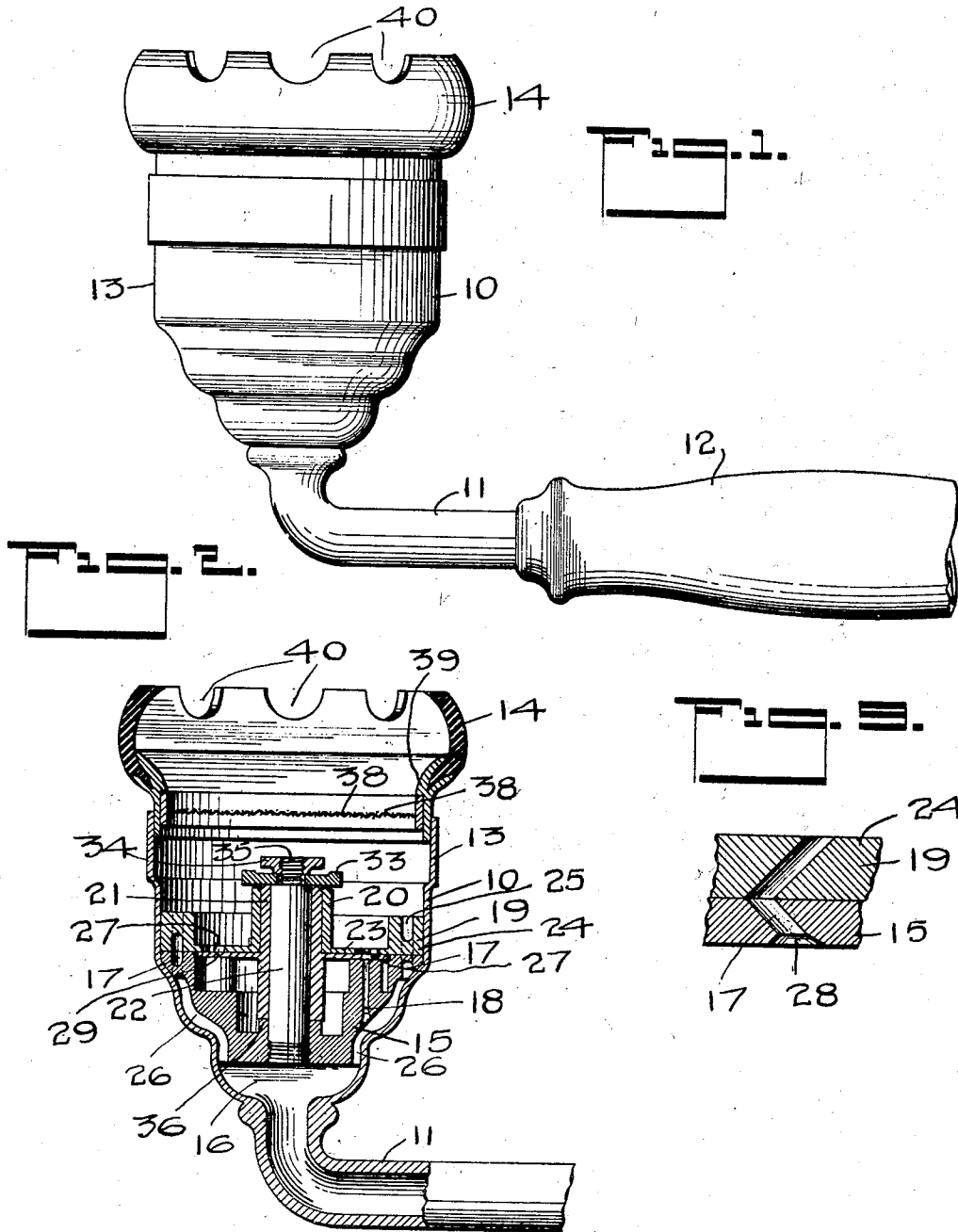


I. LAUTER.
WATER MASSAGE DEVICE.
APPLICATION FILED OCT. 12, 1911.

1,101,804.

Patented June 30, 1914.

2 SHEETS-SHEET 1.



Witnesses:
Geo. A. Linn
John Hoff

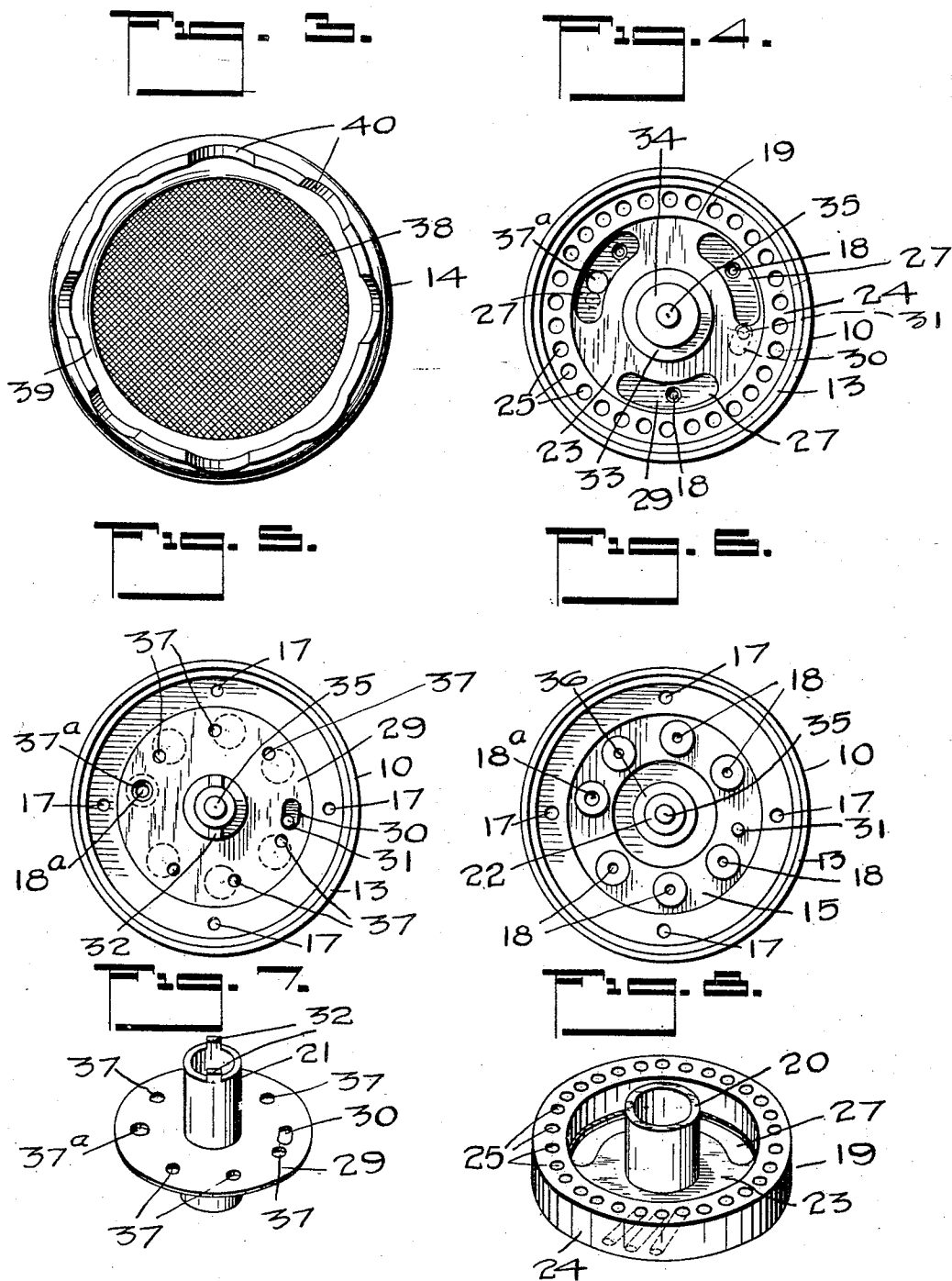
Inventor
Ignatz Lauter
By his Attorney
J. B. Handberg

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UNITED STATES PATENT OFFICE.

IGNATZ LAUTER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JOSEPH SNYDER,
OF NEW YORK, N. Y.

WATER-MASSAGE DEVICE.

1,101,804.

Specification of Letters Patent.

Patented June 30, 1914.

Application filed October 12, 1911. Serial No. 654,398.

To all whom it may concern:

Be it known that I, IGNATZ LAUTER, a citizen of the United States, and a resident of the borough of Bronx, in the city, county, and State of New York, have invented certain new and useful Improvements in Water-Massage Devices, of which the following is a specification.

The object of this invention is to provide a novel and advantageous device by means of which an interrupted or periodic jet or jets of water may be delivered against the body, for the stimulating or curative effects to be secured thereby.

The invention consists in a device for delivering a jet or jets of water upon the person, having a water-driven rotor adapted to interrupt the flow so that periodic jets of longer or shorter duration are discharged against the body.

The invention may be embodied in any one of a number of specific forms, but what I now regard as the preferred embodiment is herein described and shown for the purpose of illustration.

In the accompanying drawings: Figure 1 is a side elevation of the device showing the handle broken away; Fig. 2 is a longitudinal section therethrough; Fig. 3 is a front view of the device; Fig. 4 is the same with the skirt and screen removed; Fig. 5 is a view like the last with the rotor removed; Fig. 6 is a view like Fig. 5 with the adjustment disk removed; Fig. 7 is a detail perspective view of the adjustment device; Fig. 8 is a detail perspective view of the rotor; and Fig. 9 is a detail section showing the relation of the passages for driving in the head and rotor.

In these views the numeral 10 indicates a suitable form of head, having a supply-conduit 11, for leading water from a suitable source, such as an ordinary bath faucet. The structure of the head 10 may be widely varied, but it is preferably in the nature of a cup, having a handle 12, through which the supply-conduit 11 may extend. This cup is shown as comprising a sheet metal casing 13, secured at the back to the end of the conduit or handle, and a soft rubber skirt or extension 14 secured permanently or removably to the open end of the casing. The cup is shown as provided with a back wall or cross-partition 15, formed of a metal block suitably secured to the interior there-

of. In rear of this wall is shown a water chamber 16, forming a continuation of the conduit 11.

In accordance with the invention the cup or head has two members provided with cooperating ports or passages whereby relative rotation of the parts causes an intermittent jet or jets to be discharged from the device, and water-driven means are provided for producing relative rotation for this purpose. This construction is very desirable because it enables me to utilize the water from the supply-conduit both to drive the device and to supply the periodic jets. Preferably, though not necessarily, I employ separate streams or bodies of water for driving the device and for forming the intermittent or periodic jets delivered against the body. In the construction illustrated the cup has two kinds of stationary outlets, one kind being indicated at 17 and the other at 18 and 18^a. Both of these outlets are shown as being formed through the wall 15. The outlet or outlets 17 deliver streams or jets for driving a rotor or water-wheel, a suitable embodiment of which is shown at 19. The outlets 18 and 18^a are for the purpose of discharging the periodic jets. The construction of this rotor may be widely varied. It is shown as comprising a hub 20 turning about a sleeve or bushing 21 on an axial shaft 22 secured to or formed on the block or wall 15, a disk or plate-like portion 23 disposed adjacent the plane of the jet outlets 18 and 18^a, and a rim 24 adjacent the outlets 17. The outlets 17 are all similarly inclined in the direction of rotation; for brevity the inclination may be referred to as tangential. The rim 24 is provided with passages or bores 25 arranged to register with the outlets 17, these passages being preferably inclined in the reverse direction. While this is the preferred embodiment of means for driving the rotor, it will be obvious that any other suitable form of water-motor structure may be employed, the rotor being provided with any suitable form of buckets or vanes. The inclined outlets 17 are shown as communicating with the water chamber 16 by means of suitable channels or passages 26. The jet outlets 18 and 18^a are preferably straight, that is, parallel to the axis of the device. They are shown as extended or formed in nozzle projections 28 on the block 15. They are opened and

closed, as the rotor 19 revolves, by ports or openings 27 and the intermediate solid portions in the part 23 of the rotor. There may be any suitable number of outlets 17 for driving, though I preferably employ a plurality arranged in circular series. There may also be any suitable number of jet outlets, such as 18 and 18^a, either one or more. They may be disposed either inside or outside of the series of outlets 17, though preferably inside as shown. In the construction illustrated the user may employ either a single jet outlet 18^a, or a circular series of jet outlets 18. The single jet outlet 18^a is preferably of larger diameter than the jet outlets 18, so that it will deliver a larger stream, and the area of this outlet may be either greater or less than the combined areas of the largest total number of jet outlets 18 that may be opened for the free passage of jets by the rotor at any one time. In effect I provide two sets of jet outlets, 18 and 18^a, of different size. While I have shown one set as comprising the single outlet 18^a, it will be obvious that there may be two or more of these larger outlets; or, there may be more than two sets of jet outlets, so that more variations in jet action may be secured.

There may be any suitable number of the ports or openings 27 in the rotor, and they may be smaller or larger to secure periodic jets of shorter or longer duration, and of greater or less frequency. However, they have sufficient width or length in the direction of rotation to permit the free passage of the jets from the outlets 18 or 18^a. Part or all of a set of outlets may be opened by the rotor at one time; but I prefer to so arrange the ports 27 in the rotor that the jet outlets 18 are uncovered part at a time, as in this way a desirable effect is secured by successive jet impacts taking effect at different localities on the body.

Where I employ two or more sets of jet outlets, such as 18 and 18^a, I provide a ported adjustment member, movable to different positions, corresponding to the different sets, so that any one of the sets may be brought into operation, the remainder being closed. In the particular construction illustrated I provide a disk 29 secured to the bushing or sleeve 21, and rotatable therewith to a limited extent determined by a slot 30 in the disk and a stop-pin 31 on the block 15. Suitable means are provided for turning and holding this disk 29, as a suitable embodiment of which I have illustrated lugs 32 on the end of the sleeve and a knurled operating disk or wheel 33 having openings taking over said lugs, together with a nut 34 for clamping the sleeve and disk 29 in the desired position. The operating disk or washer 33 has a central aperture which takes over a threaded extension

35 on the upper end of the shaft 22, and the nut 34 is screwed onto this extension so as to force the lower end of the sleeve against a shoulder or boss 36 at the base of the shaft. The adjustment member 29 has ports or openings 37 and 37^a. The ports 37 are disposed in positions corresponding to the positions of the openings 18, and the port 37^a is positioned with reference to the ports 37 differently from the opening 18^a with respect to the openings 18. The arrangement is such that in one position the ports 37 all register with the openings 18, while the port 37^a is out of communication with the opening 18^a, the latter being blanked. In the other position, the port 37^a registers with the port 18^a, and the openings 18 are all blanked. In the particular construction shown the adjustment plate 29 is interposed between the jet outlets 18 and 18^a and the rotor 19, so that the openings or ports 37 and 37^a may constitute extensions of the outlets 18 and 18^a when placed in register therewith. The ports 37 and 37^a are shown as slightly larger than the passages 18 and 18^a, but they might be of exactly the same size, or the ports 37 and 37^a might be smaller than the passages with which they cooperate, so that they would determine the size of the jets and be in effect the jet outlets. In fact, any suitable form of adjustment device may be employed for varying the jets.

A removable screen 38 may be inserted into the cup in advance of the rotor, for the purpose of subdividing the periodic jets. This screen may be held in an annulus 39 which may be frictionally retained by being slipped into the interior of the rubber skirt 14. When not desired this screen may be removed, or it may be omitted entirely.

In operation, the device being connected with a source of water-supply under pressure, as by means of flexible tubing, the water is turned on and the rotor is driven thereby. Water from the same supply-conduit passes through the jet outlet passages 18 or 18^a, according to which set is uncovered by the device 29, and the portion 23 of the rotor with its openings and solid portions causes these streams to be delivered as periodic jets, which are delivered directly against the body. The effect may be varied by turning the adjustment device 29 from one position to the other, so that either the jet 18^a or the jets 18 are brought into operation. The portion of the water that has been used for motive purposes passes also into the interior of the cup and reaches the body in a more or less broken spray, so that this effect is combined with the impact effect of the periodic jets. If desired the screen 38 may be utilized for still further modifying the effect. The device is best operated by holding the rubber skirt of the

cup close against the body, the water being permitted to escape by the scallops or notches 40 in the edge of the skirt.

While I have shown and specifically described one embodiment of my invention it will be understood that numerous other embodiments are possible. In general, where I speak of passages, outlets, openings and the like in the plural, such expressions are to be understood as meaning one or more.

I claim:

1. In a device of the character described, the combination of a head having a supply conduit, a water-driven jet-interrupting rotor mounted on the head, and jet delivering means adjustable either for a plurality of fine jets or for a larger jet or jets.

2. In a device of the character described,

the combination of a head having a supply conduit, a water-driven jet-interrupting rotor mounted on the head, a jet-varying member behind the rotor, and means at the front of and extending centrally through said rotor for operating said member.

3. In a device of the character described, the combination of a head having passages, a water-driven rotor having apertures for permitting the passage of periodic jets, and a movable adjustment device between said rotor and the passages in the head.

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

IGNATZ LAUTER.

Witnesses:

J. F. BRANDENBURG,
B. W. COULDOCK.