

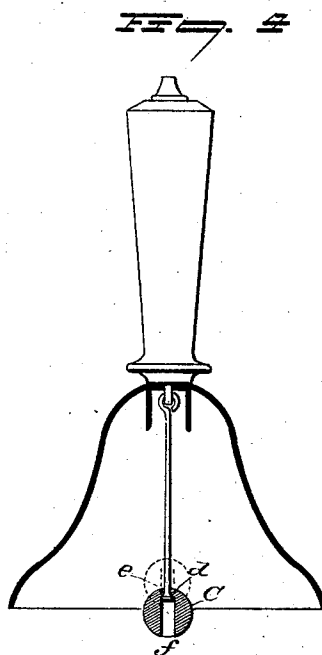
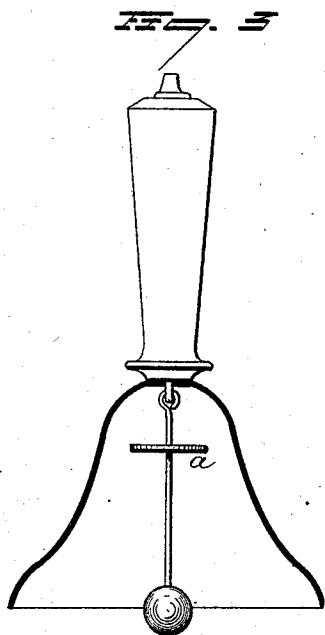
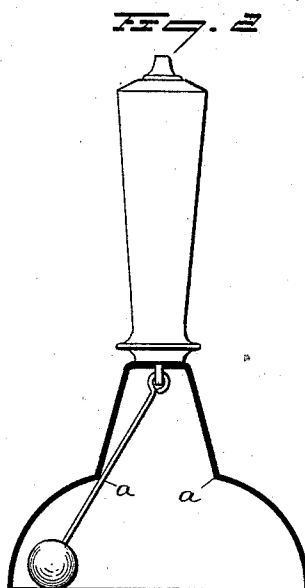
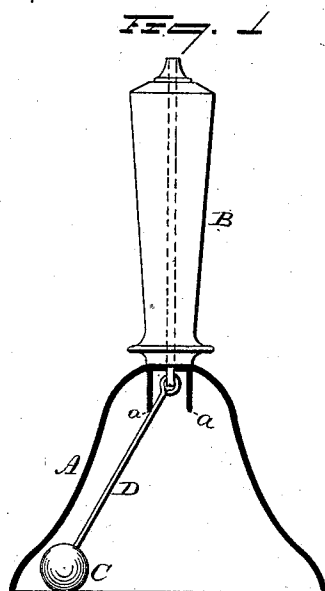
(No Model.)

W. E. BARTON.

BELL.

No. 294,184.

Patented Feb. 26, 1884.



Witnesses.
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W. E. Barton

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UNITED STATES PATENT OFFICE.

WILLIAM E. BARTON, OF EAST HAMPTON, CONNECTICUT.

BELL.

SPECIFICATION forming part of Letters Patent No. 294,184, dated February 26, 1884.

Application filed July 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BARTON, of East Hampton, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Bells; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical central section of a bell, showing my improvement; Figs. 2 and 3, vertical sections showing modifications of my invention; Fig. 4, vertical section of the bell at rest.

This invention relates to an improvement in hand-bells adapted to the larger class of bells, but applicable to all hand or swinging bells. In the use of this class of bells the hammer remains in contact with the bell unless it be brought toward the perpendicular position, so as to permit it to swing away from contact with the bell by its own gravity; hence it is that in ringing such bells but a slight vibration is produced, the hammer in contact stopping the vibration.

The object of my invention is to construct the bell so as to prevent the hammer from standing in contact with the bell, yet permit it to strike the inner surface of the bell to impart the blow; and it consists in providing a shoulder within the bell, upon which the arm of the hammer will strike midway of its length before the hammer itself reaches the inner surface of the bell, and so that the momentum of the hammer will be sufficient to carry it into contact with the bell after the arm has been stopped, the arm yielding like a spring to such momentum, but, reacting, will take the hammer instantly from the bell upon the blow being struck.

A represents the bell, of common shape, provided with the usual handle, B. The hammer C is hung by its arm D to the center of the bell at the top in the usual manner. Within the bell, at the top, is a circular or tubular flange, *a*, within which the arm D is suspended. This flange extends down to a position where the arm will strike its edge just before the hammer reaches the inner surface of the bell,

as shown. The arm of the hammer is elastic, and under the momentum given to the hammer in swinging the spring-arm will yield after it has come against the flange *a*, so as to permit the hammer to be carried by its momentum into contact with and give the blow to the bell; but instantly upon the bell being struck the reaction of the spring-arm withdraws the hammer from the bell, to permit the free vibration of the bell, the hammer being free in the usual manner to swing so as to strike at any point in the circumference of the bell. The flange *a*, being circular and concentric with the bell, serves as a stop for the hammer at all points around the bell. Therefore, whatever position the bell may be in when the blow is given, the hammer cannot by any possibility rest upon the bell or reach it unless it be under the momentum produced by swinging the bell, or otherwise to spring the arm, as before described.

Instead of producing the stop by a circular flange, as seen in Fig. 1, the bell itself may be constructed so as to form such a stop, as seen in Fig. 2—that is, the upper part of the bell constructed to form the stop *a*, corresponding to the circular flange *a*, as seen in Fig. 1; or, instead of applying the stop as a permanent part of the bell, it may be on the hammer, as seen in Fig. 3. In this case the stop *a* is made by a circular disk concentrically arranged upon the rod near its upper end, and so as to strike the inner surface of the bell just before the hammer reaches its point of contact, the spring of the arm yielding, as before, to permit the blow. As the rod must be wire, and therefore not flexible like a chain, and as the hammer necessarily hangs below the plane of the bottom of the bell, as seen in Fig. 4, in setting down the bell the hammer would first strike the surface upon which the bell was to be set, it being understood that it is desirable to strike the bell as near its edge as possible; hence the necessity of the hammer hanging so far below the plane of the bottom of the bell. That the hammer may not interfere with thus setting down the bell, I make the rod D shorter, or about the length of the height of the bell, and fit it at its lower end with a head, *d*, and make an opening, *e*, through the top of the hammer C, corresponding to the rod, and re-

cess the hammer upon the under side, as at *f*, into which recess the head will pass to take a bearing near the top of the hammer, and so that the hammer may slide up upon the rod, 5 as seen in broken lines, Fig. 4, so that in setting down the bell the hammer will slide upward on the rod; but when the bell is lifted and swinging the hammer will move down the rod until it reaches the head or stop *d*, and will 10 there operate as if rigidly fixed to the rod.

I claim—

1. A hand or swinging bell having the hammer centrally suspended therein by an elastic arm, a concentric circular stop within the bell 15 between the point where the hammer is sus-

ended and the hammer, to arrest the swing of the arm just before the hammer reaches the bell, substantially as described.

2. The combination of the hand or swinging bell A, internal concentric circular flange, *a*, 20 the bell-hammer having an elastic arm hung within said flange, the said flange serving as a stop to arrest the swing of the arm just before the hammer reaches the bell, substantially as described.

WILLIAM E. BARTON.

Witnesses:

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