E. B. CRAFT.

ADJUSTABLE MOUNTING OF ARMATURES OF ELECTROMAGNETS.

APPLICATION FILED MAY 7, 1908.

1,096,287.

Patented May 12, 1914.

Fig. 1.

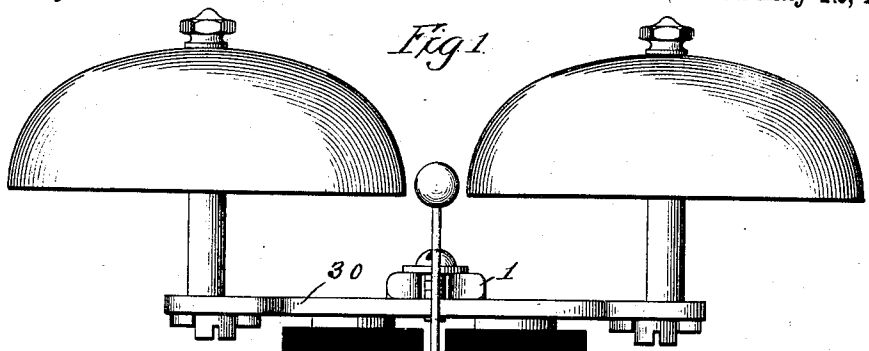
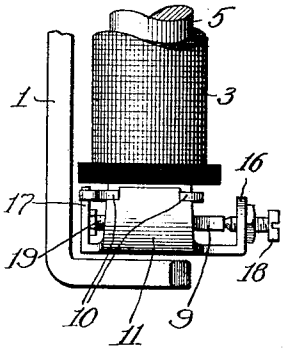


Fig. 5.



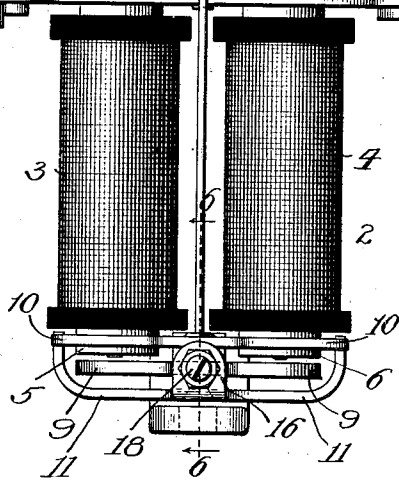


Fig. 6.

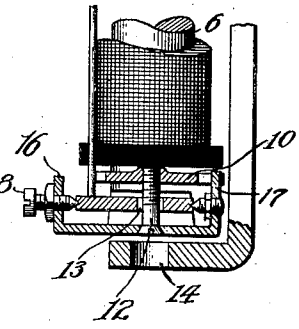


Fig. 2.

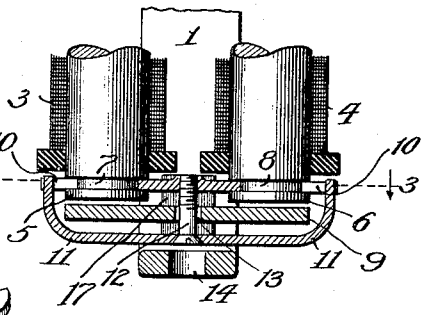


Fig. 4.

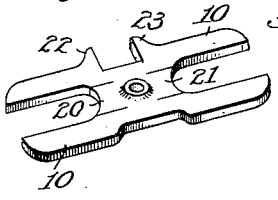
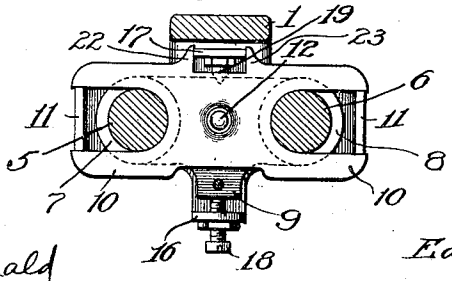




Fig. 7.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE MOUNTING OF ARMATURES OF ELECTROMAGNETS.

1,096,287. Specification of Letters Patent. Patented May 12, 1914.

Application filed May 7, 1908. Serial No. 431,329.

To all whom it may concern:

Be it known that I, EDWARD B. CRAFT, citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Adjustable Mounting of Armatures of Electromagnets, of which the following is a full, clear, concise, and exact description.

My invention relates more particularly to the manner of mounting the armature, together with the means for adjusting the same with respect to the poles of the electromagnet in polarized ringers.

Heretofore, polarized ringers for telephone calls and other uses have been provided with two spools with projecting poles upon which has been mounted a link, which link has served as a support for the part or yoke carrying the armature, and means have been provided in connection therewith for adjusting the said bridge and thereby the armature toward or away from the ends of the poles.

In my preferred construction, the link consists of a plate having its ends forked or bifurcated to fit into annular grooves or slots provided in the projecting ends of the electromagnet poles. As a means for securing the link in said slots, the link is bent or curved slightly as shown in Figure 7, so that when placed in position and pressure applied, it will be securely clamped in position upon the extension of the magnet cores, or tongues may be cut therein in such way as to make sure that the link will be held firmly in position without yielding and without liability of becoming loose or in any way displaced after the parts are assembled. A bridge of spring metal upon which the armature is pivoted is mounted upon the ends of the forks of the link. By means of a screw passing through the center of this bridge and through a perforation provided for the purpose in the armature, and into the central part of the link, the bridge or U-shaped member may be flexed toward or away from the link, thereby adjusting the position of the armature, which comes between the bridge and the link, toward or away from the said poles which are opposite the ends of the said armature.

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

Fig. 1 is a front elevation of a polarized ringer embodying my invention; Fig. 2 is a fragmentary sectional view showing the manner of mounting the armature with the means for adjusting the position thereof; Fig. 3 is a plan on section line 3—3 of Fig. 2, showing the link piece and the manner in which the bridge carrying the armature is mounted thereon; Fig. 4 is a perspective view of the link showing a modification which consists in shearing tongues therein; Fig. 5 is a fragmentary side elevation showing the armature mounting; Fig. 6 is a view taken upon section line 6—6 of Fig. 1. Fig. 7 is a side elevation of the link piece showing the curvature therein.

Like parts are indicated by similar characters of reference in the different figures.

The ringer is provided with a permanent magnet 1 and with an electromagnet 2, consisting of two spools 3 and 4 joined by a suitable yoke 30. The poles 5 and 6 project as indicated and are provided with suitable annular grooves 7 and 8 which serve to support the mounting of the armature 9. This mounting comprises the forked or slotted brass plate 10 forming the link, the bridge 11 of spring metal with its curved and projecting ends engaging and resting upon the outer ends of the tangs of the link, and the screw 12. The screw 12 passes through the central portion of the bridge, the perforation 13 provided in the armature and into the central part of the link which is tapped to receive the said screw. The end of the steel magnet is perforated at 14 opposite the head of said screw as shown, to afford convenient access thereto by means of a screw-driver. The spring bridge as stamped out is provided with ears 16 and 17 in which are inserted the screws 18 and 19 upon which the armature is pivoted.

The ends or tangs of the plate or link 10 may be sprung or bent slightly, so that when inserted in the grooves 7 and 8 and the spools 3 and 4 are screwed down to the heel piece and the spools take parallel positions, the tangs are firmly engaged by the sides of the slots 7, 8; or the link 10, which is made slightly flexible, may be provided with weakened portions or tongues, as shown in Fig. 4,

so that when it is inserted in place upon the extensions of the cores and the screw 12 is tightened, the pull upon the central part of the link 10 will cause the tangs or forks to be deflected in such a way as to bring them against the inner faces of the grooves and at the same time the tongues 20, 21 are drawn against the outer faces of the grooves, thereby binding the said link securely to the cores. After having thus been secured to the cores any further tightening of the screw 12 results only in flexing the bridge and bringing the armature nearer the poles, or vice versa.

It will be observed that the screw 12 holds the ends of the spring bridge in fixed position with relation to, and in engagement with, the projecting ends or tangs of the link. The ear or lug 17 of said bridge rests between shoulders or projections 22, 23 of the link, which thus serve as a guide for said lug, and at the same time prevent lateral movement of the bridge when flexed by turning the screw. The bridge or U-shaped member is thus held in engagement with the forks at the ends of the link, and the ear 17, which is provided upon the bridge, is adapted to be moved with relation to the link as the bridge is flexed to adjust the position of the armature with respect to the poles of the electromagnet.

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

1. The combination of a pair of magnet coils, cores therefor, a link extending between said cores, a resilient bridge engaging said link, an armature carried by said bridge, and means for holding said bridge in place and adjusting the position of said armature relative to said cores by flexing said bridge.

2. The combination of a pair of cores having pole extensions, magnet coils thereon, a link interconnecting said pole extensions, a resilient bridge coöperating with said link, an armature carried by said bridge, and means coöperating with said bridge and said link for regulating the position of said armature by flexing said bridge.

3. The combination of a pair of magnet spools having core extensions, of a link secured to and extending beyond said core extensions, an adjustable bridge engaging the ends of said link, an armature carried by said bridge, and means at the center of said bridge for holding the same in engagement with said link and for adjusting the position of said bridge.

4. The combination with a pair of magnet spools having core extensions formed with annular slots, of a forked link carried in said slots, an armature, a support for said armature interlocked with the prongs of said forked link, and means for adjusting the armature support with respect to the cores.

5. The combination with a pair of magnet spools having core extensions formed with annular slots, of a forked link carried in said slots, an armature, a flexible bridge for supporting said armature mounted upon the prongs of said link, and means for flexing said bridge and thereby adjusting the armature with respect to the cores.

6. The combination with a pair of magnet spools having core extensions formed with annular slots, of two parts, one of which is flexible and the other comparatively rigid, one of said parts being formed with forked ends adapted to engage said slots and the other being adapted to interlock with said forked ends, an armature carried by the flexible part, and means whereby the armature-carrying part may be flexed to adjust said armature with respect to the cores.

7. In a polarized ringer, the combination with the magnet spools having annularly slotted core extensions, of a link having forked ends engaging the annular slots in said core extensions, a bridge adapted to engage with the prongs of said link, whereby said bridge is both supported and positioned by said prongs, an armature carried by said bridge, and a screw engaging said bridge and link for adjusting said armature with respect to said cores.

8. In a ringer, the combination with the magnet spools, of a heel piece therefor, a forked link having its prongs bent out of the plane of the body portion and carried in annular slots in the free ends of the cores of said magnet spools, said prongs being adapted to be firmly clamped in said slots by said spools when the same are secured to said heel piece, and an armature supported in operative relation to the free ends of the cores of said magnet spools.

In witness whereof, I hereunto subscribe my name this 1st day of May A. D., 1908.

EDWARD B. CRAFT.

Witnesses:
ROBERT E. WILLIAMS,
J. J. LYNG.