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TALKING MACHINE.

APPLICATION FILED DEC. 28, 1908.

921,835.

Patented May 18, 1909.

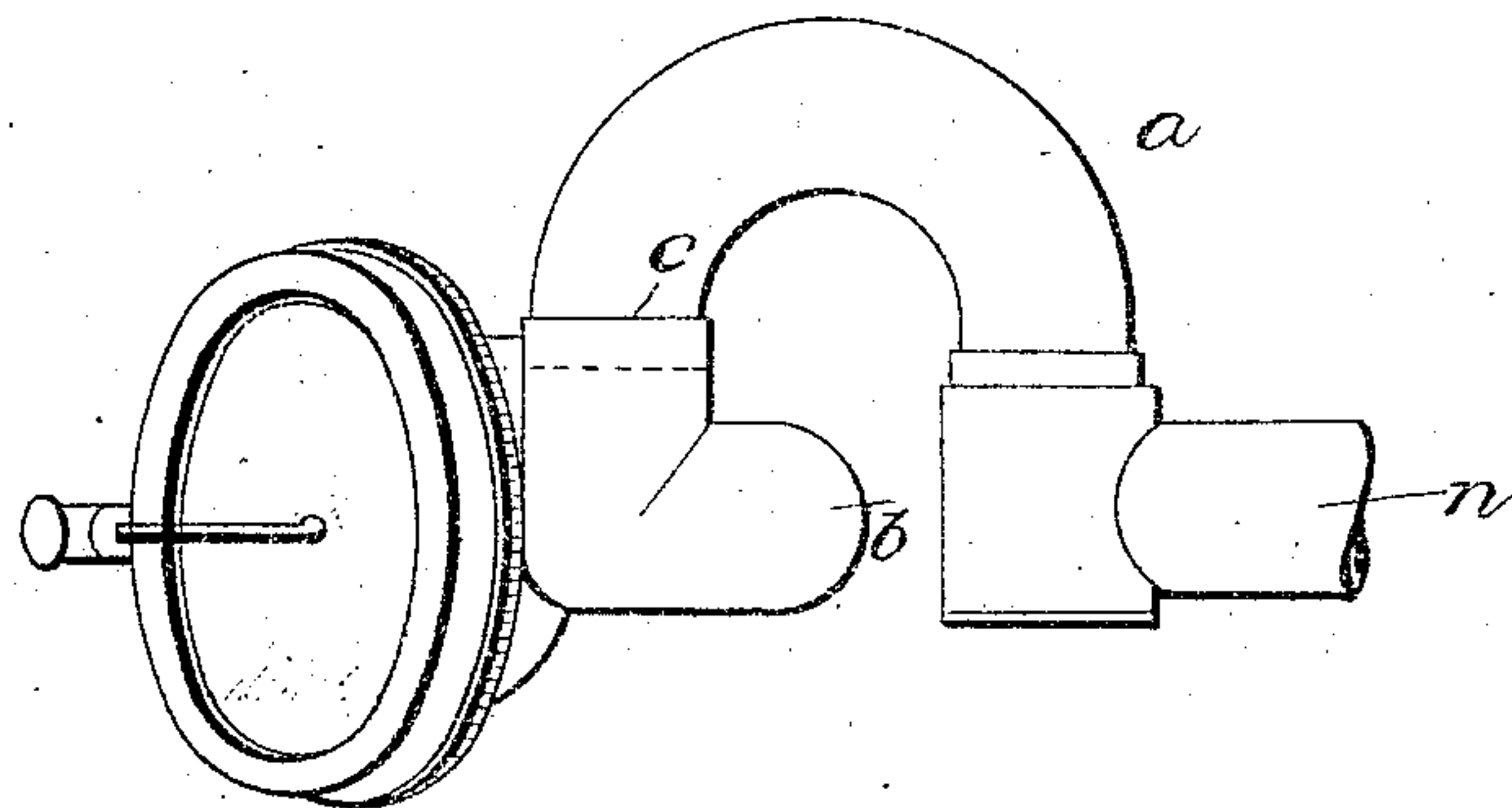
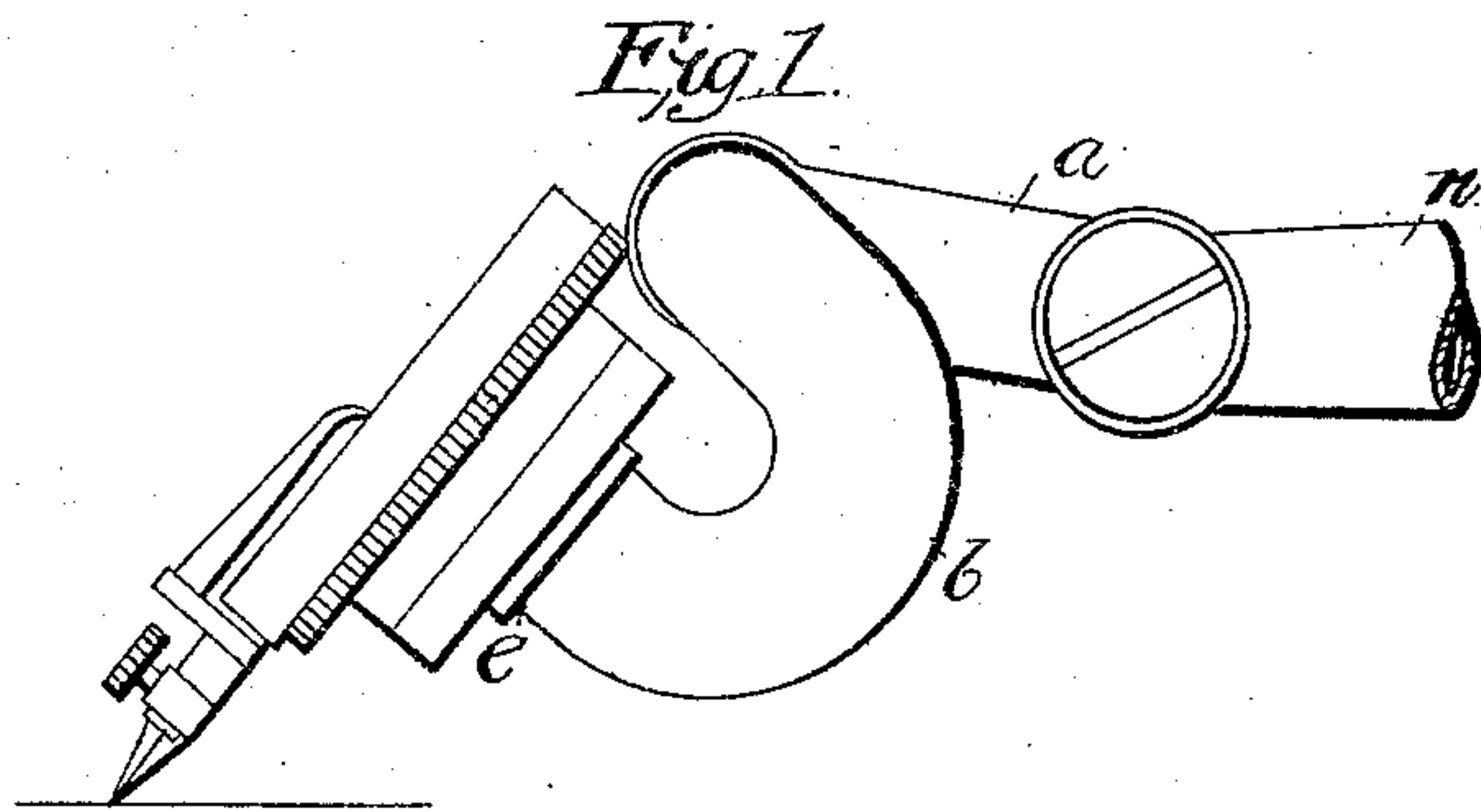


Fig. 2.

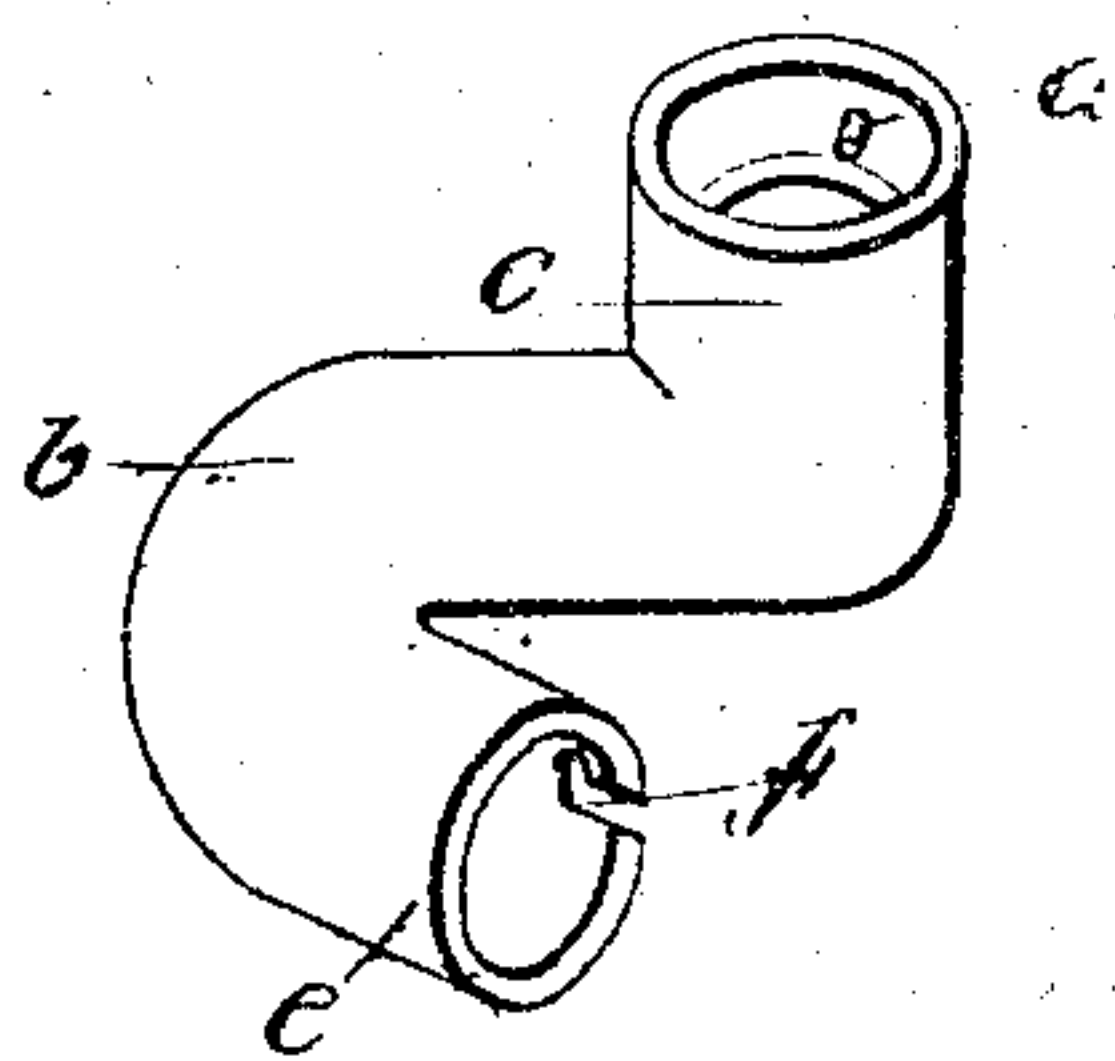


Fig. 3.

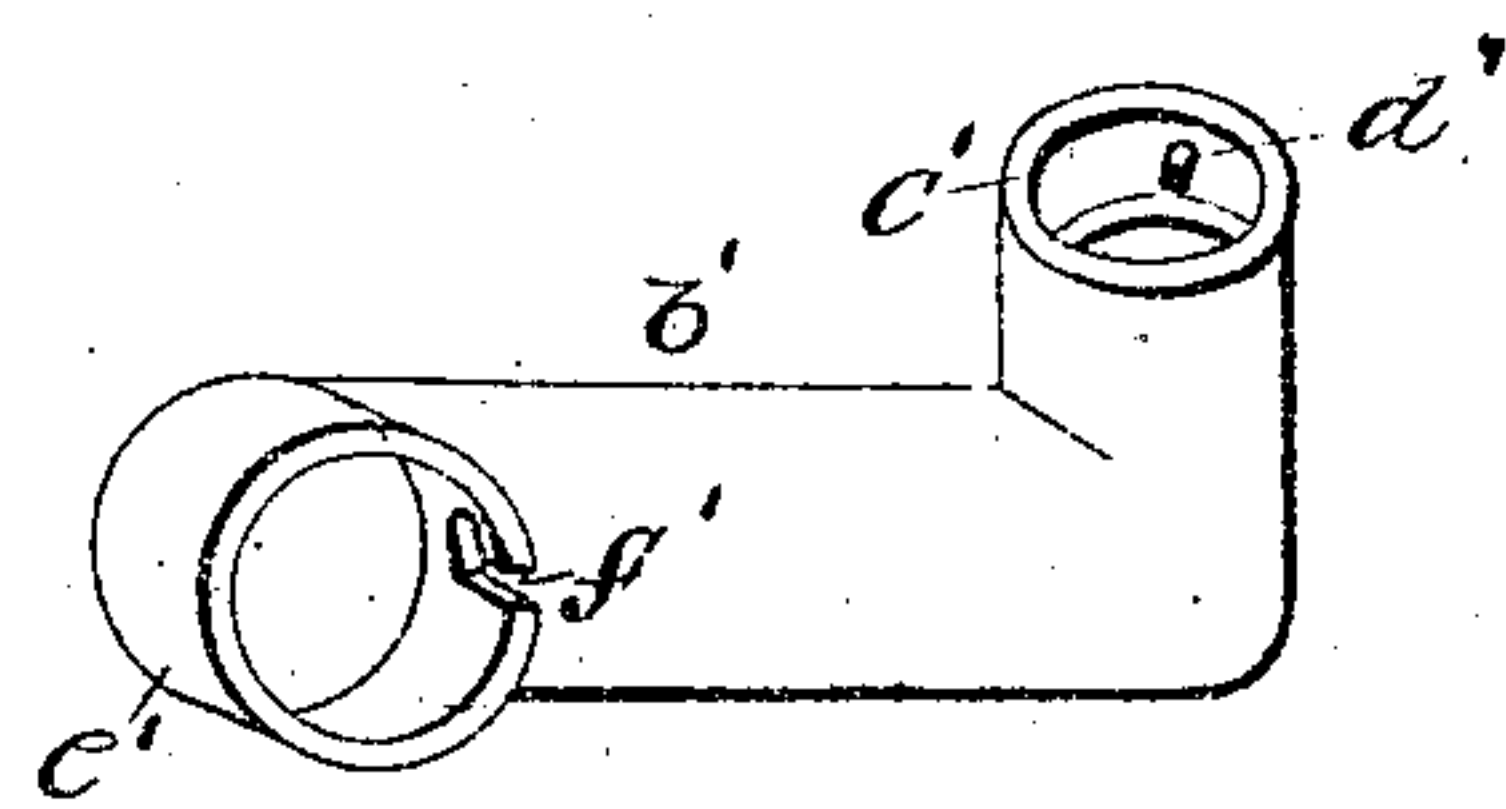


Fig. 4.

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UNITED STATES PATENT OFFICE.

HARRY HINKS-MARTIN, ALEXANDER WILLIAM CAMERON, AND PERCIVAL JAMES PACKMAN,
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TALKING-MACHINE.

No. 921,835.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, HARRY HINKS-MARTIN, ALEXANDER WILLIAM CAMERON, and PERCIVAL JAMES PACKMAN, subjects of the King of England, residing at and whose post-office address is 23 Denmark Place, Charing Cross Roads, London, in the county of London, England, have invented certain new and useful Improvements in Talking-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in sound conveyers for talking machines, and its object is to provide an attachment for use with the U-tube or goose neck of a gramophone, whereby the position of the sound box, with relation to the record may be changed so that the same sound box may be used, in the most effective playing position, with the "hill and dale" track of a graphophone record as well as with the "zig-zag" track of a gramophone record.

In order that the best results may be produced with the "zig-zag" record, it is desirable that the sound box be disposed parallel to the tone arm or tangential to the spiral track of the record, so that the needle moving in the "zig-zag" course will properly operate the diaphragm of the sound box. So also with a "hill and dale" record, cut in a disk, the best results are produced when the needle bar and needle are disposed in radial relation to the pivotal axis of the tone arm, with the sound box disposed laterally of the vertical plane cutting said needle and tone arm's pivotal axis and hence disposed laterally of the spiral "hill and dale" track. It will be understood that, with the disk record of this type, the distance from the pivotal axis of the tone arm to the needle is substantially the same as the distance from said axis to the center of the rotating support carrying the disk record, so that the needle will swing substantially in an arc passing through the center of the record.

We are aware that it is not broadly new to provide an adapter tube or connection to enable the same sound box to be interchangeably used with a "hill and dale" or a "zig-zag" record. The present invention is, therefore, not only designed to accomplish this end, but also to accomplish it in such a man-

ner that the sound box will be properly disposed with relation to the record to produce the best results.

To more fully describe the invention reference is had to the accompanying drawings illustrating practical embodiments of the same, in which drawings like letters designate the same parts in the several views, and in which—

Figure 1 is a view in side elevation, showing the invention associated with the goose neck of a gramophone, with the sound box in the most effective position for playing a disk record of the "hill and dale" type. Fig. 2 is a plan view of same. Fig. 3 is a perspective view of the improved attachment, and Fig. 4 is a similar view of a modified form of adapter.

a shows the ordinary U-piece or goose neck used with gramophone or "zig-zag" cut records, the goose neck *a* being pivotally connected to the tone arm *n* to permit the goose neck *a* to swing vertically.

The improved attachment or adapter consists of a tubular connection represented in Figs. 1, 2 and 3 by the curved elongated portion *b* terminating at its upper end with the lateral extension *c* provided with a pin *d* operating in the bayonet slot of the goose neck, the end *c* being adapted to be detachably connected with the open end of the goose neck member. The other, or lower, end of the elongated portion *b* of the connecting tube extends upwardly and is adapted to directly receive the sound box, the upwardly directed end *e* being provided with a bayonet slot *f* forming a locking means with the usual pin of the sound box. It is obvious, however, that any other suitable attaching means may be employed at either or both ends of the connecting tube. Similarly in the modified form shown in Fig. 4 the parts *b'*, *c'*, *d'*, *e'* and *f'* correspond in principle to the construction shown in Fig. 3; but in the modified form, instead of the elongated curved portion *b*, we provide a straight tube comprising the depending portion *b'* having the lateral upper extension *c'* and the lower upwardly directed extension *e'*.

It will be observed that when it is desired to play a record of the "zig-zag" type the improved attachment is omitted and the sound box is directly connected with the open end of the goose neck, but when a "hill and dale" record is to be played the attach-

ment is affixed to the open end of the goose neck by means of the extension *c*, or *c'*, and the sound box is directly mounted on the upwardly directed lower portion *e*, or *e'*,
5 with the sound box in the most effective playing position relative to the record and with the needle in proper alinement with the axis of the tone arm.

Having thus described the invention what
10 we claim is:—

A talking machine sound conveyer comprising a sound box, a tone arm, a goose neck swinging on said tone arm and communicating therewith, and a tubular connection be-
15 tween the sound box and the goose neck, said connection consisting of a horizontal

portion, fitting said goose neck, thence extending downwardly, and thence extending upwardly and terminating axially in alinement with the axis of said tone arm, with 20 said sound box directly mounted on the upwardly projecting portion of said tubular connection, substantially as described.

In testimony whereof, we affix our signatures, in presence of two witnesses.

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Witnesses:

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