H. TIDEMAN.

TELEPHONE RINGER.

APPLICATION FILED JULY 6, 1907.

901,216. Patented Oct. 13, 1908.

Fig. 1.

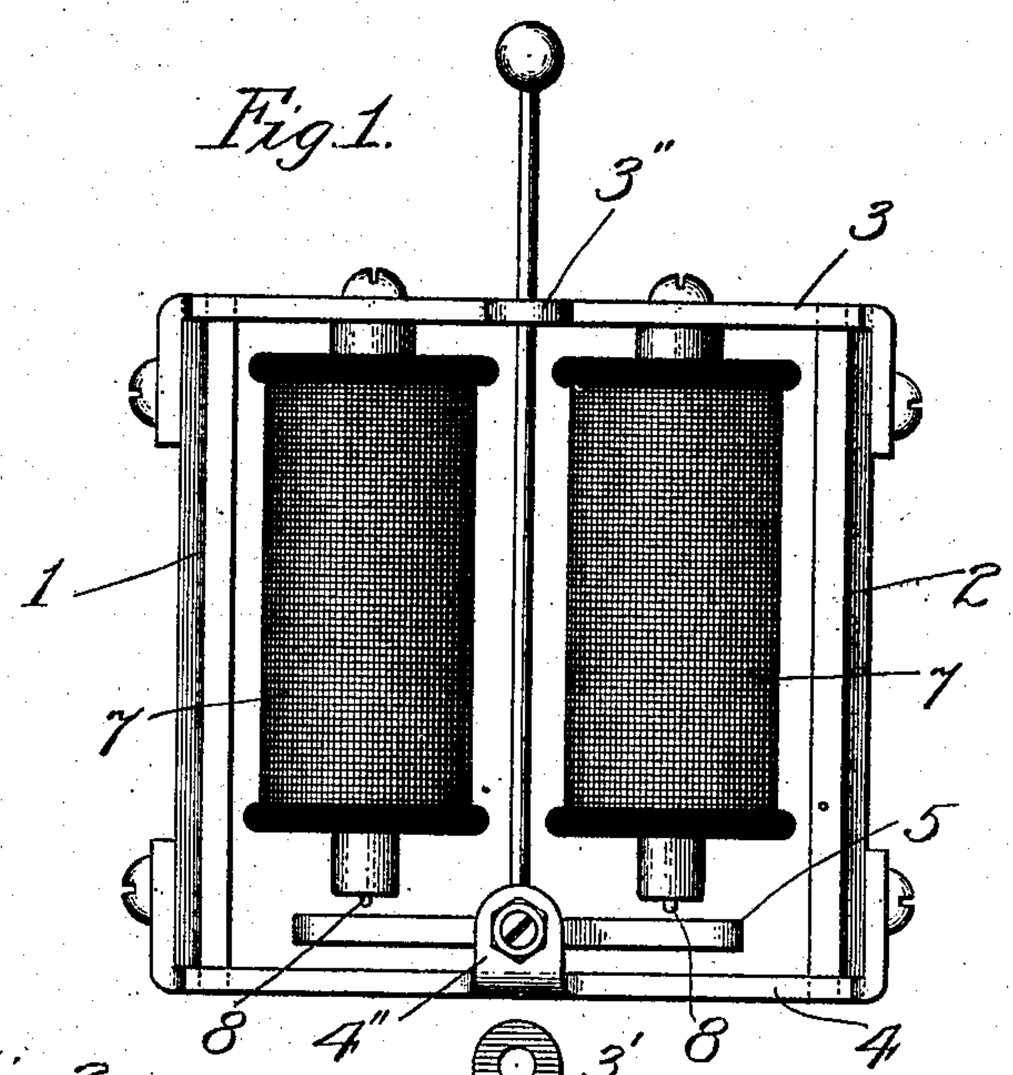


Fig. 2

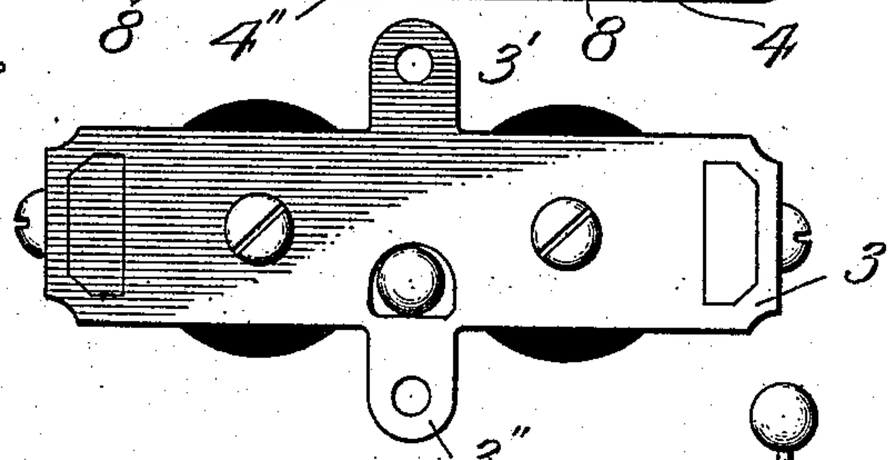


Fig. 3

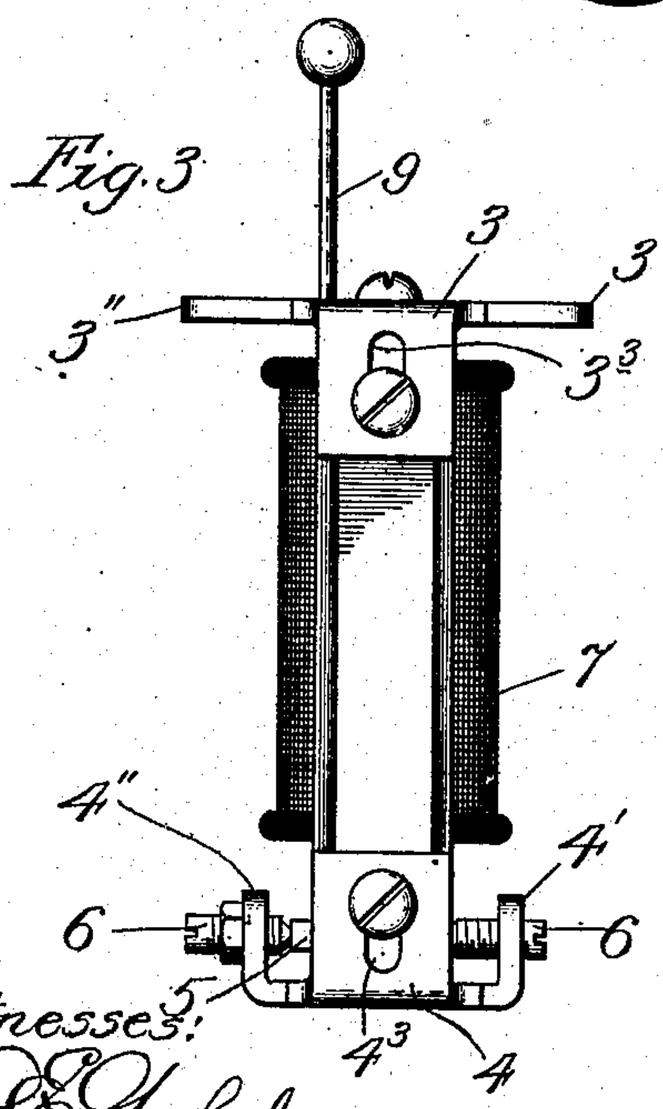
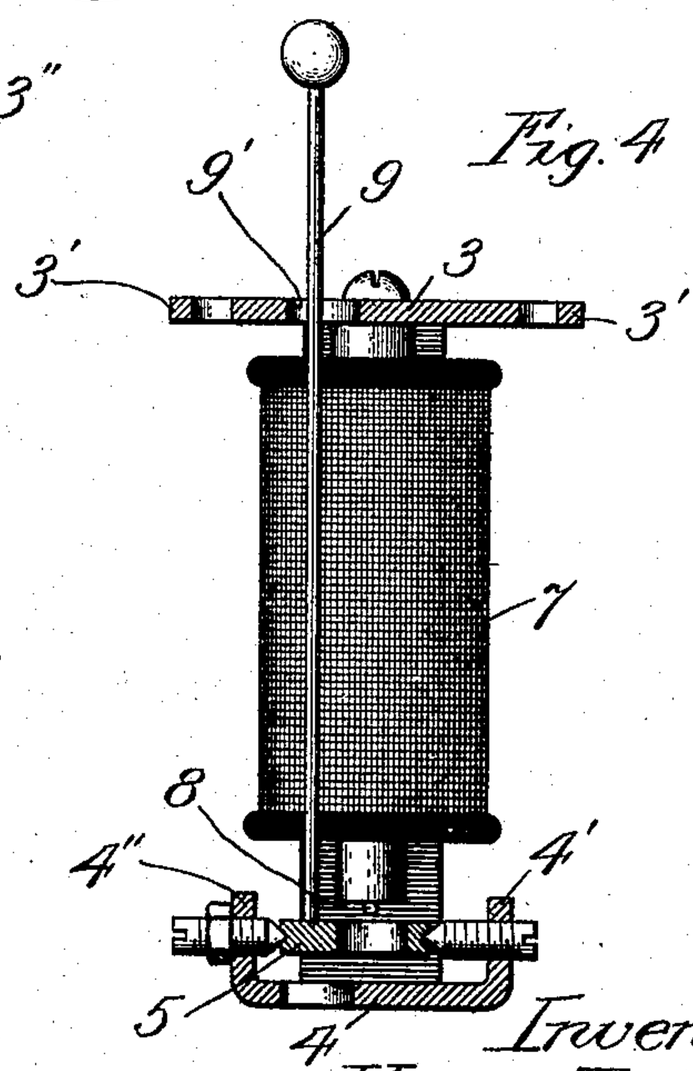


Fig. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY TIDEMAN, OF MENOMINEE, MICHIGAN.

TELEPHONE-RINGER.

No. 901,216. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed July 6, 1907. Serial No. 382,431.

To all whom it may concern:

Be it known that I, HENRY TIDEMAN, a citizen of the United States of America, and a resident of Menominee, county of Menominee and State of Michigan, have invented a new and useful Improvement in Telephone-Ringers, of which the following is a specification.

My invention pertains to improvements in detail of telephone ringer construction, and has as its object the production of a cheap and efficient telephone ringer, the machine work in the preparation of parts for the assembly of the ringer being reduced to a minimum. I provide in my improved ringer two similar straight permanent magnets, two similar end yokes and two similar spools, the armature and trunnions completing the list of parts.

In the drawings Figure 1 shows an elevation of my improved ringer; Fig. 2 shows top plan of Fig. 1; Fig. 3 shows side plan of Fig. 1; Fig. 4 shows central, vertical section of Fig. 3, on the center line of Figs. 1 and 2.

The frame of my ringer is comprised of two similar permanent magnets 1 and 2 and two magnetic end yokes 3 and 4, united by screws. Fig. 2 shows clearly the yoke 3, the ears 3′ 3″ in the yoke 3 being left unformed, that is, left in the plane of the sheet metal stamping of the yoke, and serving as perforated ears whereby the assembled ringer may be mounted upon the inner surface of the containing box. In the yoke 4, the ears 4′ 4″ are formed at right angles to receive the trunnion screws to support the armature 5. The blank stampings of the two yokes are the same.

In the assembly of my complete ringer the magnets 1 and 2 are attached to the yokes 3 and 4, the like poles of the permanent magnets being attached to the same yoke, the two magnetic yokes thus acquiring unlike polarities; the armature 5 then is hung in its trunnions 6; the spools 7 are mounted within the frame by screws passing through the yoke 3. The assembly of the ringer aside from its gongs now is complete. Adjustment is attained by moving the yokes toward or from each other, whereby the armature is permitted to approach or recede from the cores, the movement of the yokes to effect this adjustment being permitted by the slots 3^3 and 4^3, both ears of each yoke being so slotted. I place non-magnetic bushings 8 in the core heads to prevent sticking of the armature, as is usual in ringer construction.

By the use of the same blank punching for top and bottom yokes of my ringer frame, there will exist in the yoke 4 three holes corresponding respectively to the hole at 9′ through which the tapper rod 9 passes, and to the two holes through which the screws pass to hold the spools 7. I do not find any deleterious results from the existence of these incidental details, and the advantage of using the same blank for both yokes is a desirable feature in the construction of my ringer.

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

In a telephone ringer, a frame comprising two parallel permanent magnets joined by two magnetic yokes, the cores and helices of the ringer being mounted within said frame and carried by one of said magnetic yokes, and the armature being pivoted upon the other of said magnetic yokes, said magnetic yokes being adjustable with relation to each other, said yokes being homologous in body and end portions and each having ears upon the median portion, the ears of one yoke being adapted to receive mounting screws for attaching the ringer, and the ears of the other yoke being adapted to support the armature of the ringer, substantially as described.

Signed by me at Menominee, county of Menominee and State of Michigan, in the presence of two witnesses.

HENRY TIDEMAN.

Witnesses:
LEOPOLD JACKMAN,
F. J. DONOVAN.