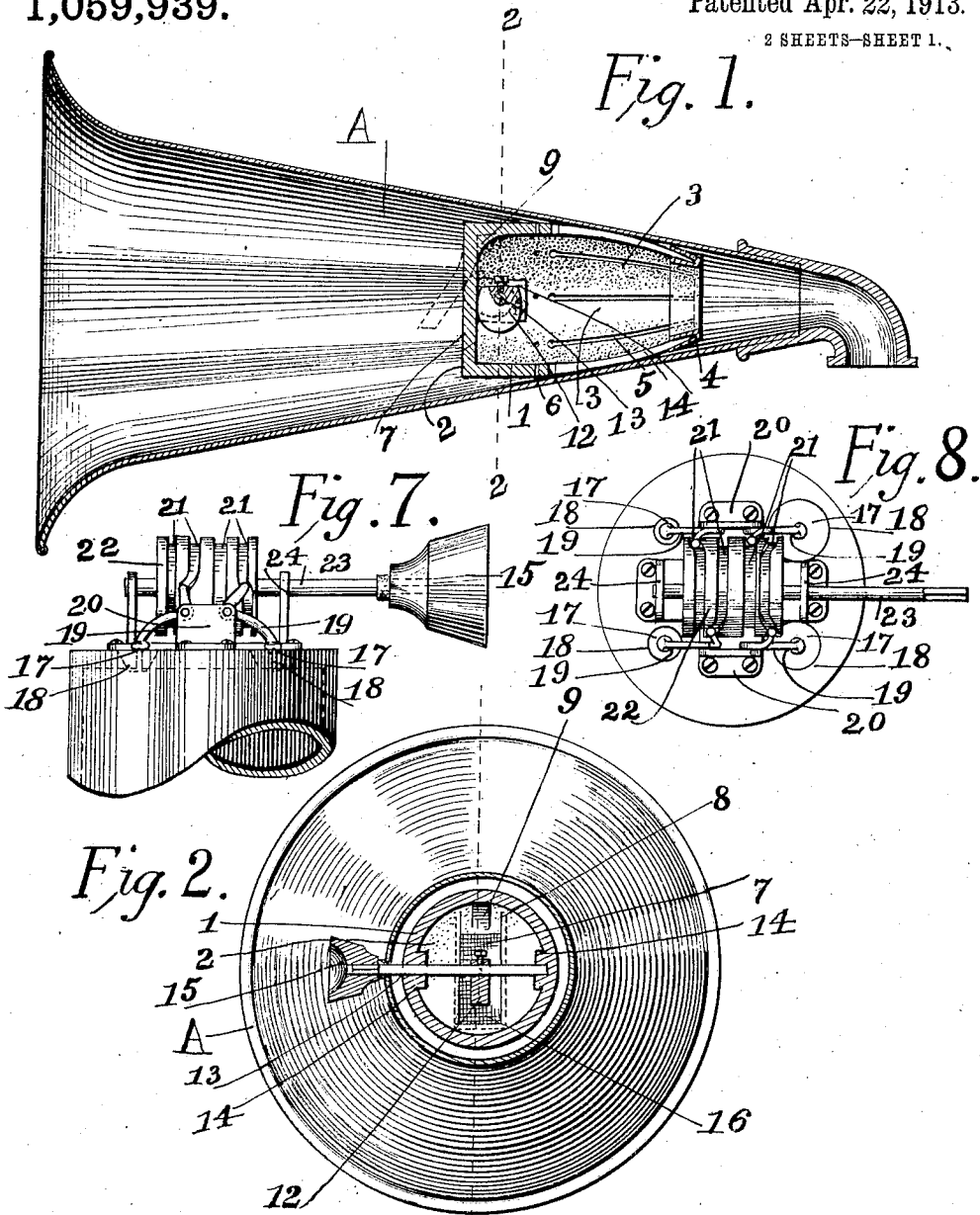


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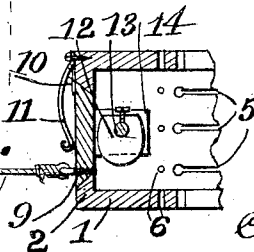
Patented Apr. 22, 1913.

2 SHEETS—SHEET 1.



WITNESSES:
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Fig. 9.



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SOUND CONTROLLER FOR TALKING MACHINES.
APPLICATION FILED MAY 31, 1911.

1,059,939.

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2 SHEETS—SHEET 2.

Fig. 3.

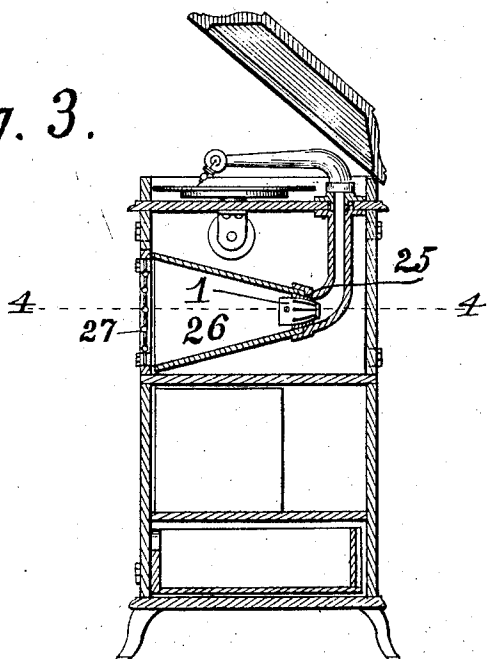


Fig. 4.

Fig. 6.

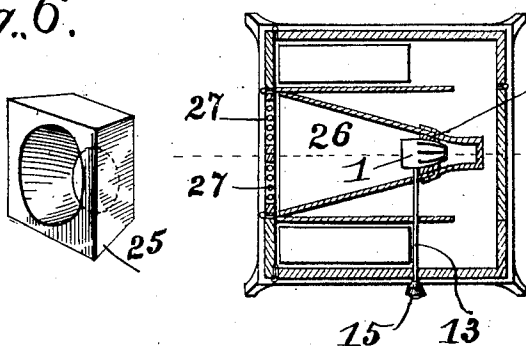
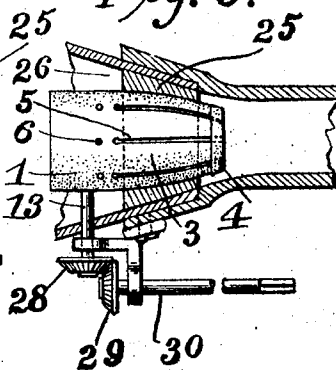


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLIE EMERY KENYON, OF NEWARK, NEW JERSEY.

SOUND-CONTROLLER FOR TALKING-MACHINES.

1,059,939.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed May 31, 1911. Serial No. 630,526.

To all whom it may concern:

Be it known that I, CHARLIE EMERY KENYON, citizen of the United States, and resident of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Sound-Controllers for Talking-Machines, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to sound controllers for phonographs and talking machines; the objects of the invention being to reduce the unmusical scratching sound produced by the action of the needle as it moves over the record; and to provide means for controlling the volume of sound emitted from the horn.

Phonographs when operated in small rooms generally emit such a large volume of sound as to produce harshness, and thereby mar the enjoyment of the listeners. This is especially notable when band records or records of very powerful voices are employed. By the use of my invention the volume of sound emitted can be so nicely graduated and controlled as to make any record adaptable for successful use in any sized room. Moreover, it is susceptible of use in connection with any type of phonograph and talking machine.

This invention will be hereinafter fully described and specifically set forth in the annexed claims.

In the accompanying drawings forming part of this specification Figure 1, is a longitudinal sectional view of a phonograph horn having my improved controller connected thereto; Fig. 2, a cross sectional view taken on the line 2—2 of Fig. 1; Fig. 3, a vertical sectional view of a cabinet, or hornless variety of phonograph, having my improved controller inserted therein; Fig. 4, a sectional plan view taken on the line 4—4 of Fig. 3; Fig. 5, a similar view, drawn on an enlarged scale, and illustrating a modified means for operating the controller; Fig. 6, a perspective view of a plug for attaching the device; Fig. 7, a side view of one end of the device showing a modification of valve operating means; Fig. 8, an end view thereof; and Fig. 9, is a longitudinal sectional view illustrating a further modification.

As illustrated in Figs. 1 and 2, of the drawings, the device embodies a cylinder 1, having an integral head 2, and an open ended, inwardly extended contracted part 3, which engages within an annular recess of a hollow plug 4; this plug fits snugly within the horn, as A, and holds the device in place. Leading peripherally through the device is an annular series of slots 5, and openings 6, through which the sound waves pass laterally and are discharged into the horn A. All of the said parts are composed of elastic rubber.

Normally seated within a bevel-edged opening of the head 2 of the cylinder 1, is a valve 7; this valve forms an integral part of said head and it is joined at 8, a rib 9, being employed to stiffen the joint and maintain the valve in closed position.

When the device is composed of rubber the valve 7, is held normally closed by its own resiliency; but I do not confine myself to the use of rubber, as other non-resonant material, as compressed fiber or wood, may be employed. When such material is used the valve, as 9, Fig. 9, of the drawings embodies a separate part which is connected to the cylinder head by means of a hinge 10, closed position of the valve being maintained by means of a suitable spring, as 11.

As a means for operating the valve 7, I employ an eccentric cam 12, which is mounted on a horizontal rod 13; this rod extends through one side of the horn A, and is journaled in bearings 14, which are formed integral with the cylinder 1; a knob 15, is attached to the outer end of said rod 13, to be employed as a means for turning the same. When the valve for discharging sound into the horn is composed of elastic rubber a coating of fabric 16, see Fig. 2, of the drawings, is placed thereon to reduce friction against the cam 12, whereby said cam may be easily operated.

In Figs. 7 and 8, of the drawings, I have illustrated a cylinder head having a plurality of valves 17, engaging outlet openings 18. These are of differential proportion, and are to be opened successively, the largest when a full volume of sound is required, and the smallest when a light volume of sound is desirable. Each of said valves is connected to an operating lever 19, which is pivoted to a bearing 20, each lever being operable by means of cams 21, form-

ing part of a cam wheel 22, which is mounted on a shaft 23, journaled in bearings 24, which are secured to the cylinder head.

When the invention is used in a cabinet, or hornless variety of phonograph, a square plug is fitted to the inlet of the recess 26, for the purpose of holding the device in place, and the rod 13, is extended laterally through the side walls of the cabinet. Or the rod 13, may have a bevel-gear wheel 28, on the outer end thereof which engages a similar wheel 29, mounted on the inner end of an operating rod 30, which extends through the rear wall of the cabinet. The cabinet may have grilled doors 27, for discharging the sound, whereby it is not necessary to open them when the phonograph is being operated.

In the operation and use of the invention, the controller being placed in communication with the sound-inlet part of the horn or other ejector, as shown in the drawings, it is simply necessary for an operator of the phonograph to open and close the valve or valves, in accordance with the volume of sound required, by the simple act of turning the knob 15, in one direction to open, and in the other to close the valves.

When the valves are entirely closed a minimum of sound is ejected into the horn through the slots 5 and openings 6, and when they are fully opened a full volume of sound is attained; the operator can also cause any desired intermediate degree of sound to be emitted by a differential adjustment of the valves.

I do not confine myself to the specific means for operating the valve, as herein shown; for instance a chord B, see Fig. 9 of the drawings, may be attached to the valve and led through the horn to any point handy for the operator.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A sound controller for talking machines comprising a non-resonant compartment embodying an outer head part and an inwardly extended open ended and contracted part, having an annular series of sound-outlet openings leading therethrough, and a sound-outlet opening leading through said head, and a spring actuated valve normally closing said opening, and a rod and cam for operating said valve, substantially as shown and described.

2. A sound controller for talking machines, comprising a non-resonant compartment embodying an outer head part and an inwardly extended open ended contracted part, said contracted part having an annular series of sound-outlet openings leading therethrough, and said head part having a

sound-outlet opening leading centrally therethrough, and a valve normally closing said opening, and means for operating said valve, substantially as shown and described.

3. A sound controller for talking machines, comprising a non-resonant compartment, composed of elastic material and embodying an outer head part and an inwardly extended open-ended contracted part, having an annular series of elongated sound-outlet openings leading through its peripheral wall, and a sound-outlet opening leading through said head, and a valve formed integral with said head and normally closing said sound-outlet opening, and means for operating said valve, substantially as shown and described.

4. A sound controller for talking machines, comprising a non-resonant compartment embodying an outer head part having a sound-outlet opening therethrough, and a spring actuated valve normally closing said opening, and an inwardly extended open ended contracted part having annularly arranged cylindrical outlet openings and annularly arranged elongated openings leading therethrough, and means for operating the spring actuated valve, substantially as shown and described.

5. The combination, with a phonograph sound-outlet part, of a controller comprising a compartment embodying a head and a cylindrical part said part having a contracted extension open at its inner end, and having an annular series of peripheral openings, and an opening leading through said head, and a normally closed spring actuated valve within said opening, and a cam and rod for operating said valve, substantially as shown and described.

6. A sound controller for talking machines, comprising a non-resonant compartment embodying an outer head part having a sound-outlet opening leading therethrough, and a spring actuated valve normally closing said opening, and an inwardly extended open ended contracted part having an annular series of sound-outlet openings leading peripherally therethrough, and a hollow plug of non-resonant material, said plug having an annular recess therein which engages the inner end of said contracted part, and means for operating the said valve, substantially as shown and described.

In testimony that, I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this twenty second day of May, A. D. 1911.

CHARLIE EMERY KENYON.

Witnesses:

EDWARD MARKHOFF,
AUGUST J. CHAMBOSS.