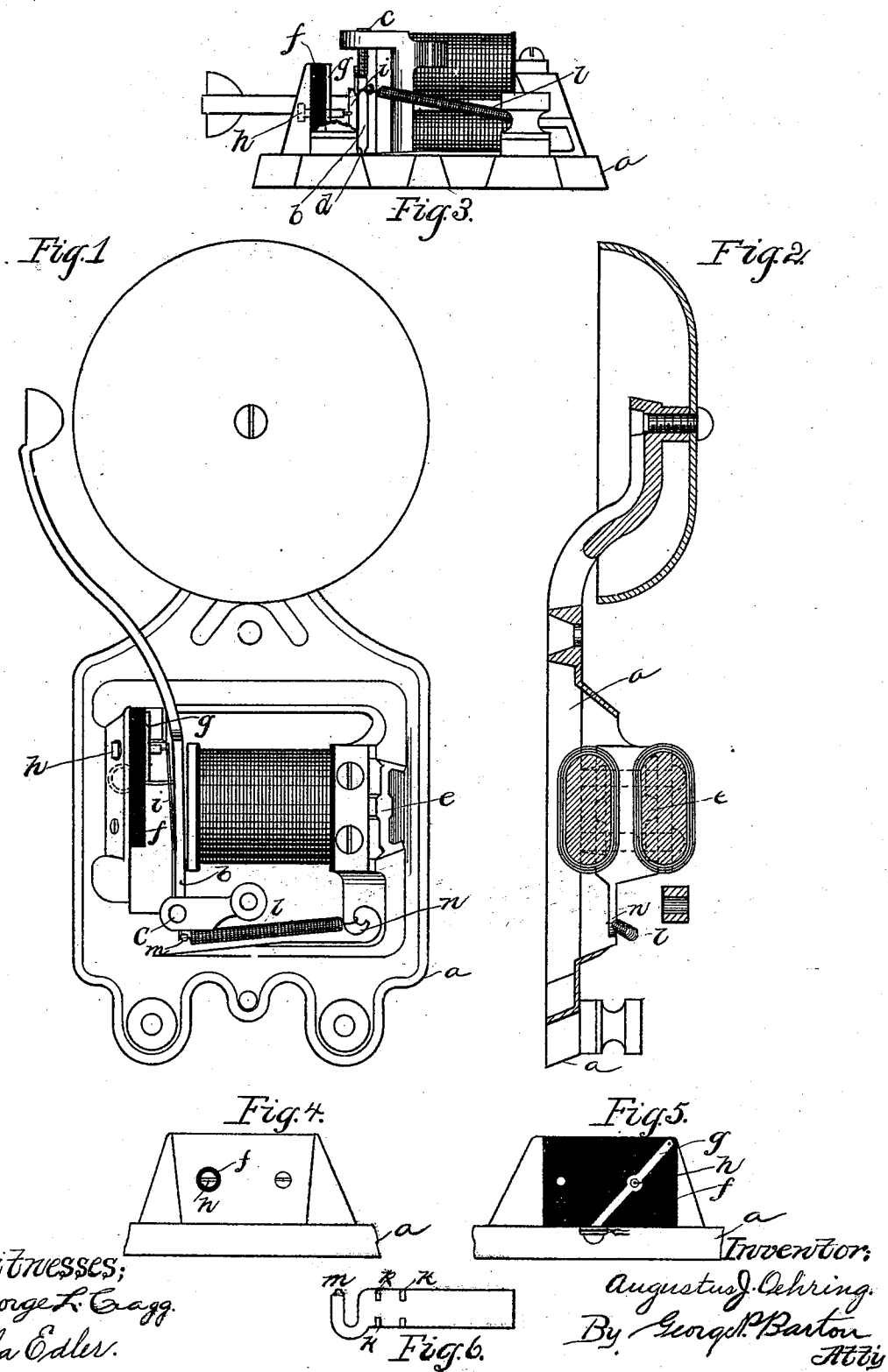


(No Model.)

A. J. OEHRING.
ELECTRIC BELL.

No. 511,451.

Patented Dec. 26, 1893.



Witnesses;
George L. Cragg.
Ella Eder.

Inventor:
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By George P. Barton
Att'y

UNITED STATES PATENT OFFICE.

AUGUSTUS J. OEHRING, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN
ELECTRIC COMPANY, OF SAME PLACE.

ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 511,451, dated December 26, 1893.

Application filed April 25, 1891. Serial No. 390,475. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS J. OEHRING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Electric Bells, (Case No. 4,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to electric bells, and its object is to arrange the poles of the magnet with respect to the armature in such manner that the greatest effect may be produced by a given amount of magnetization.

Another object of my invention is to provide means for holding the adjustable back contact screw in position after it is once adjusted. Heretofore in this class of bells the different poles of the electro magnet have been presented to the armature at different distances from its pivotal point, that is, usually one above the other. Thus the pole nearest to the pivot and hence nearest to the armature is most effective in attracting the armature. The other pole being separated from the armature by so great a distance exerts, comparatively speaking, little attractive force upon the armature. I provide an armature of sufficient width so that the different poles of the magnet which are made narrow and about the length vertically of the armature may be presented in front of the armature near the opposite edges thereof so as to act equally thereon and each with the very greatest possible power. Heretofore the insulated post carrying the adjustable back contact screw has been slit at the top at right angles to the hole tapped out for the screw forming the adjustable back contact, and by slightly spreading the slot by bending and then inserting the screw the screw is held in place and prevented by the tension of the different parts of the post from working out; that is to say, the thread is slightly out of line and the tension of the parts of the post on different sides of the slot therefore serves to bind the screw and prevent it from working out under the action of the spring carried upon the armature. I mount the back contact screw upon a piece of insulating material and

a metallic spring in such manner that the tension of the spring will prevent the screw from working out. The insulated piece and spring are first riveted or otherwise secured together, and the spring brought in position so as to rest flat against the inner face of the piece of insulating material. A hole is now tapped out through the insulating piece and the spring at a single operation; afterward the spring is bent away from the insulating piece and afterward sprung back so as to catch the thread of the screw when the screw is turned in; the tension given to this spring being bent away from the rubber piece now serves to hold the screw in position.

In casting the frame I provide thereon a lug so that one end of the retractile spring may be attached thereto.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a front elevation of an electric bell embodying my invention. Fig. 2 is a central sectional view thereof. Fig. 3 is a view from below. Fig. 4 is a side elevation showing a portion of the frame broken away and the head of the back contact screw inserted through a piece of insulating material. Fig. 5 shows the insulating material and the metallic spring mounted thereon and the adjustable screw inserted therethrough. Fig. 6 is a view of the spring between the armature and the adjustable contact screw, this spring being provided with projections for insertion through holes which are provided in the armature.

Like parts are indicated by similar letters of reference throughout the different figures.

The frame *a* may be a casting which is provided with projections or lugs for attaching the several parts of the bell thereto. Thus the armature *b* is placed upright and pivoted between lugs *c* and the portion *d* of the frame opposite said lug. The electro magnet consists of two spools, the cores being flat and secured together at the heel upon the projection *e* of the frame. Two screws are employed for this purpose, which preferably pass through the heel ends of the two cores, holes being provided for the screws in said projection *e*. Thus the magnet is secured in place and the

poles thereof presented opposite the armature which is made wide enough to come opposite both the poles. The insulating piece *f* and the spring *g* serve to support the adjustable contact screw *h*. A hole for this screw is tapped out through the insulating piece and the spring when the spring is pressed against the insulating piece. Afterward the spring is bent away from the insulating piece and when the screw is inserted as shown, the thread for the screw in the spring being slightly displaced by such bending away with reference to the thread in the insulating piece, the screw will be more securely held in position. The contact spring *i* may be stamped out provided with projections *k*, by means of which the contact spring *i* may be readily secured to the armature. The retractile spring *l* is secured between the hook *m* of the armature or contact spring *i* and the lug *n* provided upon the frame.

I have sometimes employed an electro magnet having one flat core and coil instead of two as shown. In this case one extremity of the flat core is secured to the lug *e* and the other is presented to the flat armature *b*. The magnetic circuit is completed through the frame of the bell; hence I do not limit myself

to the employment of two cores for the electro magnet.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an electric bell, the combination with a pair of electro-magnets, oblong in cross section and provided with cores of oblong cross section, said magnets occupying positions with their greatest dimensions parallel, of an armature pivoted to an axis at right angles to the greatest dimensions of said magnets, substantially as described.

2. The combination with the insulating piece *f* of the spring *g* attached thereto, a hole being tapped out in said insulating piece and said spring, an adjustable contact screw inserted through said hole, said spring being secured to said piece *f* at one side of said hole and so bent to one side that the thread of said spring may be out of line with the thread of said piece *f*, substantially as described.

In witness whereof I hereunto subscribe my name this 26th day of March, A. D. 1891.

AUGUSTUS J. OEHRING.

Witnesses:

CHAS. A. JOSLYN, Jr.
F. LANCASTER.