

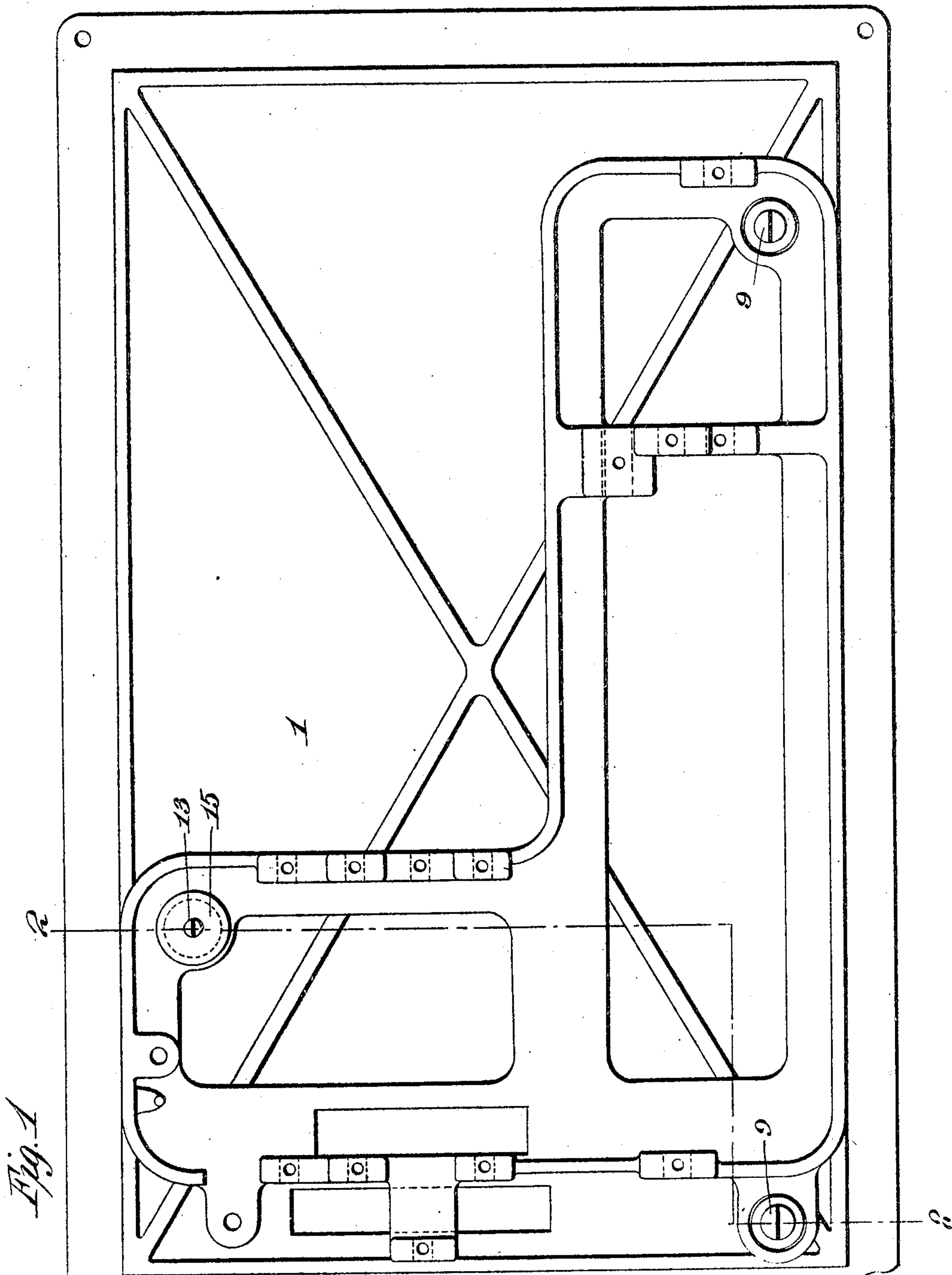
No. 798,478.

PATENTED AUG. 29, 1905.

E. L. AIKEN.
MEANS FOR SUSTAINING PHONOGRAPH MOTORS.

APPLICATION FILED JUNE 20, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Gas. F. Coleman
Anna P. Ketchum

Inventor

Edward L. Aiken

by *Frank L. Spens*
Attorneys.

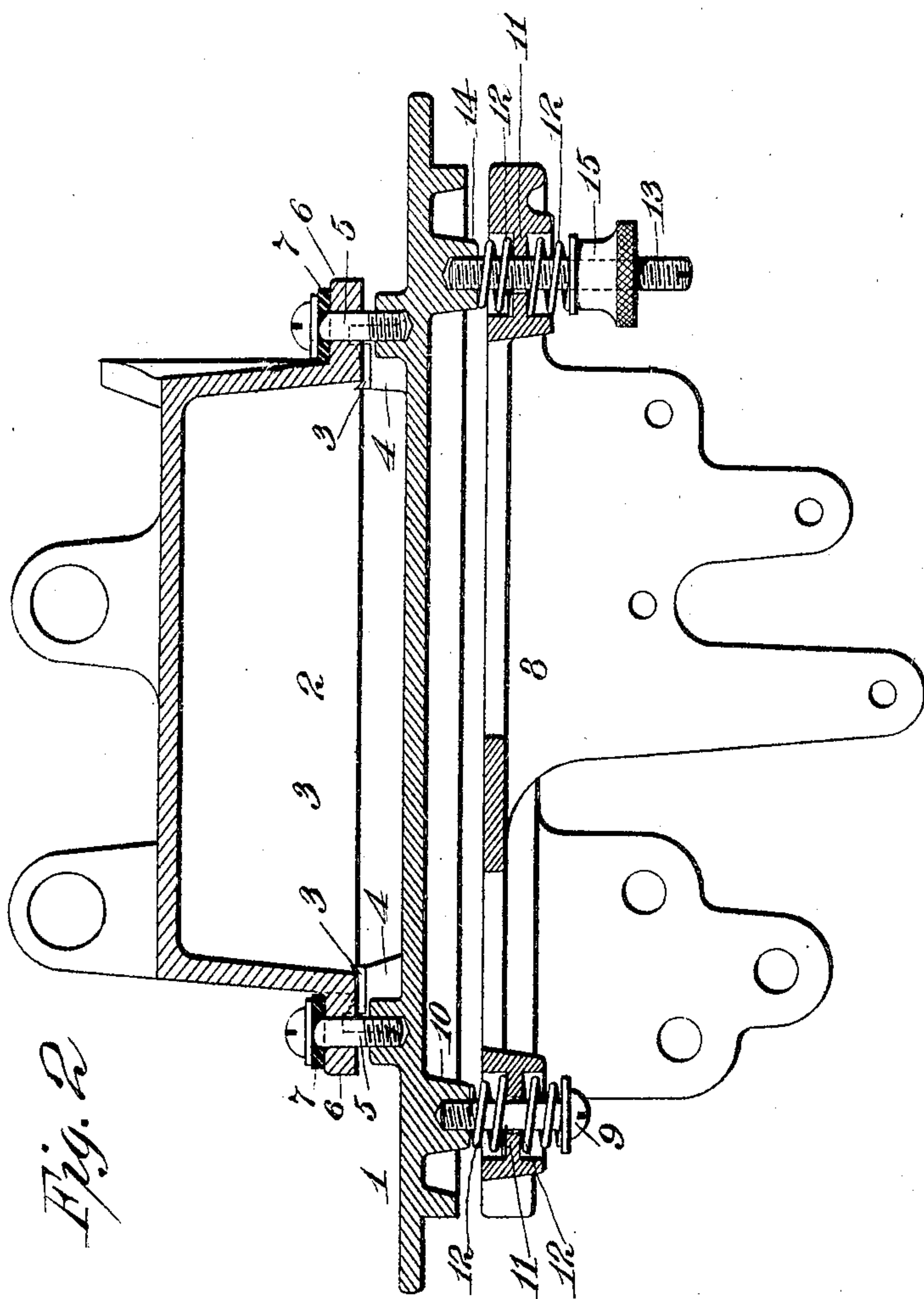
No. 798,478.

PATENTED AUG. 29, 1905.

E. L. AIKEN.
MEANS FOR SUSTAINING PHONOGRAPH MOTORS.

APPLICATION FILED JUNE 20, 1904.

2 SHEETS—SHEET 2.



Witnesses:

Jas. F. Coleman
Arma R. Ketchum

Inventor
Edward L. Aiken

by Frank L. Hogen
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD L. AIKEN, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO NEW JERSEY PATENT COMPANY, OF ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MEANS FOR SUSTAINING PHONOGRAPH-MOTORS.

No. 798,478.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed June 20, 1904. Serial No. 213,327.

To all whom it may concern:

Be it known that I, EDWARD L. AIKEN, residing at 643 Springdale avenue, East Orange, in the county of Essex and State of New Jersey, have invented a certain new and useful Means for Sustaining Phonograph-Motors, of which the following is a description.

Difficulty has been experienced in connection with the manufacture of phonographs and allied talking-machines, owing to the fact that extraneous noises are created by the motor-gearing, which become emphasized by being communicated to the top plate, the latter resting upon the usual cabinet, which acts practically as a sounding-box. Consequently the operation of such machines is attended by a humming sound, which detracts to some extent from the effectiveness of the reproduction. The attempt has heretofore been made to insulate the motor-frame from the top plate by means of solid cushions of elastic material, like rubber or felt; but I find that these cushions do not prevent the objectionable effect indicated, although reducing the same to some extent. I find that it is possible to entirely eliminate all humming and extraneous noises, due to the operation of the motor, by employing metallic spiral springs as cushioning devices between the motor-frame and the top plate of a character and applied in a way which I shall hereinafter describe.

My object, therefore, is to provide an improved means for supporting phonograph-motors in such a way as to secure a practically noiseless device.

In order that my invention may be better understood, attention is directed to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of the top plate and motor-frame, illustrating my present improvements in connection therewith; and Fig. 2 a section on the line 2 2 of Fig. 1.

The top plate 1 rests upon the usual cabinet, (not shown,) forming a main support which carries the body 2, on which are mounted the operating parts—such as the mandrel, feed-screw, end gate, carriage, and recording or reproducing devices—all of the ordinary construction, and illustration of which is not necessary. The body 2 rests, preferably, on rubber cushions 3, seated upon suitable lugs 4,

cast with top plate 1 and held in position by screws 5, passing through lugs 6 in the body 55 and entering the top plate, a rubber washer 7 being interposed between the head of the screw 5 and the lug 6. The rubber washers 3 and 7 are sufficient to effectively insulate the body 2 from the top plate 1 to prevent the communication to the top plate of the very slight mechanical noises generated in the operating parts of the phonograph mechanism proper.

On the under side of the top plate 1 and within the cabinet is carried the motor-frame 8, generally in the form of a skeleton, and carrying the usual spring-motor, (not shown,) which drives the mandrel through the ordinary belt. At one edge the motor-frame is secured to the top plate in a substantially fixed relation to the top plate, and at the other edge provision is made for adjusting the motor-frame toward and away from the top plate, so as to regulate the tension of the driving-belt in the usual way. The former connection comprises one or more screws 9, entering lugs 10 on the under side of the top plate and each passing through a large opening in the motor-frame. In this opening is formed a neck 11, constituting two shoulders, as shown, and surrounding each of the screws 9 and resting upon these shoulders are two spiral springs 12 of gradually-increasing radius toward their seats. At the other edge of the motor-frame I extend a longer screw 13 through a corresponding enlarged opening and engage the same rigidly in a corresponding lug 14 and mount on the screw an adjusting-nut 15. The screw 13 is surrounded by spiral springs 12, arranged in the same way, so that by moving the nut on the screw 13 the motor-frame may be adjusted toward or away from the top plate, whereby the tension of the driving-belt may be regulated. By thus supporting the motor-frame entirely on metallic springs and preferably by floating the same between pairs of such springs, as shown, I provide a construction wherein practically no noise of the motor is communicated to the top plate, so that the device operates with much less noise than phonographs as now constructed.

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

1. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to carry the sound-producing or operating parts
5 and being provided with metal springs, said motor-support resting upon said springs and being adapted to carry a motor for driving said operating parts, substantially as set forth.
- 10 2. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to carry the sound-producing or operating parts and being provided with metal spiral springs,
15 said motor-support resting upon said springs and being adapted to carry a motor for driving said operating parts, substantially as set forth.
- 20 3. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to carry the sound-producing or operating parts and being provided with a pair of metal
25 springs, said motor-support being floated between the springs of said pair and being adapted to carry a motor for driving said operating parts, substantially as set forth.
- 30 4. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to carry the sound-producing and operating parts and being provided with a plurality of pairs
of metal spiral springs, said motor-support being floated between the springs of each of said pairs and being adapted to carry a motor
35 for driving said operating parts, substantially as set forth.
5. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to
40 carry the sound-producing or operating parts and being provided with metal springs, said motor-support resting upon said springs and being adapted to carry a motor for driving said operating parts and means for varying
45 the tension of the said springs, substantially as set forth.
6. In a phonograph or talking-machine, the combination of a main support and a motor-support, said main support being adapted to
50 carry the sound-producing and operating parts, a screw secured to said main support, a pair of metal spiral springs surrounding the screw, a motor-support floated between said
55 springs and being adapted to carry a motor for driving said operating parts, and a nut on the screw for varying the tension of said springs, substantially as set forth.

This specification signed and witnessed this
17th day of June, 1904.

EDWARD L. AIKEN.

Witnesses:

DELOS HOLDEN,
FRANK L. DYER.