April 7, 1936.

G. BERGMAN

2,036,677

MASSAGING MACHINE

Filed Jan. 29, 1934

Fig. 1.

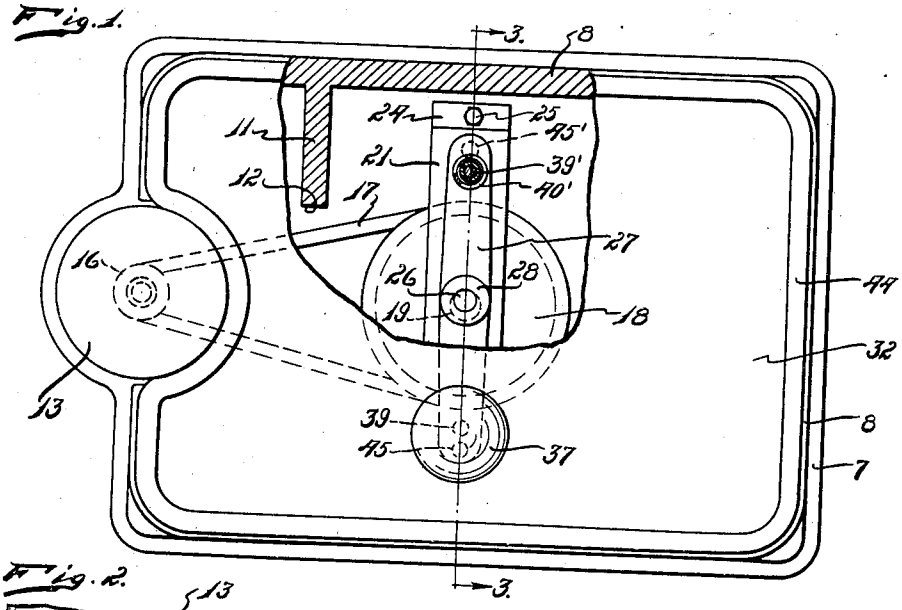


Fig. 2.

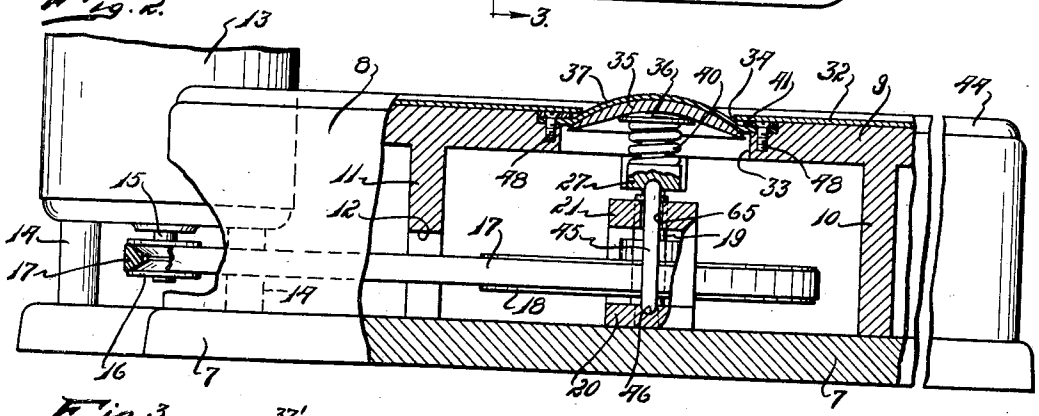


Fig. 3.

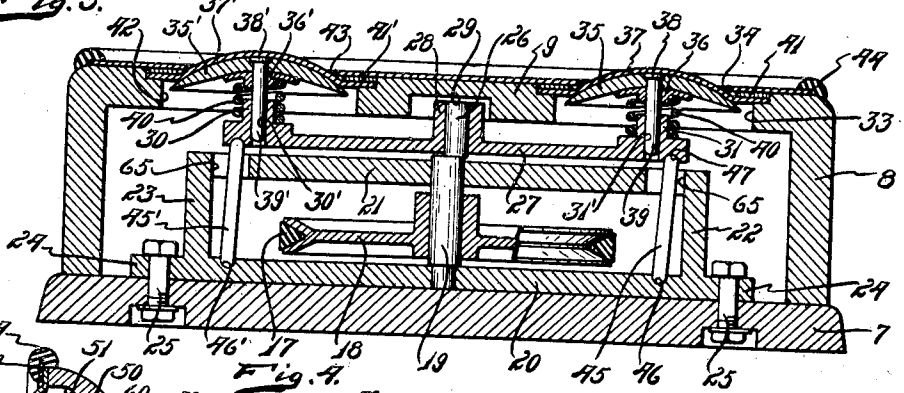
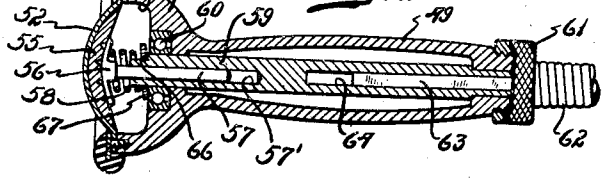


Fig. 4.



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Patented Apr. 7, 1936

2,036,677

UNITED STATES PATENT OFFICE

2,036,677

MASSAGING MACHINE

Gustaf Bergman, Detroit, Mich.

Application January 29, 1934, Serial No. 708,829

6 Claims. (Cl. 128—48)

My invention relates to a new and useful improvement in a massaging machine adapted for use in massaging various parts of the body, and has for its object the provision of a machine of this class which will be simple in structure, economical of manufacture, durable, highly efficient in use, light and compact.

Another object of the invention is the provision of a massaging machine having a movable contact portion, and provided with an actuating mechanism, whereby upon the rotation of a certain part, various types of movements may be imparted to the contact portion.

Another object of the invention is the provision of a plate for transmitting movements to a contact portion, and provided with eccentric means of actuation.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understod by a reference to the accompanying drawing, which forms a part of this specification, and in which,

Fig. 1 is a top plan view partly shown in section.

Fig. 2 is a side elevational view of the invention partly shown in section.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is a central, longitudinal, sectional view of a modified form of the invention.

In the form of adaptation of the invention, which is illustrated in the first three figures of the drawing, the invention is particularly adapted for use as a foot massaging machine, although from the description, it will be obvious that the mechanical structure employed may be used for different types of massaging apparatus.

As illustrated, the invention comprises a base 7, on which is detachably mounted a suitable cover 8, having a top 9, and supporting partitions 10 and 11. The partition 11 is cut away at 12. Mounted at one end of the base 7 and supported by suitable posts 14, is an electric motor 13, on the shaft 15 of which is mounted a pulley 16, adapted to drive the endless belt 17, which passes through the cut away portion 12 of the partition 11, and serves to drive the pulley 18.

This pulley 18 is fixedly mounted on the shaft 19. One end of this shaft 19 is journalled in the base 20 of the supporting frame, and the upper end of the shaft 19 is journalled in the top 21 of this supporting frame. The top 21 and the bottom 20 are connected by the end walls 22 and 23, projecting outwardly from which are the portions 24 of the bottom, through which the bolts 25 may be projected to secure the supporting frame in position on the base 7.

A portion 26 of the shaft 19 projects above the top 21 and is eccentric to the main part of the shaft 19. This eccentric portion 26 rotatably engages in a sleeve or boss 28, projecting upwardly from an actuating plate 27. The top 9 is cut away as at 29, to provide a suitable recess for the sleeve or boss 28. Formed on one end of the plate 27 is a sleeve or boss 30, and an opening 30' extends through the boss and plate. A similar boss or sleeve 31, with an opening 31', is formed adjacent the opposite end of the plate 27. A cover 32 held in position at its marginal edges by its retaining bead 44, extends over the upper surface of the top 9, and this cover is cut away as at 34, so as to project slightly inwardly of the opening 33 formed in the top 9. A similar opening 43 is formed in the cover 32, so as to project inwardly of the edge of the opening 42 formed in the cover top 9. These openings 42 and 33 are substantially centrally located relative to the sleeves or bosses 30 and 31.

At each of these openings 33 and 42, there is provided a movable contact member, and the various parts of the contact member at the opening 42 are similarly numbered, as are the parts of the contact member at the opening 33, excepting that the numbers indicating the parts at the opening 42, are indicated as prime numbers. This contact member comprises a head 35, which may be formed from suitable material, which will possess sufficient rigidity for the purposes intended and yet not form a hard unyieldable body. The member 35 may be formed from felt, leather, rubber or the like. Secured to the under surface of the head 35 is a hub 36. The upper surface of the head 35 is covered by the layer 37, which is held in position by the retaining ring 41 and the screws 48. This layer 37 is flexible, and may be formed from rubber or other suitable material. A head 38, formed on the actuating or guide pin 39, is embedded in the member 35, and the pin 39 projects through the hub 36, and slidably engages in the channel 31' or 30', as the case may be. A spring 40 embraces the boss 31 or 30, as the case may be, and engages at one end, the plate 27, and at the other end the hub 36.

A rod 45 engages at its lower end in a pocket or recess 46, formed on the upper surface of the bottom 20 of the supporting frame. At its upper end, this rod engages in the pocket or recess 47,

formed in the under surface of the plate 27. At the opposite end of the plate 27 is provided a similar rod 45', which engages in the recesses 46' and 47'.

The construction is such that, upon the operation of the motor 13, the pulley 18 will effect a rotation of the shaft 19. The eccentric part 26, being integral with the shaft 19, will also rotate in the sleeve 28. This will effect a revolving movement of the plate 27, which will be transmitted to the movable contact members through the pins 39 and 39'. As the plate 27 is revolved by the cam shaft, the pins 45 and 45' will swing on their lower end, the upper ends describing circles or ellipses. These pins project through the openings 65 formed in the top 21 and these openings are sufficiently large to permit the swinging movement of the pins 45 and 45'. The springs 40 which embrace the bosses or sleeves 30 and 31 and engage at one of their ends the members 36 and 36', will serve to maintain the contact members thrust outwardly even while the revolving motion is being transmitted thereto.

Thus I have provided a mechanism whereby rotary power may be transmitted to a movable contact member in a number of directions, so as to produce a revolving motion in the contact member. Consequently, it is obvious that the foot or other portion of the body placed upon the cover top 9, over the movable contact member, will be thoroughly massaged by the contact member.

In Fig. 4, I have shown a modified form of the invention, whereby substantially the same revolving motion may be transmitted to a movable contact member mounted on a handle or a hand applicator. In this form of the invention, I provide a hollow handle 49, which carries a head 50, hollowed out at 51 to provide a cup shaped structure. Over this cup shaped structure is mounted a movable contact member consisting of the cover 52, held in position by the metallic ring 53 and the bead 54. The cover 52 extends over the head 55, which carries the hub 56 and the pin 57. The pin 57 slidably projects into the socket 57', which is formed eccentric in the rod 59, which is rotated by the flexible shaft 63 projecting into the flat faced bore 64. This flexible shaft 63 extends into the customary sheath 62, which is secured on the handle 49 by the nut 61. The rod 59 is journalled at one end in the handle 49, and at its opposite end in the bearing 60. The upper end of the rod 59 is reduced in diameter to provide a shoulder 66 against which engages a washer 67. One end of a spring 58 engages the upper surface of the washer 67 and the other end of the spring engages the hub 56.

The movements of the contact member, in the modified form, are substantially identical with the movements of the contact members shown in the other form. When the rod 59 is rotated by the flexible shaft, the pin 57 will be carried around to transmit revolving motion to the contact member. This form of construction affords an adaptation of the mechanical movement obtained by hand massaging devices and small massaging implements.

While I have illustrated and described the preferred form of construction of my invention, I do not wish to limit myself to the precise details of structure shown, but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

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

1. A massaging machine comprising: a flexible contact member for engaging a portion of the body; a rotatably mounted eccentric member; a plate having an opening formed therethrough for reception of said eccentric member, said eccentric member being rotatable in said opening for effecting a revolving movement of said plate; means for connecting said contact member to said plate for transmitting revolving movement to said contact member; and resilient means for normally retaining said contact member thrust outwardly from said plate.

2. A massaging machine of the class described comprising: a pair of flexible contact members in spaced relation for engaging a portion of the body; a pin secured to each of said contact members and projected inwardly; a plate extending between said contact members and positioned beneath the same, said plate having formed at each of its ends an opening for the loose reception of the pin projecting from the contact member, said plate having an opening formed intermediate its ends; a rotatable shaft; a crank portion on the end of said shaft engaging in the intermediate opening in said plate and rotatable therein and adapted upon rotation of said shaft for transmitting a revolving movement to said plate and said contact members.

3. A massaging machine of the class described comprising: a pair of flexible contact members in spaced relation for engaging a portion of the body; a pin secured to each of said contact members and projected inwardly; a plate extending between said contact members and positioned beneath the same, said plate having formed at each of its ends an opening for the loose reception of the pin projecting from the contact member, said plate having an opening formed intermediate its ends; a rotatable shaft; a crank portion on the end of said shaft engaging in the intermediate opening in said plate and rotatable therein and adapted upon rotation of said shaft for transmitting a revolving movement to said plate and said contact members; and a spring at each of said contact members for normally retaining the same spaced outwardly from said plate.

4. A massaging machine of the class described comprising: a pair of spaced flexible contact members for engaging a portion of the body; a rotatable eccentric member; a plate having an opening formed therein for reception of said eccentric member, said eccentric member being rotatable therein and adapted upon rotation for effecting a revolving movement of said plate, said plate having an opening formed at each of its ends; a pin secured to each of said contact members and slidably projected through one of the end openings of said plate.

5. A massaging machine of the class described, comprising: a pair of spaced flexible contact members for engaging a portion of the body; a rotatable eccentric member; a plate having an opening formed therein for reception of said eccentric member, said eccentric member being rotatable therein and adapted, upon rotation, for effecting a revolving movement of said plate, said plate having an opening formed at each of its ends; a pin secured to each of said contact members and slidably projected through one of the end openings of said plate; and a pair of springs, each engaging at one end said plate and at the opposite end a contact member for urging move-

ment of the contact member outwardly from said plate.

6. A massaging machine of the class described comprising: a pair of spaced flexible contact members for engaging a portion of the body; a rotatable eccentric member; a plate having an opening formed therein for reception of said eccentric member, said eccentric member being rotatable therein and adapted, upon rotation, for effecting a revolving movement of said plate, said plate having an opening formed at each of its ends; a pin secured to each of said contact members and slidably projected through one of the end openings of said plate; a pair of springs, each engaging at one end said plate and at the opposite end a contact member for urging movement of the contact member outwardly from said plate; and means for engaging opposite ends of said plate for resisting tilting movement of the same without interfering with the revolving movement thereof.

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