(No Model.)

R. N. WILLIAMS.

BELL.

No. 347,452. Patented Aug. 17, 1886.

Fig. 1

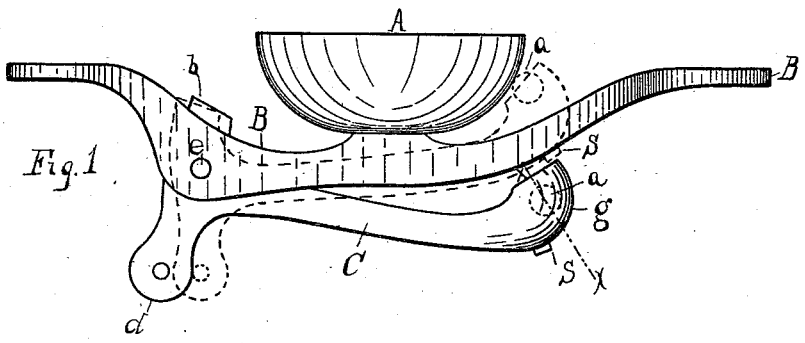


Fig. 2

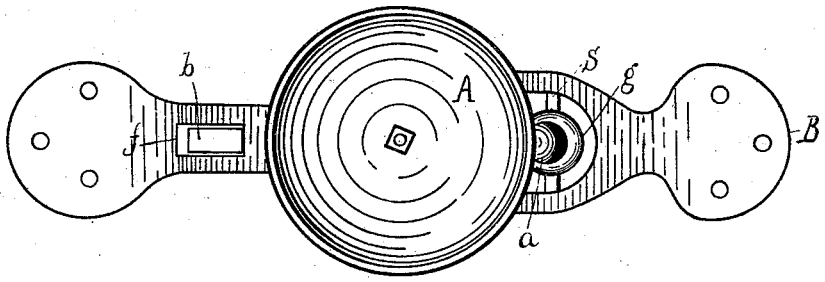
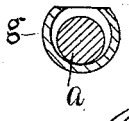


Fig. 3



WITNESSES

W. H. Baenister Jr

N. Dawson

INVENTOR

Robert N. Williams

by Goodwin

atty.

UNITED STATES PATENT OFFICE.

ROBERT N. WILLIAMS, OF WEST TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO FREDERICK T. HATHAWAY, OF SAME PLACE.

BELL.

SPECIFICATION forming part of Letters Patent No. 347,452, dated August 17, 1886.

Application filed January 7, 1886. Serial No. 187,879. (No model.)

To all whom it may concern:

Be it known that I, ROBERT N. WILLIAMS, a resident of West Troy, in the county of Albany and State of New York, have invented certain new and useful Improvements in Bells; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in bells, and more particularly to the hammer employed in connection with a stationary bell or gong, the object of which is fully set forth in the following description; and it consists in the novel construction and combination of parts hereinafter described, and pointed out in the claims.

Figure 1 of the drawings is a side elevation. Fig. 2 is a top plan view. Fig. 3 is a cross-section taken at the broken line *x x* in Fig. 1.

A represents a bell or gong attached to a supporting-frame, B. The frame also supports a lever, C, pivoted thereon at *e*. The lever has oppositely-projecting arms *d* and *b*, and a hammer-support, *g*. Arm *d* serves as a handle for operating the hammer, and may be grasped by the hand of the operator or connected with a pull by a strap or cord. The arm *b* serves as a stop to limit the movement of the lever toward the bell to a position short of contact therewith, as that shown by dotted lines in Fig. 1, and is controlled by the wall *f*, of frame B, against which it strikes before the lever can travel to the bell.

The hammer consists of a ball, preferably of metal, although I do not wish to limit myself to any particular kind of material. The ball is supported in a concavity or socket in the end *g* of the lever C, opening out toward the bell. I prefer to make the concavity like the ball, spherical in form, and its mouth slightly smaller in diameter than the ball, the end of the lever being of metal and cast around the ball. The socket should be somewhat larger than the ball, that the latter may move freely therein, and the mouth of the socket should be large enough to permit the ball to be projected part way out of the socket through its mouth, when in use, as shown by the dotted lines in Fig. 1.

The operation of the bell is very similar to that of bells heretofore employed and as follows: A quick pull upon handle *d* toward the hammer-support lifts the support toward the bell until the stop *b* strikes wall *f*, which suddenly arrests the motion of the lever before it reaches the bell, and in about the position shown by the dotted lines in Fig. 1; but the momentum acquired by the ball *a* causes it to continue on its journey toward the bell until it strikes the latter, expending its momentum in the force of the blow, whereupon it falls back by gravity into its socket in the leaver, leaving the bell free to ring with a clear and uninterrupted sound.

Instead of the stop *b*, the lever may be provided with a cross-bar or stop, S, adapted to come in contact with the bell-frame B, as shown, and stop the lever at the proper point.

I am aware that hammer-heads have been provided with a sliding bolt to slide out of the head to strike the bell and fall back by gravity, but such a form of construction is not reliable. The bolt is liable to adhere to the sides of its support and refuse to act, thereby making it impossible to produce any sound whatever from the bell; and I do not claim such a form of construction. By employing a ball fitting loosely in its socket it is always free to act and requires no lubrication, it is impossible to hold the hammer in contact with the bell, and no springs or retaining pins or catches, which are liable to get out of order, are employed.

What I claim as new, and desire to secure by Letters Patent, is—

1. A bell-hammer head composed of a spherical shell and a ball loosely inclosed within said shell, said shell having an opening in its side contiguous to the bell, slightly smaller in diameter than the diameter of the inclosed

ball, substantially as described, and for the purposes set forth.

2. The combination, with a bell or gong, of a bell-hammer, C, provided with pull *d*, stop *b*, and ball-and-socket head *a g*, substantially as described, and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 5th day of January, 1886.

ROBERT N. WILLIAMS.

Witnesses:
GEO. A. MOSHER,
W. H. HOLLISTER.