

No. 840,417.

PATENTED JAN. 1, 1907.

P. C. ARNOLD.

BELL.

APPLICATION FILED SEPT. 19, 1906.

Fig. 1.

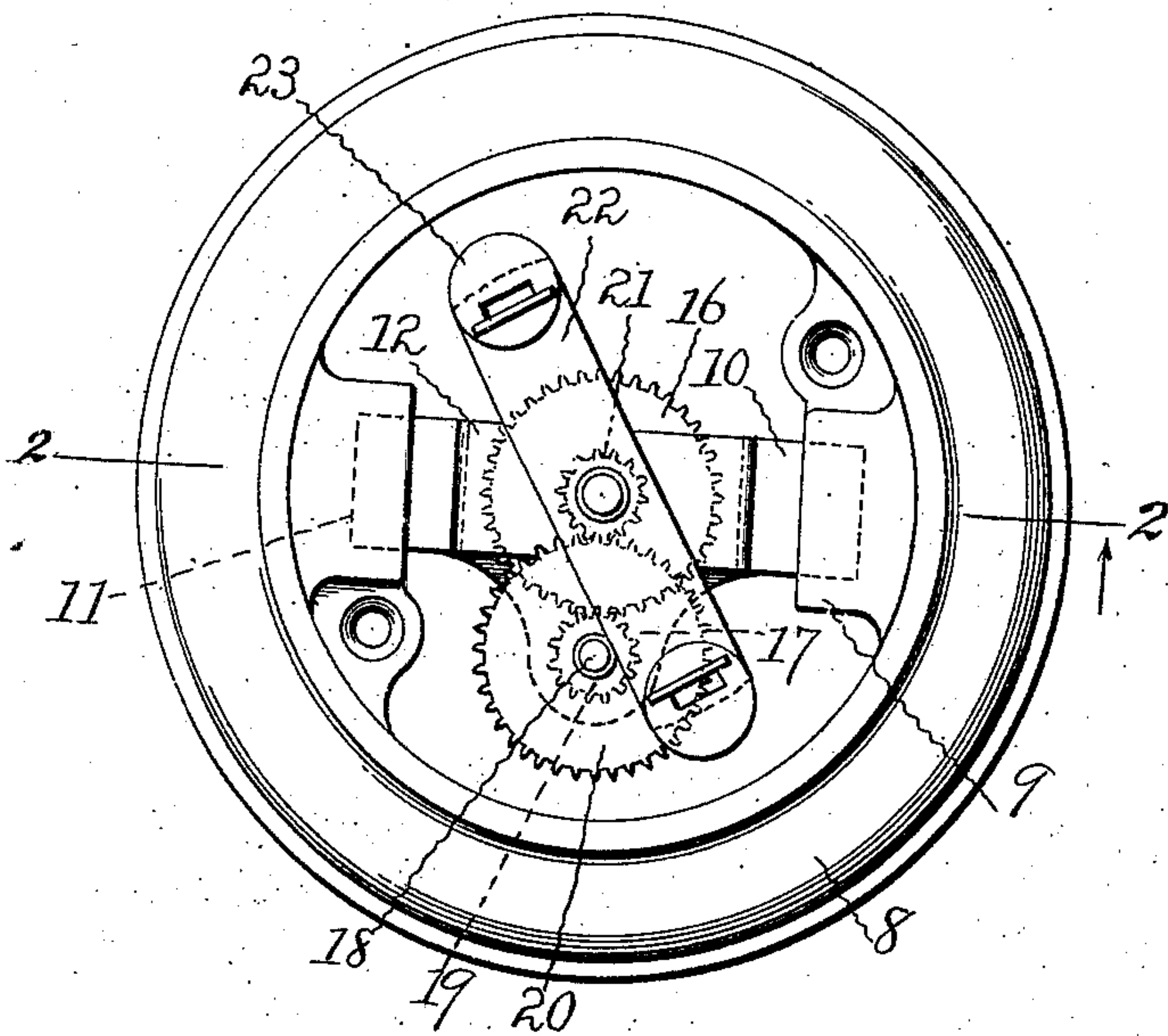
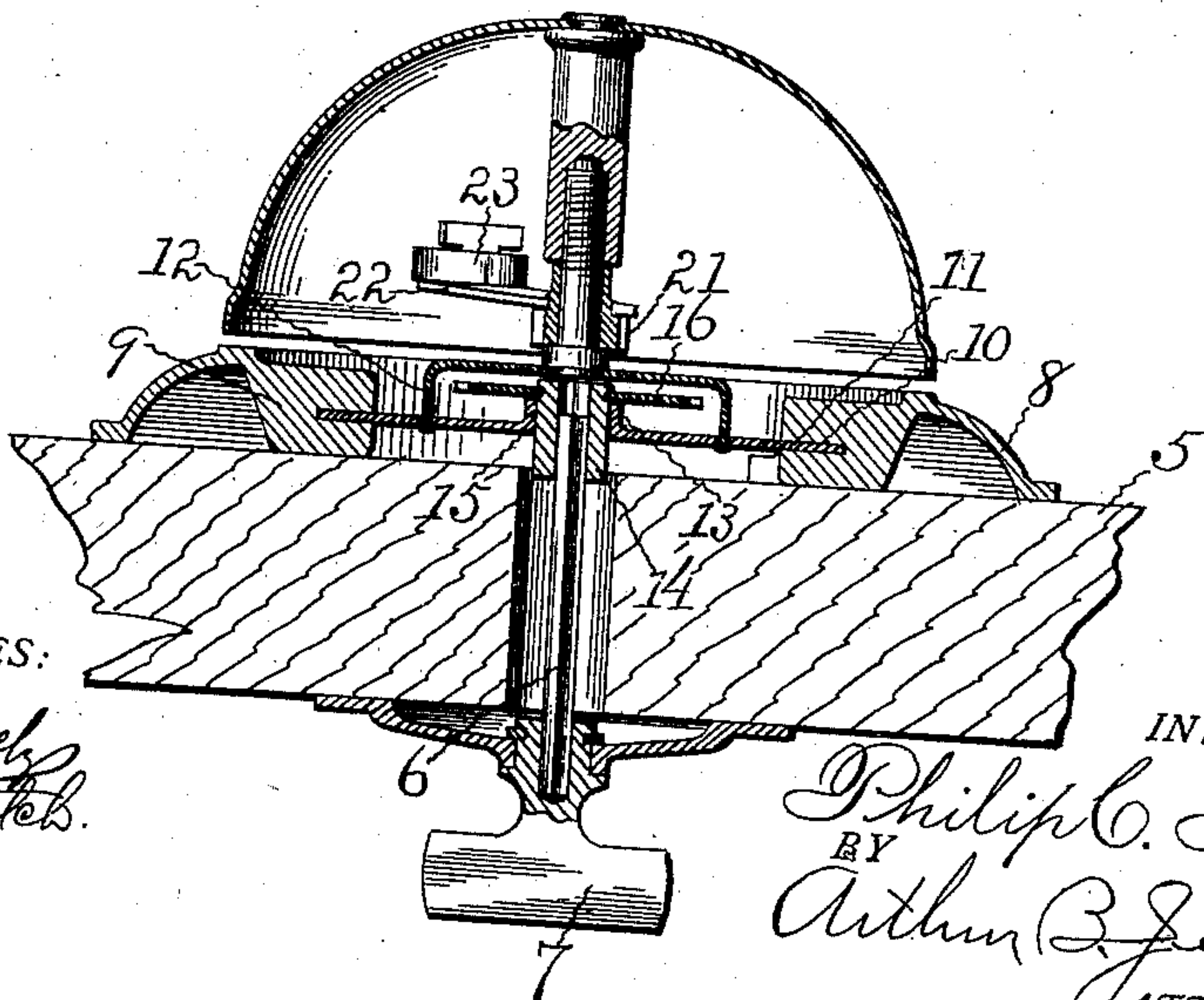


Fig. 2.



WITNESSES:

Chas. H. Schuch
L. E. Ruppertch.

INVENTOR.

Philip C. Arnold.
BY
Arthur B. Jenkins.
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILIP C. ARNOLD, OF EAST HAMPTON, CONNECTICUT, ASSIGNOR TO
BEVIN BROTHERS MANUFACTURING COMPANY, OF EAST HAMPTON,
CONNECTICUT, A CORPORATION OF CONNECTICUT.

BELL.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PHILIP C. ARNOLD, a citizen of the United States, and a resident of East Hampton, in the county of Middlesex and State of Connecticut, have invented a new and Improved Bell, of which the following is a specification.

The improvement relates more especially to the class of door-bells or the like, although it is not specifically limited to such class; and the object of the invention is to provide means or a mount for the mechanism whereby the parts of the latter may be readily secured in place without liability of breaking the part to which they are secured; and a further object of the invention is to provide a simple construction of mechanism and means for securing the parts thereof. One form of device in the use of which these objects may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of a bell-base embodying my invention, the gong being removed. Fig. 2 is a view in central section through the base and a part of the support to which the bell is secured.

In the accompanying drawings the numeral 5 denotes a door or the like to which the bell is to be affixed; 6, a spindle extending through the door and which may be operated, as by means of a thumb-turn 7. The spindle is preferably non-circular in form, especially at its ends, to fit corresponding openings or recesses in the thumb-turn and in a portion of the bell mechanism, so that rotation of the thumb-turn shall be imparted to such mechanism.

The bell-base is formed of cast-iron open at its center and providing a rim 8. This may be of any suitable form, that herein being shown as round, and on the inside of this rim ears 9 are formed integral with the base. A bridge 10, of wrought or other comparatively tough metal, is secured within sockets 11 in these ears. In the preferred form of construction this bridge is secured in place in the process of casting, the bridge being inserted in the mold and the metal allowed to run about and inclose the ends thereof. This bridge consists of a single piece or strip of metal extending across the opening bounded by the rim, and upon this single plate or

strip the entire striking mechanism of the bell is mounted.

An arch 12 is secured to the bridge, as by riveting over the ends which pass through the bridge. An opening is formed in this bridge by pressing the metal outward and forming a flange 13. This flange is of suitable length to provide a bearing for a pinion-support 14, having a recess 15 for the reception of the spindle 6. A pinion 16 is secured to a reduced part of the pinion-support 14, which is headed over to secure the pinion in place.

The bridge 10 is extended, as at 17, (see dotted lines in Fig. 1 of the drawings,) and a post 18 is secured in this extension, as by heading the end of the post over. A small pinion 19 and a larger pinion 20 are rotatably mounted on this post, the larger pinion meshing with a pinion 21, secured to the striker-arm 22, bearing strikers 23, that in the rotating movement of the arm strike against a lug on the gong in the usual manner for the purpose of sounding the bell.

The operation of the device will be readily understood from the above description.

The cheaper construction of bells at the present time is obtained by riveting the several parts which are to be secured in place, and most of the bells in use at the present time have the parts thus secured. It is desirable that the bell-bases shall be constructed of cast metal, and where the posts and other parts are secured in place as by riveting it will be readily understood that great care must be exercised not to break the comparatively brittle metal of which the base is composed. A further element of waste and loss in riveting parts to a cast-metal base results in the effort to straighten posts and other parts after they have been secured. In the majority of instances it will be found after a post has been riveted that it must be straightened, and this straightening process frequently results in the breaking out of the base around the post and a consequent loosening of the latter. In the use of my invention, the posts and other parts being secured to a metal which will yield, the posts may be readily straightened, and the loss in the assembling of the parts is thus much reduced. The bridge of wrought metal is also of advan-

tage in preventing cracking of the casting as it cools after the metal has been poured. Skilled labor is therefore required to properly secure the parts to the cast-metal bases with little breaking of parts and consequent waste. By the within invention it will be seen that a metal having comparatively tough characteristics is secured to the base without blows to fracture the parts.

While I have shown and described herein a bridge cast into the base, it will be understood that other means of securing the base may be employed which will not necessitate the delivery of blows to properly secure the bridge, and such are contemplated as within the invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a bell, a base including a rim of cast metal, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by means of an opening with a part projecting thereinto, bell-striking mechanism mounted on the plate, and means for operating the mechanism.

2. In a bell, a base including a rim formed of cast metal, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by means of an opening with a part projecting thereinto, one of said parts being formed in the process of casting, bell mechanism secured to said plate, and means for operating the mechanism.

3. In a bell, a base including a single plate formed of a comparatively tough metal, and a rim formed of cast metal with sockets completely inclosing the ends of said bridge, striking mechanism mounted on the bridge, and means for operating the striking mechanism.

4. In a bell, a base including a rim formed of cast-iron, a bridge formed of a tougher metal extending across the opening and secured thereto by means of an opening on one part receiving a projection from the other

part, a gong-post supported by said bridge, a gong secured to said post, bell-striking mechanism mounted on the bridge, and means for operating the mechanism.

5. In a bell, a base including a rim formed of cast-iron, a bridge composed of a tougher metal and including a single plate extending across the opening bounded by said rim and secured thereto by means of an opening on one part receiving a projection from the opposite part, an arch secured to said bridge, a post secured to said arch, a gong mounted on the post, bell mechanism supported by the bridge, and means for operating the mechanism.

6. In a bell, a base including a rim formed of cast-iron, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured to the latter by means of a projection on one part located within an opening in the opposite part, said bridge having a hub-bearing formed by the metal forced from an opening therethrough, a pinion-bearing mounted within said hub, a striker supported by the bridge, connections between said striker and pinion-bearing, means for operating the pinion-bearing, and a gong supported by the bridge.

7. In a bell, a base composed of cast-iron and including a rim, a bridge composed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by an opening on one part receiving a projection on the opposite part, a hub-bearing formed in said bridge by metal forced from an opening therethrough, an arch secured to the bridge, a pinion-bearing mounted in said hub, means for rotating said bearing, a gong-post secured to said arch, a striker supported by the plate, connections between the pinion-bearing and striker, and a gong secured to said post.

PHILIP C. ARNOLD.

Witnesses:

ALBERT S. HITCHCOCK,
FRED H. MARTIN.