

(No Model.)

G. BETTINI.
PHONOGRAPH.

No. 488,380.

Patented Dec. 20, 1892.

Fig. 4.

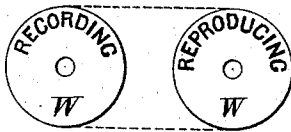


Fig. 1.

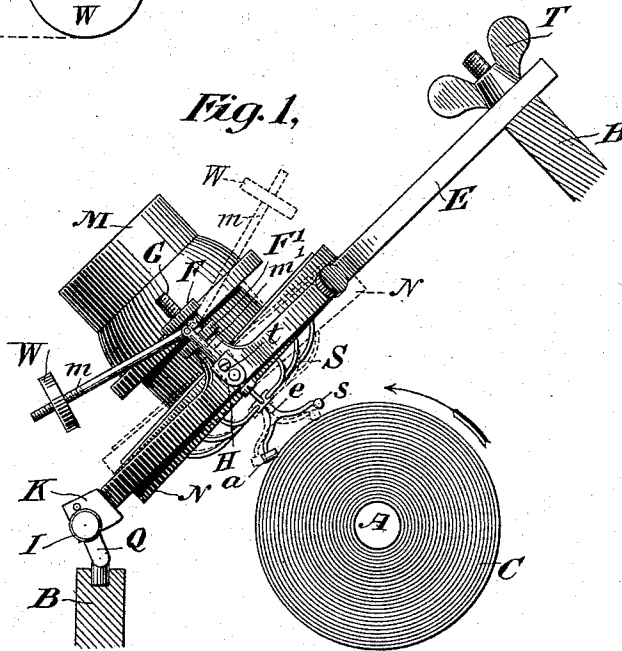


Fig. 2.

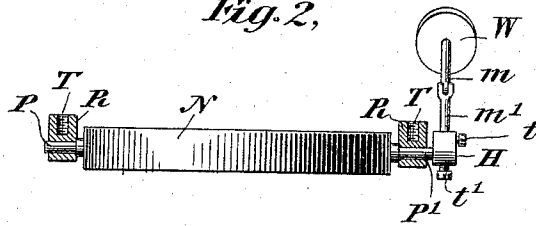
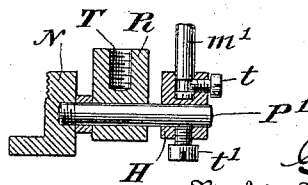


Fig. 3.



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PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 488,380, dated December 20, 1892.

Application filed March 14, 1892. Serial No. 424,814. (No model.)

To all whom it may concern:

Be it known that I, GIANNI BETTINI, a subject of the King of Italy, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Phonographs, of which the following is a specification.

My invention will be fully understood by reference to the accompanying drawings, in which—

Figure 1 represents a side elevational view of a phonogram cylinder, and a phonogram provided with my improvements—Fig. 2 is a part cross sectional, part end elevational view showing a portion of the apparatus—Fig. 3 is an enlarged detailed sectional view of those parts of the apparatus shown on the right hand in Fig. 2—Fig. 4 is an enlarged elevational view of the opposite sides of the regulating weight with the words "recording" and "reproducing" situated on opposite faces thereof.

Referring now to the drawings in detail in all of which like letters of reference represent like parts—B B represent parts of the frame which carry the adjustable diaphragm supporting arm (E) secured at the upper end by a thumb nut (T) and at the lower end by a fork (K) standard (Q) and adjustment screw (I), the enlarged portion (R) of the support (E) constituting a ring in which the diaphragm is pivotally sustained in a support (N) by pivots (P P').

M is a mouth piece adjustably sustained by two pairs of nuts (F F') upon screw rods (G) adapted to be screwed into the screw holes (T T) in the ring (R), the mouth piece being supported entirely independent from the diaphragm, and the latter having a spider (S) on its lower side to which the stylus is attached.

The apparatus as so far described is fully disclosed in my prior application above referred to, and the present invention embodies the additional feature of a record producing stylus (a) and a reproducing stylus (s) both lying in the same plane and attached to a single standard (e), which, in turn, is secured to the spider (S). On the outer end of the pivot (P') which carries the diaphragm supporting ring (N) is secured, by a set screw (t'), a short standard (H) in the upper end of

which is pivoted a rotatable standard (m') held in place by a set screw (t) and provided at its upper end with a pivoted extension (m), screw threaded at its free end to receive an adjustable weight (W), on one side of which is printed, engraved, or otherwise prepared the word "recording" and on the opposite side the word "reproducing."

The operation of the apparatus is as follows:—Suppose the phonogram cylinder (C) upon the axis (A) to be revolving in the direction of the arrow, and the weight (W) in the position shown on the left in full lines. Under this condition of affairs the record producing stylus (a) is held in contact with the surface of the cylinder and is caused to make a record on producing sounds in the mouth piece (M), while the record reproducing stylus (s) attached to the same spider (S) is held out of contact with the cylinder. After the record is thus produced and the cylinder restored to its starting point in the usual way the operator rotates the standard (m') through an angle of one hundred and eighty degrees carrying with it the weight (W) and pivoted extension (m). As soon as it is released, therefore, the weight (W) causes the diaphragm to be tilted upon the standards or pivots (P P') into the position shown in dotted lines, thereby placing the record reproducing stylus (s) in contact with the cylinder and removing the record producing stylus (a) so that when the cylinder is again set in motion the record will be faithfully reproduced from the same diaphragm.

When the apparatus is in the position shown in full lines in Fig. 1, the word "recording" will be in full view of the operator, thus indicating to him that the recording stylus (a) is in operative position. When, however, the weight (W) and arm (m) are revolved into the other position shown in dotted lines so that the reproducing stylus is in operative position the word "reproducing" will be in full view of the operator. It will be apparent therefore, that I provide a simple means of indicating to the operator, whether or not the apparatus is in condition for producing or reproducing a record, thus avoiding the possible mutilation of a cylinder upon which a record has already been produced.

I am aware that it is not broadly new with me to utilize a single diaphragm in connection with two independent styles, one of which is designed to make a record, and the other to reproduce it, as I know that a phonograph has heretofore been constructed in which two styles have been pivotally secured to a pivoted bar or rod, which, in turn, was secured to a single diaphragm, and I make no claim hereinafter broad enough to include such a structure. I am not aware, however, that any one has heretofore rigidly secured a record making and a record reproducing stylus to a single diaphragm in such manner as to adapt it to act for producing or reproducing a record at will, and my claims in this particular are of a generic nature. Nor am I aware that any one has heretofore devised a pivoted diaphragm carrying two styles, one of which is adapted to make a record upon a phonogram surface, and the other to reproduce it in combination with indicating mechanism which serves the double function of an indicator and a means for holding the styles in operative relation with the surface, and my claims are also generic in this particular.

Having thus described my invention what I claim and desire to secure by Letters-Patent of the United States is:—

1. A phonograph having a record producing stylus and an independent record reproducing stylus, said styles being attached by a rigid support to the diaphragm or other resonant medium substantially as described.

2. In a phonograph a pair of styles secured by a rigid support to a diaphragm and located in the same plane whereby one may be utilized for producing a record and the other for reproducing it—substantially as described—

3. In a phonograph a pair of styles secured to a diaphragm by a spider, one style being

adapted to produce a record and the other to reproduce it—substantially as described—

4. In a phonograph a pivoted diaphragm having a record producing stylus and a second or record reproducing stylus rigidly secured to it—substantially as described—

5. In a phonograph a pivoted diaphragm having a record producing stylus, and a second or record reproducing stylus rigidly secured to said diaphragm in combination with means for causing either stylus to bear upon the phonogram surface—substantially as described—

6. In a phonograph, a loosely pivoted diaphragm having a pair of styles rigidly secured to it in combination with adjustable means for causing either stylus to act at will—as described—

7. In a phonograph a loosely pivoted diaphragm; a pair of styles rigidly secured to said diaphragm in combination with reversible adjustable means for utilizing either style at will—as described—

8. In a phonograph a pair of styles located in a vertical plane and rigidly secured to the diaphragm—as described—

9. In a phonograph a pivoted diaphragm carrying a pair of styles in combination with a reversible weighted indicator adapted to indicate which style is in contact with the surface and to maintain it in that position until reversed, substantially as described.

10. A phonograph having a pair of independent styles rigidly secured to a pivoted diaphragm and a reversible weighted lever adapted to cause either style at will to bear upon the phonogram surface.

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Witnesses:

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