

No. 646,222.

F. & H. F. KEIL.
ELECTRIC BELL.

Patented Mar. 27, 1900.

(Application filed Sept. 7, 1899.)

(No Model.)

Fig. 1.

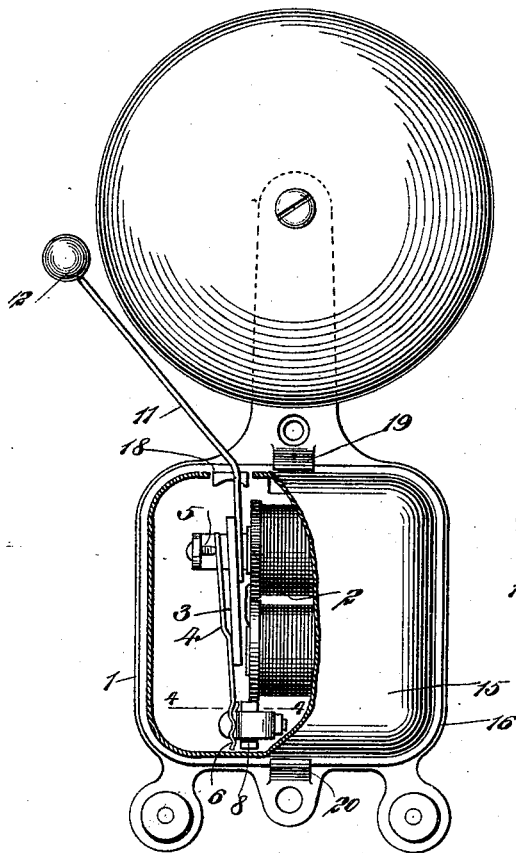


Fig. 2.

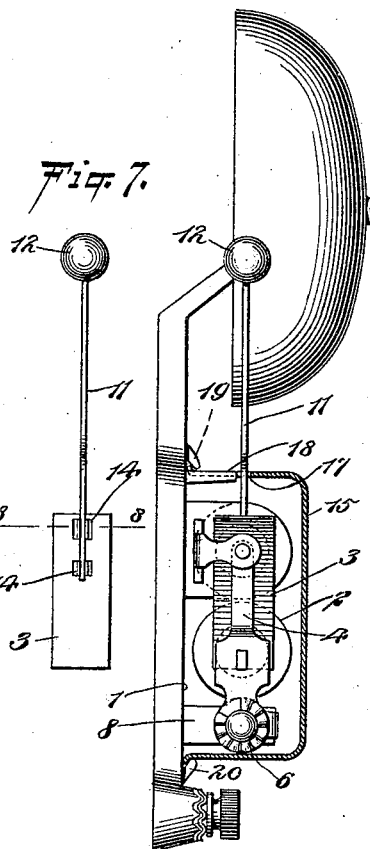


Fig. 7.

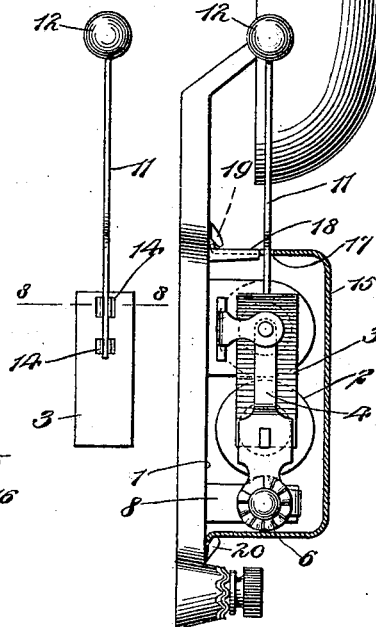


Fig. 3.

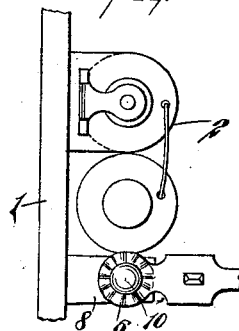


Fig. 4.

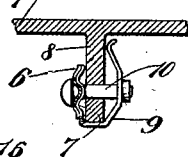


Fig. 5.

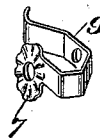


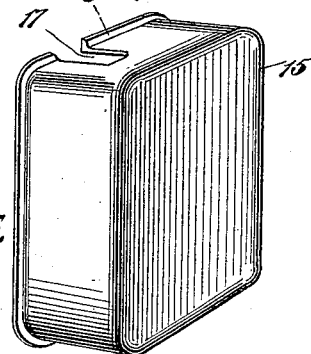
Fig. 8.



WITNESSES:

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Fig. 6.



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ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 646,222, dated March 27, 1900.

Application filed September 7, 1899. Serial No. 729,718. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS KEIL and HENRY FRANCIS KEIL, of the city of New York, borough of Bronx, in the county of New York and State of New York, have invented a new and Improved Electric Bell, of which the following is a full, clear, and exact description.

This invention relates to improvements in electric bells; and one object is to provide a bell so constructed that the armature may be turned away from the electromagnet and the contact-pin when it is desired to clean or adjust the spring-contact.

A further object is to provide a simple means for holding the dust-cap removably in place over the magnet and armature, and another object is to provide a simple means for attaching the hammer-stem to the armature.

We will describe an electric bell embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a bell embodying our improvement with a portion of the dust-cap broken away. Fig. 2 is a side elevation with the dust-cap in section. Fig. 3 is a detail view showing the armature as turned away from the electromagnet. Fig. 4 is a section through the line 4 4 of Fig. 1. Fig. 5 is a perspective view of a locking-section used in connection with the armature. Fig. 6 is a perspective view of the dust-cap. Fig. 7 is an elevation illustrating the manner of attaching the hammer-stem to the armature, and Fig. 8 is a section on the line 8 8 of Fig. 7.

Referring to the drawings, 1 designates the base of the bell-frame, and on which is mounted the electromagnet 2. Coacting with the electromagnet is the armature 3, which is mounted on the contact-spring 4, adapted to make and break connection with the contact-screw 5 in the usual manner. The end of the spring 4 is provided with a locking-section 6, here shown as made in the form of a disk having radial corrugations. This locking-section 6 coacts with a similarly-constructed locking-section 7, arranged on one side of a lug 8, extended from the base 1. This locking-

section 7 bears at its inner side against said lug 8, and from said section a spring-plate 9 extends over the end of the lug and along its opposite side, the end of said spring-plate bearing against the lug. A bolt, ferrule, or rivet 10 passes through the spring-plate 9, the lug 8, and through the locking-sections, as plainly shown in Fig. 4. By this construction it is obvious that the armature carrying the bell-hammer will be held yieldingly in its normal position. It is also obvious that the armature may be turned transversely or outward relatively to the electromagnet, as the yielding of the spring-plate 9 will permit the corrugations of the locking-section 6 to ride over the corrugations of the locking-section 7, and this will be found very convenient inasmuch as the parts when separated may be more easily and readily cleaned when found necessary.

In attaching the shank 11 of the hammer 12 to the armature we provide the armature with a slot 13, the said slot being about one-half the depth of the diameter of the shank. When the shank is placed in the slot by means of a suitable tool, portions of the opposite walls of the slot are turned in to engage with the shank, as indicated at 14 in Fig. 7. As a portion of the hammer-shank extends inward or beyond the inner plane of the armature it will present a very small surface to come in direct contact with a core of the electromagnet. In other words, it will prevent the surface of the armature from coming in contact with the cores, which in time might cause the armature to adhere to the cores.

The dust-cap 15 is made of resilient metal, and around its edge it has an outwardly-extended flange 16, which will engage closely against the base 1 when said cap is in position. The only opening in the cap is the opening 17 through which the shank 11 passes. The lower portion of this opening, however, when the cap is in position will be closed by a lug 18, extended from the base 1. Oppositely placed on the base 1 are inwardly-turned lugs 19 and 20, adapted to engage with the flange 16 at opposite sides of the cap. In placing the cap in position the flange at one side is to be placed on one of the lugs and then the opposite wall of the cap is to be pressed

slightly inward to allow the flange at that side to pass underneath the lug at that side. The cap as thus arranged will practically prevent the entrance of dirt and dust or of vermin, so that the bell mechanism will not require cleaning, excepting at long intervals of time.

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

1. In an electric bell; an electromagnet, an armature and a locking device, one section of said locking device being attached to the armature the other section being on a fixed support, and a spring-yielding connection holding the two locking-device sections together and whereby the armature is permitted to turn transversely of the electromagnet, substantially as specified.

2. In an electric bell; an electromagnet, an armature coacting therewith, a locking-section attached to the armature and consisting of a radially-corrugated disk, another locking-section consisting of a radially-corrugated disk engaging with the first section, a support on one side of which the second-named locking-section engages, a spring-plate extended from said second-named locking-section to an engagement with the opposite side of the support, and a pin or bolt extended through said spring-plate, the support and

the locking-sections, substantially as specified.

3. An electric device comprising an electromagnet, an armature coacting with the magnet, a spring-plate to which the armature is attached, the end of said spring-plate being provided with radial corrugations, a plate or locking-section transversely corrugated for engaging with the first-named corrugated portion, a support against one side of which the last-named corrugated plate engages, a spring-plate extended from the last-named corrugated plate and engaging with the opposite side of the support, and a pin passing from the support loosely through the two corrugated portions, substantially as specified.

4. In an electric bell, an electromagnet, an armature coacting therewith and mounted to turn, and automatic locking devices coacting with the armature, the locking devices normally holding the armature in the adjusted position and at all times exerting a tendency to lock the same, the said devices however yielding to a turning movement of the armature, substantially as specified.

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