

**No. 645,930.**

Patented Mar. 27, 1900.

**A. ARENS.**

**BELL.**

(Application filed Aug. 4, 1899.)

(No Model.)

Fig. 1.

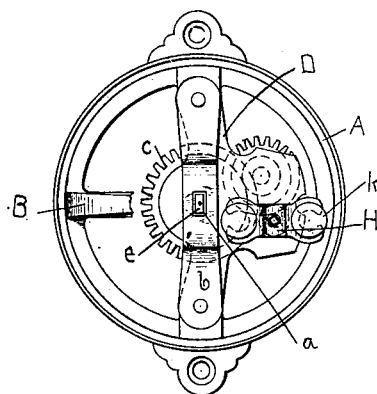


Fig. 2

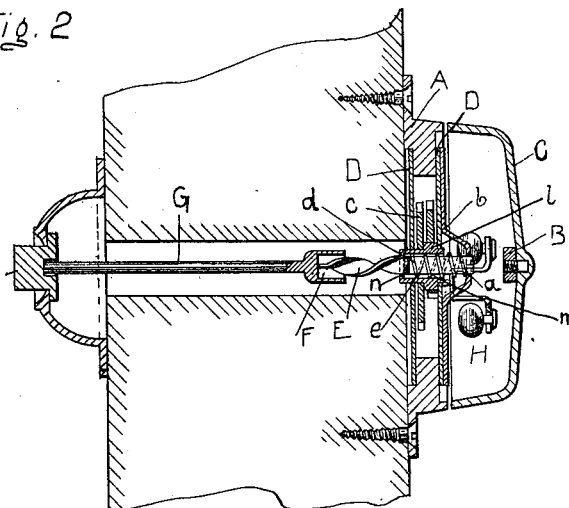
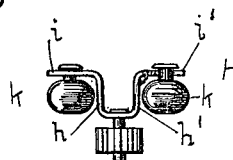


Fig. 3



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BELL.

SPECIFICATION forming part of Letters Patent No. 645,930, dated March 27, 1900.

Application filed August 4, 1899. Serial No. 726,122. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST ARENS, a citizen of the United States, and a resident of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bells, of which the following is a specification.

My invention relates particularly to that class of bells designated as "electric-stroke" bells, and has for its object to produce a striker-bar which will permit of the adjustment of the strikers toward or away from each other; also, an independent connection between the actuating mechanism of the bell and the push-button or its equivalent by which it is sounded.

Figure 1 is a plan view of a bell embodying my invention with the gong removed and parts broken away to show the construction. Fig. 2 is a sectional view through the center of Fig. 1. Fig. 3 is a detailed view of the connecting-piece.

Referring to the drawings, A denotes the base of a bell. B is an arm carried thereby and supporting at its free end the gong C.

D D are plates forming a suitable support for the mechanism by which the striker-bar is operated.

The actuating mechanism consists of the spiral E, having at one end a flat portion *e*, which fits a slot *a* in the stationary plate *b* and is capable of lengthwise movement therein. The connecting means between the spiral and the striker-bar may be of any well-known type; but, as shown in the drawings, it is a train of gears, one of which, *c*, has a hub *l*, counterbored at *m* and having a slot *n* in it through which the spiral passes. The object in counterboring the hub is to allow of the use of a spring *d* of sufficient length to return the parts to their normal position and still retain the compact form of the bell. It is evident that as the flat portion *e* of the spiral passes lengthwise through the slot *a* it is prevented from rotating and that the gear or its equivalent, through which the spiral itself passes, is rotated and in turn transfers its rotary motion through the train of gearing to the striker-bar.

G is a loose connecting-piece between the push-button *g* and the spiral E, having at one

end a socket F to receive the spiral, the opposite end fitting into a small socket in the button. The shape of the socket is not material, the only important point being to have some means by which the spiral will be positively engaged. This loose connection between the push-button and the spiral is especially designed for use when the bell is to be used on houses, &c., and the thickness of the casings or the doors to which they may be attached is variable. In putting up bells for the market the connecting-piece G is made long enough to meet all requirements and may be readily cut to any length desired. The object in doing this is to allow of all the spirals being made exactly alike and no longer than necessary to operate the strikers and also to permit adjustment of the connecting-piece between the actuating mechanism and the push-button. Another advantage gained by the use of this construction is a greater simplicity in fastening the bell to a door or casing.

At H is shown my improved form of striker-bar, which allows of the adjustment of the strikers toward or away from each other. This is accomplished by bending the striker-bar up, as at *h h'*, and outwardly, as at *i i'*, the ends *i i'* being slotted to support the strikers *k k*. It often happens in assembling bells that the strikers are too near or too far away from the gong to sound it properly and with the best results, and there has as yet been no way devised by which this trouble can be readily overcome. In my improved striker the upturned portions *h h'* can be easily bent toward or away from each other and the strikers so adjusted that they operate with the best results. This is an important improvement, which will be readily recognized as such by manufacturers.

It is not important to the proper working of my invention that a spiral be used, as any equivalent construction will operate with as satisfactory results.

I claim as my invention—

1. In a bell, a base, a stationary plate projecting above the surface of the base, fastened thereto, and slotted to receive the flattened end of a spiral, a striking mechanism actuated by a spiral, said spiral having one end flattened to fit the slot in the stationary

plate and capable of lengthwise movement therethrough, and means of imparting a lengthwise movement to the spiral.

2. In a bell, a base, a slotted stationary plate projecting above the surface of the base, the strikers, a gear held against lengthwise movement and slotted at its center, a spiral passing through the slot in the gear and having its flattened end pass through the slot in the stationary plate, said spiral being capable of a limited lengthwise movement, a connection between the strikers and the gear mounted on the spiral, and means for imparting motion to the spiral.

3. In a bell, the combination with the base A, the gong C, the strikers H, the spiral E and the slotted plate b, of a gear having a recessed hub slotted to receive the spiral, connections between said gear and the strikers, a shoulder on the spiral, means for imparting lengthwise movement to the spiral, and a spring arranged around the spiral between the shoulder and the stationary plate b to return the parts to their normal position, one end of said spring being located in the recessed hub of the gear.

4. A mechanism for operating the strikers of a bell, comprising a slotted stationary plate, a gear slotted at its center, a spiral having a stop and a flattened portion beyond said stop, said flat portion passing through the slot of the stationary plate and the spiral through the slot in the gear, connections between the gear and the strikers, and means for imparting motion to the spiral.

5. A mechanism for operating the strikers of a bell comprising a slotted stationary plate, a gear having a recessed hub slotted transversely, connections between the gear and the strikers, a spiral having a stop and a flattened portion beyond said stop, said flat portion passing through the slot of the stationary

plate and the spiral through the slot in the gear, means for imparting motion to the spiral and means located in the recessed hub of the gear for returning the parts to their normal position.

6. In a bell, a base having lugs diametrically opposite each other, plates extending between these lugs and attached to the bottom and top thereof; the operating mechanism for the strikers supported between said plates, a plate attached to the upper side of the lugs and having a slot through it, a spiral having a flat portion which passes through the slot in the said plate, a gear having a slot through which the spiral passes, and means for imparting to the spiral a lengthwise motion.

7. In an operating mechanism for bells, the strikers, a spiral capable of lengthwise movement having a flattened portion at one end passing through a slot in a stationary plate, a connection between the strikers and the spiral, one part of which is mounted on a recessed hub having a slot through which the spiral passes, a spring located in said recessed hub to return the parts to their normal position, and means for imparting lengthwise movement to the spiral to operate the parts as and for the purposes specified.

8. A rotary striker-bar for bells having a central portion, arms bent at an angle thereto and strikers attached to said arms, whereby said strikers may be adjusted toward or away from the gong.

9. A rotary striker-arm for bells having offset portions at each end joined to the central portion by substantially right-angle bends, whereby the strikers may be adjusted toward or away from each other.

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Witnesses:

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