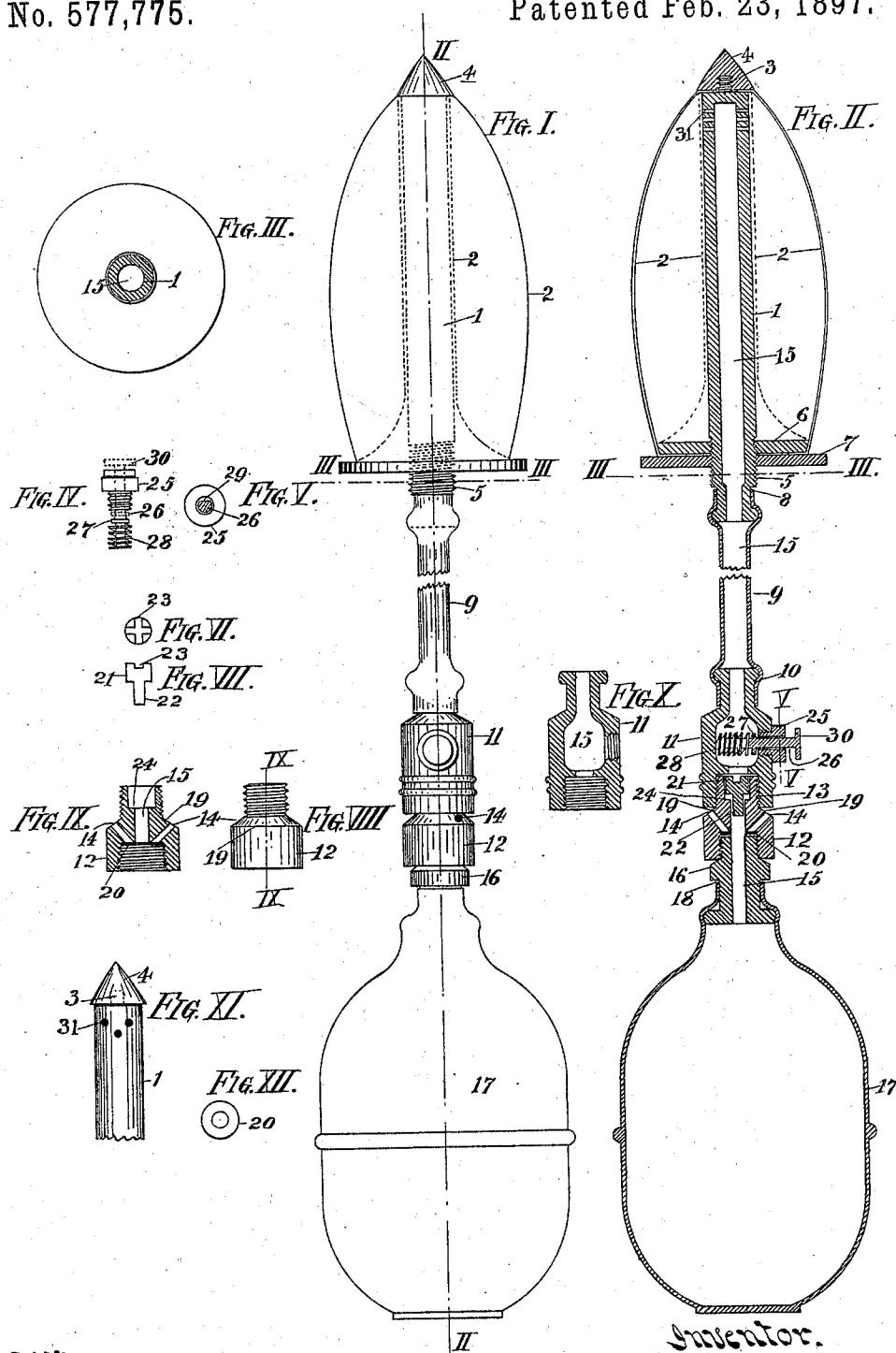


(No Model.)

N. D. MUSSEY.
DILATOR.

No. 577,775.

Patented Feb. 23, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

NATHAN D. MUSSEY, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO TAYLOR R. BALDRIDGE AND HORATIO S. BECKWITH, OF SAME PLACE.

DILATOR.

SPECIFICATION forming part of Letters Patent No. 577,775, dated February 23, 1897.

Application filed May 12, 1896. Serial No. 591,229. (No model.)

To all whom it may concern:

Be it known that I, NATHAN D. MUSSEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Rectal Dilators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in rectal dilators; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a side elevation of my improved device. Fig. II is a longitudinal section taken on line II II, Fig. I. Fig. III is a transverse section taken on line III III, Fig. II. Fig. IV represents a side elevation of the release-valve. Fig. V is a transverse section taken on line V V, Fig. II. Fig. VI represents an end elevation of the check-valve. Fig. VII is a side elevation of the check-valve. Fig. VIII represents a side elevation of one of the couplings detached. Fig. IX is a longitudinal section taken on line IX IX, Fig. VIII. Fig. X represents a longitudinal section of the tube in which the release-valve is located. Fig. XI is a detail view in elevation of the outer end of the inserting-tube. Fig. XII is a plan view of the stop-valve.

Referring to the drawings, 1 represents the inserting-tube, which is preferably made of hard rubber.

2 represents an expansible bulb-sack preferably made of flexible rubber, the bulb when expanded assuming somewhat of a lemon shape, with its greatest transverse diameter substantially midway of its length, the outer end of the bulb 2 being secured to the outer end of the inserting-tube 1 by being passed over a threaded stud 3 on the outer end of the tube and clamped in position by a cone-shaped cap 4, screwing onto the stud, the curvature of the cap conforming substantially to the curvature of the outer end of the bulb 2.

The inner end of the inserting-tube is provided with a threaded portion 5, onto which a disk 6 is screwed.

The inner ends of the expansible bulb 2 are drawn over the disk 6 and clamped in po-

sition by means of a circular clamping-plate 7, of sufficient size to prevent its passage into the rectum, the clamping-plate binding the end of the bulb-sack against the disk 6, and as the disk 6 and clamping-plate 7 are adjustable the tension of the bulb 2 may be adjusted. The inner end of the tube 1 is provided with a recess 8 for the reception of one end of a flexible rubber tube 9, the opposite end of the rubber tube 9 being secured in a similar recess 10 at the outer end of the release-valve carrying tube 11.

12 represents a hollow coupling-tube having its outer end screwed into the inner end of the tube 11, as shown at 13, said tube having inclined air-supply ports 14, which connect with the central air-passage 15, through which air passes to the expansible bulb 2.

16 represents a hollow coupling connecting at its outer end with the coupling 12, and having the open end of an air-bulb 17 secured in a recess 18 near its inner end. The coupling 12 is beveled at 19, so as to permit ready access of air to the air-ports 14.

20 represents a washer-shaped stop-valve which is located in the tube 12 and which serves to close the ports 14 when pressure is exerted upon the bulb 17 by the air pressing the valve against said ports. As pressure on the bulb 17 is released the air will rush in at the ports 14 and force the valve back until the bulb 17 becomes distended.

21 represents a check-valve located near the outer end of the tube 12 and having its stem 22 extending in the air-passage 15. When the bulb 17 is pressed, the valve 21 rises from its seat and the air passes around the same and through channels 23 in its outer end, said valve closing against backward pressure by pressing against its seat 24.

The release-valve consists of a hollow bushing 25, screwed into the tube 11, a valve-stem 26, having a valve 27 thereon working inside of the bushing, and a spring 28 for holding the valve normally in a closed position. The valve-stem 26 is reduced on one side, as shown at 29, to permit rapid discharge of the air from the bulb 2 when it is desired, the valve being opened by pressing upon the disk 30 on the outer end of the valve-stem. Before inserting the tube 1 and bulb 2 the air is

allowed to escape through the release-valve, at which time the walls of the bulb 2 assume the shape shown in dotted lines, Figs. I and II, the walls of the bulb lying up close to the inserting-tube. After insertion the bulb 17 is pressed and the air passes out from the central passage 15 into the bulb 2 through orifices 31 near the outer end of the tube 1, thus distending the bulb 2 and with it the external and internal sphincter muscles of the rectum. The bulb 2 being of lemon shape when expanded and of sufficient length so that when inserted its greatest transverse diameter is above the internal sphincter muscle, the pressure on the muscles on which it acts is outward and downward in the same manner as nature has provided in a natural healthy passage.

The benefits arising from the use of my device are varied on the human system, one or two instances of which are sufficient to mention in this application—viz., that of bring-

ing the muscles mentioned out of their semi-dormant state, and permitting a healthy passage, thus avoiding constipation with its many resulting disarrangements of the system.

I have found it best in practice in the use of my device to withdraw the instrument while in a distended or partially-distended condition, according to circumstances, thus imitating nature in a healthy passage.

I claim as my invention—

In a rectal dilator the combination, of an expansible bulb-sack, an air-supplying bulb, a tube connecting the bulbs, ports for admitting a supply of air to the tube and air-bulb, a valve for closing said ports against outward pressure, and a release-valve located in the tube, substantially as set forth.

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Witnesses:

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