

June 5, 1923.

A. C. GILBERT  
FLOOR CHIME

1,457,360

Filed Nov. 19, 1920

Fig. 1.

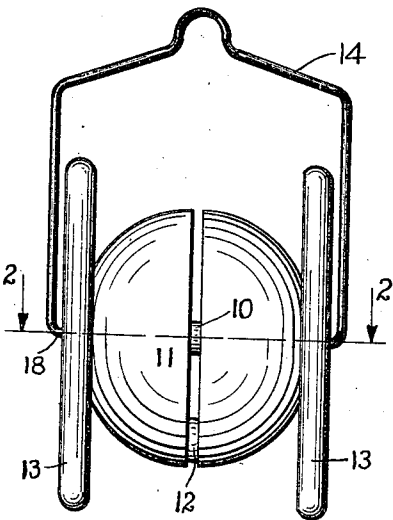


Fig. 2.

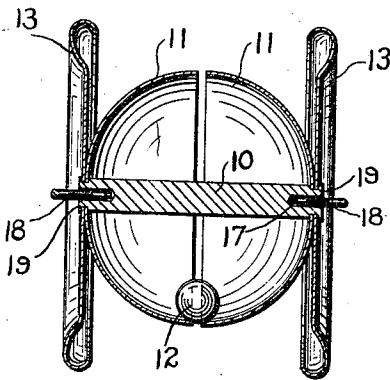


Fig. 3.

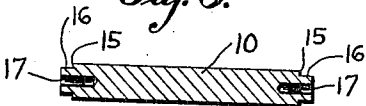


Fig. 4.

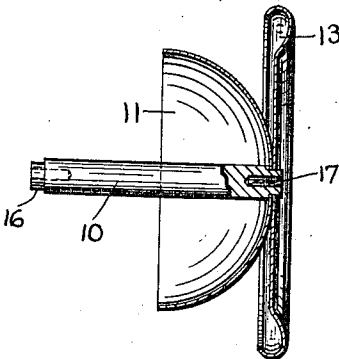
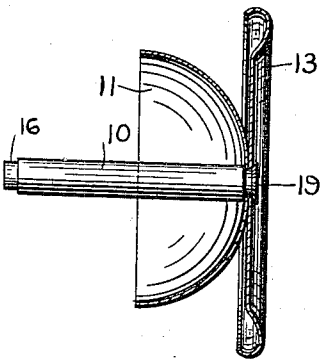


Fig. 5.



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## UNITED STATES PATENT OFFICE.

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## FLOOR CHIME.

Application filed November 19, 1920. Serial No. 425,116.

*To all whom it may concern:*

Be it known that I, ALFRED C. GILBERT, a citizen of the United States, residing in New Haven, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Floor Chimes, of which the following is a full, clear, and exact description.

This invention relates to floor chimes and more particularly to the method of assemblage and the securing together of the parts of the same.

In the manufacture of small toys of this nature, it is important that the parts be firmly secured together in order that they may withstand the wear to which they will be subjected and at the same time be constructed in an economical manner, so that a maximum of finish and durability may be secured at a minimum cost.

One object of my invention is to cheapen the production of articles of the character described, while maintaining the former high standard of quality.

Another object of my invention is to provide an improved method of securing the parts upon the axis of the toy.

A still further object of the invention is the provision of an improved means for securing the parts in their proper relative position and at the same time providing, in a simple manner for the rotation of the wheels relative to the fixed parts of the toy.

To these and other ends the invention resides in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a top plan view of a floor chime embodying my improvements;

Fig. 2 is a sectional view of the same on line 2—2 of Fig. 1;

Fig. 3 is a sectional view of the axle, and

Figs. 4 and 5 are detail views showing the method of assembly of the parts.

I have chosen to illustrate a preferred form of my invention as applied to a sounding toy of the type usually known as a floor chime. This toy comprises an axle 10, having a bell section 11, substantially hemispherical in shape, mounted thereon adjacent each end thereof. These sections face each other in such a manner as to present a hollow sphere in which is loosely placed a

pellet 12 which serves as the clapper. On the axle, adjacent the bell sections are mounted wheels 13, upon which the toy is supported from the floor and a bail 14 is connected to the toy to provide a means by which it may be propelled.

In order to rigidly connect the bell sections to the wheels in a convenient and satisfactory manner so that the two parts referred to will rotate together, I have provided the one-piece axle 10 with a shoulder 15 adjacent each end of the same. These shoulders may be conveniently formed by reducing the ends of the axle, as shown at 16 in Fig. 2. The axle is also provided with a bore 17, extending inwardly from each end, in which bores are received the bent or inwardly turned ends 18 of the bail which in the particular embodiment shown serve as trunnions on which the axle turns.

In the assemblage of the parts, it is convenient to first provide the axle with the shoulders 15 and bores 17, as shown in Fig. 3, although the bores may be formed later if desired. The bell sections and wheels, which are centrally perforated, are then slipped loosely upon the ends of the axle, bearing against the shoulders 15, as shown in Fig. 4. The ends of the axle which project slightly from the wheels are then turned back over the outer surface of the wheels, as shown at 19, in any convenient way as by being spun over, riveted or upset. This clamps the wheels and bell sections tightly against the shoulders 15, so that the bell sections, wheels and axle are rigidly connected to rotate together.

When the parts have been assembled, as described, and the bail 14 is prepared, the ends 18 of the bail are sprung apart and slipped into the bores 17, the resiliency of the material of which the bail is formed serving to lightly clamp the trunnions within the openings 17. It will be observed that the open end portions of the axle serve a double function, in so far as they not only facilitate to a considerable degree the spinning of the later flange which clamps the wheel and the corresponding bell section tightly against the shoulder formed as an integral part of the one-piece axle, but also provide a convenient means of attachment between the end of the bail and the axle end.

It will be apparent that I have provided

an economical and satisfactory construction for wheel toys of this character, and it will be understood that the invention is capable of various modifications and embodiments which will lie within the scope of the appended claims.

What I claim is:

1. In a bell toy, a one-piece axle provided with reduced end portions each formed with an outwardly facing shoulder, bell sections having apertures by which they are fitted over said reduced end portions against said shoulders, wheels having apertures by which they are fitted over said reduced end portions outside of but against the respective bell sections, each extremity of said axle having a laterally spun portion presenting a flange clamping the corresponding wheel and bell section tightly against the shoulder so as to secure said parts tightly on the axle,

a bail, and means for securing the bail to the axle ends.

2. In a bell toy, a one-piece axle provided with reduced end portions each formed with an integral outwardly facing shoulder, such end portions being hollow, bell sections having apertures by which they are fitted over said reduced end portions against said shoulders, wheels having apertures by which they are fitted over said reduced end portions outside of but against the respective bell sections, each of the hollow extremities of said axle being spun laterally to clamp the corresponding wheel and bell sections tightly against the shoulder, and a bail having inturned end portions entering the hollow axle extremities.

In witness whereof, I hereunto set my hand on the 16th day of November, 1920.

ALFRED C. GILBERT.