

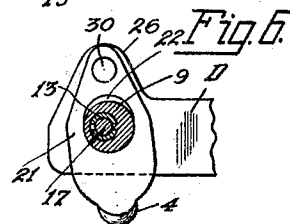
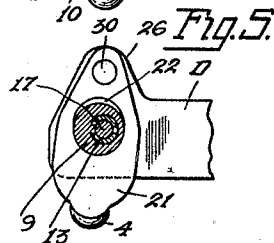
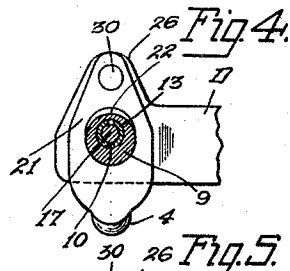
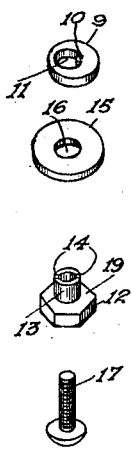
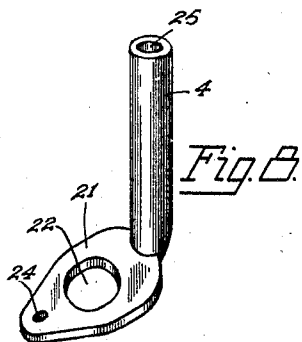
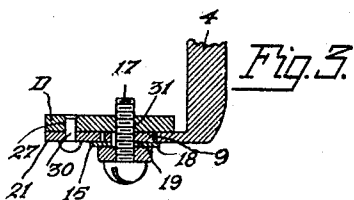
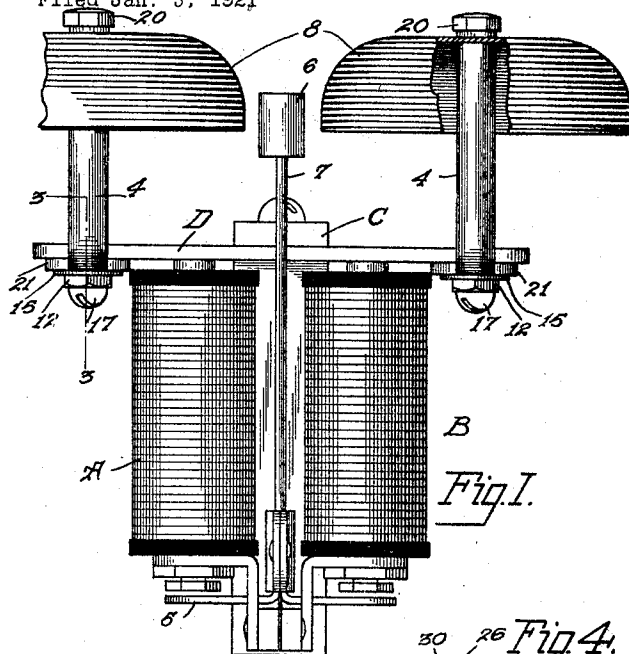
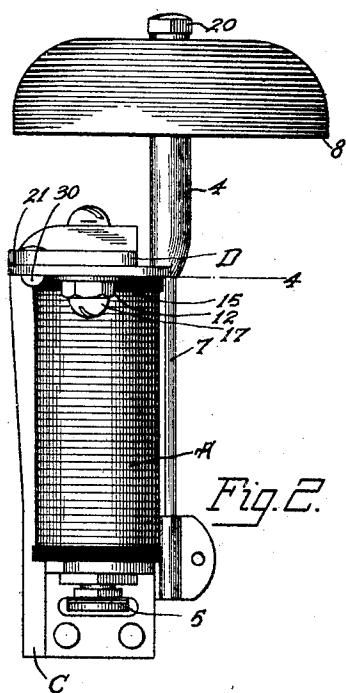
May 11, 1926.

1,584,506

E. A. BOHLMAN

RINGER

Filed Jan. 5, 1921



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UNITED STATES PATENT OFFICE.

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RINGER.

Application filed January 5, 1921. Serial No. 435,089.

My invention relates to electric bells or ringers, such, for example, as those commonly used in connection with telephones.

The principal object of my invention is to provide a simple and improved mechanism for adjusting the gongs of the bell or ringer without removing any of the parts thereof, and at the same time securely fastening the gongs in their adjusted position against displacement by the tapper rod.

For a more complete understanding of my invention reference may be had to the accompanying drawings, in which like reference characters in the several views denote like parts, and in which—

Fig. 1 is a front view of a telephone ringer, illustrating the adjustable gong post of my invention in association therewith;

Fig. 2 is a right-end view thereof;

Fig. 3 is a sectional view along the line 3—3 of Fig. 1;

Fig. 4 is a sectional view along the line 4—4 of Fig. 2, looking in the direction of the arrows, showing the gong post in one of its adjusted positions;

Fig. 5 is a view similar to Fig. 4, but showing the gong post in another of its adjusted positions;

Fig. 6 is a view similar to Fig. 4, but showing the gong post in still another of its adjusted positions;

Fig. 7 is a disassembled perspective view of the eccentric member and its associated parts;

Fig. 8 is a perspective view of a gong post adapted to be used in connection with the adjusting means of my invention.

Referring now more in detail to my invention as illustrated in the drawings, the ringer comprises a pair of electromagnets A and B, an L-shaped permanent magnet C and a yoke or mounting plate D, to which the said electromagnets and permanent magnet C are securely fastened. An armature 5, connected by an arm or rod 7 to a bell tapper 6, is disposed between the gongs 8. It will be seen that the gongs must retain a certain position relative to the bell tapper 6 so that a loud, clear, audible ring may be produced when the said armature 5 is actuated, causing the bell tapper to move back and forth between the said gongs.

For the proper adjustment of the said gongs my invention provides an eccentric

member 9. In Fig. 7 is shown the eccentric 9, which has a rib 10 extending inwardly into the orifice 11, said rib to engage in groove 14 of the hexagonal nut 12. The hexagonal nut 12 has a sleeve 13, said sleeve having two grooves 14 directly opposite each other, one of which receives the rib 10 of the eccentric 9. A washer 15, whose opening 16 is of sufficient diameter to fit loosely around the sleeve 13 of the hexagonal nut 12, is provided. A machine screw 17 of a definite size to allow the hexagonal nut 12 to rotate about it freely is also provided. In Fig. 3 will be seen these several parts assembled, which may be described as follows: The washer 15 is placed on the sleeve 13 of the hexagonal nut 12 so that the face 18 of said washer bears against the face 19 of said nut 12. The rib 10 in the orifice 11 of the eccentric member 9 engages in the groove 14 of the sleeve 13, which securely fastens it thereto and prevents the said eccentric 9 from rotating on the sleeve 13, but leaving the washer 15 free to rotate around the sleeve 13.

Each gong mounting post 4 has a pear-shaped foot 21 integrally formed therewith and bent at right angles to the said mounting post 4. The said pear-shaped foot 21 has an elliptic opening 22 of sufficient size to receive the eccentric 9. The anterior end of said foot 21 has an orifice 24. Each gong mounting 4 is provided, at its top or summit, with a threaded opening 25 for receiving the screw 20, the said screw extending through an orifice in the center of each gong and securely fastening said gongs 8 to said mounting posts 4.

The yoke or mounting plate D in Fig. 5 is a rectangular piece of iron which has two ears 26, both on the same side, one near each end of said yoke D. Said ears 26 have an orifice 27 of the same size as orifice 24 of foot 21. A rivet 30 is provided which extends through the orifice 24 of the foot 21 and orifice 27 of the yoke D, having its end upset to prevent its coming out. The said rivet 30 does not hold the mounting post 4 in one place, but serves as a pivot when the said mounting post is moved or adjusted. The yoke D is also provided with orifices to receive suitable screws for securing electromagnets A and B to the yoke D, and an orifice, suitably tapped to receive a screw, se-

cures the L-shaped permanent magnet C to the yoke D. Near each end of yoke D is an orifice 31 directly opposite orifice 27 provided with threads which receive the threads of the machine screw 17 when the gong adjusting member is in place, for purposes as will presently be described.

The operation of my invention may be illustrated as follows: When the gong mounting post 4 is fixed to the yoke D by the rivet 30, the eccentric 9 is placed into the elliptic opening 22 of the pear-shaped foot 21, and the screw 17 is placed into the hexagonal nut 12, as shown in Fig. 4, the said screw engages the threads of the orifice 31 of yoke D, and when the said screw 17 is tightened it holds the gong mounting post 4 in its proper adjusted position. Suppose one of the gongs is out of adjustment, all that is necessary to adjust said gong post 4 is to loosen the screw 17, turn the hexagonal nut 12 clockwise or counterclockwise, depending on the adjustment desired, and again tighten screw 17.

It will be readily seen and understood that the movement of the gong post 4 is produced by turning the eccentric member 9, whose rotating movement forces its circumferential face against the face of the elliptic opening 22, thus causing the gong post 4 to move in the same direction as the hexagonal nut 12 is rotated.

In Figs. 4, 5 and 6 is shown the gong post 4 in three different positions, which illustrates the eccentric member 9 in its respective positions thereto.

From the foregoing description it will be seen that the mechanism for adjusting the gongs is simple, economical, accessible and requires but a few seconds to make an adjustment.

What I claim as new and desire to secure by Letters Patent, is:

1. An adjustable mechanism of the class described comprising a gong mounting post provided with an elliptic opening, a mounting plate for said gong post and an eccentric member adapted to be rotated; said eccentric member received by said elliptic opening and causing an adjusting movement of said gong post when said eccentric member is rotated, said eccentric member being rotatably held in said elliptic opening by means of a machine screw, and means for rotating said eccentric member.

2. An adjustable mechanism comprising an eccentric member adapted to be rotated, a gong mounting post, a mounting member for pivotally supporting said gong post, said gong mounting post having a foot at right angles to the said gong post, the said foot having an elliptic opening and adapted for receiving the said eccentric member so that when said eccentric member is rotated, said gong post will be moved to a different posi-

tion, and means for rotating said eccentric member.

3. An adjustable mechanism comprising an eccentric member, a gong mounting post having a right angular foot which is provided with an elliptic opening for receiving said eccentric member, a mounting plate and a pivotal connection between said plate and post for the said gong post to rotate on when being adjusted, and means for rotating said eccentric member to effect adjustment of said gong post.

4. An adjustable mechanism comprising an eccentric member, a gong post, a mounting plate provided with a bolt for holding said mounting post to said mounting plate, said bolt also serving as a pivot for said gong post to rotate on when being adjusted, means for loosening and tightening said eccentric member in its elliptic opening and securely fastening and holding said gong post to said mounting plate in its adjusted position.

5. In an adjustable mechanism of the character described including a gong post, a mounting member, an integrally formed angularly displaced foot for said gong post provided with an elliptical opening, means for pivotally supporting said gong post upon said mounting member, an eccentric member for reception in said elliptical opening, an actuating member secured to said eccentric member for rotating said eccentric member in said elliptical opening to adjust said gong post, and means for retaining said eccentric member in said elliptical opening.

6. In an adjustable mechanism of the character described including a gong post, a mounting member, pivot means for pivotally supporting said gong post to said mounting member, an eccentric member, an integrally formed foot for said gong post provided with an elliptical opening to receive said eccentric member, an actuating member secured to said eccentric member for rotating said eccentric member in said elliptical opening to adjust said gong post.

7. In an adjustable mechanism of the character described including a gong post, an integrally formed angularly displaced foot for said gong post provided with an elliptical opening, an eccentric member for reception in said elliptical opening, an actuating member secured to said eccentric member for rotating said eccentric member in said elliptical opening to adjust said gong post, and means for loosening and tightening said eccentric member in said elliptical opening and for holding said gong in its adjusted position.

8. In an adjustable mechanism of the character described including a gong post, an integrally formed foot for said gong post, an eccentric member and an elliptical opening in said foot for receiving said ec-

centric member, a mounting member, pivot means for pivotally supporting said gong post to said mounting member, an actuating member secured to said eccentric member, 5 and a screw passing through said actuating member and having screw-threaded engagement with said mounting member pivotally supporting said eccentric member in said elliptical opening to permit said gong post 10 to be adjusted when said eccentric member is rotated through the agency of said actuating member.

9. In a device of the class described, a gong, a mounting member, an L-shaped gong post provided with an elliptical opening for 15 supporting said gong on said member, and means for engaging said opening for adjusting said gong and said gong post on said member, said means including an eccentric 20 member.

10. In a device of the character described including a pair of ringer gongs, a member provided with a pair of orifices, a pair of 25 L-shaped posts provided with openings pivotally secured to said member for supporting said pair of gongs, and means for engaging said orifices and said openings for ad-

justing said gongs relative to each other, said means including eccentric members.

11. In a device of the character described, 30 a vibratory member, a pair of ringer gongs, a member provided with orifices, a pair of angularly shaped members provided with openings and adapted to pivotally support 35 said pair of ringer gongs on said members, and means for engaging said openings and orifices for adjusting said ringer gongs relative to said vibratory member, said means including eccentric members.

12. In a device of the class described, a 40 ringer gong, a vibratory member for engaging said ringer gong, a supporting member provided with an opening, an angular member provided with an elliptical opening and 45 adapted to pivotally support said ringer gong on said supporting member, and means for engaging both of said openings for adjusting said ringer gong relative to said vibratory 50 member, said means including an eccentric member.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 3 day of January, 1921.

ERNEST A. BOHLMAN.