The casing 1 is carried in a ring 2, formed in a pivoted arm 3, having an adjusting-screw 4, which works on the usual longitudinal slide 5. The cutting or engraving tool 6 is carried on the end of spring-arms 7 7 (shown more clearly in Fig. 2) and is connected with the center of the diaphragm 8 by a connection 9, made, preferably, of wood. In use the adjusting screw 4 is turned until the cutting or engraving tool 6 engages the proper depth into the recording-surface 10. This obviously places the diaphragm 8 under stress, or, in other words, tends to buckle it upwardly, preventing accurate response thereof to the vibrations. With this type of recorder in 65 order that my invention may be carried out a weight is preferably employed to counteract this upward stress of the diaphragm. This counteracting-weight 12 is located, preferably, in the nipple 13, to which the speaking-tube is connected, being guided by the arms 14 and having a recess at its lower end, in which is placed, preferably, a section of rubber tubing 15, (see Fig. 3,) which bears upon the center of the diaphragm 8. The mass of the weight 12 is sufficient to substantially counteract the upward stress exerted upon the diaphragm by the engagement of the cutting or engraving tool with the recording-surface. By employing the elastic buffer 15 between the diaphragm 8 and the weight 12 the effect of the weight will be exerted at all times upon the diaphragm, even though the vibrations are so rapid that the weight cannot respond thereto.

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

1. In a phonograph-recorder, the combination with the recording-diaphragm, of a counteracting-weight loosely and bodily carried thereby, substantially as set forth.

2. In a phonograph-recorder, the combination with the recording-diaphragm, of a counteracting-weight bodily carried thereby, and an elastic connection between the weight and diaphragm, substantially as set forth.

3. In a phonograph-recorder, the combination with the recording-diaphragm, the recording-tool directly connected thereto, and means
for manually adjusting the diaphragm, of a counteracting-weight carried loosely and bodily by the diaphragm, substantially as set forth.

4. In a phonograph-recorder, the combination with the recording-diaphragm, the recording-rod directly connected thereto, and means for manually adjusting the diaphragm, of a counteracting-weight carried bodily by the diaphragm, and an elastic connection between said weight and diaphragm, substantially as set forth.

5. In a phonograph-recorder, the combination with the recording-diaphragm and its inclosing casing, of a counteracting-weight carried bodily by the diaphragm and vertically movable within said casing, substantially as set forth.

6. In a phonograph-recorder, the combination with the recording-diaphragm and its inclosing casing, of a counteracting-weight carried bodily by the diaphragm and vertically movable within said casing, and guiding-arms for guiding said weight in said casing, substantially as set forth.

This specification signed and witnessed this 10th day of August, 1900.

THOS. A. EDISON.

Witnesses:
J. F. RANDOLPH,
J. A. BOEHME.