

**May 7, 1940.**

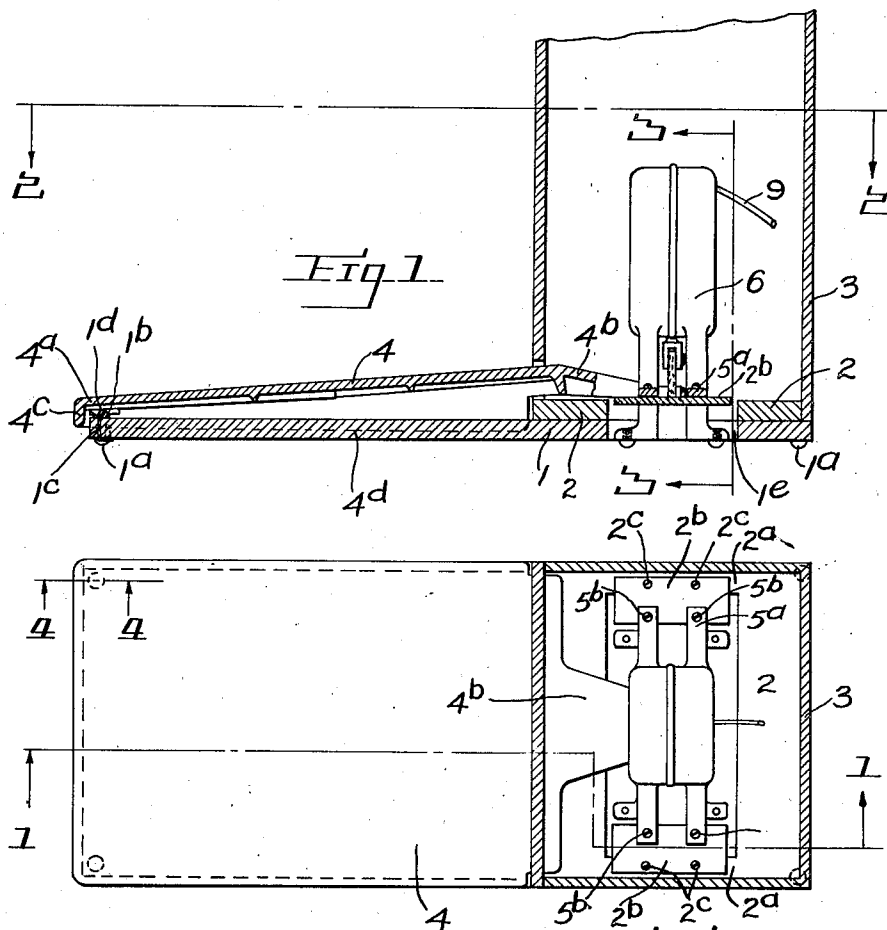
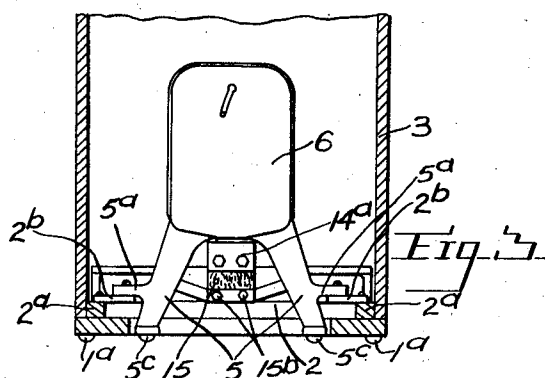
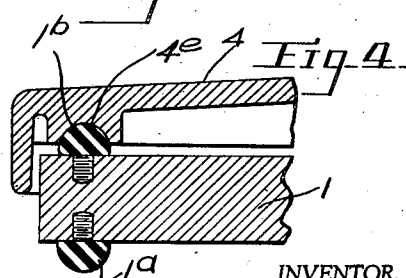
**W. D. SPENCER**

**2,199,965**

**BODY VIBRATOR**

Filed June 4, 1938

2 Sheets-Sheet 1



INVENTOR.

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May 7, 1940.

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BODY VIBRATOR

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2 Sheets-Sheet 2

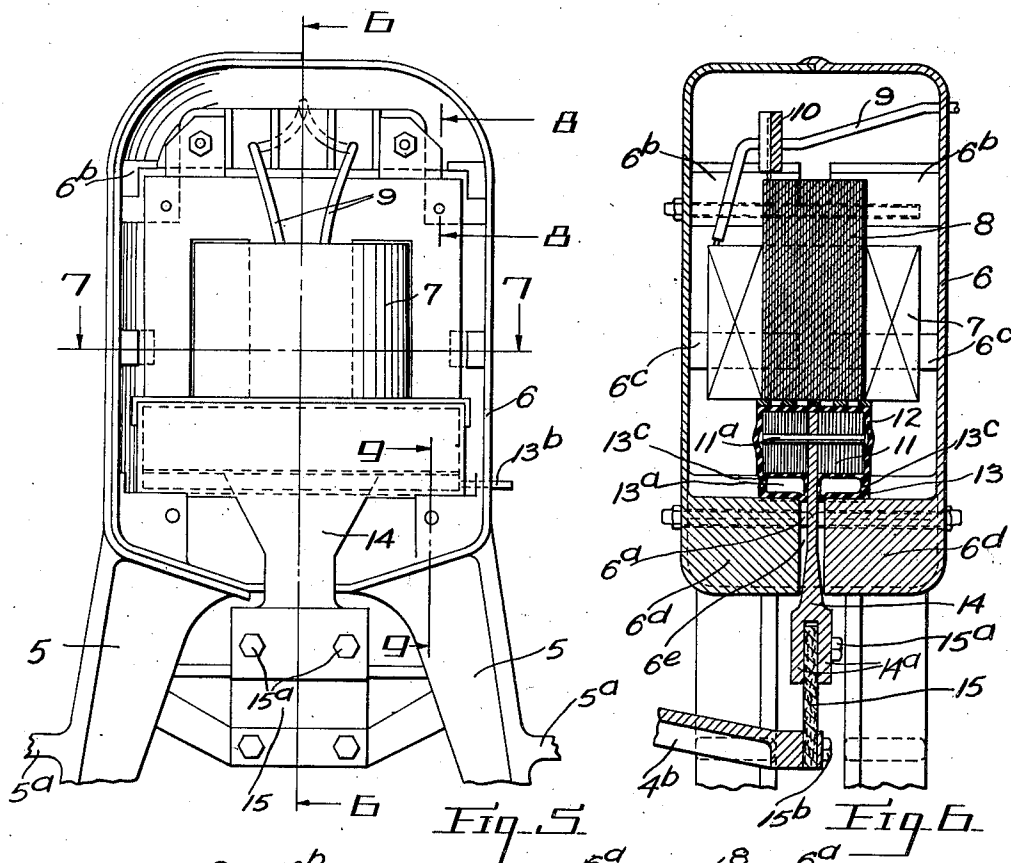
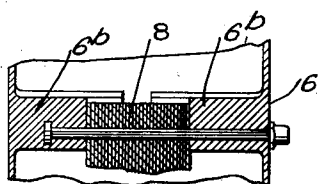


Fig. 8.

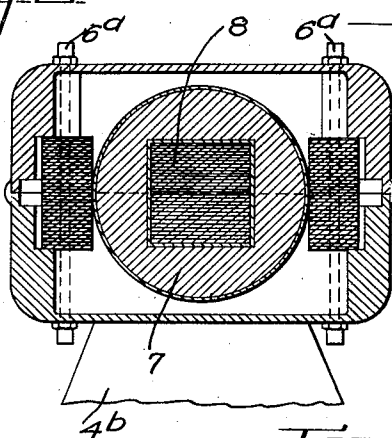


Fig. 7.

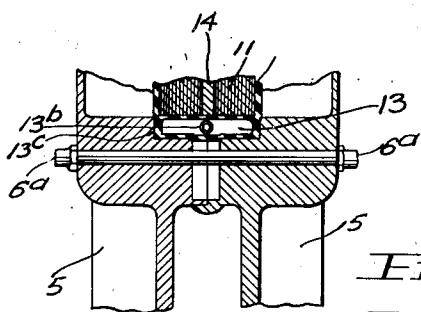


Fig. 9.

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## UNITED STATES PATENT OFFICE

2,199,965

## BODY VIBRATOR

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Application June 4, 1938, Serial No. 211,855

7 Claims. (Cl. 128—33)

My invention relates to a vibrator that is electrically operated for vibrating the human body where the person stands on a platform that is vibrated electrically and the objects of my invention are:

First, to provide a vibrator of this class in which the person treated stands upright on a platform and the platform is vibrated, thus vibrating the whole body of the person;

Second, to provide a vibrator of this class in which the platform is vibrated by an electro-magnet connected with said platform;

Third, to provide a vibrator of this class in which one end of the platform is resiliently supported on a base member, while the other end is supported by the electro-magnetic vibrator;

Fourth, to provide a vibrator of this class in which the length of the stroke of vibration may be altered between the electro-magnet and the platform;

Fifth, to provide a vibrator of this class in which the connecting parts between the electro-magnet vibrator and the platform are so arranged and constructed that a maximum of vibration efficiency is produced;

Sixth, to provide a vibrator of this class which is so constructed that a maximum of flexibility and resiliency is produced;

Seventh, to provide a vibrator of this class in which the vibrating structure is extremely compact and closely related;

Eighth, to provide a vibrator of this class in which the electro-magnet and its connecting parts are separately supported from the base which supports the platform; and

Ninth, to provide a vibrator of this class which is very simple and economical of construction and operation, durable, efficient and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a fragmentary longitudinal sectional view of my vibrator taken from the line 1—1 of Fig. 2; Fig. 2 is a sectional plan view taken from the line 2—2 of Fig. 1; Fig. 3 is a transverse sectional view taken from the line 3—3 of Fig. 1 showing some of the parts and portions in elevation to facilitate the illustration;

Fig. 4 is an enlarged fragmentary sectional view taken from the line 4—4 of Fig. 2; Fig. 5 is an enlarged side elevational view of the electro-magnet and armature positioned in one side of the casing; Fig. 6 is a longitudinal sectional view of the electro-vibrator taken from the line 6—6 of Fig. 5 showing some of the parts and portions in elevation to facilitate the illustration; Fig. 7 is a transverse sectional view taken from the line 7—7 of Fig. 5; Fig. 8 is a fragmentary sectional view taken from the line 8—8 of Fig. 5 and Fig. 9 is a fragmentary sectional view taken from the line 9—9 of Fig. 5 showing some of the parts and portions in elevation to facilitate the illustration.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings:

The base member 1, base reinforcing member 2, upright casing 3, platform member 4, vibrator casing legs 5, vibrator casing 6, electro-magnet winding 7, electro-magnet laminated core 8, electric conductors 9, electric conductor support 10, laminated armature 11, armature casing 12, pneumatic casing 13, main platform support 14, and flexible platform support 15 constitute the principal parts and portions of my body vibrator.

The base member 1 is preferably a rectangularly shaped plate supported by four rubber cushion members 1a, one at each corner shown best by dash lines in Fig. 2 of the drawings and in cross section in Fig. 4 of the drawings. Positioned on the upper side of the base member 1 at its outwardly extending ends are a pair of rubber cushion members 1b at its opposite side on which is mounted the extended end 4a of the platform 4 so that this platform 4 is resiliently supported on the base 1 by means of these rubber cushion members 1b. In order to hold the base member 1 and the extended end 4a of the platform 4 together there is provided a bracket 1c shown best in Fig. 1 of the drawings, which extends upwardly at 1d and is connected with the extended end of the platform 4. There is one of these at each side and serve only to hold the base and platform together when moving the body vibrator, but they permit the yielding of the platform relatively to the base on the cushion member 1b. The platform 4 is provided with a recess portion 4e for receiving the circular upper side of the resilient member 1b, shown best in Fig. 4 of the drawings. The base member 1 is provided with a rectangularly shaped opening 1e in which is mounted the vibrator casing leg members 5 as shown best in Figs. 1, 2, and 3 of the drawings,

and positioned on this base member 1 surrounding this opening 1e is a reenforcing member 2, as shown best in Figs. 1 and 2 of the drawings. This reenforcing member 2 is provided with relatively narrow end portions 2a and on these portions 2a are mounted resilient connecting members 2b, one on each end of the member 2 on the portion 2a as shown best in Fig. 2 of the drawings. These members 2b are secured to the portions 2a by means of screws 2c and secured to the extended end of these members 2b are the vibrator casing legs 5 by means of lugs 5a secured thereto by means of screws 5b, thus providing a resilient connection between the base 1 and the vibrator casing legs. These vibrator casing legs 5 extend downwardly in the opening 1e and are provided on their lower ends with rubber cushion members 5c which are adapted to rest on the floor when the base is supported on the floor by means of the cushion members 1a, all as shown best in Fig. 3 of the drawings. Thus it will be noted that the base and the vibrator casing are independently and separately supported, but are connected resiliently together. Surrounding this reenforcing 2 on the base member 1 is the upright casing 3 which is rectangular in shape and adapted to house the vibrator casing 6 and its connecting parts and extends upwardly any suitable distance as desired, said casing being specifically no part of applicant's present invention.

The vibrator casing 6 is supported upon the upper ends of the legs 5 which consists of two double interchangeable casing members secured together by means of bolts 6a. Each member of the casing 6 is also provided with a lug 6b which extends inwardly some distance from its outer side some distance from its upper end and with another lug 6c which extends inwardly some distance intermediate the ends and at the lower corner of each casing member 6 are provided lugs 6d which extend nearly together and form a base but leave a space 6e through which the main platform support extends.

Mounted in this casing 6 is a laminated core 8 which is substantially M-shaped provided with a large central portion around which the winding 7 is mounted and with two side members outwardly of said winding as shown best in Fig. 7 of the drawings.

Positioned in the casing in close juxtaposition with the electro-magnet consisting of the winding 7 and the core 8 is an armature consisting of a laminated armature 11 which extends nearly the full width of the casing and is enclosed in a rubber casing 12. Extending downwardly from the lower side of the casing 12 and connecting with the walls thereof is a pneumatic casing 13 which is provided with a space 13a which is adapted to be filled with air to form an air cushion. Communicating with this interior 13a is a small filling tube 13b which is provided with a check valve to facilitate the filling of the space 13a with air to form a cushion for the laminated armature 11. It will be noted that the side walls 13c of this member 13 are thicker so that the expansion caused by the air pressure will be upwardly and downwardly and not sideways. This provides a means for regulating the stroke of the armature depending upon the amount of inflation in the member 13. The laminations of the armature 11 are secured together by means of rivets 11a which pass through the main platform support 14 inserted in the middle of said laminated core and extending

outwardly through the opening 6e shown best in Fig. 6 of the drawings. The outer end of this main platform support 14 is provided with extending branches 14a which are bifurcated and between the members of which is secured the flexible platform support 15 which preferably consists of a strong fabric flexible member secured thereto by means of bolts 15a. Secured to the lower end of the flexible platform support 15 by means of bolts 15b is the inwardly extending end 4b of the platform 4 as shown best in Figs. 1, 2, and 3 of the drawings. This platform 4 is provided with downwardly extending flanges 4c the sides being defined by the dash line 4d and the front portion is cut away to extend around the reenforcing member 2 as shown best in Fig. 3 of the drawings.

The operation of my body vibrator is as follows: Electric current is supplied to the winding 7 from a source of electric energy through the electric conductors 9 which magnetizes the core 8 which draws the armature 11 and causes it to vibrate. It is cushioned by the pneumatic casing 13 and further cushioned by the rubber covering 12 surrounding the armature 11 thus providing rapid vibration of the armature 11 which causes the vibration of the main platform support 14 carrying with it the flexible platform support 15 which is secured to the one end of the platform 4. Therefore said platform 4 is vibrated and the person receiving the treatment standing upon this platform receives the vibration inasmuch as his feet and whole body are effectively vibrated. The rubber cushions between the platform 4 and the base 1 aid in the vibration as the platform is yieldably supported relatively to the base and the vibrator casing is separately supported from the base and yieldably connected.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

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

1. In a body vibrator, an electric magnetic vibrator supported on spaced legs secured to and projecting from its lower side and provided with a cushioned armature, a support secured to said armature and extending downwardly, and a platform secured to said support at one end and resiliently supported at its opposite end.

2. In a body vibrator, an electric magnetic vibrator supported on spaced legs secured to and projecting from its lower side and provided with a cushioned armature, a support secured to said armature and extending downwardly, a platform flexibly secured to said support at one end and resiliently supported at its opposite end, said armature supported on a pneumatic casing.

3. In a body vibrator, an electric magnetic vibrator supported on spaced legs secured to and projecting from its lower side and provided with a cushioned armature, a support secured to said armature and extending downwardly, a platform secured to said support at one end and resiliently supported at its opposite end and a single substantially vertical relatively short flexible member connecting said platform with said support.

4. In a body vibrator, an electric magnetic

vibrator supported on spaced legs secured to and projecting from its lower side and provided with a cushioned armature, a support secured to said armature and extending downwardly, a platform  
5 secured to said support at one end and resiliently supported at its opposite end, and a long flat base member provided with an opening through which said vibrator casing is supported independently thereof.

10 5. In a body vibrator, an electric magnetic vibrator supported on spaced legs secured to and projecting from its lower side and provided with a cushioned armature, a support secured to said armature and extending downwardly, a platform  
15 secured to said support at one end and resiliently supported at its opposite end, a long flat base member provided with an opening through which said vibrator casing is supported independently thereof, and yieldable means connecting said vibrator supporting legs with said base member.  
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25 6. In a body vibrator, an electro-magnetic vibrator supported on strut legs in spaced relation to each other secured at its lower edge and provided with an armature, a platform support flexibly and yieldably secured to said armature and

extending downwardly intermediate said legs, a platform flexibly and yieldably suspended on said support and extending outwardly some distance, the outwardly extending end of said platform being cushioned, and a casing surrounding said  
5 electro-magnetic vibrator and supporting legs and extending upwardly thereover.

7. In a body vibrator, an electro-magnetic vibrator supported on strut legs in spaced relation to each other secured at its lower side and provided with an armature, a platform support flexibly and yieldably secured to said armature and extending downwardly intermediate said legs, a platform flexibly and yieldably suspended on said support and extending outwardly some distance, the outwardly extending end of said platform being cushioned, a casing surrounding said  
15 electro-magnetic vibrator and supporting legs and extending upwardly thereover, and a base member upon which said casing is mounted independently of said electro-magnetic vibrator and on which the extended end of said platform is resiliently mounted.  
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WESLEY D. SPENCER. 25