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O. BIHLMAIER.

MASSAGE INSTRUMENT.

(Application filed Aug. 6, 1901.)

(No Model.)

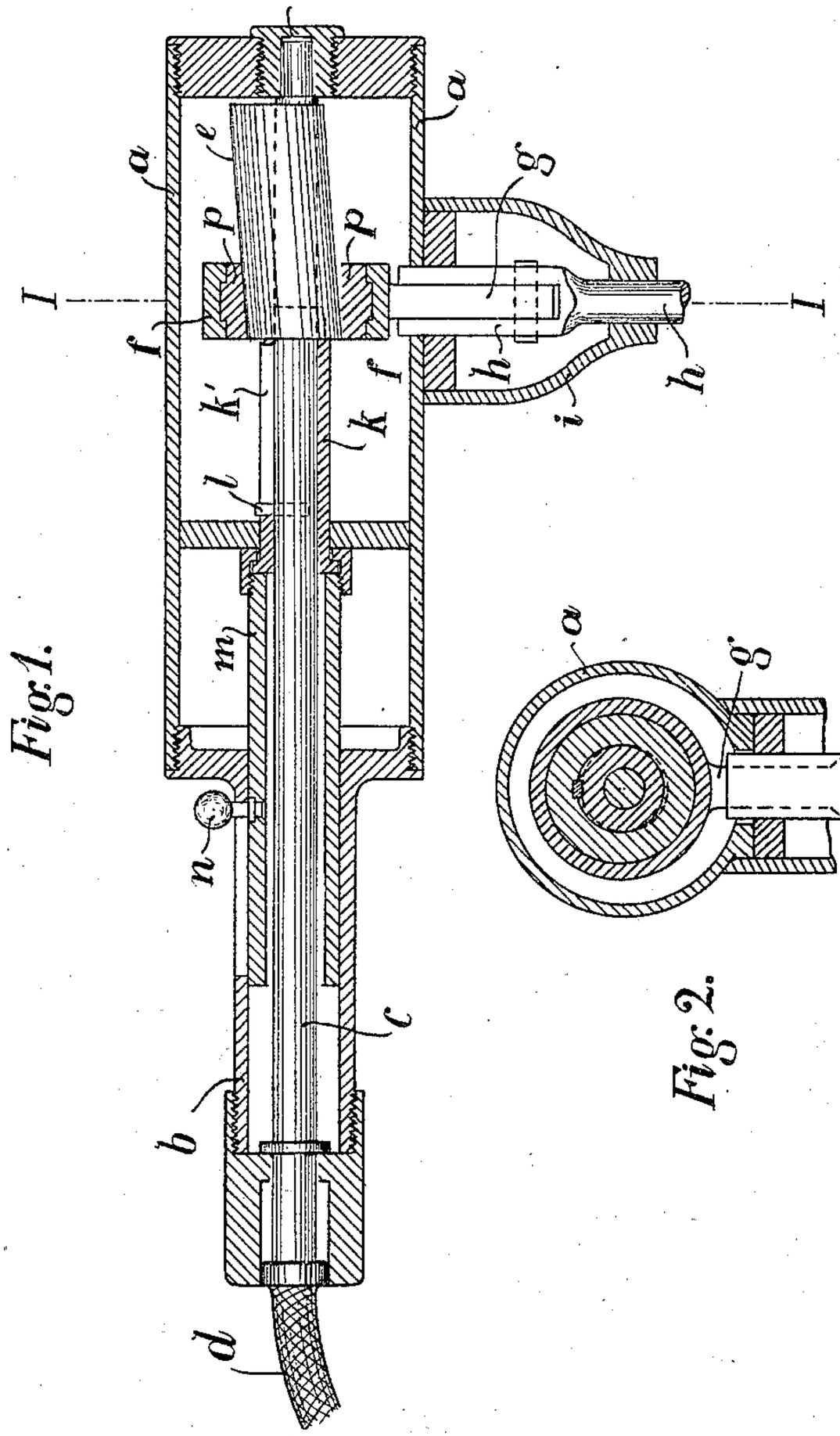

Fig. 1.

Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

OTTO BIHLMAIER, OF BRUNSWICK, GERMANY.

MASSAGE INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 688,581, dated December 10, 1901.

Application filed August 6, 1901. Serial No. 71,062. (No model.)

To all whom it may concern:

Be it known that I, OTTO BIHLMAIER, merchant, a subject of the King of Würtemberg, residing at Brunswick, Duchy of Brunswick, Germany, have invented certain new and useful Improvements in or Relating to Massage Instruments, of which the following is a specification.

My invention relates to an appliance for vibration massage by means of which rapidly-succeeding shocks can be imparted to suitable parts of the human body.

My invention also relates to a peculiar apparatus for producing the reciprocating oscillatory movements of the part which is brought in contact with the human body, which device allows of the extent of the oscillations being altered during the use of the instrument, so that, as desired, stronger or weaker shocks may be arranged.

This improved arrangement is shown in longitudinal section in Figure 1 of the accompanying drawings, and in Fig. 2 in cross-section on the line I I of Fig. 1.

A shaft *c* is arranged in a tubular casing *a*, which is provided with a handle *b*, and said shaft is set in rapid rotation by means of a suitable device—such, for instance, as an electromotor—through the intermediary of a flexible shaft *d*. A broad roller-shaped eccentric *e* is mounted on the shaft *c* and prevented from rotation thereon, but adapted to be adjustable in the direction of the shaft in such a way that the geometrical axis of the eccentric cuts the geometrical axis of the shaft *c*, so that the eccentricity of one end of the eccentric varies from the other. The arrangement of the eccentric on the shaft *c* is preferably such that at one point the eccentricity is practically *nil* or is only very slight, and in Fig. 1 this eccentric part is assumed to be on the left-hand end of the eccentric *e*. A ring *f* engages over the eccentric *e*, and a projection *g* of this ring is flexibly connected with a part *h*, which carries the actual massaging-body. The part *h* is guided in a projection *i* of the casing.

In order to allow of a variation of the eccentricity, and thus of the vibration movement, the eccentric *e* is connected with a tubular projection *k*, surrounding the shaft *c*, which projection may be adjusted along the shaft by means of a slot *k'* and a pin *l*, resting in the slot and mounted on the shaft *c*; but the tubular projection must share in the rotation of the shaft. A tube *m* engages over the left-hand end of the tube *k* and may be displaced from the outside by means of a knob or stud *n*, and thereby the tube *k* and the eccentric *e*, connected therewith, are carried along with it. The ring *f* is of course not thereby displaced.

In the example shown in Fig. 1 the concentric or only slightly-eccentric part of the eccentric *e* is situated inside the ring *f*. The vibrating movement will therefore be almost *nil*, or at any rate very slight, when the shaft *c* is rotated. If it be desired to increase the movement, the eccentrics move in the manner hereinbefore explained, and thereby more eccentric parts come into engagement with the ring *f*.

As shown in the drawings, a further ring *p* is arranged between the ring *f* and the eccentric *e*. This ring is bored eccentrically, corresponding to the tapering surface of the eccentric *e*, while the border-lines of its outer periphery run parallel to the shaft *c*. The eccentric *e* may be displaced in it by means of tongue and groove, while it is forced to rotate with the eccentric, and thus turn in the outer ring *f*. By this arrangement the result is attained that the taper of the eccentric surface has no influence on the ring *f*, which thus has an extremely regular movement.

The invention is not limited to the exact construction shown and described, for divers changes within the scope of the appended claims may be made.

I claim as my invention—

1. In a device of the class specified, a casing having a handle, a shaft in the casing and handle respectively, an eccentric adjustable on said shaft, a rod operable by the eccentric and adapted to be connected with a massage instrument, a tube slidable on the shaft and connected with said eccentric, and a knob for operating said tube projecting through a slot in said handle.

2. In a device of the class specified, a casing, a shaft in said casing, an eccentric adjustably carried by said shaft, a tube on said shaft and rotative therewith and connected

with said eccentric, a second tube on said shaft non-rotative therewith and connected with the first-mentioned tube, means for operating said second tube, and a strap connected with the said eccentric.

3. In a device of the class specified, a casing having a handle, a shaft in the casing and handle respectively, an eccentric on said shaft, a rod operable by said eccentric, a manually-operable device on the handle, and connections between the manually-operable device and the rod for changing the stroke of the latter.

4. In a device of the class specified, a casing having a handle, a shaft in the casing and handle, an eccentric adjustable on said shaft, a ring on the eccentric the inner face of which is shaped to agree with the periphery of said eccentric, a second ring on the other ring, a rod connected to the second ring, a tube connected with the eccentric, having a slot, a pin on said shaft located in said slot, a second tube on the shaft non-rotative therewith and connected with the first-mentioned tube, and a knob on the second tube projecting through a slot in the handle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OTTO BIHLMAIER.

Witnesses:
WILHELM LELUKE,
JULIUS SECKEL.