J. SABATINO.

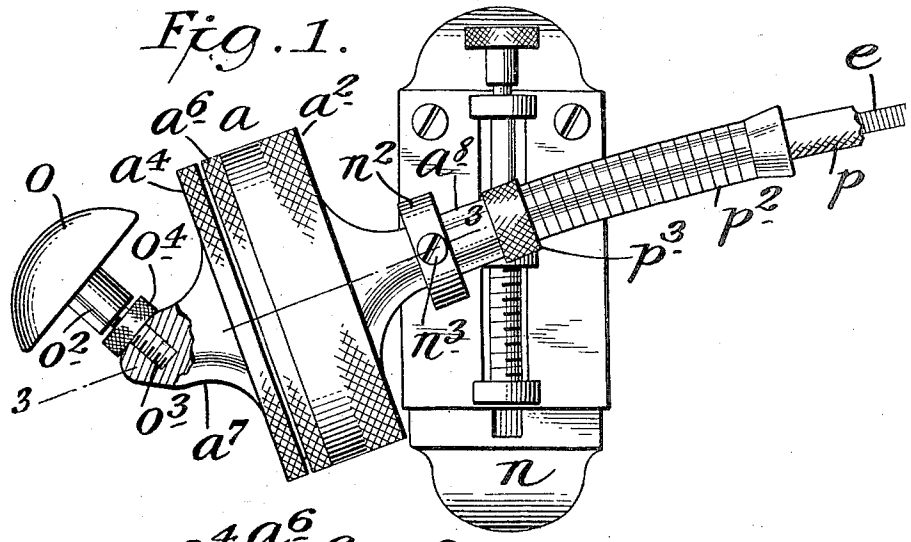
VIBRATORY MASSAGE APPARATUS.

APPLICATION FILED APR. 4, 1912. RENEWED DEC. 15, 1913.

1,106,893. Patented Aug. 11, 1914.

2 SHEETS—SHEET 1.

Fig. 1.



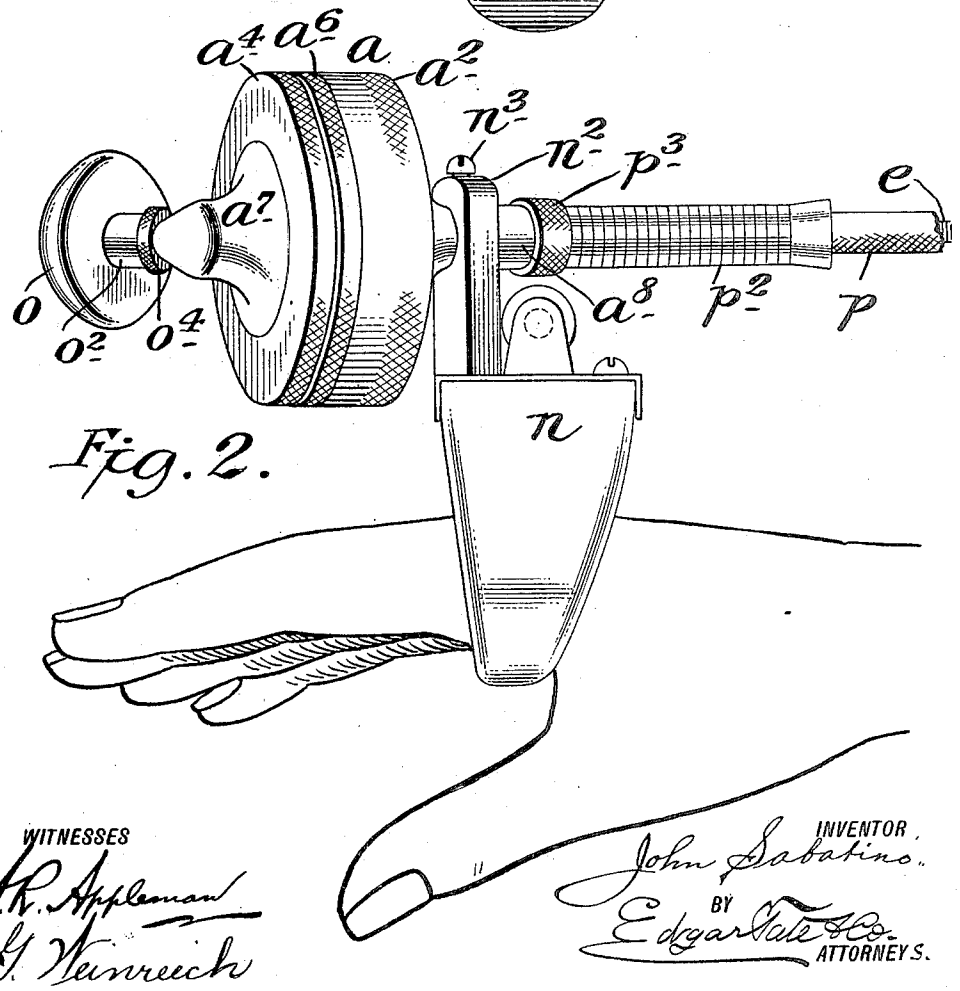


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

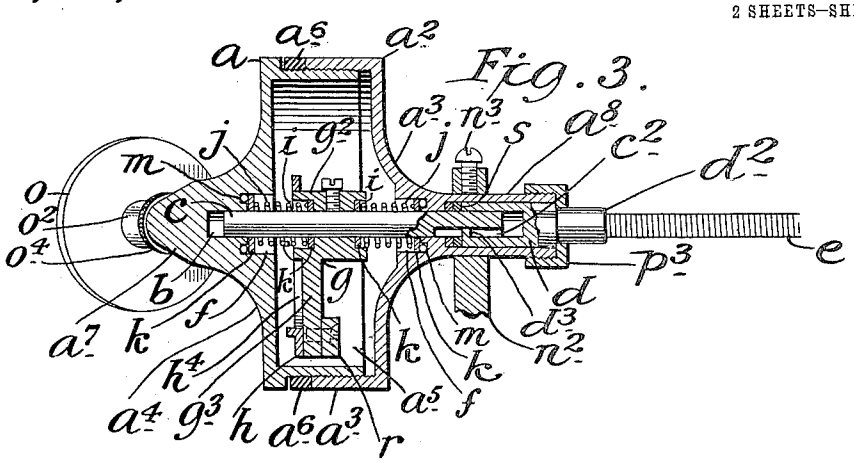


Fig. 4

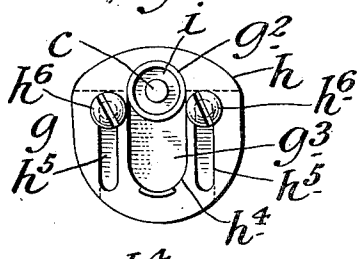


Fig. 5.

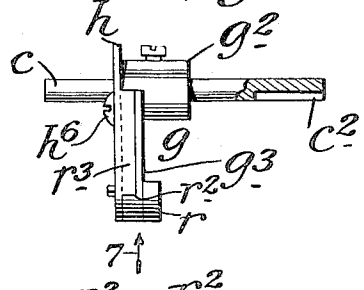


Fig. 6.

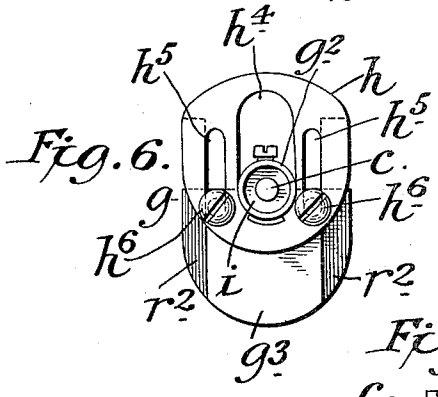


Fig. 7.

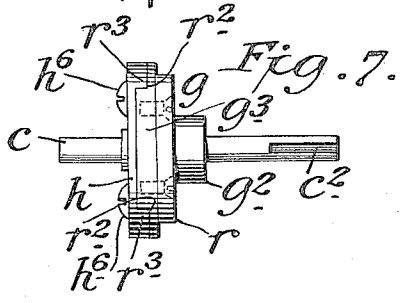
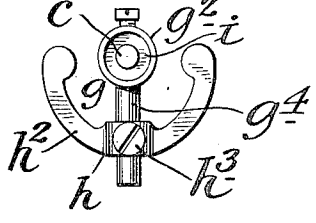


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN SABATINO, OF QUEENS, NEW YORK.

VIBRATORY MASSAGE APPARATUS.

1,106,893. Specification of Letters Patent. Patented Aug. 11, 1914.

Application filed April 4, 1912, Serial No. 688,533. Renewed December 15, 1913. Serial No. 806,883.

To all whom it may concern:

Be it known that I, JOHN SABATINO, a subject of the King of Italy, and residing at Queens, Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Vibratory Massage Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to mechanical vibratory apparatus or devices, and especially to devices of this class wherein the vibratory movements are imparted to and through the hand of the operator for application to a patient, or a party being treated, and the object thereof is to provide an improved device of this class adapted to be connected with, or supported on a stand, wall or other support, and in connection with which is used a suitable motor also connected with and supported on the stand, wall or other support in the manner of other apparatus or devices of this class, such, for instance, as those known as the "Baker vibrators."

In the accompanying drawing forming a part of this specification, the stand, wall or other support and the motor are not shown, the only parts shown and described being those necessary to illustrate the construction and operation of my invention which is limited to the vibrator itself, and the connection therewith of the flexible shaft by which the vibratory member is operated.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part, in which the separate parts of my invention are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a plan or back view of my improved vibratory massage device or apparatus:—Fig. 2 is a front side view thereof:—Fig. 3 a section on the line 3—3 of Fig. 1:—Fig. 4 a face view of the vibratory member detached from the vibrator casing:—Fig. 5 a side view of the device shown in Fig. 4:—Fig. 6 a view similar to Fig. 4, but showing the parts in a different position:—Fig. 7 a view looking in the direction of the arrow 7 of Fig. 5, and;—Fig. 8 a view similar to Fig. 4, but showing a modification.

In the practice of my invention I provide a vibrator a which involves, in this construction, a cylindrical casing composed of a back side member a^2 provided with an internally threaded rim a^3, and a front side member or cap a^4 having an externally threaded rim member a^5 adapted to be screwed into the rim member a^3 and provided with a ring shaped lock nut a^6.

The front side or cap member a^4 is provided with a central projection a^7, and the back side or body member a^3 is provided with a centrally projecting neck a^8, and the part a^4 is provided central of its inner side with a socket b adapted to receive one end of a vibratory shaft c the other end of which passes into the neck a^8, said neck being provided with a longitudinal bore, which is enlarged at its outer end to receive a tubular coupling d having a reduced extension d^2 with which a flexible operating shaft e is connected.

That end of the shaft c which passes into the neck a^8 also enters the coupling d, and is provided in one side thereof with a longitudinal groove c^2, and the coupling d is provided at its inner end with an inwardly directed tongue d^3 which enters said groove and by means of this construction the vibratory shaft c is capable of slight longitudinal movement, and the body or back side of the casing a and the front side or cap thereof are provided with recesses f through which the shaft c also passes, and keyed to or otherwise secured to the shaft c, centrally of the casing a^2, is a vibratory member g comprising a head g^2 through which the shaft c passes, and a radial part g^3 formed on or connected with said head and provided with a radially adjustable part.

The radial part g^3 of the vibratory member g may be block shaped in form, as shown in Figs. 4 to 7 inclusive, and the adjustable member thereon may consist of a plate h, or said radial part may consist simply of a pin, rod or arm g^4, as shown in Fig. 8, and the adjustable part mounted thereon may consist of a yoke-shaped device h^2 through which is passed a set screw h^3, as shown in said figure.

The plate h which forms the adjustable part of the vibratory member g, as shown in Figs. 3 to 7 inclusive, is provided centrally with a large oblong slot or opening h^4 through which the head g^2 of the vibratory member g passes, and said plate is also provided with parallel slots or openings h^5 through which are passed screws h^6 by

means of which the plate h is secured to the part g^3, and said plate may be adjusted on the said part and on the head g^2 radially and diametrically of the vibratory member g and the casing a^2.

The opposite ends of the head g^2 of the vibratory member g are provided with recesses i which correspond with the recesses f, and mounted on the opposite end portions of the shaft c are spiral springs j the ends of which enter said recesses f and i, and at each end of the springs j are washers k, and in the bottom of the recesses f and i are ball races m in which are placed ball bearings, as clearly shown in Fig. 3.

In the construction shown I attach to the back of the vibrator a, as shown in Figs. 1 and 2, a hand clamp n designed for use in connecting the massage device with the hand of the operator, as clearly shown in Fig. 2. This hand clamp device is the same as that shown and described in U. S. Letters Patent, granted to me February 15, 1910, #948,550, and forms no part of this invention, but reference is made to said patent for information as to the construction and operation of said clamp device. The method employed herein for securing the clamp device to the vibrator however, is different from that described and claimed in said patent and consists of an arm n^2 formed on or connected with the back of the clamp device, and through which the neck a^8 of the back of the vibrator casing passes, said arm being provided with a set screw n^3 whereby the vibrator casing may be turned into different positions, or the clamp device turned into a different position on said casing.

While my improvement relates particularly to vibratory massage devices in which the vibratory movement is transmitted to a patient through the hand of the operator, I also provide means whereby said movement may be transmitted to a patient by an ordinary applicator o which may consist of rubber, wood or other fibrous material and which may be of any desired shape, but, in the construction shown, it is semispherical in form, or approximately so, and the back thereof is provided with a neck o^2 having a screw o^3 whereby said applicator may be connected with the projection a^7 on the front plate or cap of the vibrator casing, and said screw is provided with a set nut o^4, and by means of this construction the proximity of the applicator o to the vibrator casing may be regulated, as will be readily understood, but my invention is not limited to any particular means for connecting the applicator o to the vibrator casing, with the exception that with the construction shown the applicator o is supported at an obtuse angle to the vibrator shaft, and the position of the arm n^2 of the hand clamp n with reference to said clamp is such that said clamp is connected with the vibrator shaft at an angle, to the vibrator shaft, similar to that of the applicator o, and this facilitates the manipulation of the device in the use thereof.

It will also be understood that by means of the lock nut a^6, the position of the front or cap a^4 of the vibrator casing, with reference to the back thereof, may be regulated to any desired extent in order to fix the relative position or direction of the applicator o to the hand clamp n, and the relative positions of these parts may also be regulated by turning the hand clamp on the neck a^8 on the back of the vibrator casing, and the extent to which the rim a^5 of the front or cap of the vibrator casing can be screwed into the rim a^3 of the back of said casing may be utilized to regulate the pressure on, or the tension of the screws j and consequently the longitudinal movement of the shaft c.

The operating shaft e is inclosed by a fibrous flexible casing p, and adjacent to the casing a^2 by a metallic casing p^2, and said shaft and the coupling d are connected with the neck a^3 of said casing by a threaded cap p^3.

The operation or manipulation of this device when it is desired to transmit the vibratory motion through the hand, will be the same as with other devices of its class, as will also said operation or manipulation when it is desired to transmit the vibratory motion through the applicator o.

It will be seen that the vibratory member g as a whole is in eccentric relation to the shaft c, and this position of the said vibratory member g when said shaft is rapidly rotated produces the desired vibratory motion which is transmitted through the hand of the operator or through the applicator o, as may be desired, and it is apparent that the weight of the vibratory member g will control the force of the vibrations produced, and it is also apparent that the adjustment of the plate h radially of the shaft c or into the position shown in Fig. 6, will reduce the force of said vibration, while its adjustment into the position shown in Figs. 3 and 4, will increase the force of said vibrations, and if it is desired still further to increase the weight of the eccentric part of said vibratory member so as to increase the force of the vibrations a weight r may be secured to the part g^3 of the vibratory member.

In the form of construction shown, the part g^3 of the vibratory member is provided with grooves r^2 in the side portions thereof and the plate h is provided with thickened portions r^3 movable in said grooves, but it will be understood that various changes in and modifications of the details of this construction, as well as other parts of my improvement may be made, within the scope

of the appended claims without departing from the spirit of my invention or sacrificing its advantages. In the form of construction shown, I also place at the inner end of the tubular coupling *d*, packing rings *s*, and it will be understood that any suitable means for lubricating the bearings of the shaft *c* and coupling *d* may be provided if desired.

With my construction the adjustment of the cap *a* of the casing prevents end bearings being applied to the ends of the shaft *c* and this renders the springs *j* necessary, said springs serving at all times to center the shaft in the casing or at least center the vibratory member *g* in said casing, and said springs, as will be understood, avoid friction in the use of the device and make the same as nearly noiseless as possible, and the use of said springs in centering the vibratory member *g* in the casing is particularly effective when the vibrator or casing is held at an inclination or an angle, as frequently necessary in using the applicator *o*, and also frequently necessary in transmitting the vibrations through the hand of the operator.

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

1. In an apparatus of the class described, a casing composed of front and back parts rotatably and adjustably connected, a shaft mounted centrally in said casing and having longitudinal movement, a vibratory member mounted on said shaft and in eccentric relation thereto, springs mounted on the opposite end portions of said shaft and serving to center the vibratory members in said casing, and means for rotating said shaft.

2. In an apparatus of the class described, a casing, a shaft mounted therein, a vibratory member mounted on said shaft in eccentric relation thereto, said shaft having slight longitudinal movement, springs mounted on the end portions of said shaft and operating between the vibratory member and the sides of the casing, and means for rotating said shaft.

3. In an apparatus of the class described, a casing, a shaft mounted therein, a coupling connected with said shaft and in which said shaft is longitudinally movable and a flexible driving shaft connected with said coupling.

4. In an apparatus of the class described, a cylindrical casing composed of front and back parts adjustable toward and from each other, a vibratory shaft mounted in said casing and having bearings centrally of said parts and capable of longitudinal movement, a vibratory member connected with said shaft and springs mounted on the opposite end portions of said shaft and bearing on said vibratory member.

5. In an apparatus of the class described, a casing, a shaft mounted therein, a vibratory member connected with said shaft and in eccentric relation thereto, said vibratory member being in the form of a plate and provided in one side thereof with a groove, a detachable weight mounted on said plate and provided with a part movable in said groove, and said detachable weight being adjustably connected with said plate by means of longitudinal slots formed therein and screws passed therethrough and into said weight.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 2nd day of April, 1912.

JOHN SABATINO.

Witnesses:
C. MULREANY,
S. ANDREWS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."