plane with its axis, when said bell is idle, a lever pivotally suspended at the free end of said arm and below said collar and having an upper end disposed in close proximity below and to one side of said tooth when said bell is idle, and adapted to be moved into engagement with said tooth and roll said collar and bell yoke and ring said bell, and to release said tooth by gravity suspension when released.

GEORGE W. GILL.