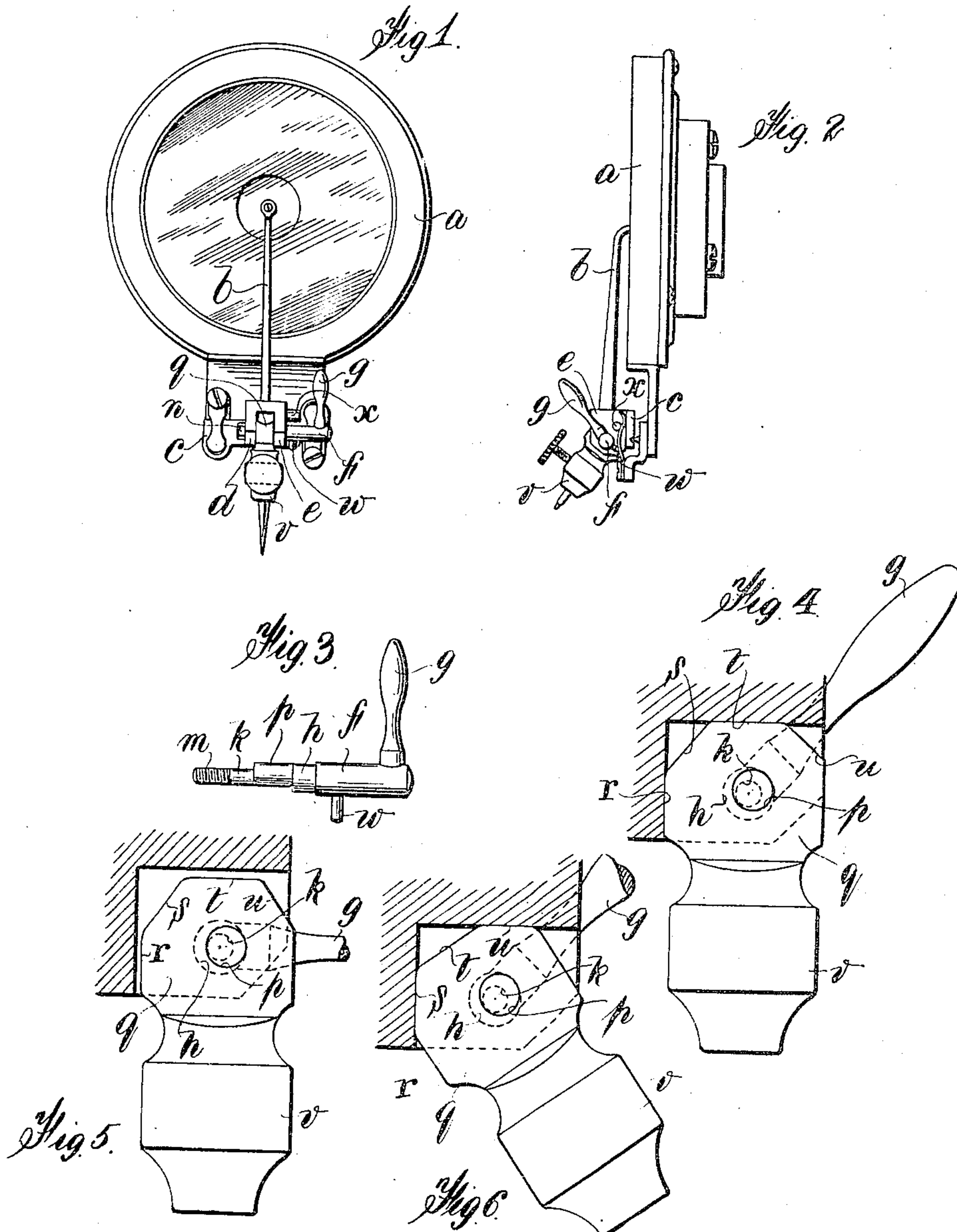


P. J. PACKMAN.
SOUND BOX FOR TALKING MACHINES.
APPLICATION FILED JULY 24, 1909.

960,191.

Patented May 31, 1910.



Witnesses
F. R. Fulton
J. H. Hinton.

Inventor
Percival J. Packman
W. W. Hinton, John & W. H. Hinton
his Attys.

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.

Application filed July 24, 1909. Serial No. 509,363.

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, High-bury, in the county of London, England, have invented certain new and useful Im-
5 improvements in Sound-Boxes for Talking-Machines; and I do hereby declare the fol-
10 lowing to be a full, clear, and exact descrip-
tion of the invention, such as will enable
others skilled in the art to which it apper-
tains to make and use the same.

This invention relates to a sound box for
15 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
20 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
25 stylus can be brought either into a plane
parallel to the plane of the diaphragm for
playing from zig-zag records, or into a posi-
tion inclined at a suitable angle to the said
diaphragm for reproduction from hill and
30 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
35 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 ele-
40 vation 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 here-
45 inafter referred to. Figs. 4 to 6 show partly
diagrammatic views of details greatly en-
larged.

The same letters of reference are em-
50 ployed 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
55 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
60 the side plate *e*.

k is another circular part somewhat
smaller than the part *h* and placed concen-
trically to the parts *h* and *f*, and having
its bearing in a circular hole in the plate *d*,
65 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
70 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 an-
75 other. 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 suit-
80 able spring devices all of the ordinary con-
struction.

The action of the device will be readily
understood:—Assuming the parts are in the
position shown at Fig. 1 and it is required
85 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
90 that the needle holder is held firmly in po-
sition. 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
95 crank-like movement of the eccentric por-
tion *p* draws the surface *r* away from the
side plate. It will now be seen that the nee-
dle holder and plate *u* can be turned around
into an angular position and then when the
100 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
105 from a hill and dale record, the surfaces be-
ing suitably cut on the plate *q* for this pur-
pose. The downward movement of the lever
g is stopped by the pin *w* coming against the
stop *x*.

110 It will be observed that the present con-
struction 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.