

No. 888,340.

PATENTED MAY 19, 1908.

G. MACLOSKIE.
ELECTRIC BELL RINGER.
APPLICATION FILED DEC. 4, 1906.

Fig. 1.

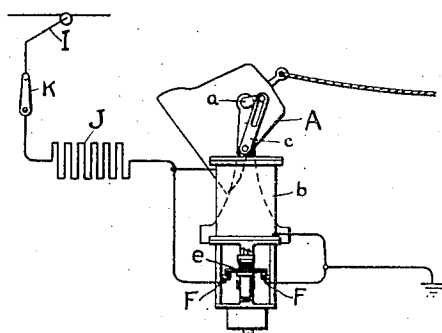


Fig. 2.

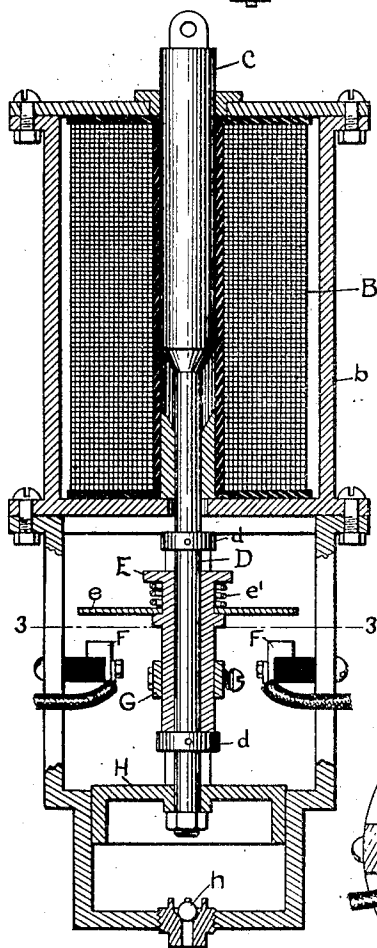
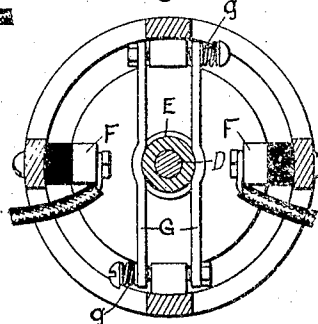


Fig. 3.



Witnesses:
J. E. Steers.
J. Ellis Allen.

Inventor
George Macloskie,
by *Alfred H. Davis*

UNITED STATES PATENT OFFICE.

GEORGE MACLOSKIE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ELECTRIC BELL-RINGER.

No. 888,340.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed December 4, 1906. Serial No. 346,235.

To all whom it may concern:

Be it known that I, GEORGE MACLOSKIE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Electric Bell-Ringers, of which the following is a specification.

My invention relates to electric bell-ringers, and is particularly applicable to the operation of bells on electric locomotives.

The object of my invention is to provide a simple and efficient form of bell-ringer which may be applied to pivoted bells of the construction ordinarily employed on locomotives, and which, when its circuit is closed, imparts to the bell a series of impulses at proper intervals for ringing it, and which permits the bell to be operated manually in the usual way.

My invention will best be understood by reference to the accompanying drawings, in which

Figure 1 shows somewhat diagrammatically a bell provided with a bell-ringer arranged in accordance with my invention; Fig. 2 shows a cross-sectional view of the bell-ringer; and Fig. 3 shows a cross-sectional view on the dotted line 3 3, of Fig. 2.

In the drawings, A represents a pivoted bell of the usual construction, B represents a solenoid, inclosed in a suitable casing *b*, the core C of which is connected to the bell A by means of the link *c* secured to the core and engaging an arm *a* carried by the bell. This link *c* is slotted, as shown in Fig. 1, so as to provide a lost-motion connection permitting the bell to be rotated manually through a complete revolution without shifting the core C of the solenoid. The core C carries a spindle D, extending downward through the casing, on which are mounted two collars or abutments *d*.

E represents a contact member loosely surrounding the spindle D between the collars *d* and comprising a contact disk *e* which, when lowered, bridges the stationary contacts F mounted on the inside of the casing. A spring *e'* is provided to act as a cushion when the contact *e* is brought into engagement with the contacts. The contact member E moves between strips G, which press against it on opposite sides so as to hold it in any position to which it is moved. Adjustable springs *g* are provided for adjusting the

pressure of the strips G on the contact member. 55

H represents a piston moving in the lower part of the casing and forming therewith a dash-pot.

h represents a ball-valve in the bottom part of the casing adapted to permit a free upward movement of the piston H and to retard its downward movement. 60

The circuit connections of the solenoid are shown in Fig. 1, in which I represents the trolley or other current-collecting device, and J a resistance in series with the solenoid. The contacts F are connected to the terminals of the solenoid B, so that when they are bridged by the contact disk *e*, the solenoid B is short-circuited. 65 70

K represents a manually-operated switch adapted to open and close the circuit of the bell-ringer.

The operation of the device is as follows: When it is desired to operate the bell electrically the switch K is closed, as shown in Fig. 1. The contact member E is initially in raised position, as shown in Fig. 2, so that the solenoid B is energized and draws down the core, rocking the bell. This downward movement is retarded by the dash-pot piston H. When the upper collar *d* engages the contact member E, it moves it downward, and when the contact disk *e* bridges the contact F, the solenoid is short-circuited and releases its core, which is carried upward by the weight of the bell. The upward movement of the core and spindle does not immediately open the short-circuit around the solenoid, on account of the lost-motion between the spindle D and the contact member E, but when the lower collar *d* strikes the contact member E, this contact member is quickly raised, thereby breaking the short-circuit around the solenoid, which is again energized and again draws down its core. A series of impulses are thus imparted to the bell, and the interval between these impulses may be adjusted by means of the dash-pot to correspond with the natural period of swing of the bell. Thus a comparatively small amount of current is required for operation of the device. 75 80 85 90 95 100

I do not desire to limit myself to the particular construction and arrangement of parts here shown, but aim in the appended claims to cover all modifications which are within the scope of my invention. 105

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In combination with a pivoted bell, a solenoid, a core arranged for reciprocation
5 therein, a lost motion connection between said core and said bell, a contact plate having a lost motion and yielding connection with said core, and fixed contacts with which
10 said contact plate engages and thereby short-circuits the solenoid after the core has moved in one direction.

2. In combination with a pivoted bell, a solenoid, a core arranged for reciprocation therein, a lost motion connection between
15 said core and said bell, a contact plate having a lost motion and yielding connection with said core, fixed contacts with which said contact plate engages and thereby short-circuits the solenoid after the core has moved
20 in one direction, and means for retarding the movement of the core in one direction.

3. In combination with a pivoted bell, a

solenoid, connections between said bell and the core of said solenoid, a casing, a spindle
carried by said core within said casing, abut- 25 ments on said spindle, a contact member loosely surrounding said spindle between said abutments, and a stationary member frictionally engaging the contact member.

4. In combination with a pivoted bell, a 30 solenoid, connections between said bell and the core of said solenoid, a casing, a spindle carried by said core within said casing, abutments on said spindle, a contact member loosely surrounding said spindle between said 35 abutments, stationary members frictionally engaging the contact member, and a retarding means connected to said spindle.

In witness whereof, I have hereunto set my hand this 3rd day of December, 1906.

GEORGE MACLOSKIE.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.