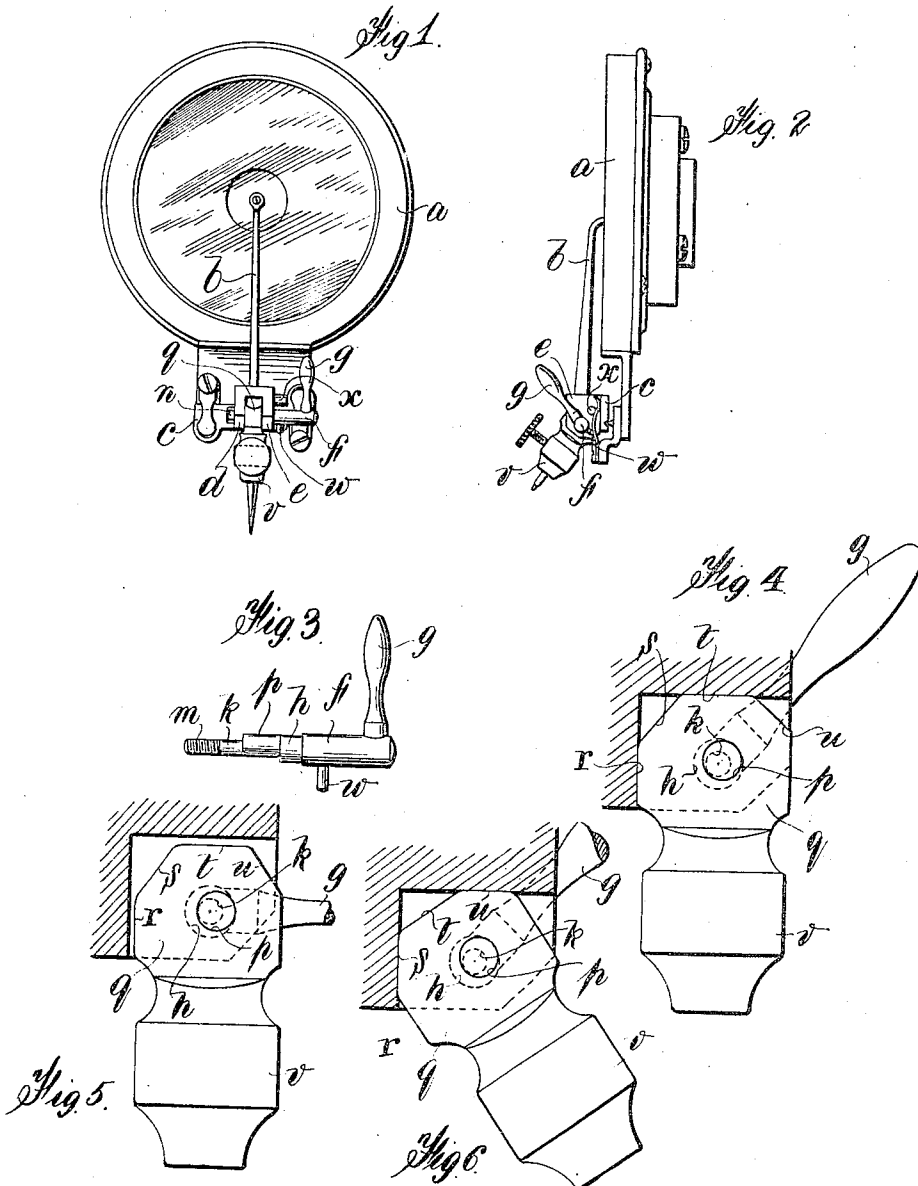


P. J. PACKMAN.
SOUND BOX FOR TALKING MACHINES.
APPLICATION FILED JULY 24, 1909.

960,191.

Patented May 31, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

PERCIVAL JAMES PACKMAN, OF HIGHBURY, LONDON, ENGLAND.

SOUND-BOX FOR TALKING-MACHINES.

960,191.

Specification of Letters Patent.

Patented May 31, 1910.

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To all whom it may concern:

Be it known that I, PERCIVAL JAMES PACKMAN, a subject of the King of England, residing at 66 Hamilton road, Highbury, in the county of London, England, have invented certain new and useful Improvements in Sound-Boxes for Talking-Machines; and I 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 a sound box for disk talking machines, and has for its object to provide a sound box which can be used either for reproducing from a so-called hill and dale or phonograph cut record or a zig-zag or Berliner cut record, and which can be easily and rapidly converted and brought into the correct position for playing from either of such records.

According to this invention, I mount the stylus holder in connection with the stylus bar in or on suitable bearings so that the stylus can be brought either into a plane parallel to the plane of the diaphragm for playing from zig-zag records, or into a position inclined at a suitable angle to the said diaphragm for reproduction from hill and dale cut records, and I provide means for changing the position of the needle or stylus holder with great facility and for locking it in either of the required positions.

The accompanying drawing shows, by way of example, one method of carrying out my invention.

Figure 1 is a front elevation of a sound box fitted with a needle for reproducing from a zig-zag record. Fig. 2 is a side elevation of the same sound box with the needle replaced by a sapphire point and the stylus holder brought into a suitable position for reproducing from hill and dale cut records. Fig. 3 shows enlarged view of a detail hereinafter referred to. Figs. 4 to 6 show partly diagrammatic views of details greatly enlarged.

The same letters of reference are employed to denote the same parts in all the views.

a is the shell of the sound box.

b is the stylus bar.

c is a plate carrying a double bearing bracket with side plates *d* and *e*, to which double bearing bracket the stylus bar *b* is suitably attached.

f is a spindle provided with a handle *g*. This spindle is prolonged into or has formed with it a smaller stepped portion *h* which fits into a corresponding circular hole in the side plate *e*.

k is another circular part somewhat smaller than the part *h* and placed concentrically to the parts *h* and *f*, and having its bearing in a circular hole in the plate *d*, the extremity of the spindle is provided with a screw thread at *m*, by means of which the spindle is secured in position by a suitable nut. Between the concentric parts *h* and *k* is another circular portion *p*, but formed or placed eccentrically with respect to these portions so as to form a kind of minute crank. Threaded on this portion *p* is a plate *q* shaped as shown in the drawing with faces *r*, *s*, *t* and *u* inclined to one another. This plate is formed in one with the stylus or needle holder *v*.

w is a pin on the spindle *f* and *x* is a stop on the side plate *e*. The plate *c* is mounted on suitable bearings and provided with suitable spring devices all of the ordinary construction.

The action of the device will be readily understood:—Assuming the parts are in the position shown at Fig. 1 and it is required to bring them into the position shown at Fig. 2 for use for reproduction from hill and dale cut records, it will be observed that the surfaces *r* and *t* are held tightly against the side and top of the double bearing, so that the needle holder is held firmly in position. Now when the handle *g* is depressed the effect is to lower the plate *q* and stylus holder *v*, thus drawing the surface *t* away from the top plate. At the same time the crank-like movement of the eccentric portion *p* draws the surface *r* away from the side plate. It will now be seen that the needle holder and plate *u* can be turned around into an angular position and then when the handle *g* is again pushed up the face *u* comes against the top surface and the face *s* against the side surface, thus locking the needle holder and plate in the new position, that is the exact correct position for reproducing from a hill and dale record, the surfaces being suitably cut on the plate *q* for this purpose. The downward movement of the lever *g* is stopped by the pin *w* coming against the stop *x*.

It will be observed that the present construction involves advantages over my Brit-

ish Patent Number 7479 of 1907, in that the lever *g* locks the stylus by an upward jamming movement away from the record and in the exact positions for playing both kinds of records, while in the patent above it was necessary to slightly unscrew the stylus holder and then to turn it together with the plate on which it was secured about a center, and then to screw up tight the said holder. In these operations one was liable to get the stylus in an incorrect position. Furthermore, the screw for tightening the needle was liable after use to give trouble, which liability is entirely overcome by providing the construction now disclosed; and by moving the lever *g* away from the record all liability of touching the latter is obviated.

It will be understood that the foregoing description merely shows one way of carrying out my invention as the details and method of application of my invention may be varied largely to suit requirements without departing from the principle thereof.

What I claim and desire to secure by Letters Patent of the United States of America is:—

1. In a sound box provided with a shell containing a diaphragm; the combination of a stylus bar having a double bearing; a spindle provided with an eccentric working in said bearing; and a lever rigid with said

spindle adapted to lock said stylus in two different positions upon moving the same in a direction away from the record over which said stylus plays, substantially as described.

2. A sound box comprising a shell containing a diaphragm, a stylus bar, a double bearing attached to said stylus bar, a spindle provided with an eccentric working in the said bearing, a plate on the said spindle carrying the stylus holder and means comprising a lever for locking the plate and stylus holder in either of two positions for the purpose set forth.

3. A sound box comprising a shell containing a diaphragm, a stylus bar, a double bearing attached to said stylus bar, a spindle working in the said bearing, the said spindle having an eccentric portion coming between the bearing plates, such eccentric portion passing through a plate carrying the stylus holder, such plate being provided with two pairs of surfaces inclined to one another in such a way that by actuating a suitable handle the plate and stylus holder can be locked in either of two required positions substantially as and for the purpose set forth.

In testimony whereof, I affix my signature, in presence of two witnesses.

PERCIVAL JAMES PACKMAN.

Witnesses:

A. E. VIDAL,
L. SIMMONDS.