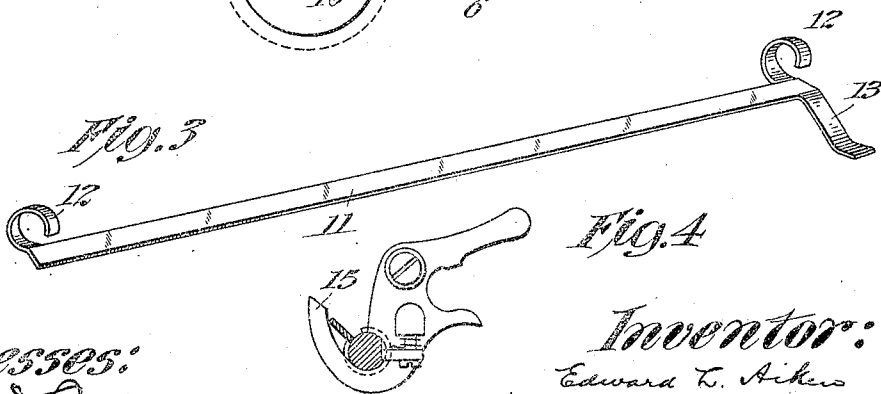
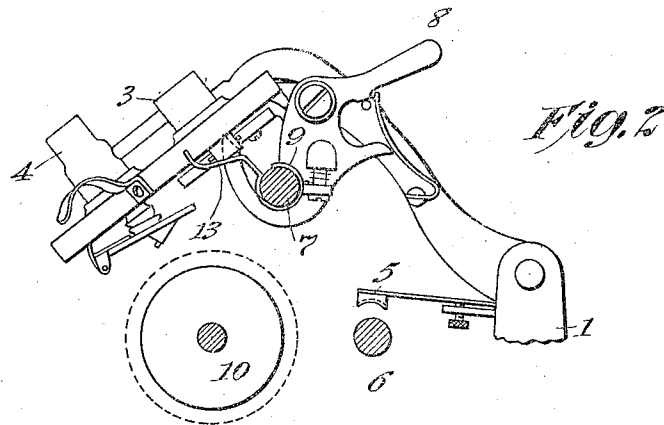
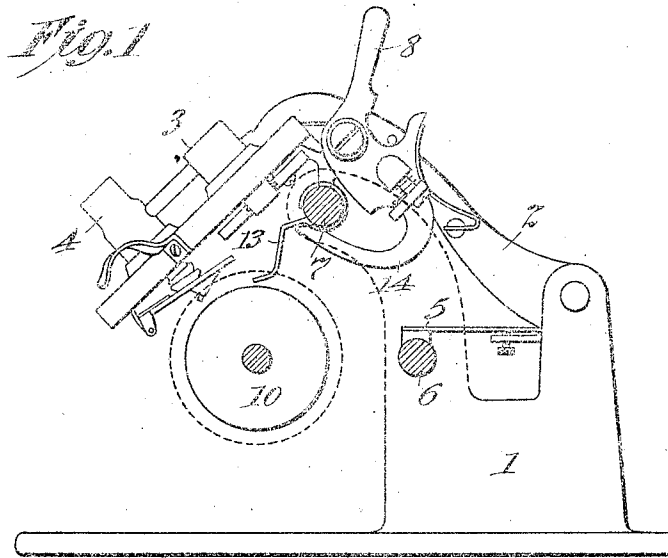


No. 875,309.

PATENTED DEC. 31, 1907.

E. L. AIKEN.  
PHONOGRAPH.

APPLICATION FILED OCT. 11, 1907.



*Fig. 4*

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# UNITED STATES PATENT OFFICE.

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## PHONOGRAPH.

No. 875,309.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed October 11, 1907. Serial No. 396,875.

*To all whom it may concern:*

Be it known that I, EDWARD L. AIKEN, a citizen of the United States, and a resident of Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Phonographs, of which the following is a description.

My invention relates to phonographs and particularly to means for positively preventing the placing of a phonograph blank or record on the mandrel, or removing it therefrom, when the recorder or reproducer is in such position that they would be liable to be injured by such record or blank. Since, in order to properly reproduce or record sounds on a phonograph it is necessary that the reproducer stylus or recording stylus shall rest upon the record, a lifting lever is provided by means of which the recorder or reproducer may be lifted away from the record surface. If, however, a record or blank were to be placed upon the mandrel without first operating the lifting lever to raise the recorder or reproducer, whichever happens to be in use, the stylus will be suspended in the path of the record and there will be danger of the stylus or its support being broken, or, if the cylinder is removed from the mandrel without first raising the recorder or reproducer away from the surface of the cylinder, the cylinder will be scratched in being so removed and injury may be done to the recorder or reproducer.

The object of the present invention is to provide a device which shall prevent such breakage in the placing of a cylinder on the mandrel and will prevent the removal of the cylinder from the mandrel unless the recorder or reproducer is first raised so that the stylus will be lifted above the path of the cylinder which is being inserted or removed.

I have shown my invention as applied to the Edison business phonograph, but it is evident that it is applicable to phonographs and talking machines of other types.

In the drawing which forms a part of this specification, the same reference numerals are applied to the same parts throughout.

In the said drawing, Figure 1, is a cross-sectional detail view showing the application of my invention to an Edison business phonograph; Fig. 2, is a similar view showing a different position of the lifting lever; Fig. 3, is a view in perspective of the device for preventing the insertion or removal of a cylinder,

except at the proper time; and Fig. 4, is a detail view similar to Fig. 2, but taken on a plane at some distance behind the plane upon which the view shown in Fig. 2 is taken.

The reference numeral 1 indicates the frame of the machine, and 2 the carriage. The reproducer 3 and recorder 4 are mounted upon a spectacle frame upon the carriage in the well-known manner. The carriage is actuated by means of a feed nut 5 resting upon the feed screw 6. When in position for recording or reproducing the carriage is supported upon the guide rod 7 and a lifting lever 8 is provided to raise the carriage and to thereby disengage the feed nut 5 from the feed screw 6. Fig. 1 shows the carriage resting directly upon the guide rod 7 while Fig. 2 shows the lifting lever 8 pushed backward so that the carriage is supported upon the guide rod 7 by means of the recessed portion 9 of the said lifting lever. When in this position the recorder and reproducer are supported well above the recording cylinder.

In order to prevent a record cylinder being placed upon or removed from the mandrel when the recorder or reproducer is in the lowered position shown in Fig. 1, in which position there would be danger of breaking the recorder or reproducer, or of scratching the record, I provide a bar 11 having hook-shaped members 12, which encircle the guide rod 7 near the ends thereof, and also provided with a forwardly and downwardly extending arm 13.

The lifting lever 8 is provided with a finger having a beveled end 15, which extends forward beneath the guide rod 7. This finger has been heretofore used to prevent the raising of the carriage and the spectacle frame more than a prescribed distance, but according to my invention, I cause this finger to perform an additional function—that of supporting and actuating the bar 11 and the arm 13 in such manner that the arm 13 stands in the path of the cylinder and opposes its being placed upon or removed from the mandrel when the carriage is in its lowered position, and when the lifting lever is actuated to raise the carriage so that the recorder or reproducer is moved away from the path of the cylinder to be inserted, this finger 14 operates to turn the bar 11 and raise the arm 13 so that it will no longer oppose the placing of a cylinder upon or removing it from the mandrel. As the bar 11

and its connected parts do not move longitudinally while the carriage and lifting lever 8 is moved transversely of the record by means of the feed screw 6, it will be evident 5 that the beveled finger 14 of the lifting lever 8 will engage the bar 11 throughout the entire length of the latter as the carriage is moved.

Having now described my invention, I 10 claim—

1. In a phonograph, the combination of means for holding a record tablet, a stylus, and an arm, each movable toward and from the tablet holding means, the arm serving to 15 oppose movement of the tablet when moved toward said tablet holding means, and means for moving the stylus and arm simultaneously, substantially as set forth.

2. In a phonograph, the combination of a 20 mandrel, a movable carriage, a lever for lifting said carriage, and means for preventing the placing of a record on the mandrel when the carriage is in its depressed position, the said means permitting the placing of a record 25 upon the mandrel when the carriage is raised, substantially as set forth.

3. In a phonograph, the combination of a mandrel, a carriage, a lifting lever for said carriage and means under the control of the 30 said lifting lever which prevents the placing of a record on the mandrel or removing it therefrom when the carriage is in its depressed position, substantially as set forth.

4. In a phonograph, the combination of a

mandrel, a carriage movable up and down, 35 means normally resting in position to prevent the placing of a cylinder upon the mandrel and means for lifting the carriage and moving the first named means away from the position in the path of the cylinder, sub- 40 stantially as set forth.

5. In a phonograph, the combination of a mandrel, a carriage movable up and down, a guide rod for supporting said carriage, means 45 rotatable upon said guide rod and normally standing in position to prevent the movement of a cylinder upon the mandrel and means for raising said carriage and moving said cylinder obstructing means out of the 50 obstructing position, substantially as set forth.

6. In a phonograph, the combination of a mandrel, a carriage, a guide rod on which the carriage rests, a bar extending parallel to said guide rod and having hook-shaped 55 members encircling said guide rod near the ends thereof, and provided with a downwardly and forwardly extending arm and means for raising said carriage and turning said bar with respect to said guide rod, sub- 60 stantially as set forth.

This specification signed and witnessed this 10 day of October, 1907.

EDWARD L. AIKEN.

Witnesses:

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