

F. L. DYER & F. D. LEWIS.
 PHONOGRAPH REPRODUCER.
 APPLICATION FILED JUNE 6, 1908.

904,853.

Patented Nov. 24, 1908.

Fig. 1

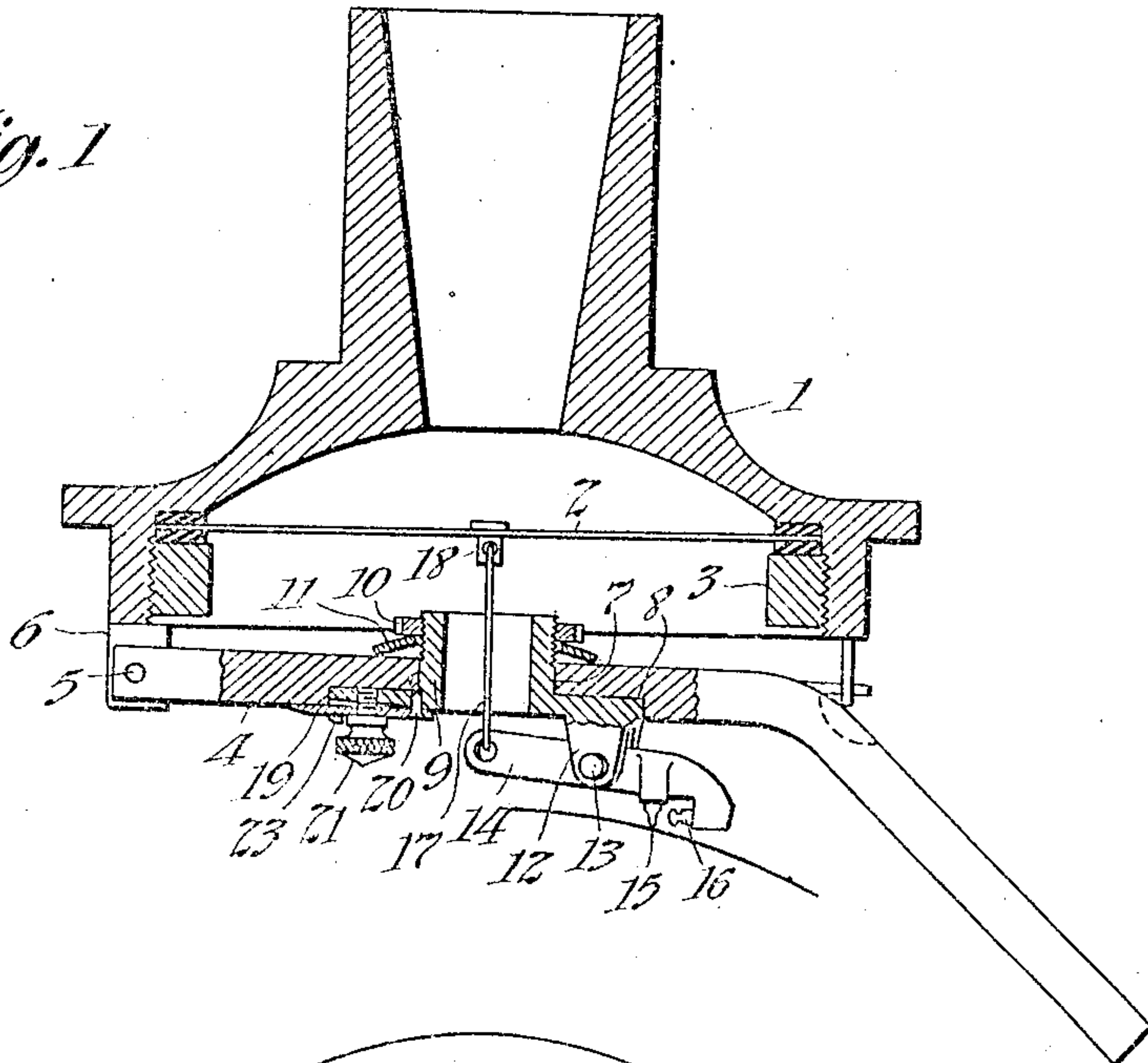
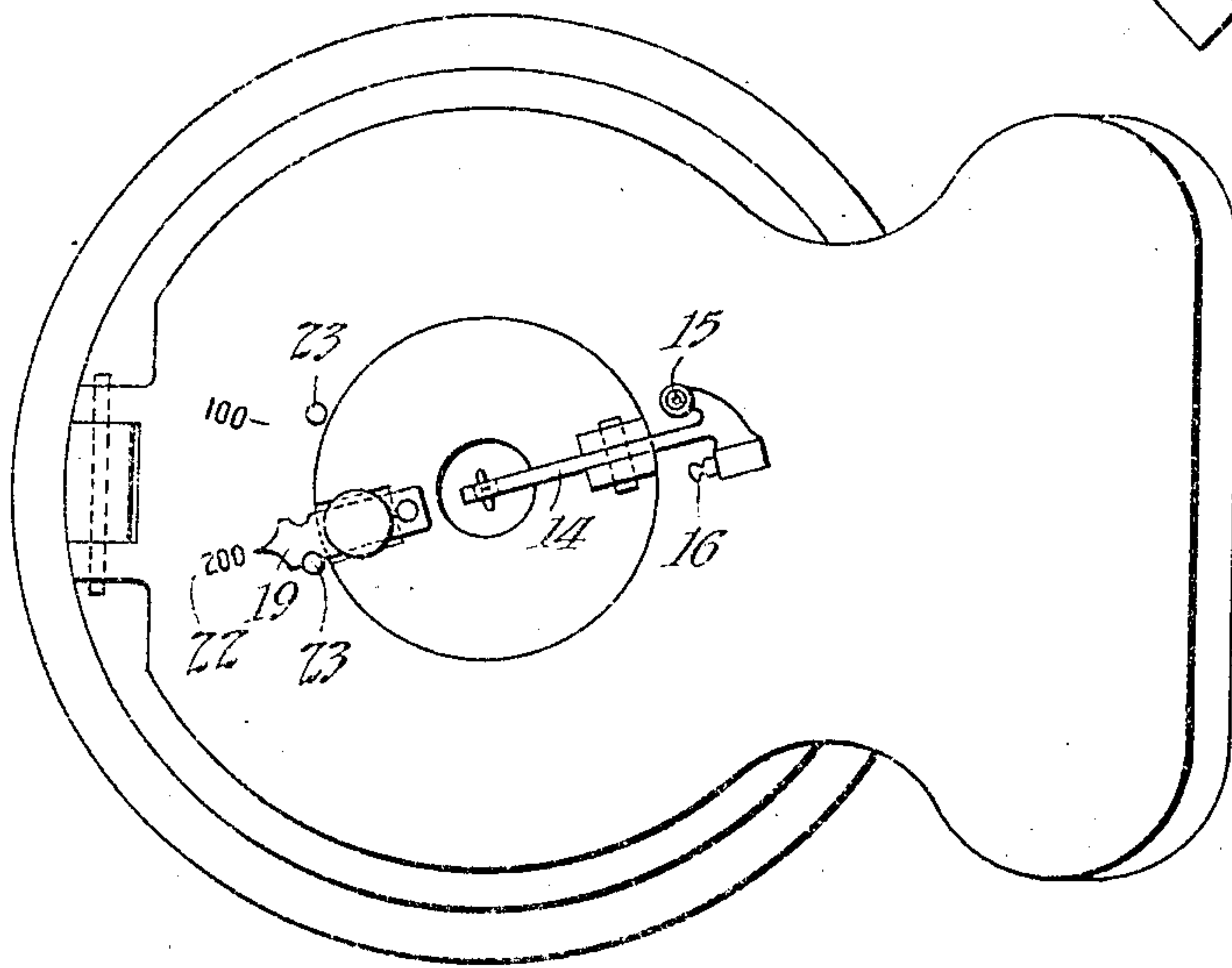


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

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PHONOGRAPH-REPRODUCER.

No. 904,883.

Specification of Letters Patent.

Patented Nov. 24, 1908.

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To all whom it may concern:

Be it known that we, FRANK L. DYER, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, and FRANK D. LEWIS, a citizen of the United States, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Phonograph-
10 Reproducers, of which the following is a description.

Our invention relates to phonograph reproducers and has for its object the production of a reproducer having two styluses
15 carried by a single lever, said lever being pivoted to a support which is carried by a floating weight and capable of being moved with respect thereto so as to bring either of said styluses into and out of operative position with respect to the record surface, and
20 said styluses being adapted to operate upon phonograph records of different pitch; for example, one stylus may be suitable for operating upon records having one hundred
25 turns or threads per inch and the other stylus may be suitable for records having two hundred threads per inch. Indicating means are also provided for designating which of the styluses is in operative position.

30 In order that the invention may be more fully understood, reference is made to the accompanying drawing, of which

Figure 1 is a side elevation, partly in section, of a reproducer constructed in accordance with our invention, and Fig. 2 is a bottom plan view of the same.

The reproducer shown comprises a body 1, within which the diaphragm 2 is secured in the usual manner by the clamping ring 3,
40 and the floating weight 4 is pivoted at 5 to the block 6 carried by the body 1. The floating weight 4 is formed with a central opening 7 and recess 8, within which is situated the stylus lever support which may be in the
45 form of a flanged sleeve or bushing 9. The upper end of said bushing is threaded to receive the nut 10 which presses a spring washer or dished plate 11 against the upper surface of the floating weight, so as to hold
50 the support 9 in frictional engagement with the said weight. The support 9 is formed with a pair of depending lugs 12 which receive the pin 13 upon which the stylus lever

14 is pivoted. Said lever 14 is shaped somewhat like the letter T and at the ex- 55 tremity of each end of the cross-arm is a socket in which are secured the styluses 15 and 16, the former being adapted to operate upon a record having two hundred threads per inch and the latter upon records having
60 one hundred threads per inch. The opposite end of the lever 14 is connected to the link 17, the upper end of which is connected to the eye 18 secured to the center of the diaphragm 2.

65 There is an index finger or plate 19, which is provided at one end with a pin 20 engaging an opening in the support 9 and with a holding screw 21 passing through an opening in the plate 19 and is threaded in the
70 flange of the bushing 9. The plate 19 coöperates with indicia 22 applied to the lower surface of the floating weight 4 to designate which of the styluses 15 and 16 is in operative
75 position, and it also limits the angular movement of the bushing 9 by coöperation with the stop pins 23 which extend downward from the weight 4.

When the parts are in the position of Fig. 2, the stylus 15 is in operative position with
80 respect to the record surface and the index finger 19 is opposite the numerals "200" indicating that the reproducer is in suitable position for operating upon records having two
85 hundred threads per inch. In order to convert it into a reproducer suitable for records having one hundred threads per inch it is necessary only to move the bushing 9 into its other extreme position, at which time the
90 finger 19 will be opposite the numerals "100".

Having now described our invention, what we claim is:

1. In a phonograph reproducer, the combination of the body and vibratory means
95 carried thereby, the floating weight, a stylus lever support movable with respect to said weight, a stylus lever pivoted to said support and a pair of reproducer styluses of different diameters carried by said stylus lever,
100 substantially as set forth.

2. In a phonograph reproducer, the combination of the body and vibratory means, the floating weight, a stylus lever support
105 capable of angular adjustment with respect to said weight, a stylus lever pivoted to said

support and a pair of reproducer styluses of different diameters carried by said lever, substantially as set forth.

3. In a phonograph reproducer, the combination of the body and vibratory means, the floating weight, a stylus lever support capable of angular adjustment with respect to said weight, a stylus lever pivoted to said support and a pair of reproducer styluses of different diameters carried by said lever, said styluses being applied to the same end of said lever, the opposite end of said lever being connected to said vibratory means, substantially as set forth.

4. In a phonograph reproducer, the combination of the body and vibratory means carried thereby, the floating weight, a stylus lever support movable with respect to said weight, a stylus lever pivoted to said support, a pair of reproducer styluses of different diameters carried by said stylus lever, and indicating means for designating the operative positions of said styluses, substantially as set forth.

5. In a phonograph reproducer, the combination of the body and vibratory means, the floating weight, a stylus lever support capable of angular adjustment with respect to said weight, a stylus lever pivoted to said support, a pair of reproducer styluses of different diameters carried by said lever, said styluses being applied to the same end of said lever and the opposite end of said lever being connected to said vibratory means, and indicating means for designating the operative positions of said styluses, substantially as set forth.

6. In a phonograph reproducer, the combination of the floating weight, the fulcrum pivoted to said weight, and a stylus lever

provided with a plurality of styluses and pivoted to said fulcrum, substantially as set forth.

7. In a phonograph reproducer, the combination of the floating weight, a fulcrum carried by said weight, a stylus lever provided with a plurality of styluses and pivoted to said fulcrum, said fulcrum being pivotally mounted upon said weight and frictionally held thereto, substantially as set forth.

8. In a phonograph reproducer, the combination of the floating weight, a fulcrum pivoted to said weight, a stylus lever provided with a pair of styluses and pivoted to said fulcrum, and indicating means for designating both operative positions of said stylus lever, substantially as set forth.

9. In a phonograph reproducer, the combination of the body, floating weight, a support pivoted to said floating weight, a stylus lever pivoted to said support, and a pair of styluses carried by said lever, substantially as set forth.

10. In a phonograph reproducer, the combination of the body, floating weight, a support pivoted to said floating weight, a stylus lever pivoted to said support, a pair of styluses carried by said lever, and means for limiting the angular movement of said stylus lever support, substantially as set forth.

This specification signed and witnessed this 5th day of June, 1908.

FRANK L. DYER.
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Witnesses:

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