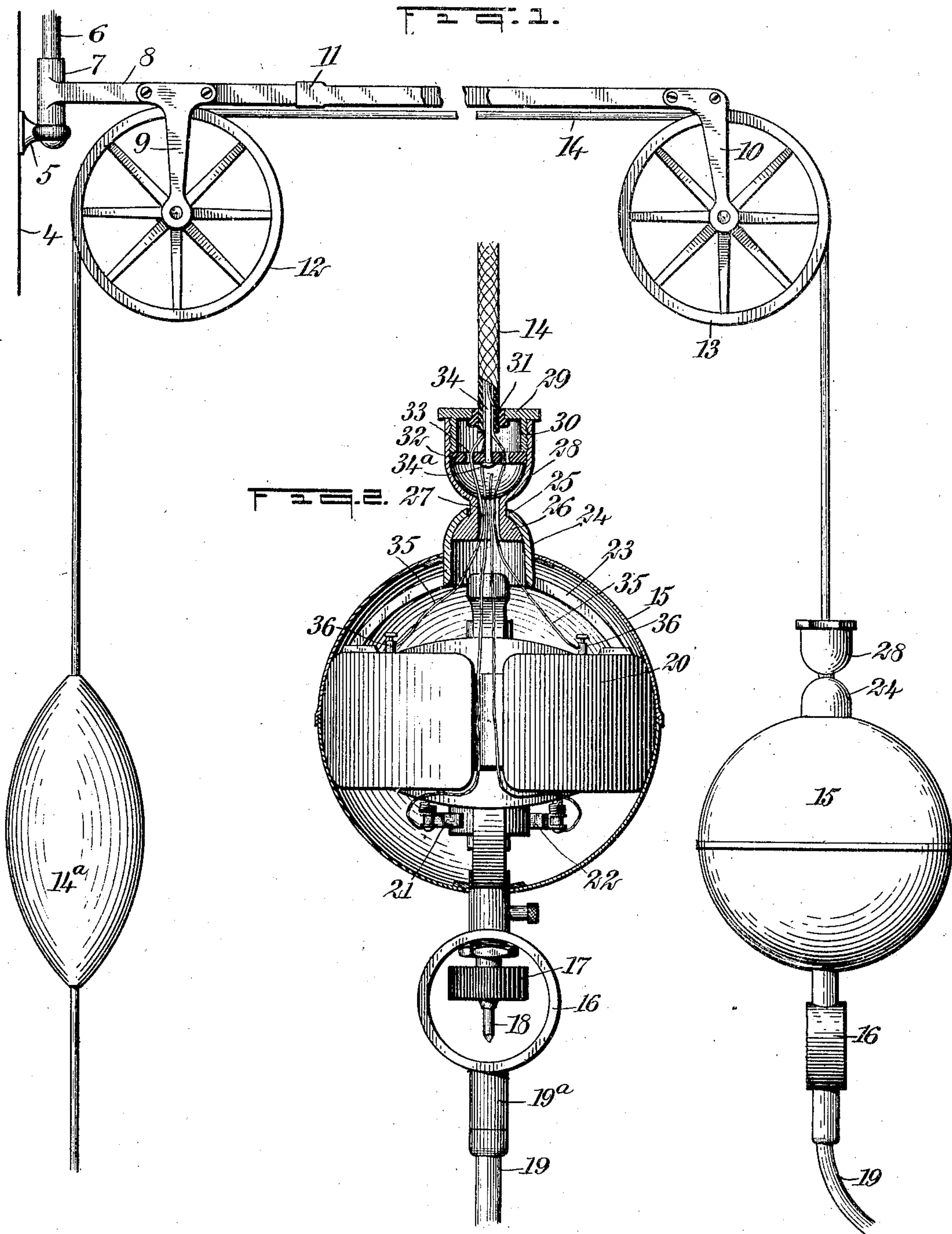


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PATENTED JULY 24, 1906.

J. V. TRENAMAN.
CORD SUSPENSION ELECTRIC DENTAL ENGINE.

APPLICATION FILED JULY 21, 1905.



WITNESSES:

Walton Harrison
Walton Harrison

INVENTOR

John V. Trenaman

BY

Mumford
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN V. TRENAMAN, OF NEW YORK, N. Y.

CORD-SUSPENSION ELECTRIC DENTAL ENGINE.

No. 826,629.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed July 21, 1905. Serial No. 270,658.

To all whom it may concern:

Be it known that I, JOHN B. TRENAMAN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Cord-Suspension Electric Dental Engine, of which the following is a full, clear, and exact description.

My invention relates to means for mounting and manipulating dental engines, and more particularly to the means for suspending the electric motor and its accompanying parts.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation showing my invention ready for use. Fig. 2 is a vertical section through the motor-casing and immediate connections thereof, and Fig. 3 is an enlarged cross-section through the cord connected with the motor mechanism.

Mounted upon a wall 4 is a bracket 5, provided with a pin 6, projecting upwardly therefrom. A cylindrical bearing-sleeve 7 is journaled upon this pin and is provided with an arm 8, projecting laterally therefrom and disposed horizontally. This arm has a telescopic joint 11 and is provided with brackets 9 and 10. These brackets support pulleys 12 and 13, over which passes a flexible connection 14. Mounted upon one end of this flexible connection is a counterweight 14^a for balancing the motor mechanism, the motor-casing of which is shown at 15 and is made in halves. The lower half of the casing is provided with a ring 16, which encircles a coupling 17, provided with a centering-pin 18 for the purpose of engaging and rotating a flexible shaft 19, which is inserted in the usual manner through a tubular member 19^a. The coupling 17 also serves as an insulating-joint, as does also the tubular member 19^a.

The motor is shown at 20 and is provided with brushes 21 22, made in the usual or any preferred manner. This motor is provided with a spider 23, and extending upwardly from this spider is a dome 24, provided with an opening 25. Fitting within the dome is a hemispherical bearing member 26, provided with a cylindrical aperture 27 coincident with its axis. This hemispherical bearing member 26 is integral with another dome 28, as will be seen from Fig. 2. A cap 29

is provided with a threaded annular portion 30, which is screwed into the upper or large end of the dome 28, the latter being threaded for this purpose. A sleeve 31 of insulating material is bushed into the cap 29.

Mounted within the dome 28 and fitting neatly against the lower edge of the annular portion 30 is a washer 32 of insulating material, preferably hard rubber. This washer is provided with apertures 33, through which pass conducting-wires 35, and is also provided with a comparatively large central aperture, through which passes a braided cord 34, provided at its inner end with a head or knob 34^a to prevent its withdrawal from the washer. The conducting-wires 35 lead upward from their connection with the various binding-posts 36 and brushes 21 22 in the usual manner, and said wires after passing through the washer 32 are carried to an engagement with the cord 34 and are braided thereupon in the usual or any suitable manner.

My invention relates more particularly to the mechanism shown in the upper portion of Fig. 2 and used for sustaining the weight of the motor. Referring to this figure, it will be seen that the entire weight of the motor and parts connected immediately therewith bears upon the dome 24, and the consequent downward pull of this dome is sustained upon the hemispherical bearing member or head 26. The aperture 25 is of sufficient size to enable the bearing member or head 26 to have a reasonable degree of angular movement, so that the motor-casing 15 and its contents may be swung slightly in any direction. The washer 32 serves as a spreader for holding the wires 35 apart. The entire weight of all the heavy parts is thrown directly upon the cord 34, no part of it being upon the conducting-wires and all danger of breaking these wires is therefore avoided.

The device is neat in appearance and materially increases the quality of the insulation as between the wires and other metallic parts.

My invention is used as follows: The motor being mounted as above described, it may be raised or lowered by manipulating the counterweight 14^a, a flexible shaft being connected with the motor in the usual manner and electric power being turned on the motor is actuated in the manner well understood, this driving the flexible shaft. The operator can swing the motor bodily by means of the arm 8 and can also lengthen or shorten this arm.

Without disturbing the position of the arm or either of the pulleys, however, he can cause the motor to turn to divers angles, as above described, the action being somewhat similar to that of a swivel-joint. A great degree of flexibility is thus secured and the danger of causing a kink or buckle to take place in the flexible shaft 19 or in the conducting-wires or flexible suspension member 14 is obviated.

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

1. In an apparatus of the character described, the combination of a suspensory member for sustaining the weight of a motor, a plurality of conducting-wires disposed adjacent to said suspensory member, motor mechanism connected with said wires and driven thereby, and a covering common to said suspensory member and said conducting-wires.

2. In an apparatus of the character described, the combination of a suspensory member provided with an enlarged portion, a washer through which said suspensory member is threaded, said washer engaging said enlarged portion, and a motor provided with mechanism having a portion for engaging said washer.

3. In an apparatus of the character described, the combination of a washer provided with apertures, a suspensory member engaging said washer by aid of one of said apertures, conducting members passing through others of said apertures, a member encircling said washer, and a motor connected with said member and sustained thereby.

4. In an apparatus of the character described, the combination of a cap, a dome connected with said cap and provided with a hemispherical head, conducting-wires passing through said cap, means for supporting said cap, and a motor provided with a supporting-dome engaging said hemispherical head, said motor being provided with electrical connections for engaging said conducting-wires.

5. In an apparatus of the character described, the combination of a motor, a mem-

ber connected therewith and provided with a hollow dome, a bearing member partially encircled by said dome and movable relatively thereto after the manner of a swivel-joint, means for supporting said member, and electrical connections for energizing said motor.

6. In an apparatus of the character described, the combination of a suspensory member, a washer mounted thereupon and provided with apertures, conducting-wires passing through said apertures and disposed parallel with said suspensory member, a jacket common to said suspensory member and to said wires, and motor mechanism connected with said wires and energized thereby.

7. In an apparatus of the character described, the combination of a motor provided with a supporting member connected thereto, a dome connected with said supporting member and provided with an aperture, a member provided with a head inserted within said dome and movable relatively thereto, said member being further provided with a neck passing through said aperture, means for suspending said member, and electrical connections mounted partially within said dome for energizing said motor.

8. In an apparatus of the character described, the combination of a dome provided with a hemispherical head and with a passage extending entirely through said dome and said hemispherical head, a cap connected with said dome and closing the same, a washer mounted within said dome and engaging said cap, means for supporting said washer, conducting-wires passing through said washer and through said passage, and a member engaging said hemispherical head for the purpose of supporting a motor, said conducting-wires being connected with said motor for the purpose of energizing the same.

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

JOHN V. TRENAMAN.

Witnesses:

F. W. HANAFORD,

EVERARD BOLTON MARSHALL.