(No Model.)

E. E. HERRINTON.

STRIKING MECHANISM FOR DOOR BELLS.

No. 419,150. Patented Jan. 7, 1890.

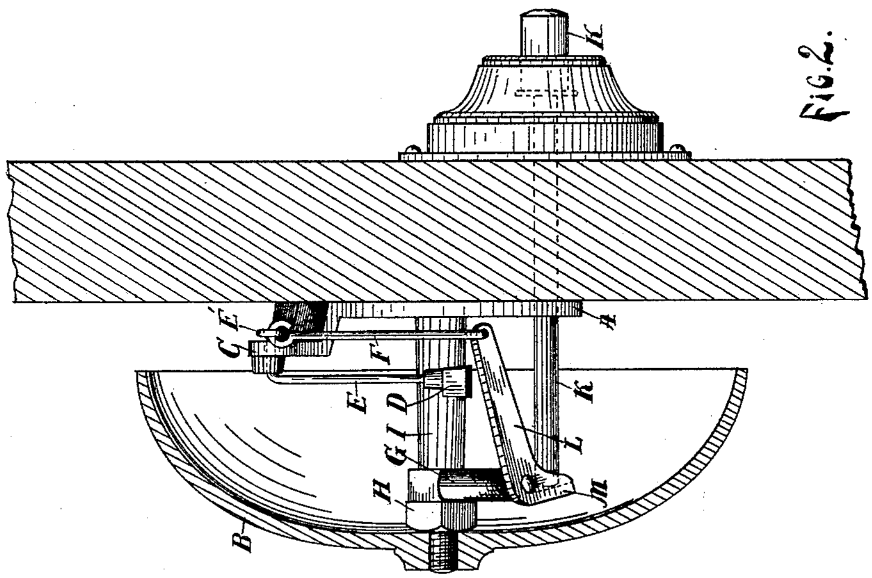

Fig. 2.

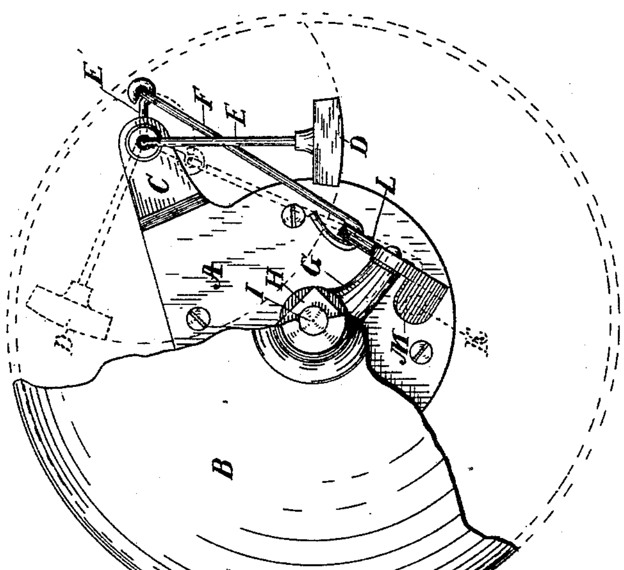

Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD E. HERRINTON, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WILLIAM T. STAMP, OF SAME PLACE.

STRIKING MECHANISM FOR DOOR-BELLS.

SPECIFICATION forming part of Letters Patent No. 419,150, dated January 7, 1890.

Application filed July 27, 1888. Serial No. 281,243. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. HERRINTON, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Striking Mechanisms for Door-Bells; and I 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.

My invention relates to improvements in the striking mechanisms of door-bells which are operated by a push-pin, first, to utilize a pendulous or swinging hammer in conjunction with the usual form of door-bell; second, to avoid the use of rigid stops or springs to keep the hammer from contact with the bell after striking the same; third, to provide mechanism for operating said hammer that will produce two strokes with but one impulse of the push-pin; fourth, to provide a simple and effective mechanism not liable to get out of order.

Figure 1 is a front elevation of a device embodying my invention, a portion of the bell being broken away to better show the mechanism; and Fig. 2, a side elevation of the same, the bell and door being in section.

A is a plate secured to the door and having a post I, which supports the arm G, which arm is adjusted and secured in position upon said post by the nut H. To the outer end of said post is attached the bell B in the usual manner. Said plate is also provided with an arm C, which extends to a point near the rim of the bell. Passing horizontally through an opening near the end of said arm and free to rotate within the same is a wire the outer end of which is bent downward at right angles, forming the arm E, to the end of which is attached the hammer or striker D, said hammer being thus arranged to swing freely, like a pendulum, about its point of suspension from the arm C′ and when at rest hanging close to one side of the bell. The inner end of said wire is bent horizontally at right angles, forming the arm or lever E′, to which is attached by a loop or universal joint the connecting-rod F, the opposite end of which rod is connected to the inner end of the lever L by a similar joint, the outer end of said lever being pivoted to the end of the arm G and provided with a shorter arm M, which projects at right angles to said lever and at one side of the same, as shown, being directly in front of the end of the push-pin K, which rests against said arm and extends horizontally through the door.

The operation of my device is as follows: When the pin K is thrust inward, the lever L is depressed, which, through the rod F and arm E′, rotates the wire within the arm C and brings the hammer D forcibly in contact with the upper edge of the bell. When the pressure upon the pin is released, the hammer falls by gravity and swinging past the perpendicular strikes the bell again at the side, when said hammer finally comes to rest below its point of suspension from the arm C. It will be observed that when at rest the hammer, by virtue of its gravity, is directly below its point of suspension, and thus is clear of the bell after the final stroke; and, further, that as the arm E′ descends and the hammer approaches the upper side of the bell said arm and connecting-rod F form a right line, and continuous pressure upon the pin tends to hold the hammer at a point a little removed from the surface of the bell and out of contact with the same, so that as soon as the first stroke is accomplished the hammer springs back and allows the bell to vibrate freely, thus holding the hammer back by the pressure upon the pin and avoiding any striking or thumping of the parts against a rigid stop, thus securing an elastic and quiet action and but little loss of power. So, also, when the hammer begins to move, the push-pin moves most rapidly and has the greatest leverage, and when the hammer is well under way the pin has shorter leverage and moves slowly. The result is a quick strong blow of the hammer, and but little power wasted in withdrawing the hammer from contact with the bell.

What I claim and wish to secure is as follows:

1. In striking mechanisms for door-bells, the combination of a pivoted arm having a hammer attached, a pivoted lever having arms substantially at right angles to each

other, and a push-pin engaging with one arm of said lever and the other arm of the said lever connected by a rod to said pivoted arm, substantially as described.

2. In striking mechanisms for door-bells, a pendulous hammer having attached a short arm E′ and suspended near one side of the bell a pivoted lever having arms substantially at right angles to each other, one arm of which is attached to said arm E′ by a rod and a push-pin engaging with the other arm of said lever, substantially as described.

3. In striking mechanisms for door-bells, in combination with pivoted arm E′, having the hammer attached, the arm E′ and rod F, adapted to form a right line in the direction of the pull upon said rod when said hammer is near the bell, and mechanism adapted to pull said rod, substantially as described.

4. In striking mechanisms for door-bells, the arm C, from which is suspended the hammer D by means of the wire E, bent at right angles, passing through said arm C, and again bent at right angles, forming an arm E′, to which is attached a rod F, connecting said arm to mechanism adapted to pull said rod and operate said hammer, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD E. HERRINTON.

Witnesses:

MARK M. POWERS,

LUTHER V. MOULTON.