

No. 884,027.

PATENTED APR. 7, 1908.

C. A. MANKER.
MASSAGING MACHINE.
APPLICATION FILED DEC. 14, 1906.

Fig. 1.

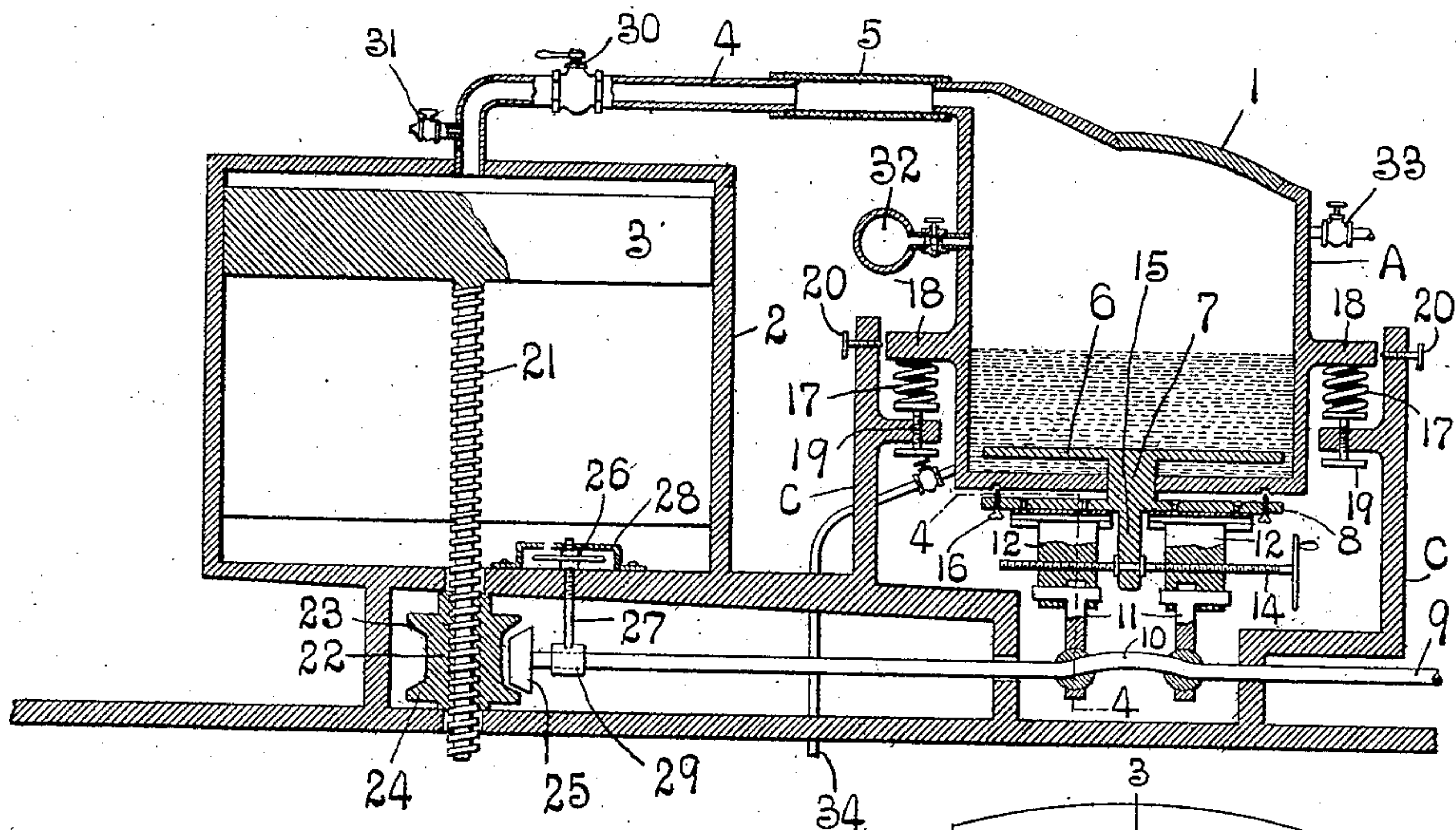


Fig. 2.

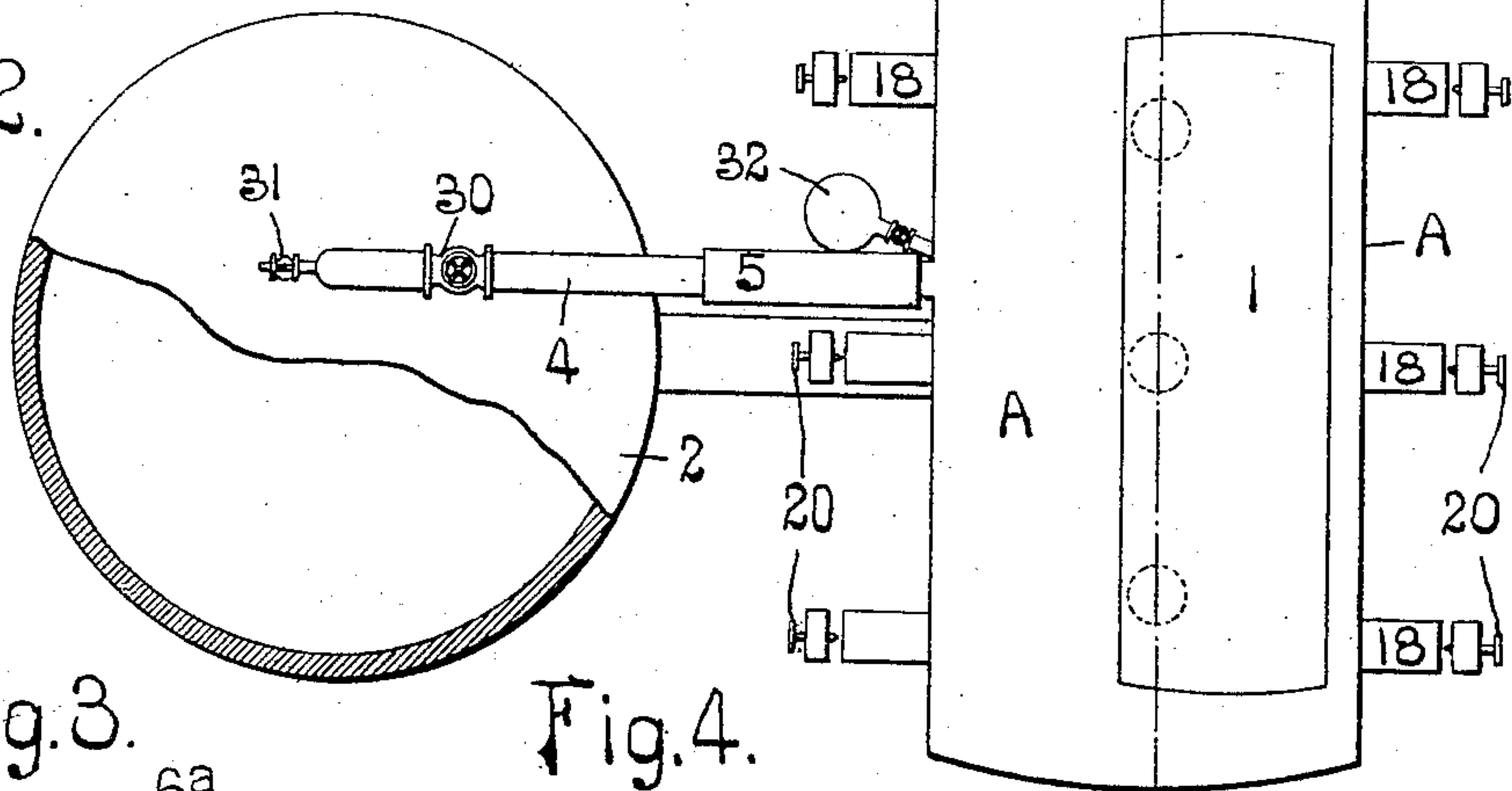


Fig. 3.

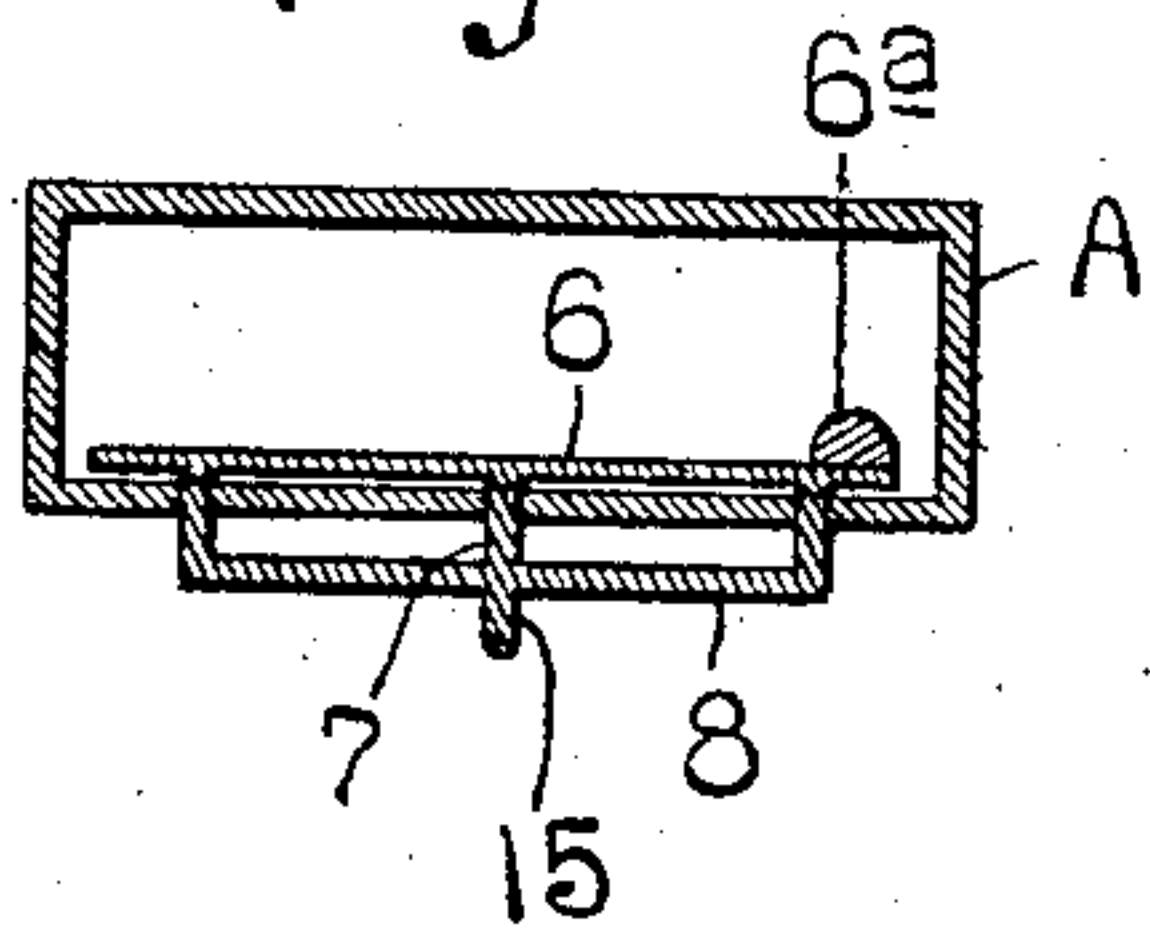
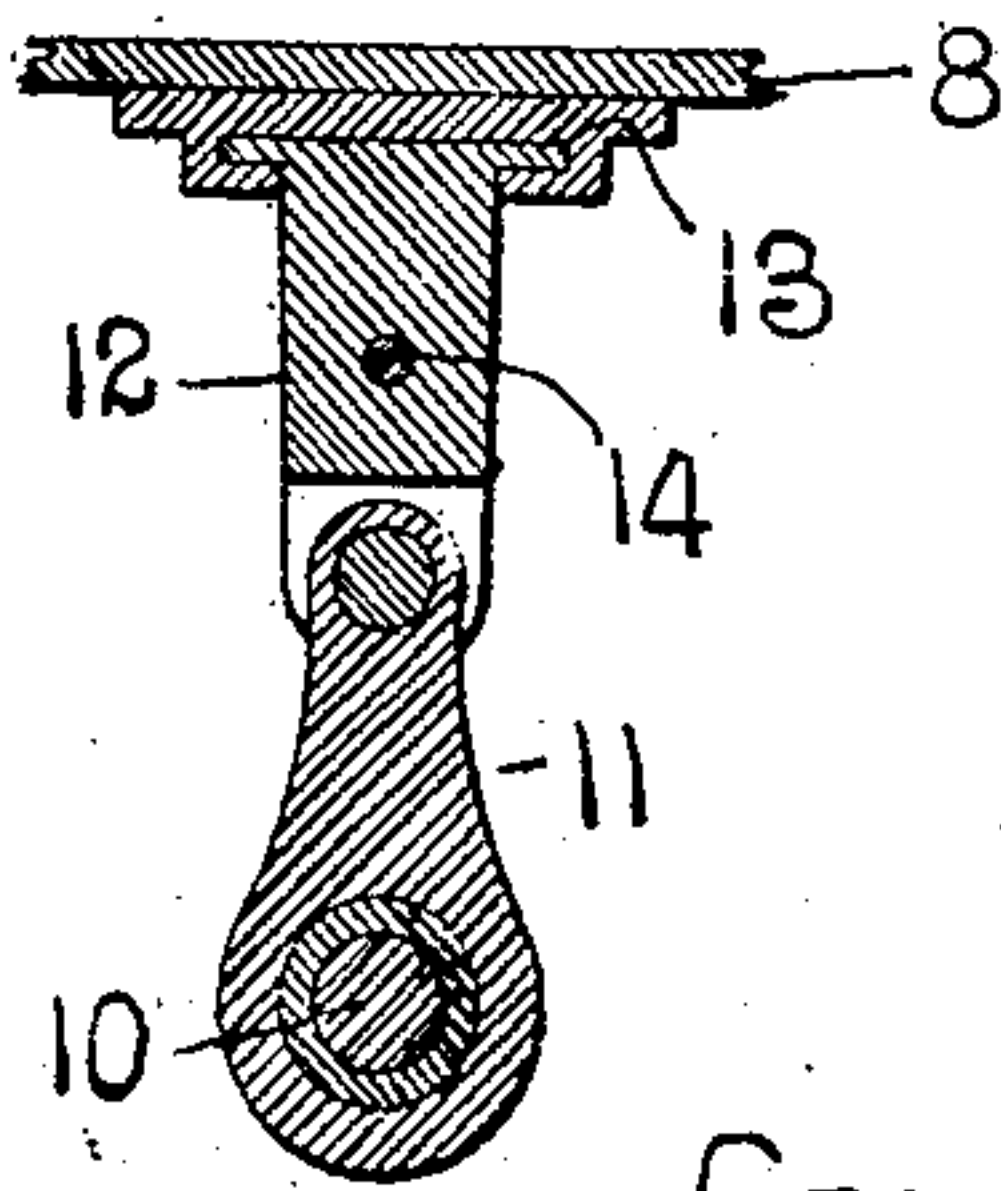


Fig. 4.



Witnesses
Lenore Nelson
Hella L. Church.

Inventor:
Carey A. Manker
by Bakerwell Cornwall
Attys.

UNITED STATES PATENT OFFICE.

CAREY A. MANKER, OF PEARL, ILLINOIS.

MASSAGING-MACHINE.

No. 884,027.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed December 14, 1906. Serial No. 347,771.

To all whom it may concern:

Be it known that I, CAREY A. MANKER, a citizen of the United States, residing at Pearl, in the county of Pike and State of Illinois, have invented a certain new and useful Improvement in Massaging-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to massaging machines.

The main object of my invention is to provide a massaging machine which is so constructed that the entire body of a person will receive a vibratory action while the atmospheric pressure on the body of the person is reduced.

I have herein illustrated a machine for accomplishing this result, said machine consisting of a closed chamber in which the patient is located and means for rarefying or condensing the air in said chamber so as to reduce the atmospheric pressure on the body of the patient. The machine is also provided with means for transmitting vibrations throughout the body of the patient located in the closed chamber, and means is preferably provided for supplying oxygen to said chamber to sustain the action of the lungs of the patient in case the air in said closed chamber is rarefied to a great degree. It is also desirable to have the body of the patient subjected to a liquid or vapor bath, and to this end I have provided means for supplying the closed chamber with a fluid or a vapor.

The vibratory action that is transmitted to the body of the patient may be accomplished in various ways; for example, the patient may rest on a vibrating support arranged inside of the closed chamber or the entire chamber may be vibrated; or if desired, the patient may rest on a stationary support submerged in fluid and means be provided for vibrating the fluid.

In the machine herein shown which represents the preferred form of my invention, a vibratory support on which the patient rests, either in a reclining, standing or sitting position, is arranged in the closed chamber which is partially filled with a liquid so that the body of the patient will be partially submerged, means being also provided for con-

necting the member which forms the chamber to the vibratory support so that it will move therewith. If desired, however, the vibratory support may consist of a receptacle containing water instead of having the closed chamber partially filled with water. The machine is also provided with means for varying the vibratory action that is imparted to the patient.

Figure 1 is a vertical sectional view of a massaging machine embodying the features of my invention; Fig. 2 is a top plan view with the top of the cylinder broken away; Fig. 3 is a reduced sectional view taken on the line 3—3 of Fig. 2; and Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 1.

Referring to the drawings which represent the preferred form of my invention, A designates the closed chamber in which the patient is located, the top of said chamber being provided with a removable lid or cover 1. A cylinder 2, in which a piston 3 operates, communicates with the interior of the closed chamber by means of a conduit 4, this conduit comprising a flexible portion 5. A movable support 6 is arranged inside of the closed chamber and said chamber may be partially filled with water, as shown in Fig. 1, so that the body of a person resting on said support will be partially submerged.

The support is mounted on standards 7 which pass through water-tight openings in the bottom of the closed chamber A and these supports are carried by a plate 8 arranged underneath the bottom of said closed chamber. The means for vibrating this plate and the support 6 connected thereto, consists of a shaft 9 provided with a bent portion 10 to form a crank, crank rods 11 surrounding this crank and being pivotally connected at their upper ends to adjustable blocks 12 which are mounted in guideways 13 fastened to the underneath side of the plate 8. The degree of vibratory movement which is imparted to the support 6 may be varied by means of an oppositely screw-threaded shaft 14 journaled in a depending arm 15 on the plate 8 and extending through oppositely pitched screw-threads in the blocks 12 to which the crank rods are connected, one end of said shaft being provided with a wheel or handle by which it may be rotated. When the shaft 14 is rotated in one direction the crank rods will be moved onto the portion of the crank 10 which has the greatest throw and thus impart an ex-

tensive vibration to the support 6, and when said shaft is rotated in the opposite direction the crank rods 11 will be moved onto the portions of the crank 10 which have the least throw so as to impart a gentle massage to the patient. It is preferable to simply vibrate the support 6 on which the patient rests, but if desired, the entire closed chamber A together with the water and patient therein, may be vibrated. This is effected by connecting the plate 8 to the bottom of the closed chamber A by means of screws 16, yielding supports, preferably coiled springs 17, being provided on which lateral flanges 18 on the walls of the chamber A rest. The tension of these springs 17 can be varied by means of screws 19 adjustably mounted in the frame C of the machine. When only the support 6 is vibrated the closed chamber A is held stationary by means of screws 20 carried by the frame and projecting into openings formed in the flanges 18 of said chamber. The piston 3 in the cylinder 2 is provided with a screw-threaded rod 21 that extends through a nut 22 mounted on the base of the machine. At the upper end of this nut 21 is a beveled flange 23 and at the lower end of said nut is an oppositely beveled flange 24, and interposed between these flanges is a beveled wheel 25 on the end of the crank shaft 9, this crank shaft being rotated by any suitable means, not shown. When the wheel 25 is in engagement with the flange 23 the nut 22 will be rotated and thus cause the piston 3 to move in one direction, and when said wheel is in engagement with the flange 24 said nut will be rotated in the opposite direction and thus cause the piston to reciprocate in the opposite direction to that in which it previously moved.

The wheel 25 is thrown into and out of engagement with the flanges on the nut 22 by means of an adjusting device consisting of a nut 26 mounted on a screw 27 and arranged inside of a bearing 28 connected to a portion of the frame of the machine, the lower end of the screw 27 being secured to a sleeve 29 which surrounds the crank shaft 9. The movement of the wheel 25 into and out of engagement with the flanges on the nut 22 will, of course, have to be controlled by an attendant.

When the piston 3 moves toward the bottom of the cylinder air will be drawn out of the closed chamber A, thereby reducing the atmospheric pressure on the body of the patient and permitting the various organs thereof to expand and also increase the circulation of the blood. When the air in the chamber A has been rarefied to the desired degree the beveled wheel 25 is moved into an inoperative position midway between the flanges on the nut 22, and when it is desired to restore the normal atmos-

pheric pressure in the chamber A said wheel is moved into engagement with the flange which causes the nut 22 to rotate in the direction for moving the piston toward the upper end of its cylinder. The conduit 4 is provided with a valve 30 and also with a valve 31 which may be opened to admit fresh air into the chamber A. The extent to which the air in the chamber A is rarefied will, of course, depend upon the condition of the patient, and for enabling the patient to remain in the chamber A when most of the air has been exhausted therefrom, I have provided an oxygen tank 32 which communicates with the interior of said chamber so as to supply oxygen to the chamber and thus sustain the action of the lungs of the patient.

A feed pipe 33 extends into the chamber A for conducting steam or water thereto, and leading from the bottom of said chamber is a discharge pipe 34. While it is desirable to subject the patient to a hot water or vapor bath during the time he is being subjected to the vibratory action it is not absolutely necessary that this be done so that I do not wish it to be understood that my broad idea is limited to means for subjecting the patient to a vibratory action while the body of the patient is submerged in a water bath or exposed to vapor. It is also desirable to have the patient recline on the support 6 which is provided with a head-rest 6^a but the chamber A could, of course, be of sufficient size to permit the patient to assume an upright position.

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

1. A machine of the character described, comprising a closed chamber, means for rarefying the air in said chamber, and means for imparting a vibratory action to a person located in said chamber.
2. A machine of the class described, comprising a closed chamber, means for supplying a fluid or vapor to said chamber, means for rarefying the air in said chamber, and means for imparting vibrations to the body of a person located in said chamber.
3. A machine of the character described comprising a closed chamber, means for rarefying the air in said chamber, means for supplying oxygen to said chamber, and means for imparting vibrations to the body of a person located in said chamber.
4. In a massaging machine, an air-tight receptacle, pumping and air-modifying means to change the density and to relatively change the quantity of elements of the air or other medium within the receptacle, and means for agitating the contents of the receptacle.
5. In a massaging machine, an air-tight receptacle, means for agitating its contents, and means for changing the density of the air within the receptacle.

6. A massaging machine comprising a support upon which the patient rests, means for vibrating said support, and means for reducing the atmospheric pressure on the body of the patient.

7. A massaging machine comprising a support upon which the patient rests, means for reducing the atmospheric pressure on the body of the patient, and means for subjecting the patient to a liquid bath.

8. A machine of the character described, comprising a closed chamber, a support arranged inside of said chamber on which the patient rests, means for vibrating said support, and means for rarefying the air in said chamber.

9. A machine of the class described, comprising a closed chamber, a support arranged inside of said chamber upon which the patient rests, means for supplying a fluid or vapor to said chamber, means for vibrating said support, and means for rarefying the air in said chamber.

10. A machine of the character described, comprising a closed chamber, a support arranged inside of said chamber on which the patient rests, means for vibrating said support, means for exhausting the air from said chamber, and means for supplying oxygen to said chamber.

11. A massaging machine comprising a support on which the patient rests, means for vibrating said support, means for varying the degree of vibratory movement imparted to said support, and means for reducing the atmospheric pressure on the body of the patient.

12. A massaging machine comprising a closed chamber partially filled with a fluid, a movable support submerged in said fluid on which the patient rests, means for vibrating said support, and variable means for exhausting the air from said chamber.

13. In a massaging machine, a closed chamber in which the patient is located, means for vibrating said chamber, and yielding supports for said chamber.

14. In a massaging machine, a support upon which the patient rests, a rotatable shaft provided with a bent portion to constitute a crank, a crank rod mounted on said crank and connected to said support, and means for changing the position of said crank rod to vary the degree of vibratory movement imparted to said support.

15. In a massaging machine, a support upon which the patient rests, a rotatable shaft provided with a bent portion that constitutes a crank, a crank rod surrounding said crank, a movable block connected to said support and having a crank rod secured to the lower end thereof, and means for changing the position of said block to vary the degree of vibratory movement imparted to said support.

16. In a massaging machine, a support upon which the patient rests, a rotatable shaft provided with a bent portion that constitutes a crank, blocks slidably mounted in guideways connected to said support, crank rods secured to said blocks and engaging the crank on said shaft, and a screw journaled in said support and provided with oppositely threaded portions which extend through said blocks for permitting said blocks to be moved to vary the degree of vibratory movement imparted to the support.

17. A massaging machine comprising a closed chamber, a plate arranged underneath the bottom of said chamber and provided with standards that project upwardly through the bottom of the chamber, a support connected to said standards and arranged inside of said chamber, a rotatable crank shaft, and a crank rod mounted on the crank of said shaft and connected to said plate.

18. In a massaging machine, a closed chamber, a support arranged inside of said chamber on which the patient rests, means for vibrating said support, a cylinder, a conduit leading from said cylinder to the interior of said chamber, a piston mounted in said cylinder and provided with a screw-threaded rod, an interiorly threaded member through which said rod extends, a rotatable shaft provided with means for actuating said member, and means for causing said shaft to rotate said member in opposite directions.

19. In a massaging machine, a closed chamber, a support arranged inside of said chamber on which the patient rests, means for vibrating said support, a cylinder, a conduit connecting the interior of said cylinder with the interior of said closed chamber, a piston arranged in said cylinder and provided with a screw-threaded rod, a nut through which said rod extends, said nut being provided with oppositely beveled flanges, a rotatable beveled wheel arranged between said flanges, and means for moving said wheel into or out of engagement with either of the flanges on said nut, thereby permitting the piston in the cylinder to be moved in opposite directions.

20. In a massaging device, a vibratory bath-tub arranged inside of a chamber, means for changing the degree of movement imparted to said bath-tub, means for rarefying the air within said chamber, means for introducing oxygen into said chamber, and a power shaft which vibrates the bath-tub and also actuates the means that rarefies the air in said chamber.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

CAREY A. MANKER.

Witnesses:

B. HEAVNER,
ED. D. SMITH.