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N. M. EARL ET AL

2,702,521

BELL

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Fig. 1.

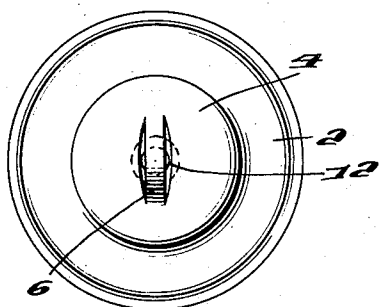


Fig. 2.

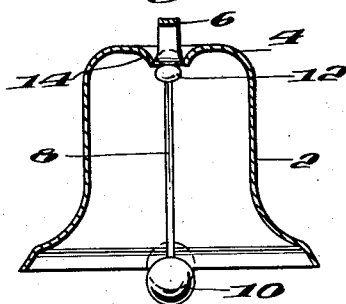


Fig. 3.

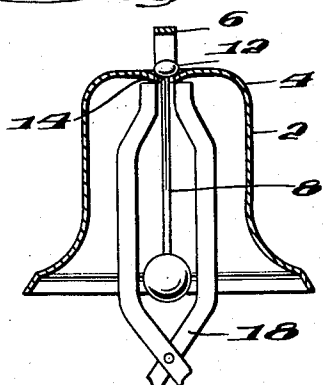


Fig. 4.

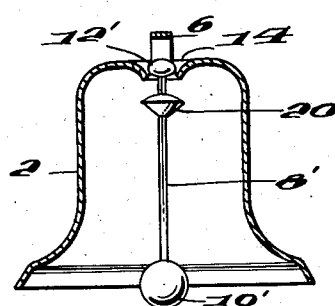


Fig. 5.

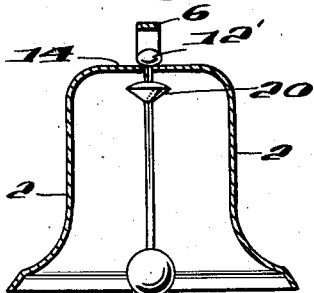


Fig. 6.

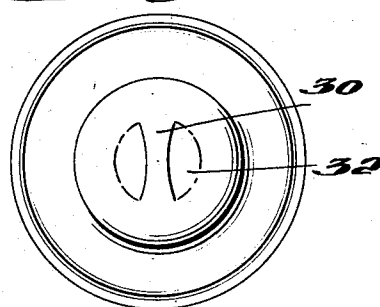
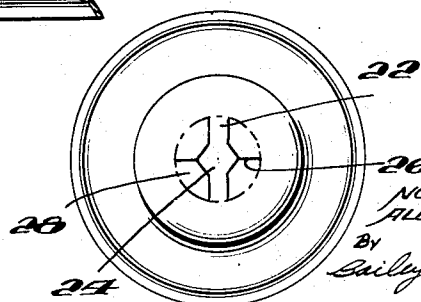


Fig. 6.



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2,702,521

BELL

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8 Claims. (Cl. 116—148)

The invention relates to bells, and more particularly to small and inexpensive bells.

The primary object of the invention is to provide a bell of good tonal qualities which can be produced inexpensively.

Another object of the invention is to provide a bell composed of only two parts, a body and a clapper, which is very simple to assemble and yet is sturdy and durable.

A further object of the invention is to provide a bell which has more weight in the clapper than ordinary bells of the same type and therefore has a louder ring with a better tone.

Still another object of the invention is to provide a new arrangement for hanging a clapper in a bell which is easy to assemble while holding the clapper strongly and securely.

Still a further object of the invention is to provide a simple and economical arrangement for hanging the bell.

An additional object of the invention is to provide a bell in which the insertion of the clapper acts to secure it in position so that no tools are required in the assembly of the bell.

Further objects and advantages of the invention will appear more fully from the following description, especially when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

Fig. 1 is a top plan view showing a bell embodying one form of the invention;

Fig. 2 is a cross-section through the bell of Fig. 1 in process of assembly;

Fig. 3 is a similar view of the completion of the assembly;

Fig. 4 shows in cross-section a modified form of bell in process of assembly;

Fig. 5 is a similar view of the finished bell of Fig. 4; and

Figs. 6 and 7 are top views of bell bodies embodying further modifications of the invention.

In Figs. 1 to 3, 2 is the body of the bell having a top wall 4. The bell is made of a metal having a suitable tone but sufficiently ductile to allow forming operations. A strip 6 is struck upward from the top wall 4 forming a loop by which the bell can be hung or handled.

The bell also includes a clapper composed of a stem 8, a striking ball or enlargement 10 at its lower end and a spheroidal enlargement 12 at its upper end.

The striking up of strip 6 leaves an opening beneath it. In assembling the bell, the parts 14 of top wall 4 on each side of this opening are deformed, for example by being swaged or bent downward as shown in Fig. 2, until the opening is larger than the cross-section of head 12. The clapper is then inserted into the bell from below until head 12 has passed through the opening (broken line position). A suitable tool, such as shown at 16, is then inserted and pushes the downwardly bent parts back towards their original position far enough at least to reduce the size of the opening until it is smaller than head 12. The clapper will then be secured in the finished bell as shown in Fig. 3.

In the bell of Figs. 4 and 5, the clapper has a stem 8', a ball 10' and a spheroidal head 12'. Shortly below the head is an enlargement 20 having a flat upper surface, and of considerably greater cross-section than the head 12'.

In assembling this form, no tools are required. The clapper is inserted into the bell from below, as shown

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in Fig. 4, until the enlargement 20, which is larger than the enlarged opening, engages the downwardly bent parts 14. Upward pressure on the clapper will then push these parts back towards their original position, either partially or entirely (as shown in Fig. 5). This will reduce the size of the opening until it is less than that of head 12', and will hang the clapper securely in the bell.

While Figs. 1 to 5 show a loop formed by parallel slits, other shapes may also be used.

Fig. 6 shows a loop 22 having an enlarged central portion 24. The metal of the top may be slit, as at 26, transversely to the loop, to make it easier to bend down portions 28 along the dotted lines, these portions corresponding to parts 14 of Figs. 1 to 4.

In Fig. 7, the loop 30 is wider at the ends, and parts 32 can be bent or deformed to allow the insertion of the head of the clapper.

A clapper so formed is heavier than those with eyes for securing them, and thus gives a better tone to the bell.

While we have described herein one embodiment of our invention, we wish it to be understood that we do not intend to limit ourselves thereby except within the scope of the claims hereto or hereinafter appended.

We claim:

1. In a bell, a one-piece clapper, a body portion, the top section of the body portion having a strip struck up centrally therefrom to form a loop for hanging the bell leaving parts of the body on each side of the loop, said clapper having a stem extending through the opening formed by striking out said strip and an enlargement on the stem above the body parts on each side of the loop and larger than the said opening to support the clapper within the bell.

2. In a bell as claimed in claim 1, a second enlargement on the stem closely below said body parts, said second enlargement being larger than the first enlargement.

3. In a bell, a one-piece clapper, a body portion, the top section of the body portion having a strip struck up centrally therefrom to form a loop for hanging the bell leaving parts of the body on each side of the loop, said body parts on either side of such strip being bent downwardly, said clapper having a stem extending through the opening formed by striking out said strip between such downwardly bent parts and an enlargement on the stem above the downwardly bent parts and larger than the space between the parts to support the clapper within the bell.

4. In a bell as claimed in claim 3, a second enlargement on the stem closely below said downwardly bent parts, said second enlargement being larger than the first enlargement.

5. In the manufacture of a bell from a body having a loop struck up centrally from the top thereof, leaving an opening therebeneath, the steps of deforming the material on each side of such opening so as to enlarge the opening, passing upwardly through such enlarged opening the stem of a one-piece clapper having an enlargement on its upper end of greater cross-section than the opening before enlargement, and at least partially restoring the material on each side of the opening to such a degree that the final opening is smaller than such enlargement, whereby to support the clapper in the bell.

6. A process as claimed in claim 5, in which the central part of the loop is narrower than the ends.

7. In a process as claimed in claim 5, slitting the material on each side of the opening transversely to the loop.

8. In the manufacture of a bell from a body having a loop struck up centrally from the top thereof, leaving an opening therebeneath, the steps of deforming the material on each side of such opening downwardly so as to enlarge the opening, passing upwardly through such enlarged opening the stem of a one-piece clapper having an enlargement on its upper end of greater cross-section than the opening before enlargement, and having a second enlargement a short distance below the first enlargement of greater cross-section than the first enlargement and the enlarged opening, engaging the downwardly deformed material with said second enlargement and pushing upwardly on the clapper, thereby at least partially restoring the material on each side of the opening to such a degree

that the final opening is smaller than said first enlargement, whereby to support the clapper in the bell.

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