

F. R. KUNKEL.
VIBRATORY MASSAGE APPARATUS.
APPLICATION FILED JAN. 10, 1908.

975,437.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

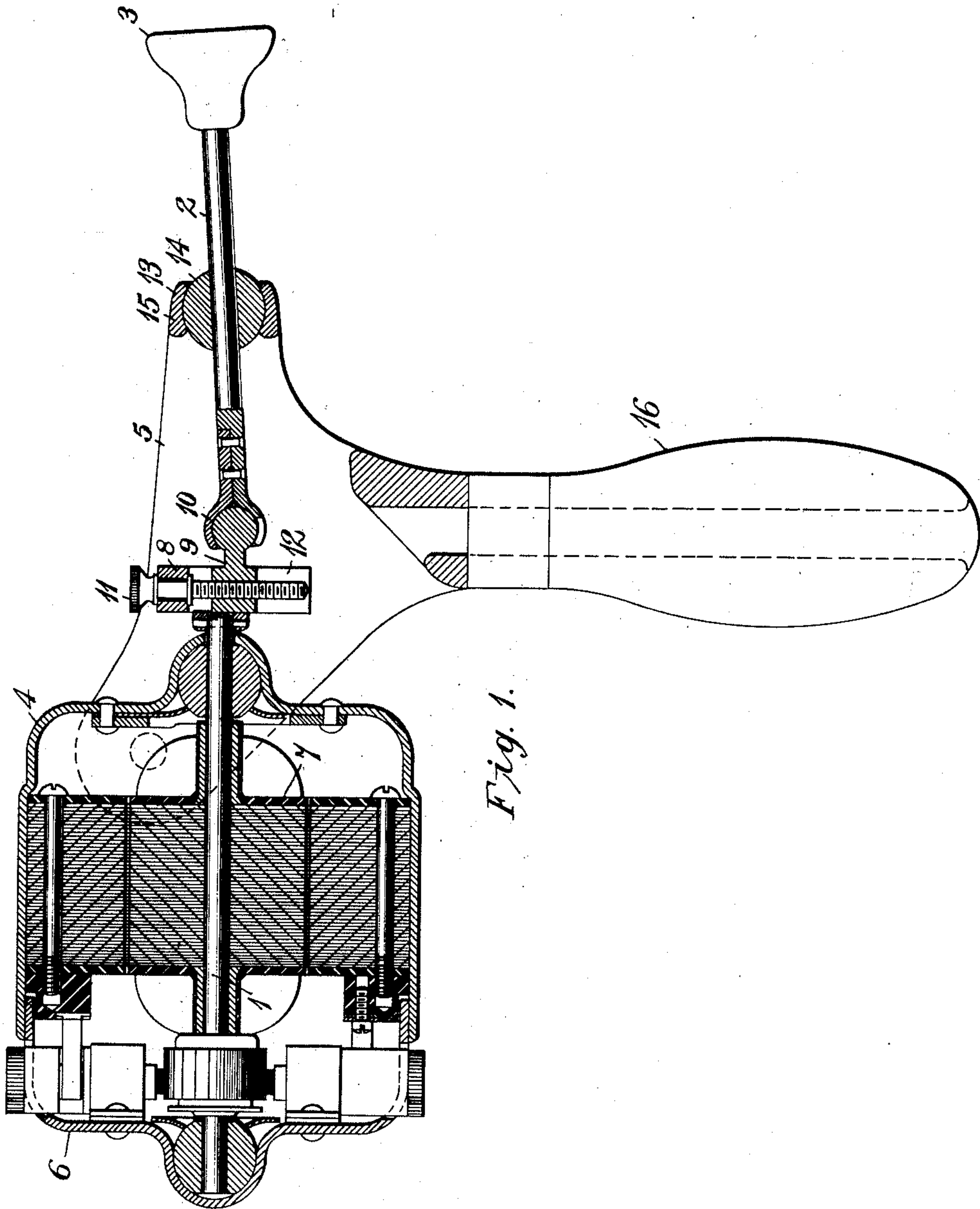


Fig. 1.

WITNESSES:

Fred H. Miller
R. F. Dearborn.

INVENTOR

Fred R. Kunkel

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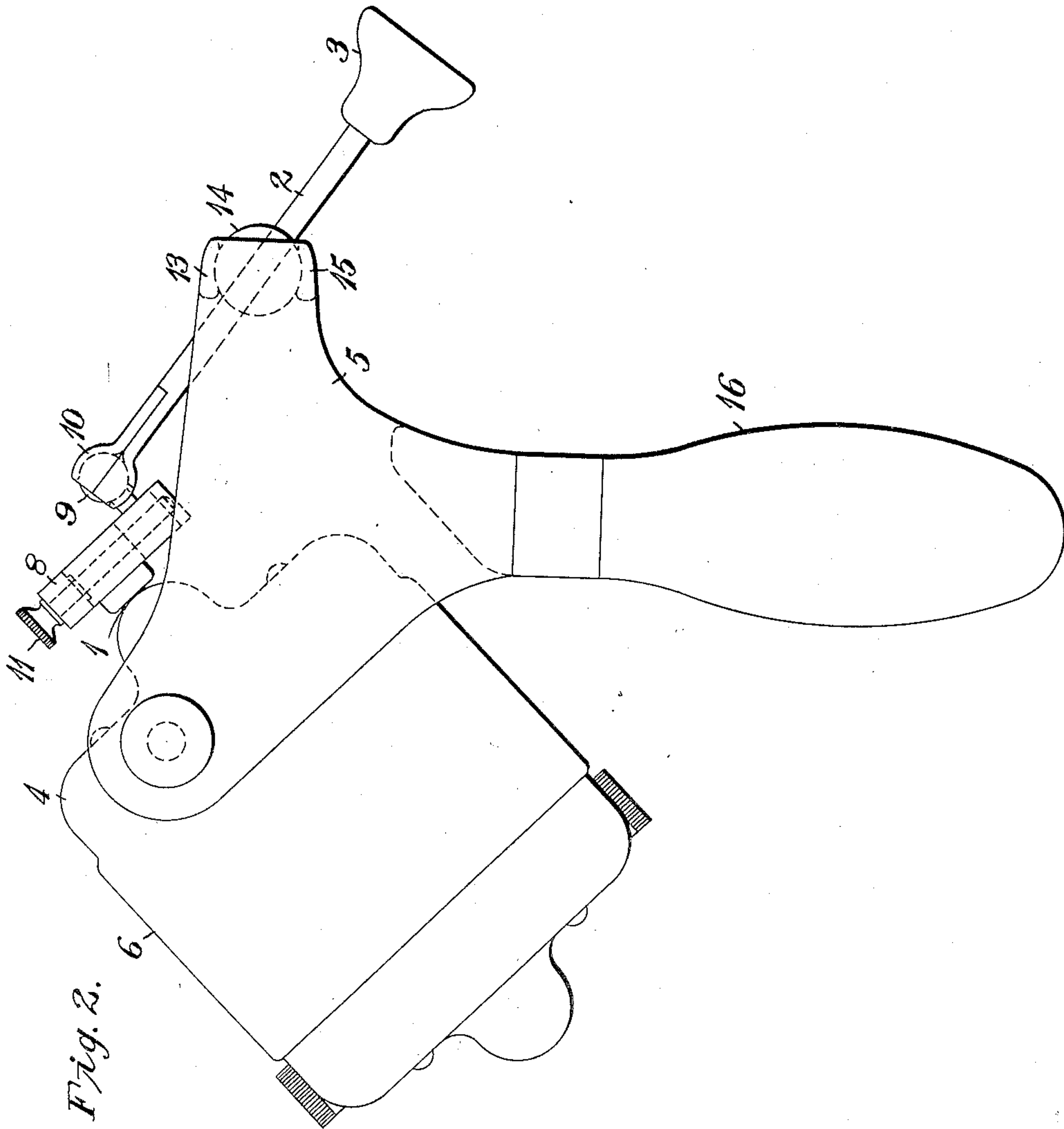
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UNITED STATES PATENT OFFICE.

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VIBRATORY MASSAGE APPARATUS.

975,437.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed January 10, 1908. Serial No. 410,220.

To all whom it may concern:

Be it known that I, FRED R. KUNKEL, a citizen of the United States, and a resident of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Vibratory Massage Apparatus, of which the following is a specification.

My invention relates to vibratory massage apparatus, and it has special reference to such devices as are operated by rotatable driving shafts.

The object of my invention is to provide a simple and durable device, of the class above indicated, that shall embody means for varying the kind of motion imparted to the single applicator of the device as well as for adjusting the extent of such motion.

In a vibratory massage apparatus it is often desirable to produce a pulsating or reciprocating as well as an oscillatory movement and this result has hitherto been accomplished by providing two or more distinct applicators to which different kinds of motions were imparted. With such devices it is impossible to produce a movement in any one applicator which is a resultant of a combined oscillatory and pulsating movement.

According to my present invention, I provide a relatively inexpensive device having a single applicator to which either purely oscillatory or purely pulsating movements may be imparted and in which the two movements may be combined in any desired proportion by a simple adjustment which may be effected when the device is in operation. I provide an additional adjustment whereby the variations in the extent of movements produced may be obtained.

Figure 1 of the accompanying drawings is a sectional elevation of a device constructed in accordance with my invention, the parts being adjusted to produce a purely oscillatory movement of the applicator and Fig. 2 is an elevation of the device shown in Fig. 1 with the parts adjusted to produce a substantially pure pulsating movement.

Referring to the drawings, the device here illustrated comprises a shaft 1 which may be driven directly or indirectly by any suitable rotary prime mover and a driven shaft 2 which is eccentrically and pivotally secured to the driving shaft 1 and is provided with

an applicator 3 at its outer extremity, a relatively stationary supporting frame 4 for the driving shaft and a bearing bracket 5 for the driven shaft which is hinge-connected to the stationary frame 4 so that a rotatable adjustment of one part relative to the other may be effected.

As illustrated in the drawings, the stationary frame constitutes a stationary member of a propelling motor 6, the armature 7 of which is mounted on the driving shaft 1. Since the driving motor may be located at any convenient point, as above indicated, and may be of any suitable type, I deem it unnecessary to describe the motor in detail. Furthermore, the motor illustrated constitutes the subject matter of my co-pending application Serial No. 410,221, filed of even date herewith.

A disk 8 is interposed between the shafts 1 and 2 and is provided with a radially adjustable ball projection 9, the inner end of the driven shaft 2 being provided with a socket 10 which engages the ball projection 9. The adjustment of the projection 9 is effected by a screw 11 which causes the body of the projection to slide in a radial groove 12 in the disk. The shaft 2 is supported, intermediate its ends, by a bearing 13 which comprises a sphere 14 through which the shaft projects and a supporting socket 15 therefor which forms a part of the bracket 5. The device may be supported in the hand of an attendant by means of a handle 16 which is secured to the bracket 5.

The operation of the device is as follows: Assuming that the parts are adjusted as shown in Fig. 1, the applicator 3 is oscillated, the degree of movement being determined by the eccentricity of the projection 9 which may be varied by the adjusting screw 11. If the bracket 5 is rotated about its hinged connection with the frame 4, the shaft 2 will be adjusted to produce a considerable angle between the center lines of the two shafts. If this adjustment is continued until the center line of the shaft 2 lies in a plane substantially parallel to that of the disk 8 the movement of the applicator 3 will be pulsating or reciprocating while at intermediate points, the adjustment of parts being similar to that shown in Fig. 2, the movement imparted to the applicator will

be the resultant of the combined oscillatory and pulsating actions produced by the rotation of the eccentric projection 9.

It will be readily understood by those familiar with the art that various means may be employed for effecting the adjustment of the projection 9 and, if a constant movement of pulsation is adequate, the oscillatory movement may be varied by longitudinally adjusting the position of the bearing 13 relative to the shaft 2.

Various structural modifications may be effected within the scope of my present invention and I desire that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. In a massage implement, the combination with a driving shaft and a driven shaft having a laterally adjustable pivotal connection to the driving shaft, an intermediate bearing for the driven shaft, and means for adjusting the position of the bearing to vary the angle between the center lines of the shafts.

2. In a massage implement, the combination with a driving shaft, a laterally adjustable projection operatively connected to one end thereof, and a driven shaft pivotally secured to the projection, of a laterally adjustable intermediate bearing for the driven shaft.

3. In a massage implement, the combination with a relatively stationary frame, a driving shaft, a laterally adjustable projection operatively connected to one end of the driving shaft, and a driven shaft pivotally

secured to the projection, of a laterally adjustable intermediate bearing for the driven shaft.

4. In a massage implement, the combination with a relatively stationary frame, a driving shaft supported thereby and a driven shaft pivotally connected to the driving shaft, of an intermediate bearing for the driven shaft, and a supporting bracket for the driven shaft, said bracket being revolvably adjustable relative to the stationary frame.

5. In a massage implement, the combination with a driving shaft, a ball projection operatively connected to one end of said shaft, means for laterally adjusting said projection, and a driven shaft pivotally secured thereto, of an intermediate bearing, the position of which is laterally adjustable.

6. In a massage implement, the combination with a driving shaft, a disk secured thereto and provided with a radially adjustable ball projection, a driven shaft secured to the ball projection, and a bracket revolvably adjustable relative to the stationary frame and in the plane of the driving shaft, of an intermediate bearing for the driven shaft, said bearing being mounted for universal movement in the supporting bracket.

In testimony whereof, I have hereunto subscribed my name this 28th day of Dec., 1907.

FRED R. KUNKEL.

Witnesses:

H. M. SCHEIBE,
BIRNEY HINES.