

J. H. J. HAINES.
 PHONOGRAPH.
 APPLICATION FILED DEC. 23, 1908.

1,005,025.

Patented Oct. 3, 1911.
 2 SHEETS—SHEET 1.

Fig. 1.

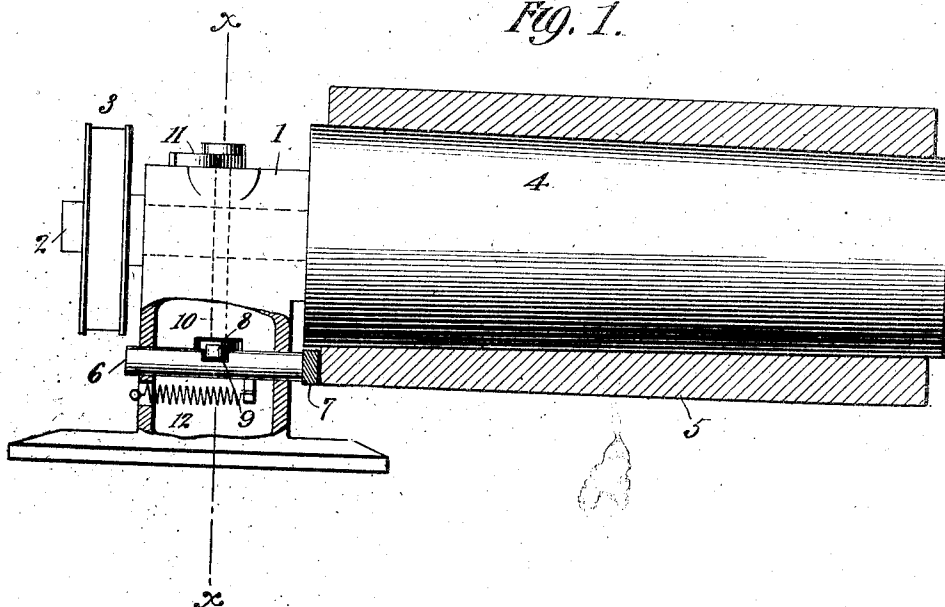


Fig. 2.

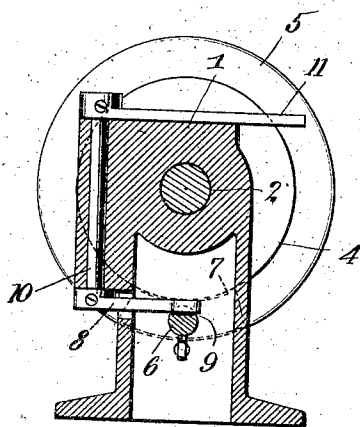


Fig. 3.

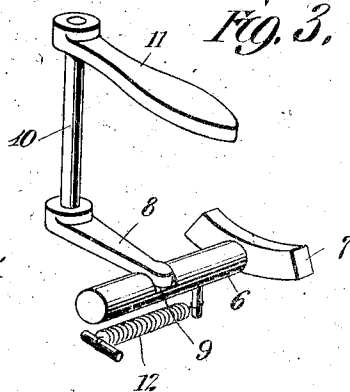
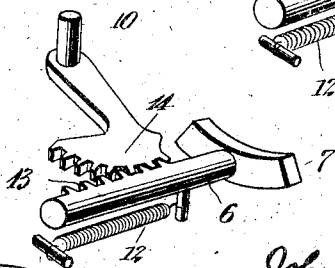


Fig. 4.



Witnesses:
Frank S. Ober
Naldo M. Chapin

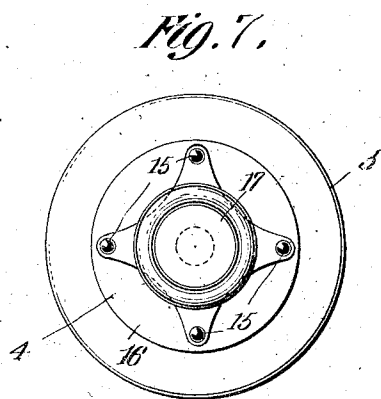
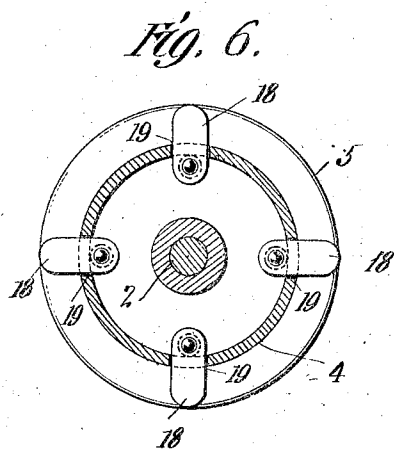
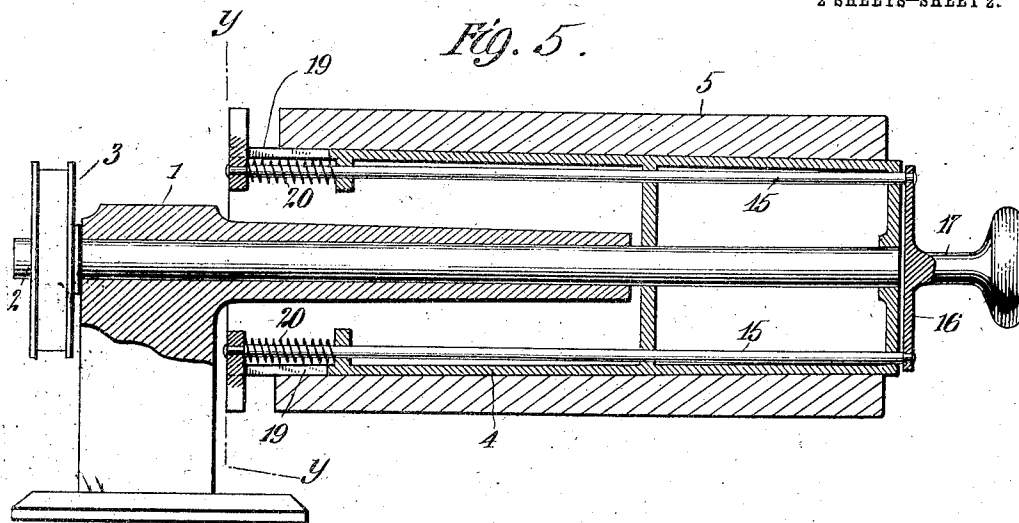
Inventor
John H. J. Haines
 By his Attorneys
Rosenbaum & Hochstadt

J. H. J. HAINES.
 PHONOGRAPH.
 APPLICATION FILED DEC. 23, 1908.

1,005,025.

Patented Oct. 3, 1911.

2 SHEETS—SHEET 2.



Witnesses:
Frederic O. Burr
Waldo M. Chapin

Inventor
John H. J. Haines
 By *his Attorneys*
Rosenbaum & Knickerbocker

UNITED STATES PATENT OFFICE.

JOHN H. J. HAINES, OF NEW YORK, N. Y.

PHONOGRAPH.

1,005,025.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed December 23, 1908. Serial No. 468,892.

To all whom it may concern:

Be it known that I, JOHN H. J. HAINES, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Phonographs, of which the following is a full, clear, and exact description.

This invention relates to phonographs and allied machines and has for its object to facilitate the removal of the record tablet from the machine and avoid injury of the same in that operation.

The invention relates particularly to machines using a record tablet of the cylinder type. These cylinders are applied to the machine by passing them over a slightly coned drum or mandrel on which they are held by friction. In order to remove the cylinder from the machine, it has heretofore been necessary to grasp the cylinder between the fingers and exert sufficient force to overcome its frictional engagement with the drum. This is an unhandy method of manipulation and often results in damage to the record surface by reason of the pressure of the fingers thereon, or by transference of dust or dirt from the fingers to the record. Also, if the record sticks tightly upon the drum, the force used in removing it sometimes causes it to suddenly relax and the cylinder falls from the hand and is broken.

To avoid these disadvantages and such others as often occur in the removal of the cylinder from the machine, is the object of my invention, which consists in providing the machine with what I have termed a "throw-off" or ejector comprising a pusher mounted in the frame of the machine in a position where it can be brought to bear against the inner end of the record cylinder in a direction parallel to the axis of the cylinder, and a manually operated handle or lever connected therewith in such a manner that by manipulating the handle or lever, the pusher may be thrust against the end of the record cylinder to force it from its supporting drum or mandrel. The movement of the record cylinder under the action of the pusher is preferably only sufficient to release it from its frictional engagement with the drum or mandrel, so that it can be readily removed by hand and without the exercise of force.

The invention is applicable to shaving machines, commonly used for turning off the

surface of a record cylinder and preparing it to receive a new record, since these machines comprise a drum or mandrel upon which the record cylinder is held in substantially the same manner as it is in the phonograph itself.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation partially in section, of a portion of a phonograph or shaving machine upon which the record cylinder is mounted; Fig. 2 is a section on line $x-x$ of Fig. 1; Fig. 3 is a perspective view of the specific device comprising the invention; Fig. 4 is a similar view of a modification thereof; Fig. 5 is a view similar to Fig. 1, showing an alternative form of the invention; Fig. 6 is a section on line $y-y$ of Fig. 5, and Fig. 7 is an end elevation of the structure of Fig. 5.

1 indicates a portion of the frame of a phonograph or record shaving machine, in which is mounted a rotary shaft 2 having a driving pulley 3 and carrying the usual coned drum or mandrel 4 upon which the record 5 in the form of a cylinder is supported while in use. The record cylinder is coned interiorly to fit the surface of mandrel 4, so that when it is adjusted upon the mandrel and forced thereon slightly, it is held frictionally from independent movement with respect to the mandrel.

Mounted in a suitable part of the frame so as to slide therein is a rod or pusher 6 having a head 7 arranged at a point closely adjacent to the inner end of the record cylinder when it is properly adjusted upon the mandrel. This pusher has a longitudinal movement substantially parallel to the axis of the mandrel and cylinder and is adapted to be forced against the end of the cylinder to overcome the frictional engagement between it and the mandrel. In order to accomplish this movement, there is provided a crank arm 8 whose outer end stands in a notch 9 in the pusher 6 while the other end is secured to shaft 10 mounted in a suitable bearing in the frame 1, and which is equipped at its other end with a handle or lever 11 in convenient reach of the operator. I also provide a spring 12 secured at one end to the frame and at the other end to the pusher 6, the function of which is to return the pusher after it has been moved in one direction by the hand lever. It is now obvious that when it is desired to release the

record cylinder from the conical mandrel, it is only necessary to swing the lever 11 to the right, which drives the head of the pusher against the end of the cylinder and forces it sufficiently to the right to overcome its frictional engagement with the mandrel, whereupon by passing the fingers into the right hand end of the cylinder in the customary manner, the record is removed from the machine without having touched any portion of its outer surface. As soon as the hand lever is released, it moves back to its normal position together with the pusher under the action of the spring 12. Obviously, however, the spring is not an essential part of the invention, since the hand lever and pusher might be left in the position to the right and be returned to the normal position by the impact of the end of the record when another one is adjusted to the mandrel.

As a modification of the manner of communicating movement to the pusher rod from the handle, I have shown in Fig. 4 that the rod may be provided with a rack 13 and the crank 8 provided with a gear segment 14. This will give a more uniform application of pressure upon the pusher when it is manipulated and can be made to increase the length of the thrust of the pusher if that is found to be desirable.

The alternative form shown in Figs. 5 to 7, inclusive, comprises a number of rods 15 arranged longitudinally inside of the mandrel near to its walls and mounted in suitable bearings so as to slide in a direction parallel to the axis of the mandrel. At the outer or right hand end of the mandrel these rods are all connected together by a common cross-head 16, which is provided with a knob or handle 17 by which all of the rods can be together pulled outward. At the inner or left hand end of the rods they are each equipped with a pusher head 18 which extends radially outward through slots 19 in the wall of the mandrel and leading backward any suitable distance beyond the inner end of the record cylinder when it is properly adjusted to the mandrel. Between the pusher heads 18 and one of the bearings of the rods 15, springs 20 are interposed for returning the pusher heads to their normal position after they have been operated manually to release the record cylinder from the mandrel. The operation of this alternative construction obviously is that by pulling on the knob 17 the pusher heads 18 are

driven against the end of the record cylinder and thereby forced from its frictional engagement with the mandrel, the pusher heads meanwhile sliding through the slots in the wall of the mandrel. On the release of the knob the springs carry the pushers back to their normal position. This construction possesses an advantage over the construction first described in that it is adapted for different lengths of record cylinders, or to record cylinders which occupy various positions along the length of the mandrel. By making the slots 19 of sufficient length, any movement of the pusher heads that may be necessary to reach and move the record cylinder may thus be provided for.

Having described my invention, I claim:—

1. In a phonographic machine, the combination of a recessed conical holder for the record tablet, said holder having a longitudinally extending slot therein at the larger end thereof, with means for pulling the record longitudinally over said holder, said means comprising a structure adapted to be placed under tension and movable through the recess of said holder, said structure having an angularly disposed part movable through said slot and adapted for engagement with the end of the record tablet which is carried by the larger end of the holder, said structure further comprising a handle at its outer extremity, whereby it may be placed under tension.

2. In a phonographic machine, the combination of a recessed conical holder for the record tablet, said holder having a longitudinally extending slot therein at the larger end thereof, with pulling means for shifting the record longitudinally over said holder, and means for guiding said pulling means, said pulling means comprising a structure adapted to be placed under tension and guidedly movable through the recess of said holder, said structure having an angularly disposed part movable through said slot and adapted for engagement with the end of the record tablet which is carried by the larger end of the holder, said structure further comprising a handle at its outer extremity.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

JOHN H. J. HAINES.

Witnesses:

WALDO M. CHAPIN,
JAMES D. ANTONIO.