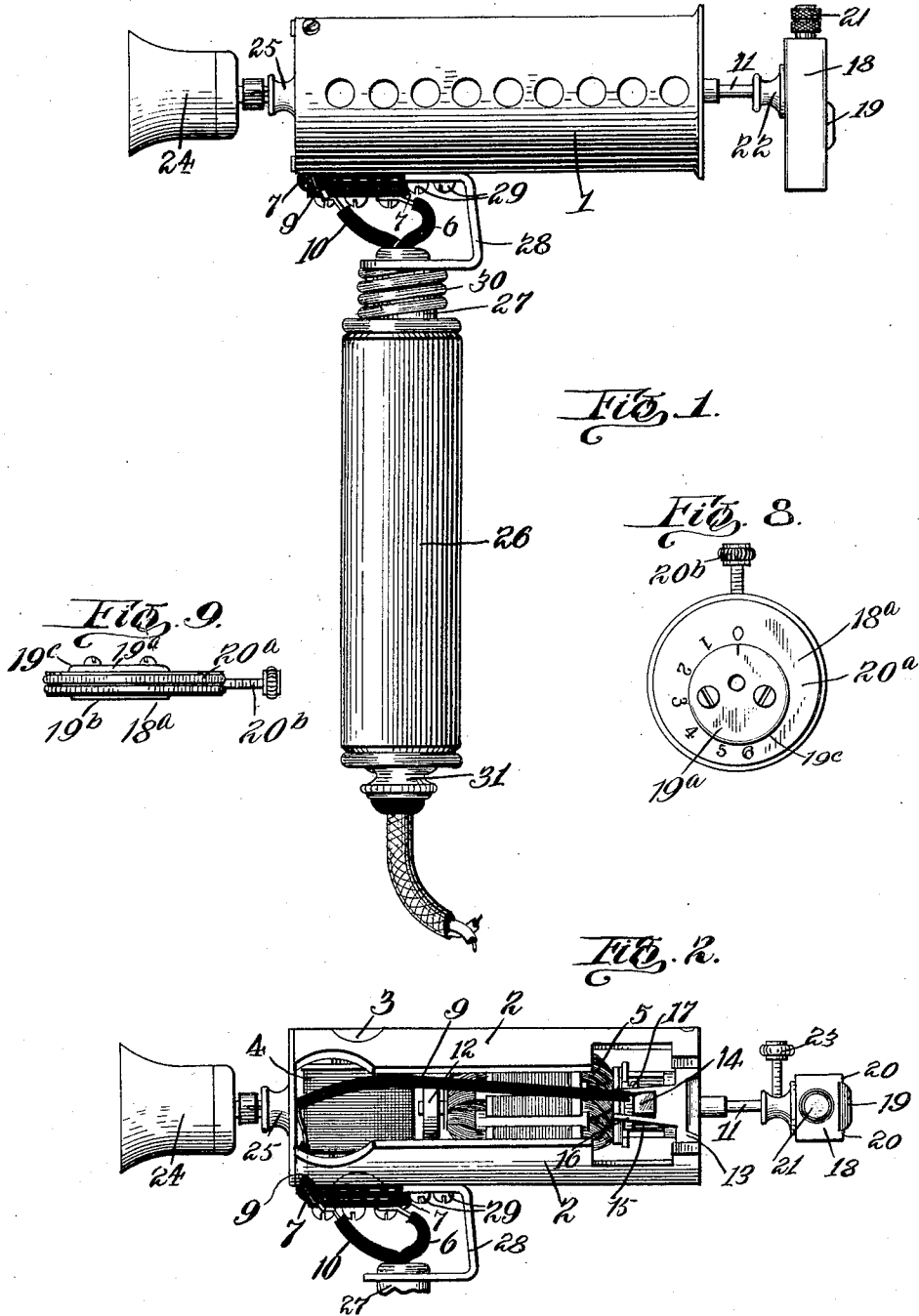


G. F. TROTTER.  
 MASSAGE MACHINE.  
 APPLICATION FILED JUNE 8, 1904.

2 SHEETS—SHEET 1.

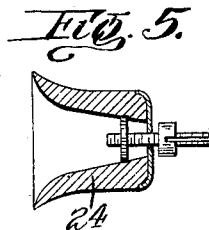
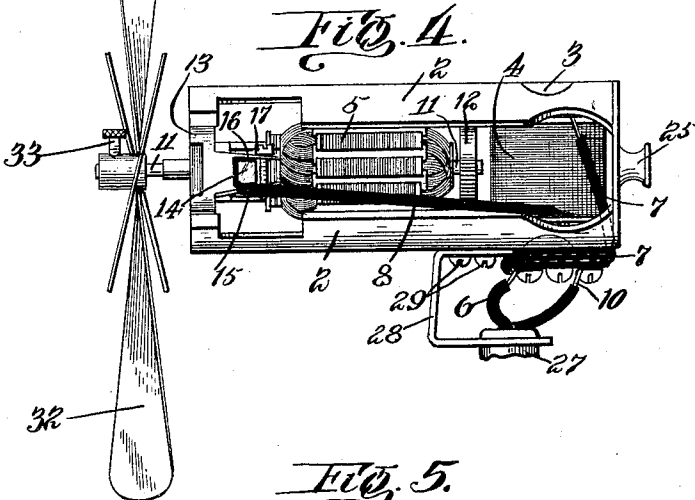
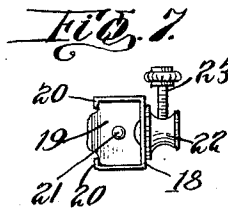
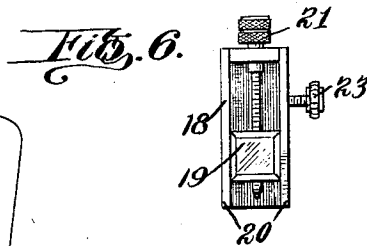
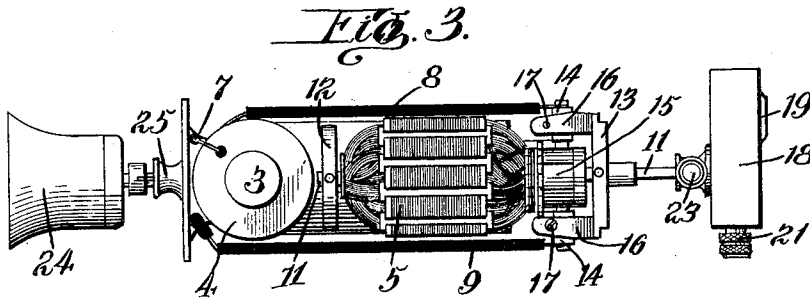


Witnesses  
 Eugene M. Stiney.  
 O. Knight, Jr.

Inventor  
 George F. Trotter  
 by Knight Bros.  
 Attorneys.

G. F. TROTTER.  
 MASSAGE MACHINE.  
 APPLICATION FILED JUNE 8, 1904.

2 SHEETS—SHEET 2.



Witnesses  
 Eugene M. Hiney  
 O. Knight, Jr.

Inventor  
 George F. Trotter  
 by Knight Bros.  
 Attorneys.

# UNITED STATES PATENT OFFICE.

GEORGE F. TROTTER, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO UNIVERSAL MANUFACTURING COMPANY, OF LOUISVILLE, KENTUCKY, A CORPORATION OF KENTUCKY.

## MASSAGE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 791,058, dated May 30, 1905.

Application filed June 8, 1904. Serial No. 211,661.

*To all whom it may concern:*

Be it known that I, GEORGE F. TROTTER, a citizen of the United States, and a resident of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Massage-Machines, of which the following is a specification.

My invention relates to massage-machines, and has for its object to provide a massage-machine in which the vibration of the massage member is obtained by means of a rotary electric motor having its shaft provided with an adjustable eccentric-governor.

Another object of my invention is to provide a massage device which can be operated by either direct or alternating currents without requiring a transforming apparatus of any kind.

My improved massage-machine is adapted to be operated by the ordinary incandescent-light current.

With these and other objects in view my invention consists in the device which will now be described, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the massage-machine ready for use. Fig. 2 is a side elevation of the machine with the housing or hood removed to show the arrangement of the motor-field and armature. Fig. 3 is a top view of the same. Fig. 4 is a side view of the machine as arranged for drying purposes. Fig. 5 is a sectional view of the massage member. Figs. 6 and 7 are respectively a rear elevation and an end view of one form of the eccentric vibration-governor. Figs. 8 and 9 are respectively a rear elevation and an axial sectional view of the preferred form of eccentric vibration-governor.

Referring to drawings, 1 designates a hood or housing which surrounds the motor parts. The motor-field comprises a pair of elongated plates 2, (see Fig. 2,) joined to a core 3. Said core 3 has passing around it the turns of the field-coil 4. The armature of the motor is shown at 5. Current enters the motor by positive line-wire 6, passes by wire 7 (which

goes through the insulating-block) to the field-coil 4, through the coil 4 and out by wire 8 to the armature 5, through the armature, and back by the wire 9 to the negative wire 10.

I have illustrated and described my invention with reference to a series-wound motor; but of course any suitable form of motor might be employed without in any way departing from the spirit of my invention.

The motor-armature 5 rotates upon a shaft 11, which is journaled in journal-bearings 12 and 13. The journal-bearing 13 also serves as a supporting means for holding the armature-brushes 14 in contact with the armature-plates 15 by the jaws 16 and the clamping-screws 17. The outer end of the armature-shaft is adapted to receive an eccentric vibration-governor—such, for instance, as the governor 18 (shown in detail in Figs. 1, 2, 3, 6, and 7) or preferably the governor 18<sup>a</sup>. (Shown in Figs. 8 and 9.) In the form of governor shown in Figs. 1, 2, 3, 6, and 7 the weight 19 slides in a track or way 20 and may be adjusted therein to a nicety by the screw 21 in weight 19, but having a fixed bearing in the guide 18. A socket 22, carried by the governor, fits on the armature-shaft 11 and is secured by the set-screw 23. According to the preferred form of governor a disk 19<sup>a</sup>, eccentrically secured to the armature-shaft 11, has secured between its flange 19<sup>b</sup> and an overlapping cap-disk 19<sup>c</sup>, screwed to eccentric-disk 19<sup>a</sup>, a shiftable eccentric-weight 20<sup>a</sup>, which is held in its various positions by a set-screw 20<sup>b</sup>. By rotating weight 20<sup>a</sup> on disk 19<sup>a</sup> the weight may be shifted from a position concentric with the armature or to a degree of eccentricity equal to the combined eccentricity of the disk and weight. It will be understood that an adjustment of the weight 19 or 20<sup>a</sup> to a concentric position will leave the armature-shaft free to rotate smoothly; but an adjustment of the weight in this form to an eccentric position will cause the gyratory motion of the armature, which will be transmitted as vibration through the massage-tip or whatever working device may be applied to the machine,

and by varying the degree of this eccentricity the force of these vibrations may be varied at will. The rubber massage member 24 is screwed into a socket 25 at the other end of the machine, and as the armature rotates the eccentric-governor, which turns with it, causes a vibration of the entire machine, together with the massage member 24, varying in degree according to the position of the weight 19. This vibratory effect is greatly amplified by a spring connection between the head of the machine and the handle, which will now be described. This spring connection is described and illustrated in my copending application filed March 5, 1904, Serial No. 196,679. A hollow wooden handle 26 has a tube 27 passing through it, and at the upper end of this tube is suitably secured the lower portion of a spring-plate 28.

The head of the machine is rigidly secured to the upper portion of the spring-plate 28 by screws 29, which are screwed into the lower field-plate 2. A helix-spring 30 fits into a socket in the top of the handle 26 and abuts against the under side of the spring-plate 28. A nut 31 is screwed onto the lower end of the tube 27 and abuts against the lower end of the wooden handle 26. Thus by tightening this nut the wooden handle may be shoved up against the spring 30 to prevent slipping of the parts. The line-wires pass up through the tube 27 to their respective binding-posts.

When it is desired to use the fan 32 for the purpose of drying the face or hair, all that is necessary is to remove the eccentric-governor 19 (in the form shown in Figs. 1, 2, 3, 6, and 7) and secure the fan 32 in its place by means of a set-screw 33, or, in the form shown in Figs. 8 and 9, to place the fan on the shaft over the governor, in which case the governor serves as a balance-wheel for the fan. Moreover, the weight 19<sup>a</sup> may be adjusted to eccentric position and the rotary fan (faced in the direction of the massage device) used in connection with the non-rotating but vibratory massage device.

I do not limit my improved means for developing vibratory motion to a massage device, as it is obvious it may be employed for other forms of devices in which vibratory or gyratory motion is employed.

Having thus described my invention, what I claim is—

1. A massage-machine having a member mounted to rotate thereon, and means actuated by such rotation causing vibration in the massage-machine.

2. In combination with a massage-machine carrying a massage device in non-vibratory relation thereto; a rotary electric motor mounted on said massage-machine and a vibrating device actuated by the rotary motor and inducing vibration in the massage-machine.

3. In combination with a massage-machine carrying a massage device in non-vibratory

relation thereto; a rotary electric motor mounted on said massage-machine and an eccentric device mounted on the shaft of the rotary motor and inducing vibration in the massage-machine.

4. In a massage-machine, the combination with a massage member, and rotary means for vibrating said massage member; of a handle for the machine and a yielding connection between the handle and the machine.

5. In a massage-machine, the combination with a rotary device, a massage member, and a handle; of a governor rotating with the shaft of the rotary device for vibrating the massage member.

6. In a massage-machine, the combination with a rotary device, a massage member, and a handle; of a governor rotating with the shaft of the rotary device, for vibrating the massage member, and a yielding connection between the vibrating mechanism and the handle.

7. In a massage-machine, the combination with a rotary device, a massage member, and a handle; of an eccentric weight rotating with the shaft of the rotary device, for vibrating the massage member, and a yielding connection between the handle and the vibrating mechanism.

8. In a massage-machine, a rotary device, and an adjustable eccentric operated by the rotation of the rotary device for vibrating the machine.

9. In a massage-machine, the combination of a rotary motor, a massage member secured to the non-rotating part of said motor, and an eccentric vibrator removably secured to the rotating part of said motor.

10. In a massage-machine, the combination with a rotary motor, a massage member secured to the non-rotating part of the motor, an eccentric vibrator secured to the rotating part of the motor, a handle, and a spring connecting said handle with the motor portion of the machine, whereby the eccentric vibrator may induce vibration in the machine.

11. In a vibratory or gyratory machine, the combination of a rotating shaft, and a weight carried by said shaft movable to concentric and to an eccentric position on said shaft at will.

12. In a massage-machine, a rotating member carrying a vibrator, consisting of two eccentrically-related parts, one of which eccentrically mounted on the rotating member of the massage-machine and said members being rotatable one upon the other, to regulate the eccentricity of the vibrator as a whole to the rotating of the machine.

The foregoing specification signed this 27th day of April, 1904.

GEORGE F. TROTTER.

In presence of—

E. K. PENNEBAKER,  
LAWRENCE S. LEOPOLD.