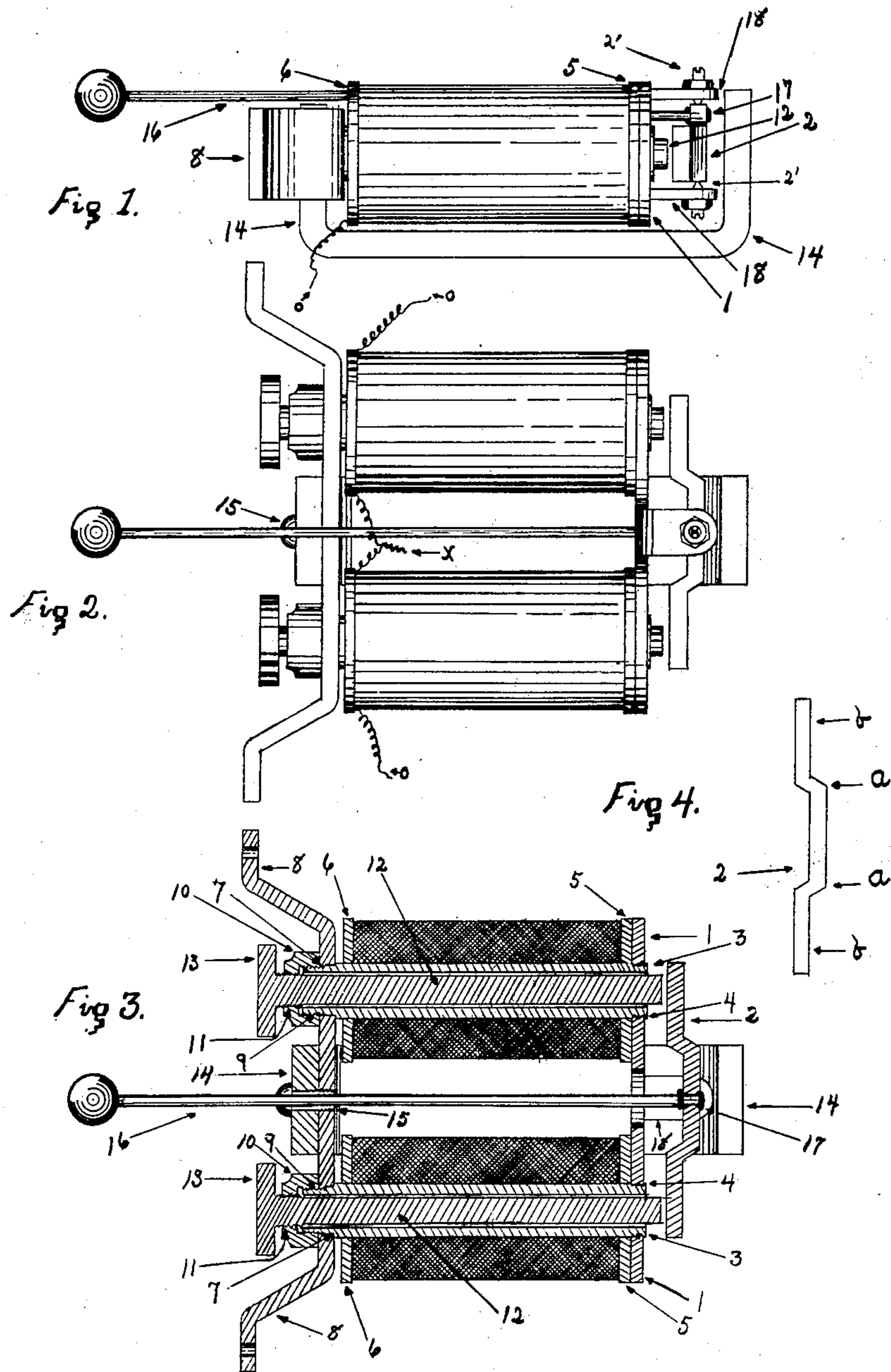


J. I. GEMMILL.
TELEPHONE RINGING DEVICE.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES I. GEMMILL, OF CLEVELAND, OHIO.

TELEPHONE-RINGING DEVICE.

SPECIFICATION forming part of Letters Patent No. 732,730, dated July 7, 1903.

Application filed February 24, 1902. Serial No. 95,381. (No model.)

To all whom it may concern:

Be it known that I, JAMES I. GEMMILL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Telephone-Ringing Devices, of which the following is a specification.

My object is to provide for the adjustment between the armature and the cores of the electromagnets simply and effectively without changing the relative position of the armature to the permanent magnet, thereby maintaining the polarized effect through the life of the ringer. I also enhance the polarized effect of the whole by using a peculiar form of armature, it being bent or formed so that the central or swivel point comes in close proximity to the permanent magnet. It is obvious that by this arrangement the magnetic lines of force are diverted and taken directly up by the armature instead of sneaking to the electromagnet-cores as in other instruments of like kind.

Referring to the drawings, which form a part of this specification, and in which similar characters relate to like parts in the views, Figure 1 represents a side view of my ringer; Fig. 2, a top view, and Fig. 3 a section. Fig. 4 illustrates the preferred form of armature.

In Fig. 3 is a yoke 1 1, supporting the armature 2 by pivot-screws, (shown further at 2' 2' in Fig. 1.) Referring back to Fig. 3, the electromagnet-cores 3 3 are mounted on the yoke by means of a thread at 4 4, the said cores being screwed home until said yoke comes up snugly to the coil ends 5 5. Said coil ends are of fiber. The rear ends of cores 3 3 are fitted with similar coil ends 6 6. Said rear ends of cores are turned down to a smaller diameter, forming a shoulder at 7 7. Said cores pass through the base 8 8 up to said shoulders. The extreme ends of said cores are threaded at 9 9 to coincide with threads in caps 10 10, which serve as nuts to bind the whole combination in place.

The cores 3 3 are virtually tubes, they being drilled centrally from end to end. The caps 10 10 are drilled and tapped centrally

in the rear at 11 11 to receive the threaded portion of the core-screws 12 12, which pass through the cores 3 3, extending in front far enough to come in close proximity to the armature 2. Round knurled thumb-pieces 13 13 serve to operate said screws 12 12. The permanent magnet 14 14 is attached to the base 8 8 in the usual manner by a screw at 15. The striker-wire and ball-hammer 16 is attached to the armature 2 by riveting at 17. The lugs 18 are a part of yoke 1 1 and serve to support the armature.

o o o in Figs. 1 and 2 show the terminal wires, and the intermediate connection between the two coils is shown at x in Fig. 2.

In Fig. 4 is shown the preferred form of armature 2. The central portion a a represents about one-third the whole length, and the portions b b are depressed below the plane of said portion a a about their own thickness. The reason for this form of armature is obvious, and the above specification, together with the drawings, is, I think, sufficient to enable those skilled in the art to which this pertains to thoroughly understand my ideas as intended.

Having described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. In a telephone-ringing device the combination of a yoke supporting the armature 2, the hollow electromagnet-cores 3, 3, supporting said yoke, said cores 3, 3, in turn being held to the base by caps and a threaded thumb-screw passing through each of the said cores 3, 3, from the rear, said thumb-screws entering by means of the caps and engaging same by means of the threaded portion screwing into the rear of said caps, said core-screws extending through said hollow cores 3, 3, in front, in close proximity to the armature 2, whereby the length of stroke can be regulated.

2. In a ringing device for telephones the combination of a base supporting the permanent magnet and spools the cores of said spools being fitted with fiber ends, the ends of said cores in turn supporting the yoke by

means of threads, a swiveled armature supported by said yoke, said armature with its central portion in close proximity to the exposed pole of the permanent magnet and its ends offset and adjacent to the ends of the cores of the spools, substantially as shown.

In witness whereof I have signed my name,

in the presence of two subscribing witnesses,
this 5th day of February, A. D. 1902.

JAMES I. GEMMILL.

Witnesses:

JAMES R. GEMMILL, Sr.,
LEOTA M. GEMMILL.