

No. 747,991.

PATENTED DEC. 29, 1903.

T. H. MACDONALD.
SOUND REPRODUCER.

APPLICATION FILED APR. 17, 1903.

NO MODEL.

Fig. 1.

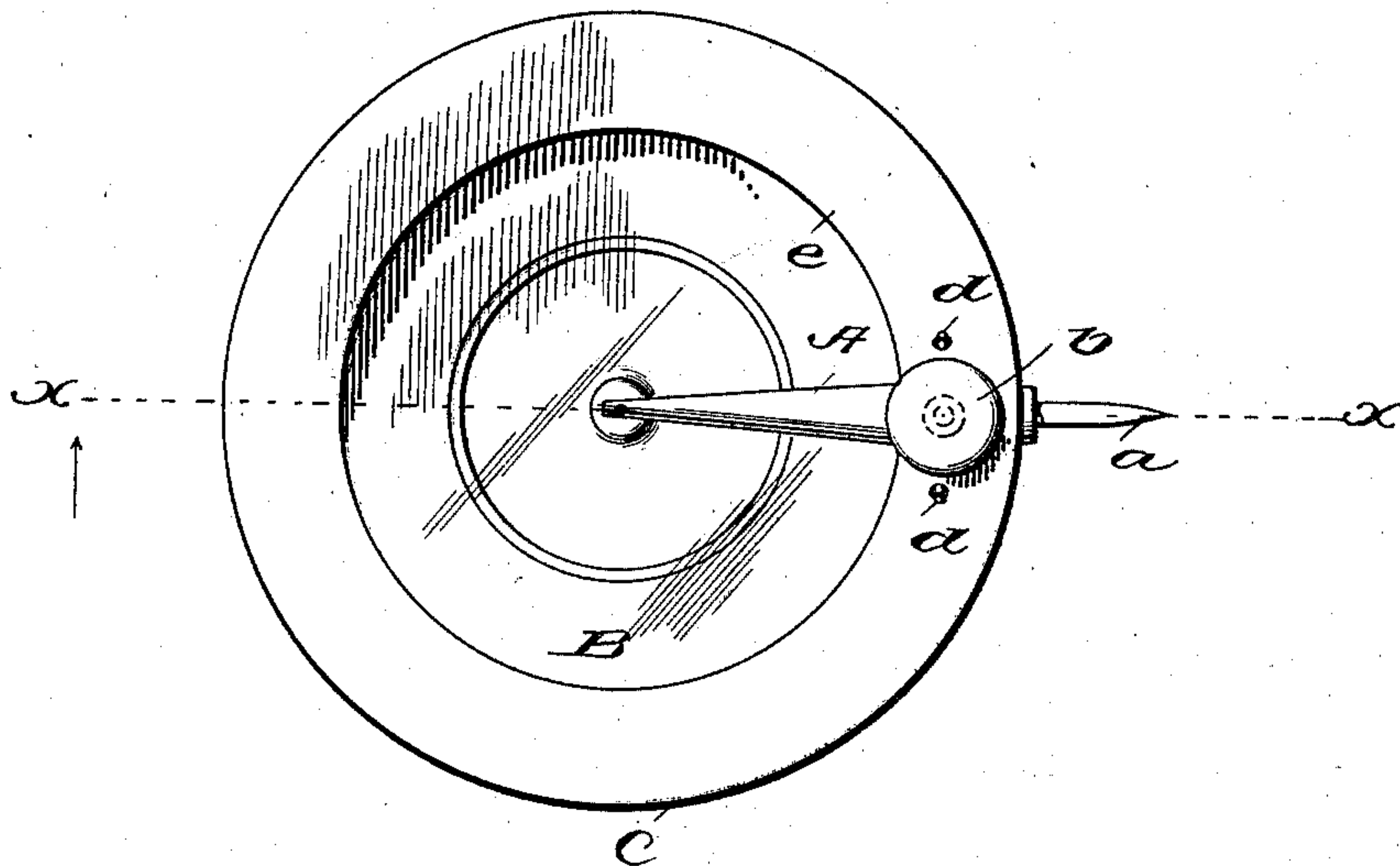


Fig. 2.

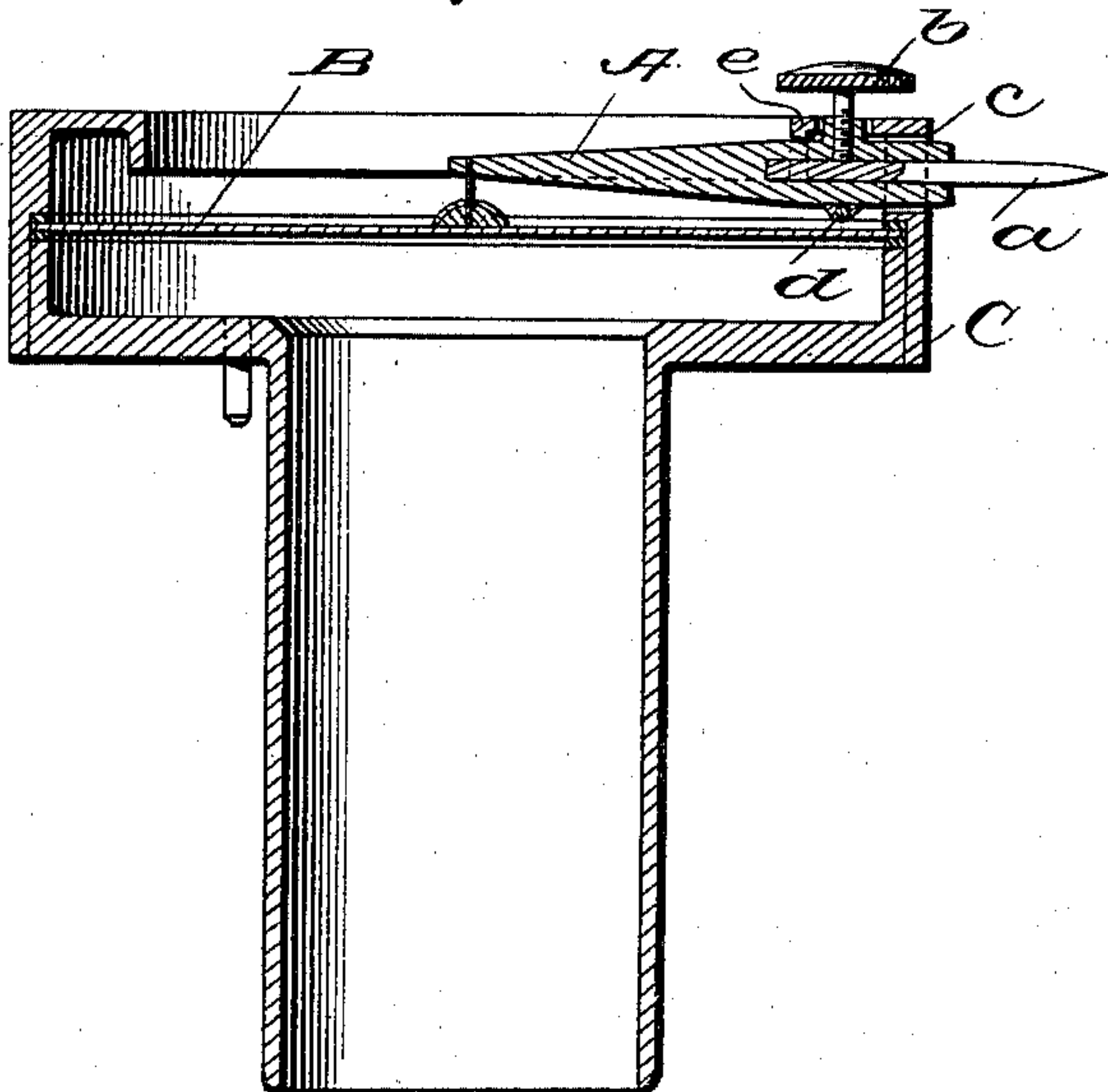
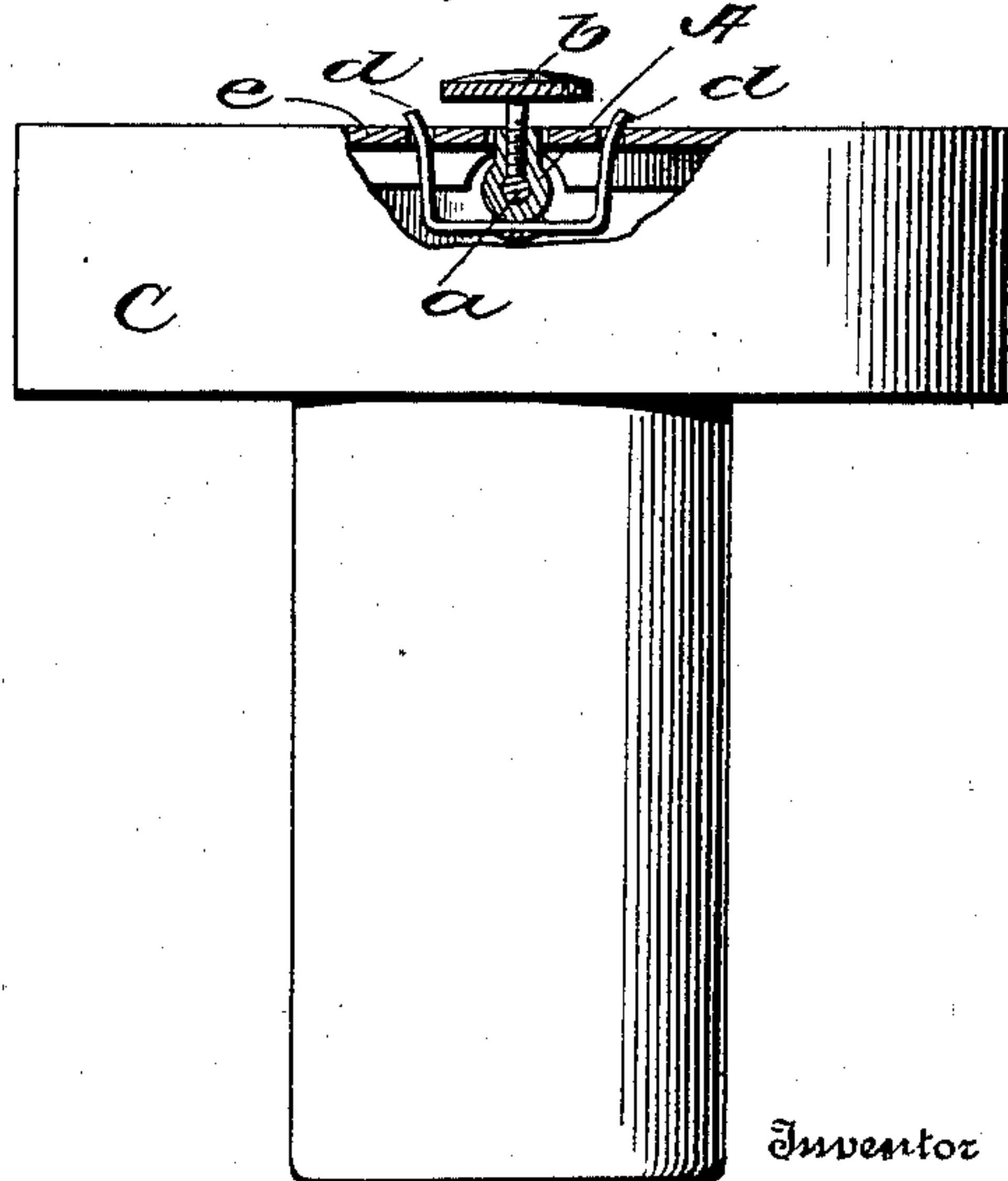


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS H. MACDONALD, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
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SOUND-REPRODUCER.

SPECIFICATION forming part of Letters Patent No. 747,991, dated December 29, 1903.

Application filed April 17, 1903. Serial No. 153,144. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. MACDONALD, a resident of Bridgeport, Connecticut, have invented new and useful Improvements
5 in Sound-Reproducers, which invention is fully set forth in the following specification.

This invention relates to the construction of sound-reproducers for use with laterally-undulating sound-records; and its object is
10 to produce a sound-reproducer of simple and economical construction.

The improvement relates particularly to the mounting of the stylus-carrying bar or lever, which is usually attached by means of a spring
15 to the diaphragm-box, the resiliency of the spring permitting limited vibration of the bar. According to this invention the bar is loosely mounted, preferably passing through a hole in the casing of such size that it does
20 not touch the same in operation. To the stylus-bar is rigidly fastened a guide rod or wire, preferably in the form of a staple, whose ends are fitted and play with slight friction in holes drilled therefor in the casing. This
25 construction avoids the use of springs, and the parts can be very cheaply and quickly made and assembled.

In the accompanying drawings, Figure 1 is a front elevation; Fig. 2, a section lengthwise
30 of the stylus-bar, and Fig. 3 a part section transverse to the latter.

The stylus-bar A is attached at one end to the diaphragm B in any suitable way and at

the other has a socket for reception of the stylus or needle *a*, which is held in place by
35 set-screw *b*. Bar A passes through a hole *c* in diaphragm box or casing C, the hole being of such size that the bar A does not touch the casing. To the bar A is attached a guide
40 *d*, consisting, as shown, of a piece of wire bent to U shape, the ends of the guide being inserted in holes drilled in flange *e* of the casing C, in which they fit snugly so as to play with slight friction. Obviously the
45 guide-wire could be fastened to the casing and fit loosely in the bar, this being simply a reversal of the construction.

I claim—

1. In a sound-reproducer, a stylus-bar passing freely without contact through an aper-
50 ture in the casing, and having a guide rod or wire attached to said bar and playing freely with slight friction in a hole in said casing.

2. In combination with the diaphragm and its casing, a stylus-bar attached at one end
55 to said diaphragm, and a U-shaped guide secured to said bar, its ends playing loosely in holes in said casing.

In testimony whereof I have signed this specification in the presence of two subscrib-
60 ing witnesses.

THOMAS H. MACDONALD.

Witnesses:

A. B. KEOUGH,
M. A. FOGO.