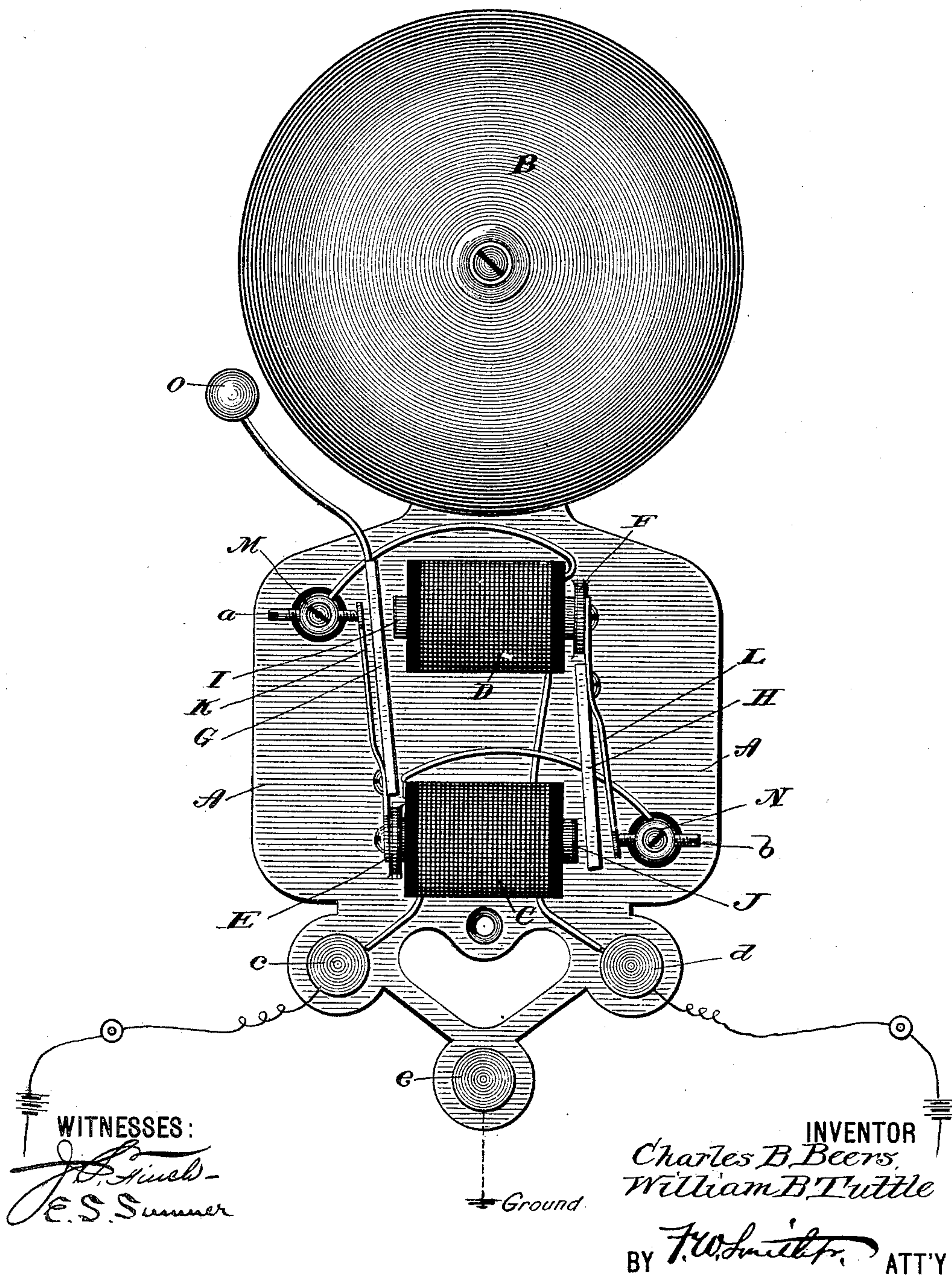


(No Model.)

C. B. BEERS & W. B. TUTTLE.
ELECTRIC BELL.

No. 442,473.

Patented Dec. 9, 1890.



UNITED STATES PATENT OFFICE.

CHARLES B. BEERS AND WILLIAM B. TUTTLE, OF BRIDGEPORT,
CONNECTICUT.

ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 442,473, dated December 9, 1890.

Application filed November 16, 1889. Serial No. 330,562. (No model.)

To all whom it may concern:

Be it known that we, CHARLES B. BEERS and WILLIAM B. TUTTLE, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electric Calls; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has reference to electrically-controlled calls or signals, and has for its object to provide a device of this description whereby two separate calls may be sounded without giving rise to any doubt or confusion as to the origin of said calls.

With these ends in view our invention consists in the details of construction and combination of elements, such as will be hereinafter fully described, and then specifically designated by the claim.

The accompanying drawing shows an elevation of our improvement.

A is the base-plate, and B the bell mounted thereon in the usual manner.

CD are two magnets secured in the ordinary way to posts E F projecting from the base.

G H are resilient armatures within the magnetic field of the magnet-cores I J. These armatures are fastened to flat springs K L, which are secured to the posts E F, the latter having electrical contact with the base-plate A. Through insulated posts M N pass screws a b, which abut against the springs K L, respectively, for the purpose of affording the usual adjustment to the armatures G H. The springs K L are of elastic iron or steel, forming continuations of the armatures G H, so that when either armature is attracted to its magnet by a current through its coil it brings the core of the other magnet into its magnetic influence, thus constituting for the time being a "horseshoe-magnet," diminishing the mag-

netic resistance of both magnets when the current is passed through either. The bobbins of the magnets C D have connection at one end with the insulated binding-posts c d, the other ends of said bobbins being connected, respectively, with the posts N M.

O is a clapper secured to the armature G and in close proximity to the bell B.

e is a binding-post to which the ground-wire is connected.

The armature H has no clapper connected with it, but in connection with the spring L constitutes what is known as a "buzzer."

Lines are connected to the posts c d and lead to push-buttons (two in number) located, for instance, at the front and back doors, respectively, of a dwelling-house. A current through the post c will magnetize the core J, run through the post N, and thence through the spring L and post F into the base-plate, and finally pass off through the ground-post e. A current through the post d will magnetize the core i, run through the post M, and thence through the spring K and post E into the base-plate, and finally pass off through the ground-post e.

Of course the operation of the armatures to cause the action of the clapper of the buzzer is obvious.

We do not consider that we have made any invention in call-bells or buzzers individually; but we have produced a single device comprising a call-bell and buzzer especially arranged with a view to compactness, simplicity, and cheapness, and presenting a neat and finished appearance, and we base our invention on a combined call-bell and buzzer arranged as shown and described.

Where two or more calls sound on the same bell or even on different bells, confusion generally arises as to the source of the call; but our improvement is not open to this disadvantage, since the bell and buzzer produce sounds that are entirely different.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

5 The combination, in a combined electric bell and buzzer, of two straight electro-magnets mounted side by side and in separate circuits, each provided with a circuit-breaker, and an armature extending in front of its core and mounted on the core of the other and on
10 opposite sides for the purpose of diminishing the magnetic resistance, whereby upon pass-

ing a current through one coil both cores are made effective for operating the corresponding armature, substantially as described.

In testimony whereof we affix our signatures 15
in presence of two witnesses.

CHARLES B. BEERS.
WILLIAM B. TUTTLE.

Witnesses:

J. P. FINCH,
F. W. SMITH, Jr.