

No. 732,897.

PATENTED JULY 7, 1903.

G. SARTORI.
APPARATUS FOR MASSAGING.
APPLICATION FILED AUG. 14, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1

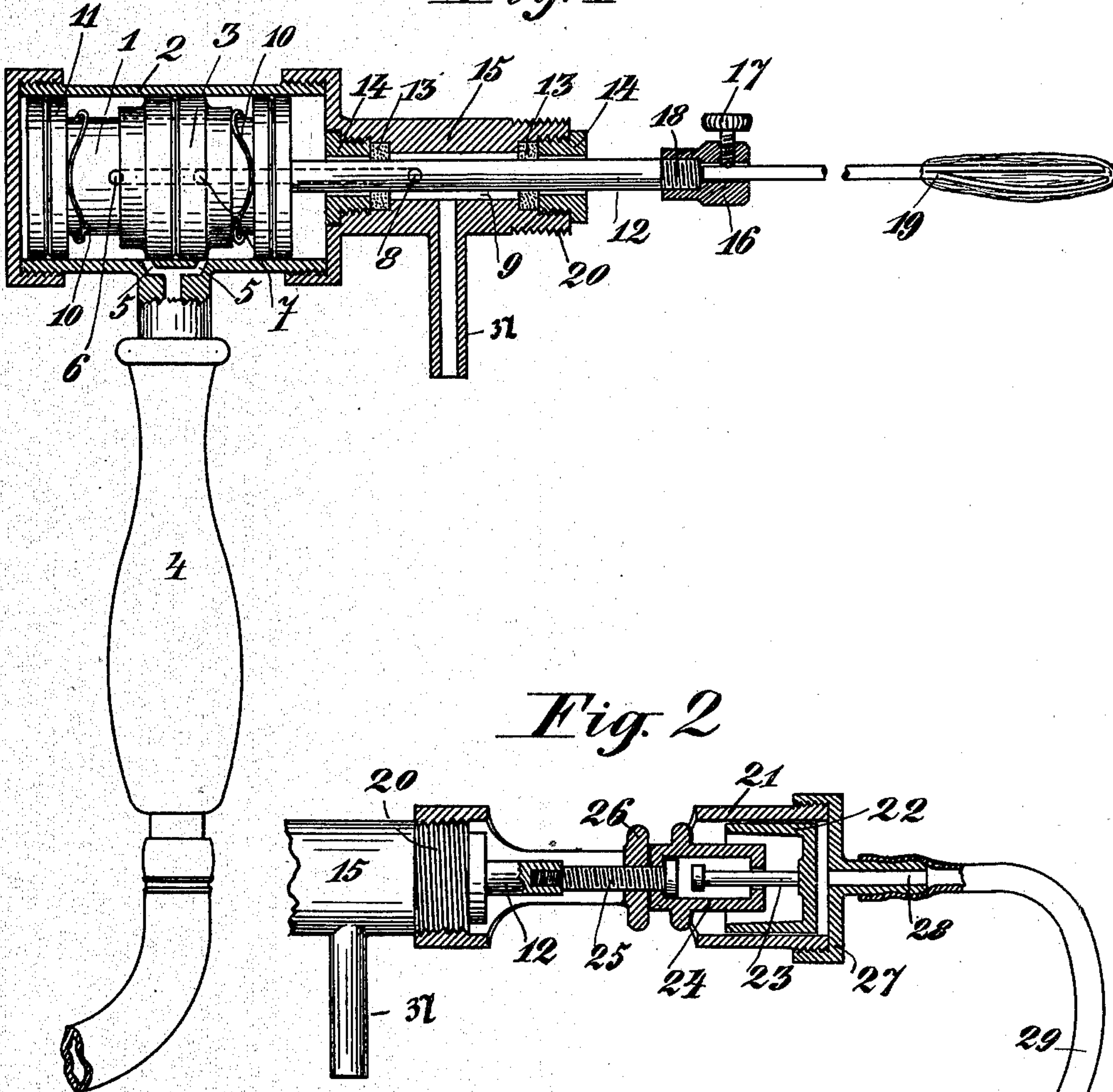


Fig. 2

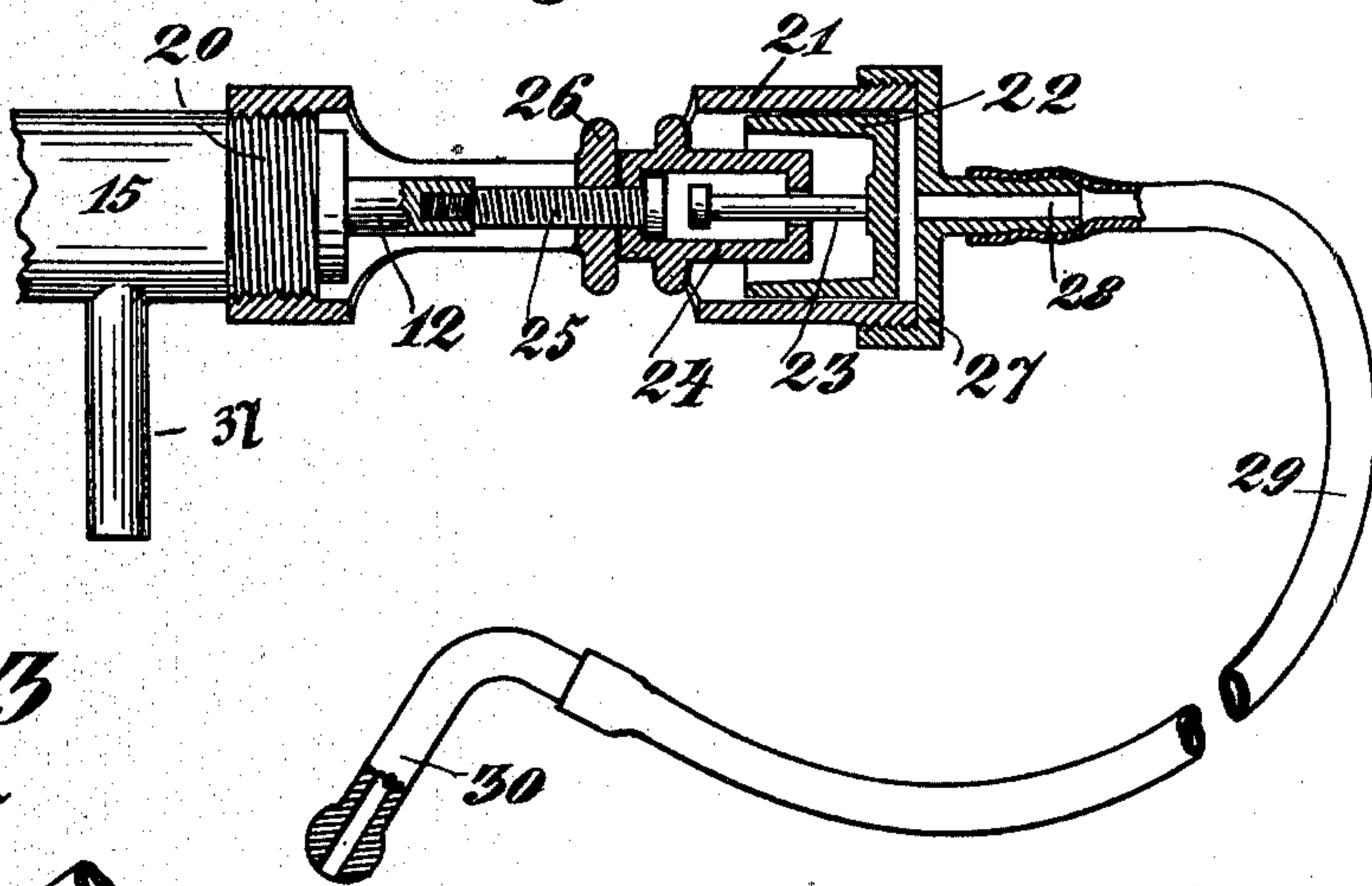
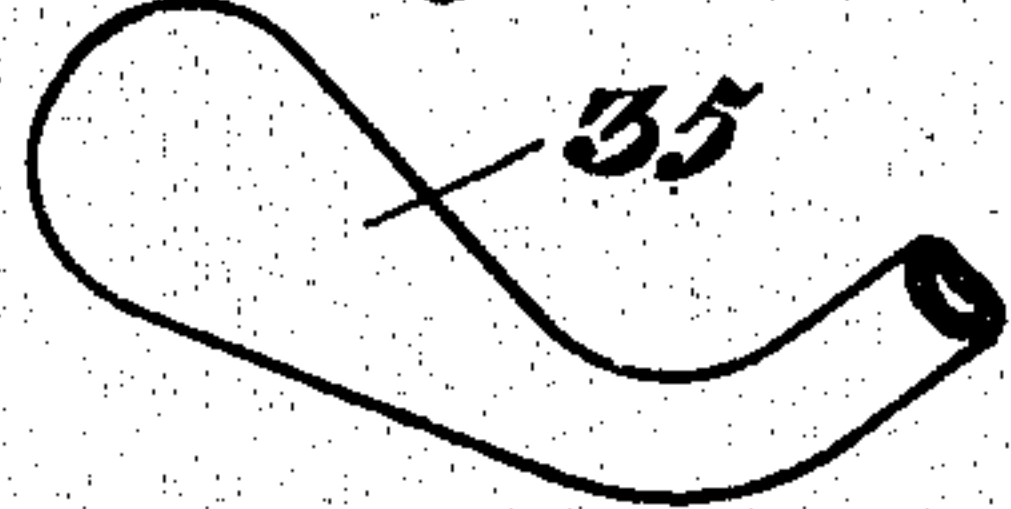


Fig. 3



Witnesses:
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S. Axelroth

Inventor:
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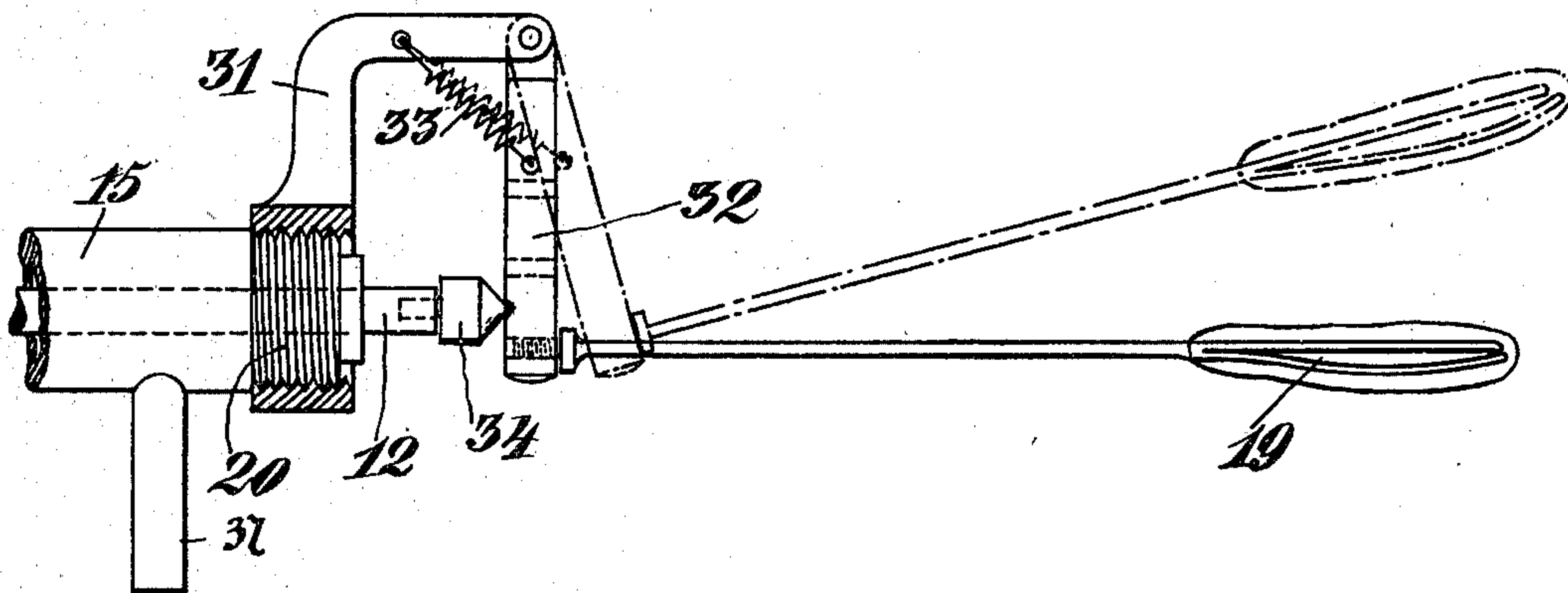
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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 4



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

GRAZIANO SARTORI, OF BERLIN, GERMANY.

APPARATUS FOR MASSAGING.

SPECIFICATION forming part of Letters Patent No. 732,897, dated July 7, 1903.

Application filed August 14, 1902. Serial No. 119,595. (No model.)

To all whom it may concern:

Be it known that I, GRAZIANO SARTORI, a subject of the Emperor of Austria-Hungary, residing at Berlin, in the Kingdom of Prussia, Germany, have invented an Improvement in Apparatus for Massaging, of which the following is a specification.

My invention relates to apparatus for massaging sensitive parts of the body, such as the nose, ears, eyes, larynx, as well as internal or abdominal organs; and it relates particularly to such apparatus in which a piston adapted to move the massaging part is operated by a gaseous agent, such as carbonic acid, compressed air, &c., controlled by a ring-valve.

The object of my invention is to so arrange the massaging part of the instrument that it will move uniformly and smoothly, so that in combination with suitable devices it can be used to massage the most sensitive parts of the body without danger of injury.

In the accompanying drawings, illustrating my invention, Figure 1 is a section showing the cylinder or actuating part of the device. Fig. 2 shows the working end of the device provided with a massaging-point of the form adapted for massaging the ears. Fig. 3 represents the form of working end attachment adapted for the treatment of the nose, and Fig. 4 shows a modification of the working end of the device adapted to give a slapping or vibratory massage.

1 is the piston; 2, the cylinder; 3, the ring-valve fitted on the piston so as to reciprocate freely thereon. The handle 4 is hollow and serves to conduct the driving agent, such as carbonic acid, compressed air, &c., to the cylinder, the same passing through the duct 5 thereto. Formed in the piston is the duct 6 in connection at one end with the cylinder 2 and at the other with the chamber 9, so that the exhaust gases can escape through the tube 37. On both sides of the ring 3 and mounted on the piston 1 is a resilient ring 10, which bears against the flanges 11 at the end of the piston 1 and during the operation of the latter and of the ring 3 is somewhat compressed on one side or the other, and then owing to its resiliency moves the ring 3 in the opposite direction. These rings 10 operate like buffers and prevent sudden and noisy blows of

the ring-valve 3 against the piston-flanges 11, even when the device is operated at a high pressure and speed.

The rod 12 of the piston 1 is provided with packing-rings 13, of leather, asbestos, or other similar soft material, impregnated with oil, fat, or other lubricant, and by means of the adjustable stuffing-boxes 14 in the neck 15 of the cylinder 2 such rings 13 can be adjusted after wear, the lubricant being pressed out of the same, so that the piston-rod 12 is lubricated thereby. The end of the piston-rod is provided with a screw 18, on which the head 16 is screwed. Through the center of the head 16 is formed a hole, and a set-screw 17 enables the attachment of the exchangeable massaging-heads, which vary widely in form, according to the particular part of the body to be massaged. They can, for example, be straight or curved, hard or soft, or forked or split at the end, so that cotton-wool, wool, &c., may be secured thereto.

For massaging certain parts of the body when it is desired to give the same a slapping massage a sort of paddle forms the head 19 of the device, which is secured to a pendulum 32, Fig. 4, instead of to the piston-rod 12, the pendulum being pivoted to a support 31, screwed on the neck 15 of the cylinder 2, and a head 34, screwed to the end of the piston-rod, strikes with every stroke of the piston against the pendulum 32, while the springs 33 move the pendulum back again. In this manner the pendulum is caused to oscillate, so that the massaging device 19, connected thereto, describes a swinging and beating vibrating movement, which is especially suitable for sensitive parts of the body, such as the nose, eyes, female organs, &c.

When it is desired to use the device for the treatment of the ears, it is provided with a small air-pump, as shown in Fig. 2 of the drawings.

On the neck 15 of the cylinder 2 is screwed a cylinder 21, provided with cut-out portions. In this cylinder 21 is situated the air-piston 22. On the free end of the piston-rod 23 is provided a head-piece, which projects into a muff 24, screwed on the rod 25, so that by turning this muff the stroke of the air-piston 22 can be reduced or enlarged and the massage modified accordingly.

At 26 is a counter-nut for securing the muff 24 in the desired position. The rod 25 is screwed into or otherwise detachably secured to the free end of the piston-rod 12 of the piston 1.

5 When the piston 1 is in operation, the piston 22 is moved backward and forward through the opening 28 in the cylinder-cover 27, so that air is alternately sucked in and expelled. By means of tubing 29 and a suitably-formed
10 hollow style 30 this vibration of the air is caused to exercise a massaging effect on the particular part (drum) of the ear.

For massaging the interior of the nose the hollow stylet is given the form of a small
15 closed rubber bougie 35, as shown in Fig. 3. The bougie 35 is inserted in the nostrils and alternately expanded and deflated, so that a gentle but a still effective treatment of the nose is the result.

20 What I claim, and desire to secure by Letters Patent, is—

1. The combination with a cylinder having two inlet-ports adjacent to the center thereof of a piston provided with a flange at either end
25 and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end and with the space between the two flanges of the piston by way of two ports formed in the piston,
30 and a ring-valve mounted upon the piston between the flanges so as to slide thereon, substantially as shown and described.

2. The combination with a cylinder having two inlet-ports adjacent to the center thereof
35 of a piston provided with a flange at either end and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end and with the space between the two flanges of the piston by way of two ports formed in the piston,
40 a ring-valve mounted upon the piston between the flanges so as to slide thereon, and means for throwing the valve-ring in the other direction at the end of each stroke thereof, substantially as shown and described.

3. The combination with a cylinder having two inlet-ports adjacent to the center thereof
50 of a piston provided with a flange at either end and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end and with the space between the two flanges of the piston by way of two ports formed in the piston, a ring-valve mounted
55 upon the piston between the flanges so as to slide thereon, and a spring for throwing the valve-ring in the opposite direction at the end of each stroke interposed between such ring and each of the flanges of the piston, substantially as shown and described.

4. The combination with a cylinder having two inlet-ports adjacent to the center thereof
60 of a piston provided with a flange at either end and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end

and with the space between the two flanges of the piston by way of two ports formed in the piston, a ring-valve mounted upon the piston
70 between the flanges so as to slide thereon, and a massaging instrument in actuating connection with the piston, substantially as shown and described.

5. The combination with a cylinder having
75 two inlet-ports adjacent to the center thereof of a piston provided with a flange at either end and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end
80 and with the space between the two flanges of the piston by way of two ports formed in the piston, a ring-valve mounted upon the piston between the flanges so as to slide thereon, means for throwing the valve-ring in the other
85 direction at the end of each stroke thereof, and a massaging instrument in actuating connection with the piston, substantially as shown and described.

6. The combination with a cylinder having
90 two inlet-ports adjacent to the center thereof of a piston provided with a flange at either end and of less length than the cylinder located therein, an exhaust-passage in communication with the atmosphere at the outer end and
95 with the space between the two flanges of the piston by way of two ports formed in the piston, a ring-valve mounted upon the piston between the flanges so as to slide thereon, a spring for throwing the valve-ring in the opposite
100 direction at the end of each stroke interposed between such ring and each of the flanges of the piston, and a massaging instrument in actuating connection with the piston, substantially as shown and described.

7. In a massaging instrument, the combination with a cylinder of a handle provided with a gas-passage ending in two ports adjacent to the center of the cylinder adapted to be brought into communication with a gaseous
110 pressure-supply, a piston provided with a flange at either end and of less length than the cylinder located therein, a piston-rod secured to the piston, an exhaust-chamber in free communication with the atmosphere surrounding
115 the piston-rod, an exhaust-passage formed in the piston-rod and piston in free communication with the exhaust-chamber and also in communication with the space between the piston-flanges by way of two ports, means for
120 securing a massaging-head to the end of the piston-rod, and a valve-ring mounted upon the piston between the flanges so as to reciprocate freely thereon, substantially as shown and described.

8. In a massaging instrument, the combination with a cylinder of a handle provided with a gas-passage ending in two ports adjacent to the center of the cylinder adapted to be brought into communication with a gaseous
130 pressure-supply, a piston provided with a flange at either end and of less length than the cylinder located therein, a piston-rod secured to the piston, an exhaust-chamber in free com-

10 munication with the atmosphere surrounding
the piston-rod, an exhaust-passage formed in
the piston-rod and piston in free communica-
tion with the exhaust-chamber and also in
5 communication with the space between the
piston-flanges by way of two ports, a massag-
ing-head in actuating connection with the
outer end of the piston-rod, a valve-ring
mounted upon the piston between the flanges
10 so as to reciprocate freely thereon, and a spring
interposed between each of the flanges and
the valve-ring for receiving the impact there-
of, substantially as shown and described.

9. In a massaging device, a rod, means for

rapidly reciprocating the rod, a pendulum- 15
lever adapted to be forced outward by the rod,
a spring for returning the lever to position,
and means for securing a massaging-head to
the free end of the lever so that the same will
extend at an angle therefrom, substantially 20
as shown and described.

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

GRAZIANO SARTORI.

Witnesses:-

WOLDEMAR HAUPT,
WILHELM BEER.