A. WHITNEY.

BELLS.

No. 185,608. Patented Dec. 19, 1876.

Fig. 1.

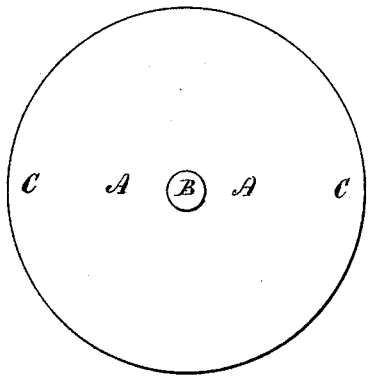


Fig. 2.

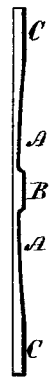


Fig. 3.

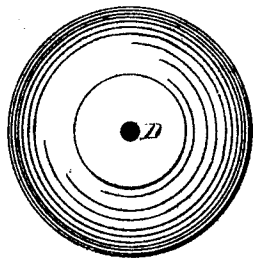


Fig. 4.

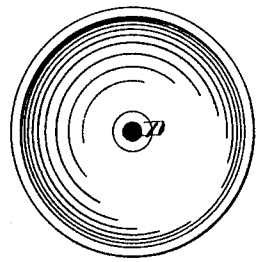
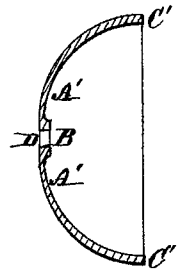


Fig. 5.



Witnesses.

John L. Peters

J. S. Raymond

Inventor.

Amos Whitney.

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UNITED STATES PATENT OFFICE.

AMOS WHITNEY, OF HARTFORD, CONNECTICUT, ASSIGNOR TO HIMSELF AND FRANCIS A. PRATT, OF SAME PLACE.

IMPROVEMENT IN BELLS.

Specification forming part of Letters Patent No. **185,608**, dated December 19, 1876; application filed September 7, 1876.

To all whom it may concern:

Be it known that I, AMOS WHITNEY, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bells; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to such bells as are generally known by the name of gong-bells, which are usually of a dish-like form and are held in position while they are struck by a moving hammer.

These bells have heretofore been cast in molds, and with this kind of metal it has been found difficult to obtain a bell of small size which shall have a sufficient power and quality of tone to be heard a great distance. Large bells have been required to get any amount of power. The cast metal has been so weak that a heavy blow could not be struck upon it without danger of fracture, and with the ordinary methods of casting there has been difficulty, if not impossibility, in obtaining a bell of perfectly uniform thickness and figure.

The object of my invention is to produce a bell which will give greater power and a better quality of tone than has heretofore been obtained with bells of any given size, which shall be stronger, so as to permit of a heavier blow being struck upon them without danger of fracture; and the metal of which shall be more sonorous, so as to permit the use of smaller bells.

My invention consists in constructing the bell from sheet or rolled metal in the manner hereinafter described.

In the accompanying drawing, Figure 1 shows a side view, and Fig. 2 an end view, of the circular blank out of which the bell is formed. Fig. 3 is a top view, Fig. 4 is a bottom view, and Fig. 5 is a section, of the finished bell.

The blank is first punched out of a plate of sheet metal in the circular form shown in Fig. 1. It is then thinned out in the part shown at A in Fig. 2, leaving the middle portion at B of the original thickness of the plate, and also the circumference at C, which is to form the edge of the bell. The part A is thinned by having the extra metal turned off in a lathe, but it may be thinned by pressure in dies or in any other convenient manner. The blank is then struck in dies or spun into the form shown in Figs. 3, 4, and 5, and is finished by turning off the edges at C′, and by boring the hole D for the reception of the stem by which it is to be suspended. The thinned portion A of the blank forms the part A′ of the bell, and the part B forms the central boss around the hole D.

My improved bell is especially adapted for "bell-punches," so called, where very small bells are required, and in which great difficulty has been experienced in getting sufficient power of sound to be heard a sufficient distance.

The material of which my improved bell is composed admits of its being struck with any degree of force without danger of fracture, and therefore permits of great volume and power within a very small compass.

What I claim as my invention is—

A seamless bell formed of sheet or rolled metal, as a new article of manufacture.

AMOS WHITNEY.

Witnesses:

THEO. G. ELLIS,

JOHN T. PETERS.