

No. 754,463.

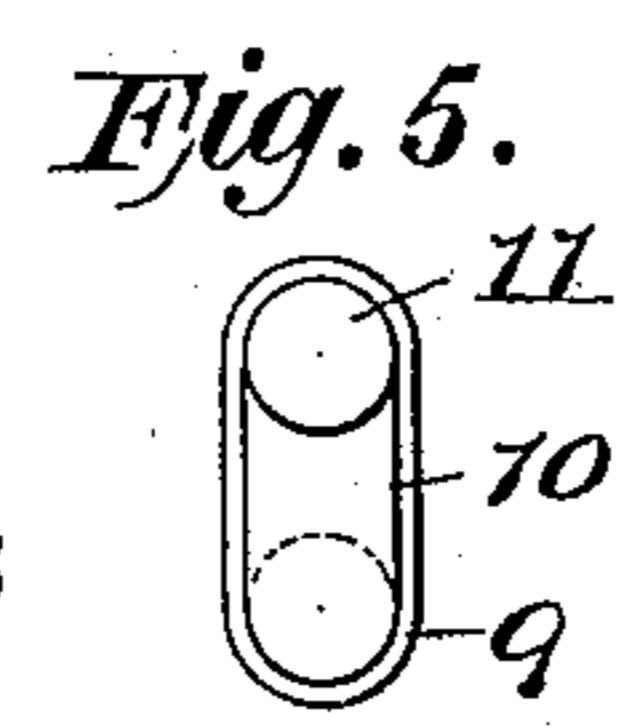
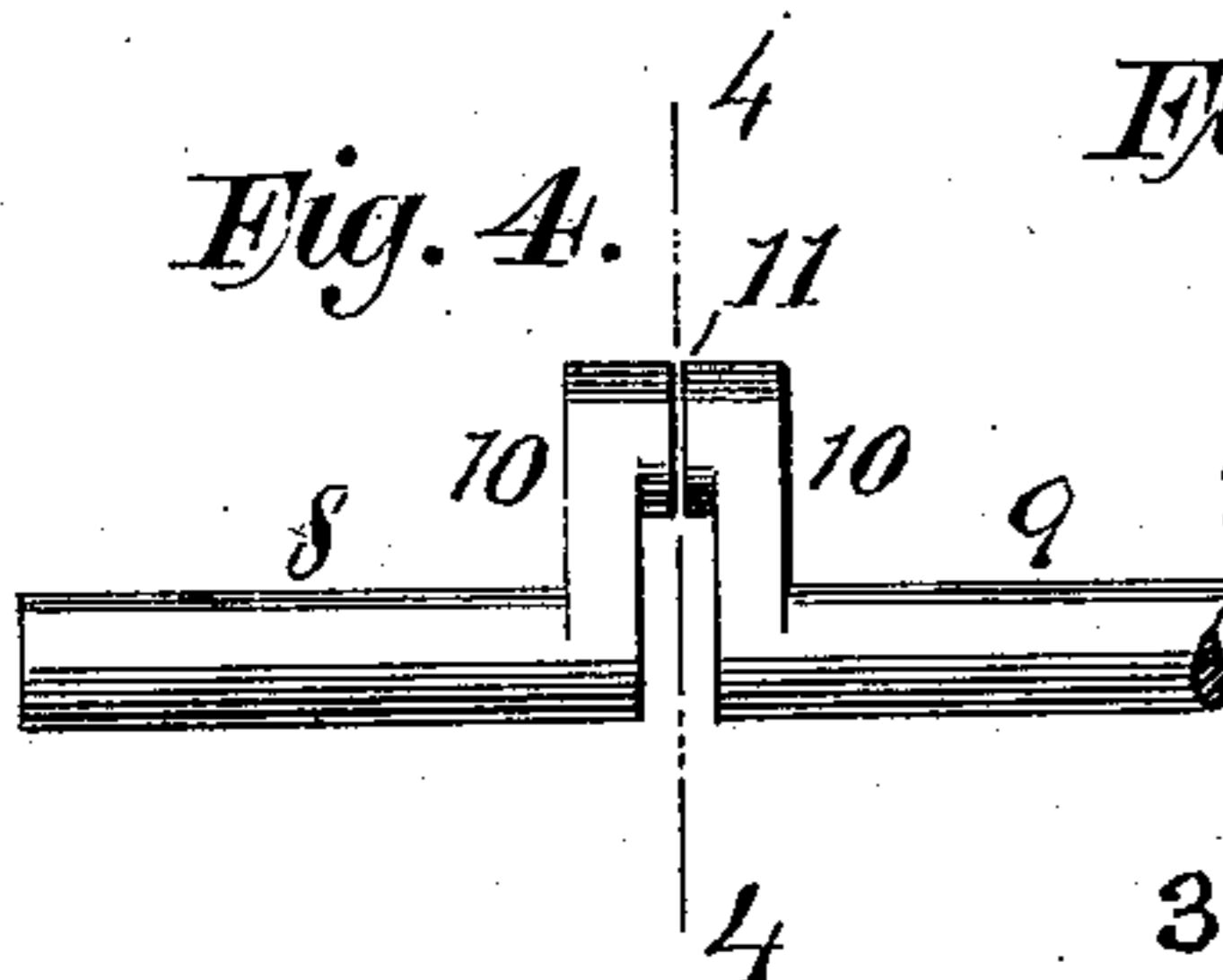
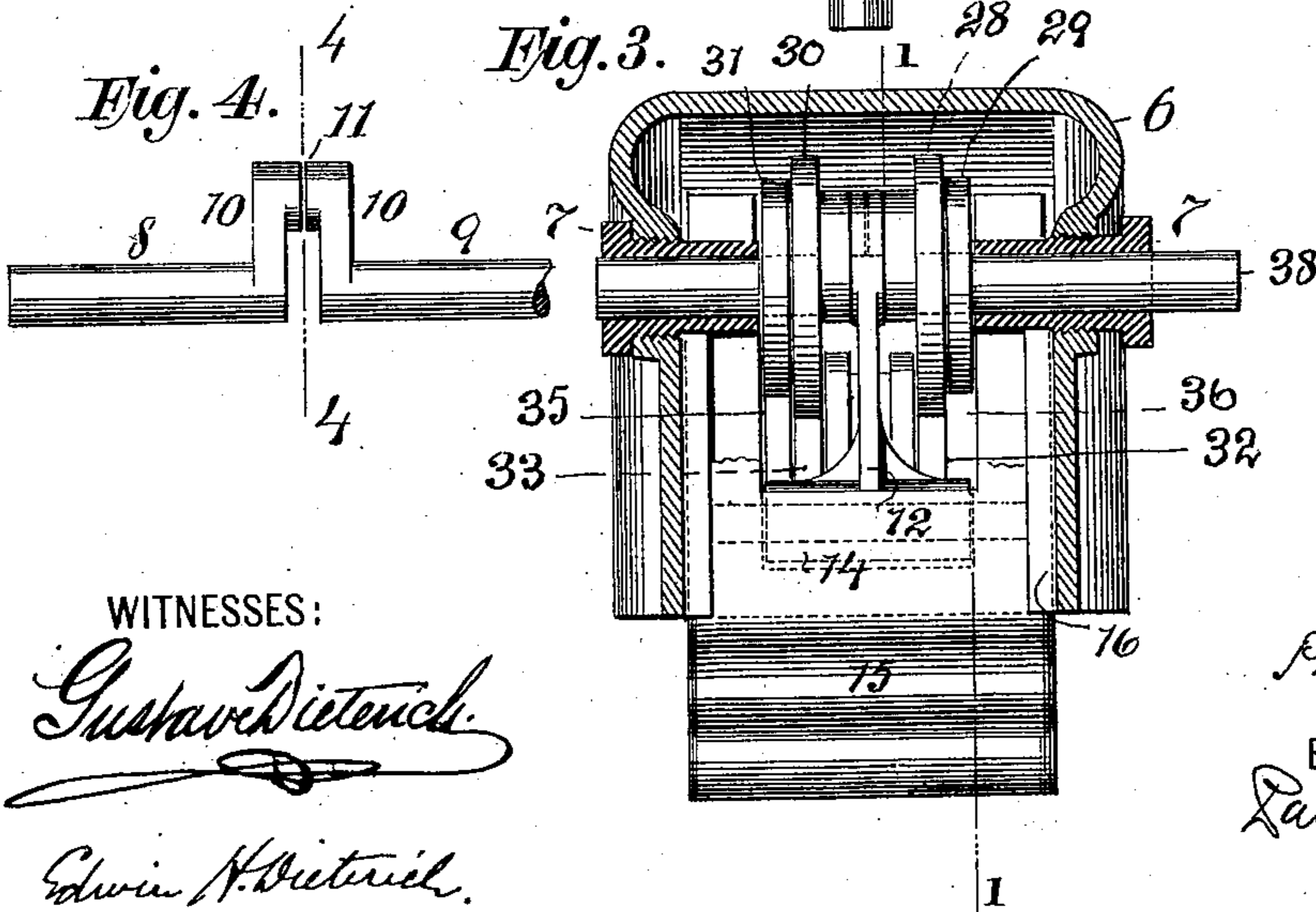
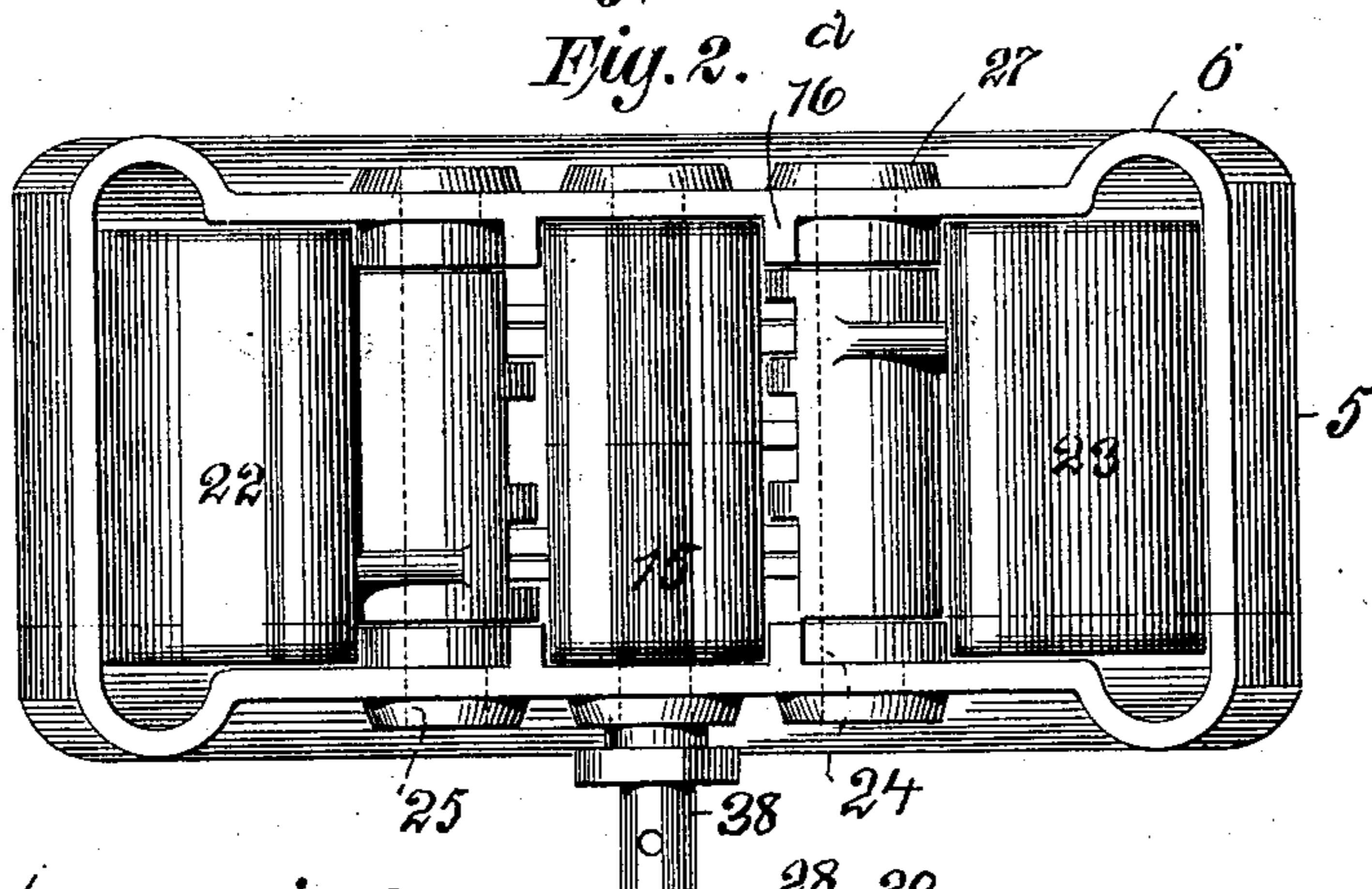
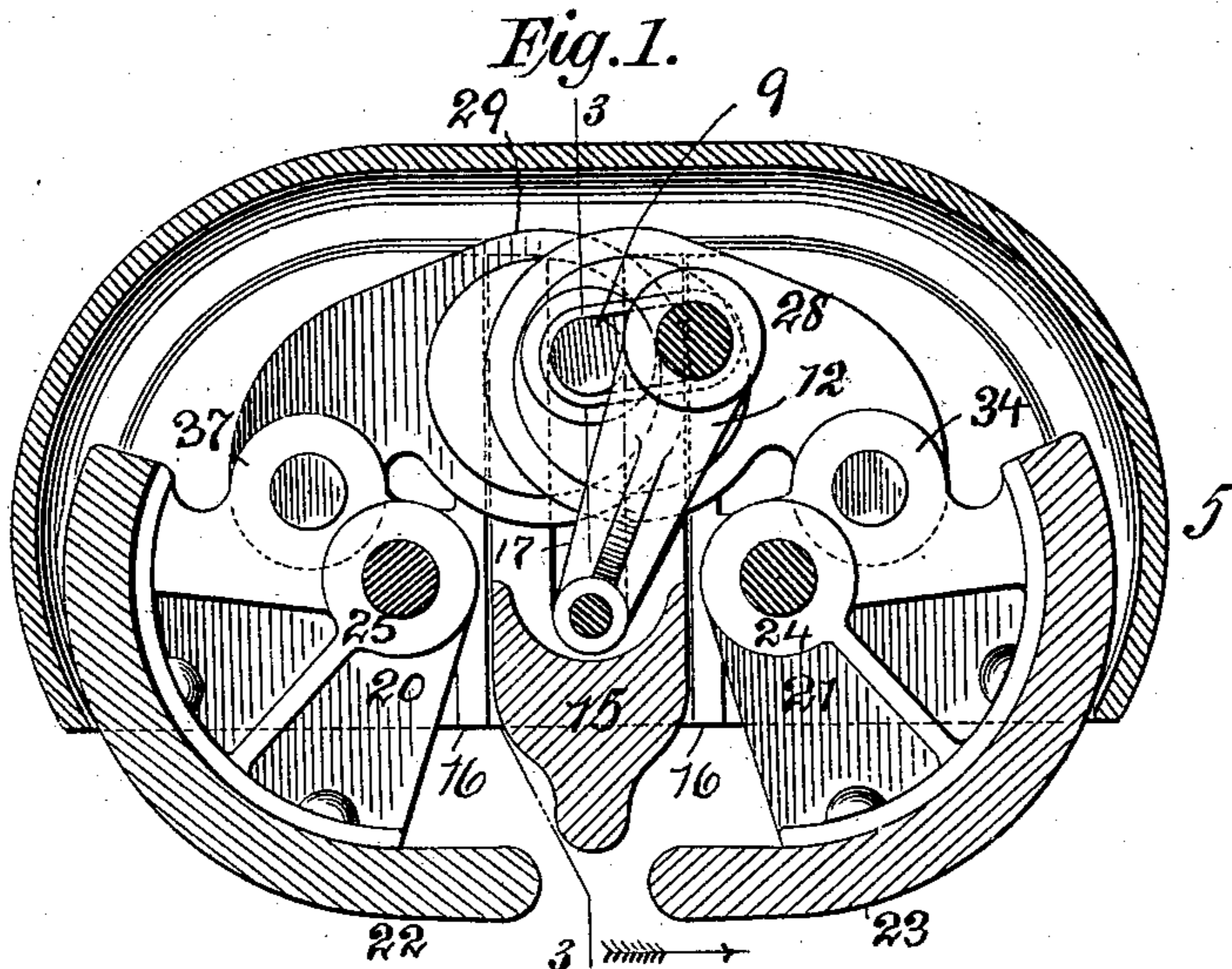
PATENTED MAR. 15, 1904.

P. J. KROLL.
MASSAGE MACHINE.

APPLICATION FILED NOV. 2, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Gustav Dietrich.

Edwin H. Dietrich.

INVENTOR

Philip J. Kroll

BY

David Benjamin
ATTORNEY

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2 SHEETS—SHEET 2.

Fig. 6.

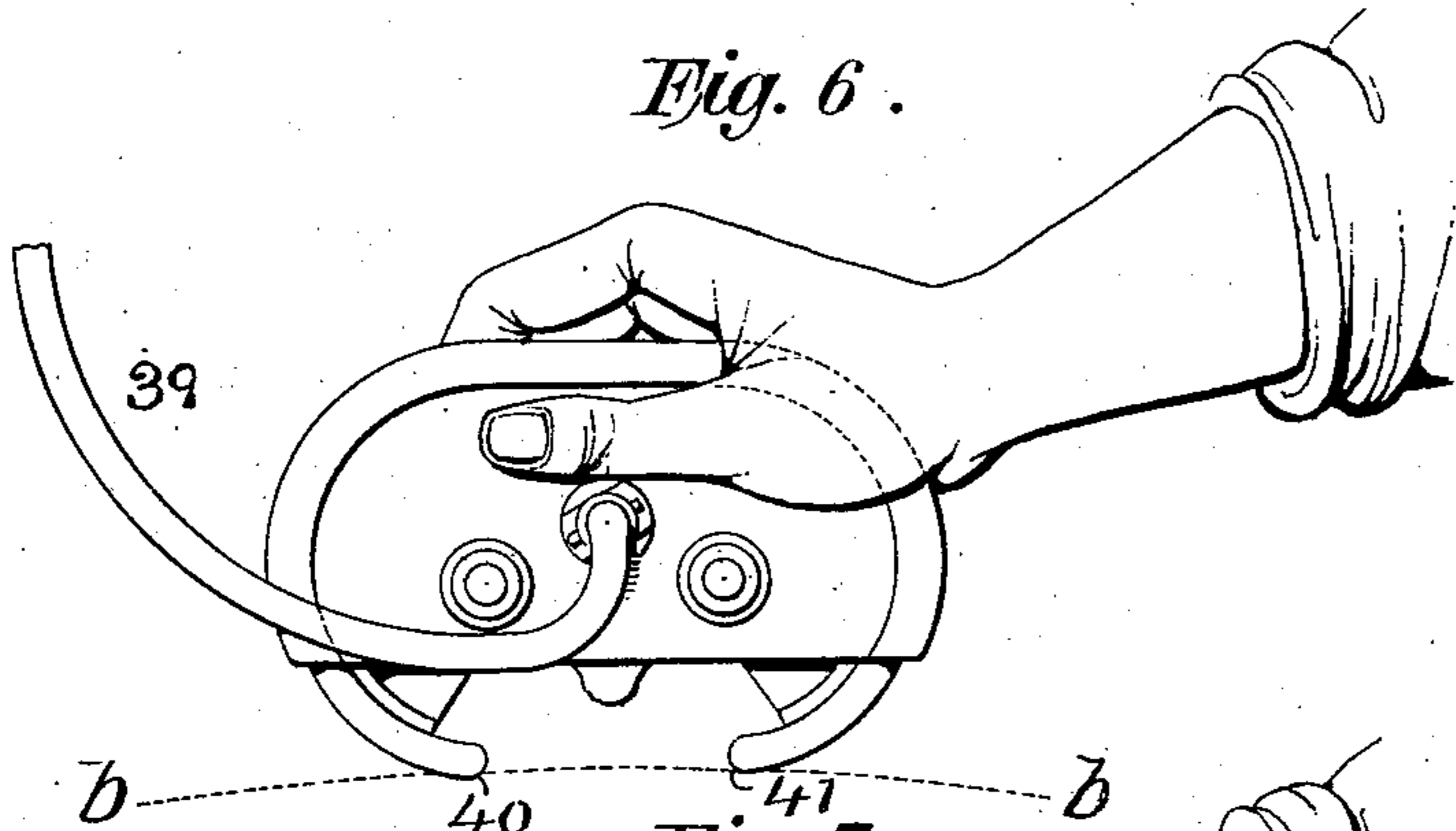


Fig. 7.

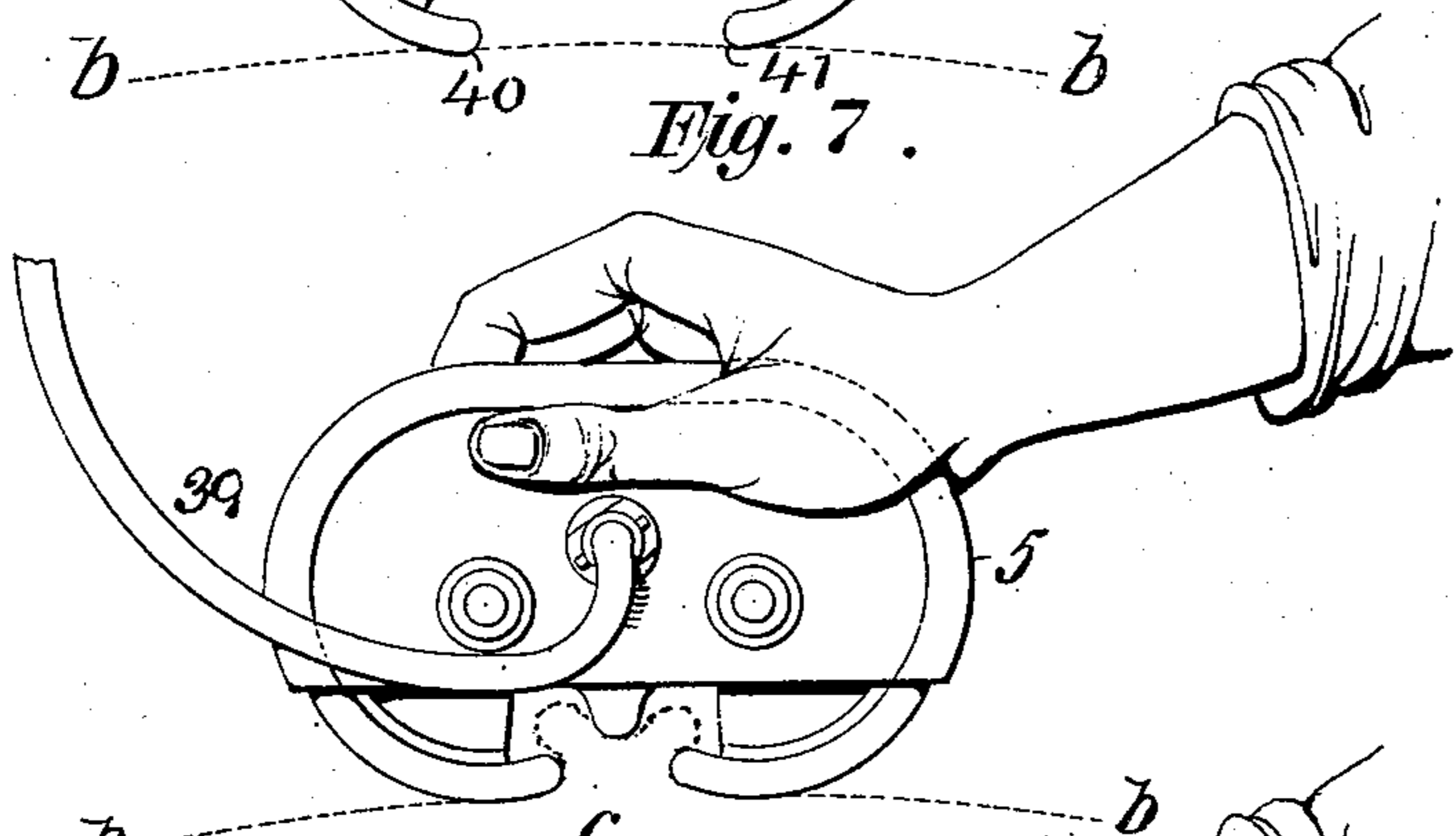


Fig. 8.

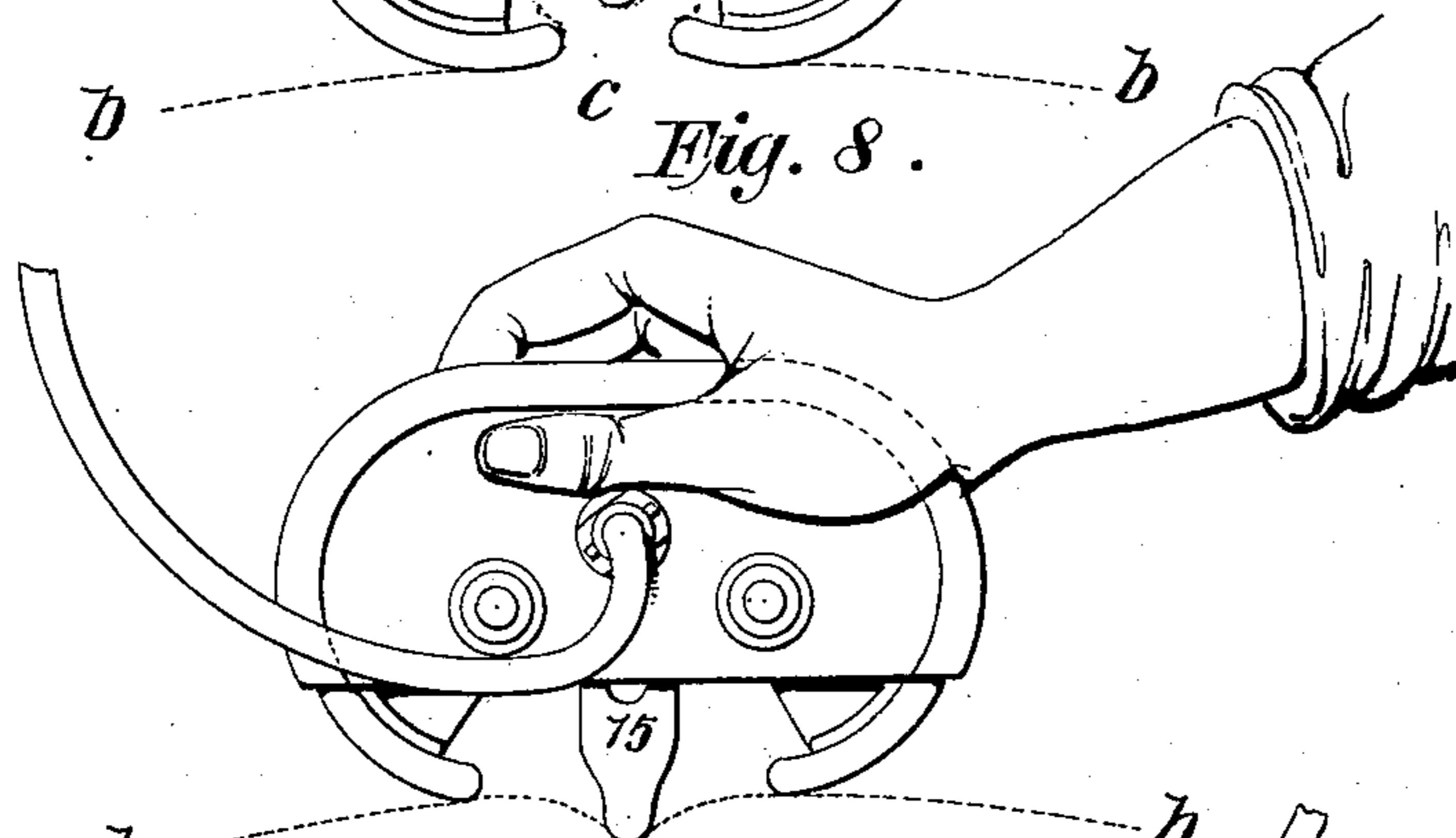
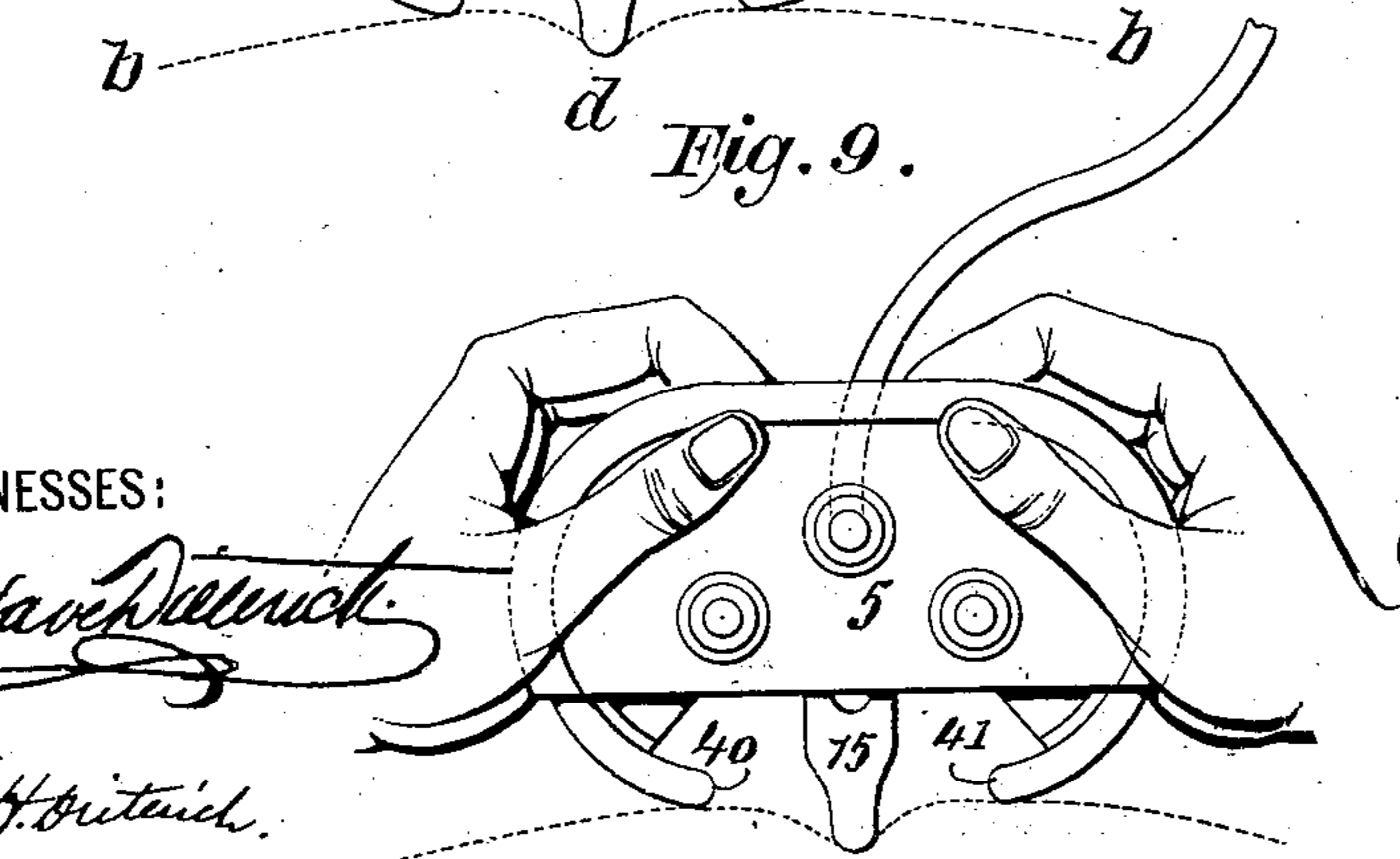


Fig. 9.



WITNESSES:

Gustav Dietrich

Edwin H. Britsch

INVENTOR

Philip J. Kroll

BY *Earl Benjamin*
his
ATTORNEY

UNITED STATES PATENT OFFICE.

PHILIP J. KROLL, OF NEW YORK, N. Y.

MESSAGE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 754,463, dated March 15, 1904.

Application filed November 2, 1903. Serial No. 179,552. (No model.)

To all whom it may concern:

Be it known that I, PHILIP J. KROLL, of the city, county, and State of New York, have invented a new and useful Improvement in Massage-Machines, of which the following is a specification.

The principle of my invention is to construct a machine which will imitate the movements of the hands of an operator in performing the operation upon the human body known as "massage." To this end the operator with the thumb and fingers of one hand grasps the flesh of the patient and by bringing the thumb and fingers together forms a ridge, and while this ridge is compressed he brings the ends of the fingers of the other hand down upon it and after subjecting the flesh in ridge form to a certain amount of pressure relaxes the hold of the grasping thumb and fingers while pushing downward the fingers of the other hand, so as to produce an indentation in the flesh. This is repeated very quickly, the hands being moved from place to place over the body. The muscular exertion on the part of the operator is considerable, and even a skilled manipulator cannot keep up such work for more than a few minutes at a time.

By my present machine, as I have stated, the operations above described are imitated and produce the same result upon the patient, while they can be continued for an indefinite period, since the person controlling the machine has nothing to do but grasp it in his hand or hands and move it to wherever upon the body he desires its operation to take effect.

My invention consists in the organization and construction of the machine, as hereinafter more particularly pointed out, which construction involves means for grasping the flesh, means for compressing the flesh between grasping-jaws and subsequently for applying pressure to the part under treatment after the jaws have been relaxed.

In the accompanying drawings, Figure 1 is a cross-section of my improved massage-machine on the line 1 1 of Fig. 3, taken in the direction of the arrow *a*. Fig. 2 is a bottom view. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a detail view of the crank-arm which operates the pusher. Fig. 5 is a

section on the line 4 4 of Fig. 4. Figs. 6, 7, and 8 illustrate different positions of the working parts during the operation of the machine and also the mode of controlling it by one hand. In Fig. 9 the machine is shown held in both hands.

Similar characters of reference indicate like parts.

5 is the outer casing or shell, which is made, preferably, of metal, rounded at its ends and open at its lower side. Around its upper edge it is provided with a bead 6, so as to enable it to be grasped conveniently by the hand, as shown in Fig. 6, or by both hands, as shown in Fig. 9. In the shell 5 are threaded openings to receive the bushings 7 for the shafts 8 and 9. The said shafts are coaxial, and each is provided with a crank-arm 10. The said crank-arms 10 have projections 11 on their outer sides, which come together to form a crank-pin. Connected to the crank-pin is a pitman 12, which at its opposite end 14 is pivoted to the pusher 15. The pusher is in stirrup form, and its vertical sides play between guide-flanges 16 on the inside of the shell 5. The said slides are slotted, as shown at 17, and through said slots the bushings 7 of the shafts 8 and 9 pass.

20 and 21 are sector-shaped carriers for the squeezing-jaws 22 and 23, said jaws being bolted to the arc-shaped outer peripheries of the carriers, as shown. The carriers 20 and 21 are pivoted upon transverse shafts 24 25, the ends of which are seated in bosses 27, which may be cast integral with the shell. Fast on the shaft 9 are two reversely-placed eccentrics 28 and 29, and fast on the shaft 8 are similarly-placed eccentrics 30 and 31. The eccentrics 28 and 30 enter circular apertures in links 32 and 33, and these links are pivoted at their extremities between jaws 34 on the upper side of the carrier 21. In like manner links 35 and 36 receive the eccentrics 29 and 31, and the ends of these links are pivoted between jaws 37 on the upper side of the carrier 20. By reason of this construction when by any suitable means the shaft 8 or the shaft 9 is rotated the pusher 15 and the squeezing-jaws 22 and 23 are operated—that is to say, the jaws 22 and 23 are caused to oscillate on their pivot-shafts

24 and 25 and the pusher 15 is caused to move up and down. The setting of the eccentrics which actuate the squeezing-jaws 22 and 23 and of the crank which actuates the pusher 15 is such as to produce the desired relative operation of the jaws and pusher, which will now be described.

In practice the end of the shaft 9 protrudes, as shown at 38, and to this protruding end may be connected any suitable form of flexible shaft 39 for conveying a motion of rotation to said shaft 9, and thus to operate the other parts of the machine. The operator grasps the shell 5 in one hand, as shown in Fig. 6, or in both hands, as shown in Fig. 9. The squeezing-jaws in the beginning are retracted to their utmost, so that the maximum space is left between their inner edges 40 41. The pusher 15 is also raised to its maximum extent, and it will be noticed that the rounded lower edge of the pusher is located midway between the rounded edges of the jaws 40 and 41. The edges of the jaws 40 and 41 then rest against the flesh of the patient, which is indicated by the dotted lines *b b*. The operation of the machine is then as follows: The edges 40 and 41 of the jaws come together and squeeze the flesh into an upwardly-protruding ridge *c*. At the same time the pusher 15 descends. When the jaws 40 and 41 have reached their most nearly approximating position, thus squeezing the flesh to their utmost, the pusher having descended also presses upon the ridge of flesh so formed. In other words, the ridge of flesh is now squeezed between the three edges of the pusher and the two jaws. The jaws are then retracted; but the pusher continues to descend, forcing the flesh downwardly and making an indentation, as shown at *d* in Fig. 8. The parts then resume the position shown in Fig. 6 and the machine is moved to a new place on the body of the patient and the operation repeated.

It will be apparent from the foregoing that the operation of the machine closely imitates that of the hand of the massage operator. The flesh is squeezed by the edges 40 41 of the jaws, just as it ordinarily is between the thumb and fingers of one hand of the operator, and the pusher 15 presses the ridge on moving downward just as the ends of the fingers of the other hand of the operator compress the ridge formed in the manner already described. Of course by regulating the speed of the operation the number of squeezes and compressions per given time can be made as slow or as fast as may be desired.

I claim—

1. In a massage-machine, three flesh-compressing members and mechanism for inter-

mittently moving said members to approach one another, two of said members being constructed and arranged to compress the flesh between them and the third member to act upon said compressed flesh in a direction normal to the body of the patient.

2. In a massage-machine, three flesh-compressing members, mechanism for intermittently moving two of said members to approach one another, and mechanism for intermittently moving said third member into the space between said first two members and in a direction normal to the body of the patient.

3. In a massage-machine, two flesh-compressing members, mechanism for moving said members toward and from one another, and a reciprocating pushing member constructed and arranged to compress the flesh grasped by said first-named members in a direction normal to the body of the patient; all of said members having narrow elongated rounded faces acting upon said flesh.

4. In a massage-machine, an inclosing shell, two swinging jaws pivoted therein, a rotary shaft and mechanism actuated by said shaft for actuating said jaws intermittently to approach one another.

5. In a massage-machine, an inclosing shell, two swinging jaws pivoted therein, a rotary shaft and eccentrics on said shaft actuating said jaws intermittently to approach one another.

6. In a massage-machine, an inclosing shell, a rotary shaft therein, a sliding pusher, and mechanism actuated by said shaft for causing said pusher intermittently to protrude from said shell.

7. In a massage-machine, an inclosing shell, a rotary shaft, two swinging jaws pivoted therein, a pusher constructed intermittently to move into the space between said jaws and mechanism actuated by said shaft for reciprocating said pusher and for causing said jaws intermittently to approach one another.

8. In combination with an inclosing shell and a rotary shaft therein, a crank on said shaft, a reciprocating pusher, a pitman connecting said crank and pusher, reversely-set eccentrics on said shaft, two swinging jaws pivoted in said shell, and links respectively connecting said jaws to said eccentrics.

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

PHILIP J. KROLL.

Witnesses:

WM. H. SIEGMAN,
I. A. VAN WART.