J. JETTER.

TALKING MACHINE.

APPLICATION FILED APR. 28, 1904. RENEWED MAY 11, 1910.

1,013,170. Patented Jan. 2, 1912.

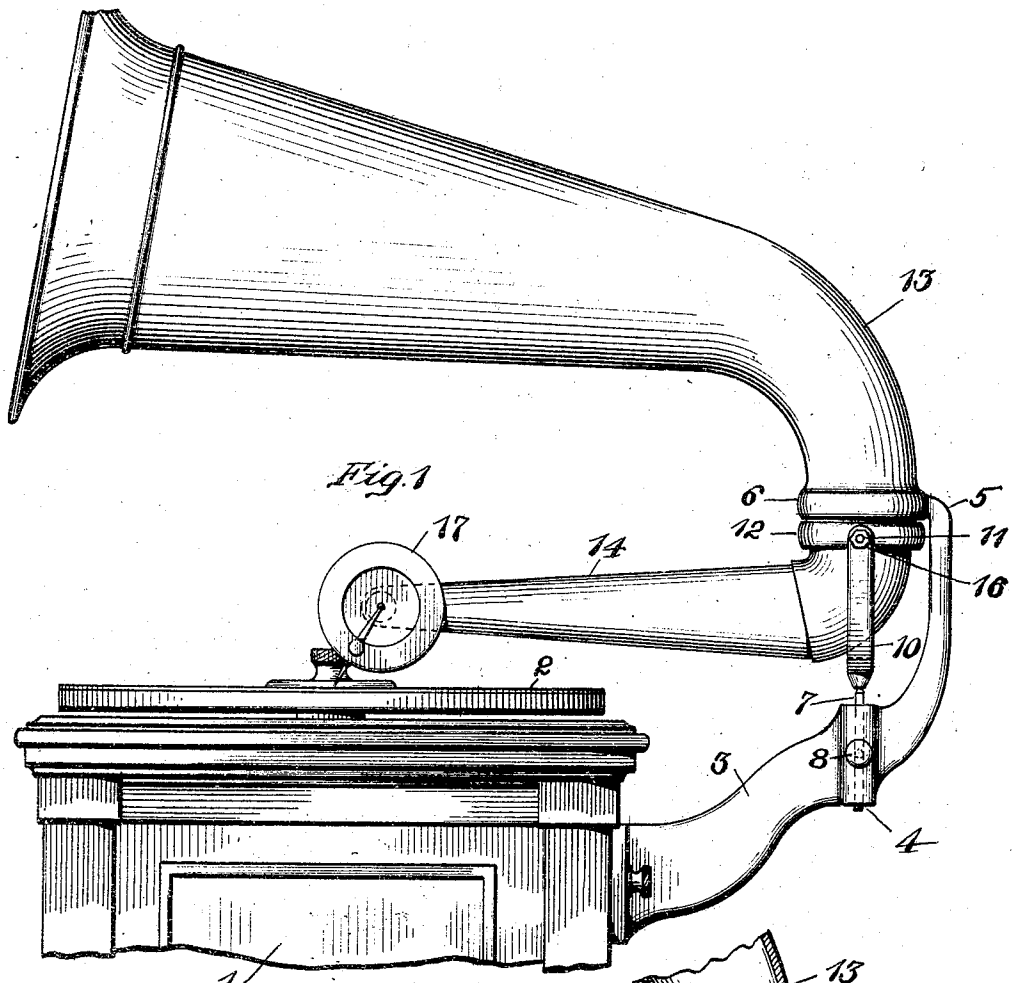

Fig. 1

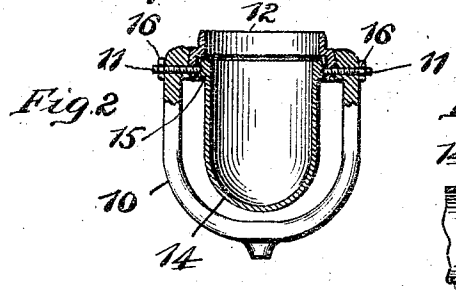

Fig. 2

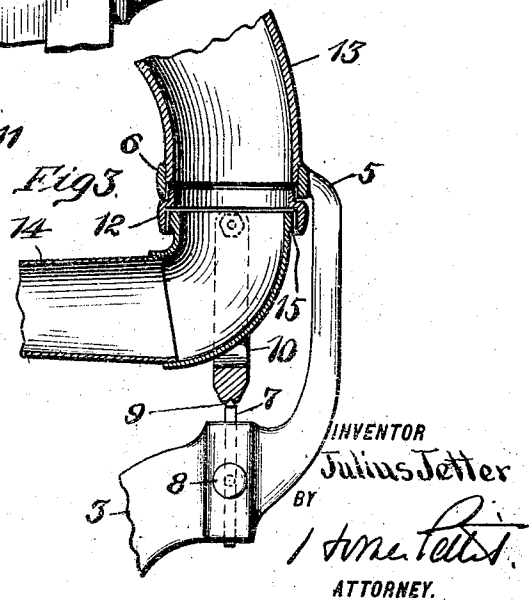

Fig. 3

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UNITED STATES PATENT OFFICE.

JULIUS JETTER, OF CAMDEN, NEW JERSEY, ASSIGNOR TO VICTOR TALKING MACHINE COMPANY, OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TALKING-MACHINE.

1,013,170. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed April 28, 1904, Serial No. 205,277. Renewed May 11, 1910. Serial No. 560,731.

To all whom it may concern:

Be it known that I, JULIUS JETTER, a citizen of the United States, and a resident of the city of Camden, State of New Jersey, have invented certain new and useful Improvements in Talking-Machines, of which the following is a full, clear, and complete disclosure.

The main objects of this invention are to provide in a talking machine an improved sound-box arm and mounting therefor; and to provide other improvements as will appear hereinafter.

In the accompanying drawings Figure 1 is a side elevation of a talking machine embodying this form of my invention. Figs. 2 and 3 are views illustrating details of construction, certain parts being shown in section.

Referring to the drawings, one embodiment of this invention comprises the usual casing 1 which contains the usual spring motor, or other actuating mechanism, which is connected by a vertical spindle extending through the top of the casing with the usual horizontal turntable 2 arranged above the casing.

Attached exteriorly to the rear vertical wall of the casing 1 and extending laterally and upwardly therefrom is a bracket or support 3 which is provided intermediate its ends with a vertical opening 4 extending transversely therethrough. The upper portion 5 of the bracket curves inwardly and terminates in a fixed horizontal ring or collar 6 which may be integral therewith.

Within the opening 4 in the bracket 3 is a vertically adjustable pin 7 which is held rigidly in position within the opening by means of a set screw 8. The upper end of the pin 7 is in the form of a conical bearing 9 which engages the lower end of an upwardly extending yoke 10. Each of the two arms of the yoke 10 is provided adjacent its upper end with a screw 11 threaded horizontally therethrough, the screw of each arm being spaced from and in longitudinal alinement with the screw of the other arm. These screws 11 project diametrically through the opposite walls respectively of a collar 12.

The collar 12 is arranged coaxially with the fixed ring or support 6, the upper portion of the collar being reduced in external and internal diameters and telescoping rotatably in the lower portion of the ring 6 and the lower portion of the collar 12 projecting downwardly from and outside of the ring 6. The annular external shoulder between the upper and lower portions of the collar 12 is adapted to engage against the lower edge of the ring 6.

Projecting upwardly from the fixed collar 6 and supported thereby is the usual or any suitable amplifying horn 13. The smaller end of the horn 13 is reduced externally in diameter and fits snugly within the upper portion of the ring 6.

A tapering tubular sound-box arm or tone arm 14 is provided, which has surrounding its larger end an outwardly extending flange 15 exteriorly in the form of a spherical zone which fits loosely within the cylindrical opening in the lower end of the rotary collar 12, and is provided with diametrically opposite sockets in which engages respectively the conical inner ends of the screws 11. Each of the screws 11 is provided outside of the yoke with a nut 16 for locking the screw in position with respect to the yoke.

The smaller end of the tone arm is provided with the usual or any suitable sound-box or sound reproducer 17, which is arranged to coöperate with a sound record carried by the turntable 2.

From the foregoing description, it is evident that in this construction the smaller end of the tone arm together with the sound-box 17 carried thereby may be moved freely vertically, the spherical flange 15 of the larger end of the tone arm moving easily within the collar 12 on a horizontal axis about the conical ends of the screws 11, and also that the free end of the tone arm and the sound-box carried thereby may be moved freely horizontally across the record support, the collar 12 turning freely within the fixed ring 6, together with the yoke 10, about a vertical axis coincident with the axis of the ring 6 and with the longitudinal axis of the pivot 7. This construction provides a continuous unobstructed and practically sound tight conduit from the sound-box 17 to the amplifying horn 13, which is free from sharp corners and through which sound waves may be transmitted without being divided or modified in any manner by pins, cross-bars or other parts such as have been used in some instances heretofore and which will allow the sound waves to proceed

smoothly from the sound-box through the amplifying horn with a gradual increase in wave front.

Although only a single form has been illustrated in which this invention may be embodied, the invention is not limited to any particular construction but may be applied in various forms without departing from the spirit of the invention or the scope of the appended claims.

Having thus fully described this invention, I claim and desire to protect by Letters Patent of the United States:

1. In a talking machine, the combination with a sound conveying tube, of a substantially cylindrical member with which said tube telescopes, a support carrying said member, said support and member being movable about the axis of the latter and of said tube, and pivots for said tube extending diametrically from said cylindrical member.

2. In a talking machine, the combination with a hollow sound conveying tube, of a collar within which said tube fits, a yoke supporting said collar and tube, said yoke, collar, and tube having devices which connect them together, so that said tube is pivotally retained in position, and a support having an opening therein within which a portion of said collar is retained.

3. In a talking machine, the combination with a hollow sound conveying tube, having a flange at one end thereof, of a collar having a cylindrical opening therein, within which said flange fits loosely, a yoke pivoted to turn on a vertical axis, said yoke having pivot screws which pass therethrough, and through said collar, and engage said flange pivoting said tube upon a horizontal axis, and a fixed support having an opening within which a portion of said collar fits.

4. In a talking machine, the combination with a hollow sound conveying tube, of a collar which telescopes with one end of said tube, a yoke, pivot devices carried by said yoke, and engaging both said tube and said collar, forming a bearing to permit said tube to turn on a horizontal axis, a fixed support having an opening therein with which said collar telescopes, and a vertical pivot for said yoke.

5. In a talking machine, the combination with a hollow sound conveying tube having a spherical flange at one end thereof, a collar within which said flange fits loosely, a yoke pivoted to turn on a vertical axis, set screws passing through the ends of said yoke and through said collar and engaging said flange, pivoting the same upon a horizontal axis, and a fixed support telescoping with said collar.

6. In a talking machine, the combination with a hollow sound conveying tube, of a collar with which said tube telescopes so as to prevent the escape of sound waves, a yoke for supporting said collar, said yoke, collar and tube having devices which connect them together pivotally, and a support having an opening therein, said support also adapted to telescope with said collar.

7. In a sound recording or reproducing machine, a suitably supported supporting ring, a collar telescoping with said ring, a hollow arm telescoping with said collar, and rotatable means supporting said collar in revoluble relation to said ring and said arm to swing relatively vertically.

8. In a talking machine, the combination with a sound conveying tube, of a substantially cylindrical member in which said tube telescopes, a support carrying said member, said supporting member being movable about the axis of the latter and of said tube, pivots for said tube extending diametrically from said cylindrical member, and means for vertically adjusting said support.

9. In a talking machine, the combination with a fixed member provided with an opening, of a rotatable collar having a portion extending in said opening, and a portion projecting downwardly from said fixed member, a hollow sound-box arm having one end telescoping with the lower portion of said collar, means outside of said fixed member connecting said collar to said end of said sound-box arm and arranged to restrain said tone arm to swing upon a substantially horizontal axis fixed with respect to said collar, and means arranged beneath said collar for holding said collar against movement downwardly.

10. In a talking machine, the combination with a fixed member provided with an opening, of a rotatable collar having a portion extending in said opening, and a portion projecting downwardly from said fixed member, a hollow sound-box arm having one end telescoping with the lower portion of said collar, means outside of said fixed member connecting said collar to said end of said sound-box arm and arranged to restrain said tone arm to swing upon a substantially horizontal axis fixed with respect to said collar, and vertically adjustable means arranged beneath said collar for adjusting said collar vertically and for holding said collar against movement downwardly.

11. In a talking machine, the combination with a substantially horizontal fixed ring of a collar rotatable about its longitudinal axis and having a substantially cylindrical reduced portion engaging in said ring and a lower portion projecting downwardly from said ring, a hollow tone arm having one end engaging in the said lower portion of said collar, a pair of horizontally alined pivots projecting diametrically through the opposite walls of said lower portion of said collar respectively and engaging said end of

said hollow tone arm, and a yoke mounted to swing about a vertical axis and supporting said collar.

12. In a talking machine, the combination with a substantially horizontal fixed ring of a collar having a substantially cylindrical reduced upper portion engaging in said ring and a substantially cylindrical lower portion projecting downwardly from said ring, a hollow tone arm having one end engaging in the said lower portion of said collar, a pair of horizontally alined pivots projecting diametrically through the opposite walls of said lower portion of said collar respectively and engaging said end of said hollow tone arm and a vertically adjustable yoke mounted to swing about a vertical axis and supporting said collar.

In witness whereof I have hereunto set my hand this 20th day of April, A. D. 1904.

JULIUS JETTER.

Witnesses:
LEWIS H. VAN DUSEN,
EDW. W. VAILL, Jr.