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J. W. KENNEDY

1,965,653

DILATOR

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Fig. 1.

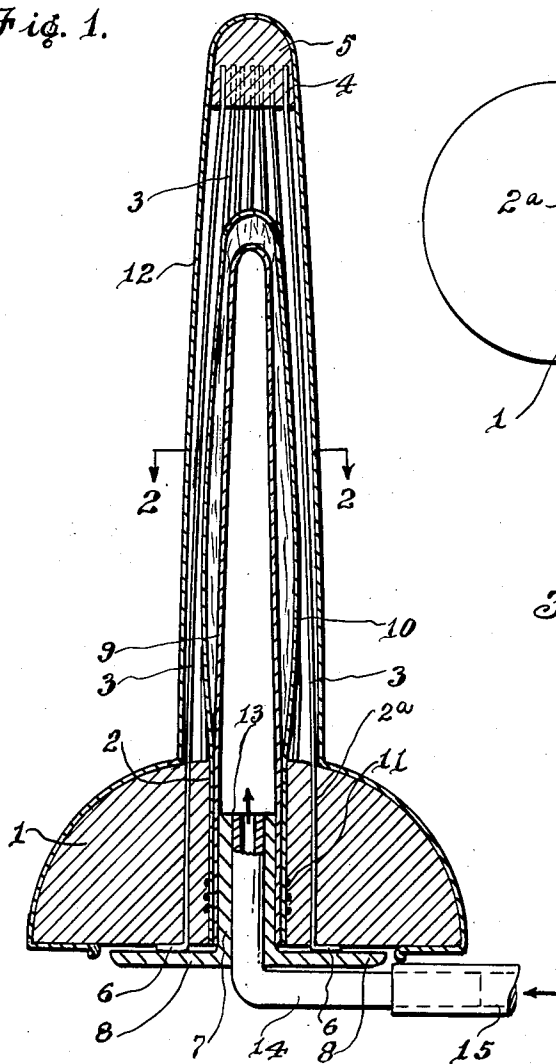


Fig. 3.

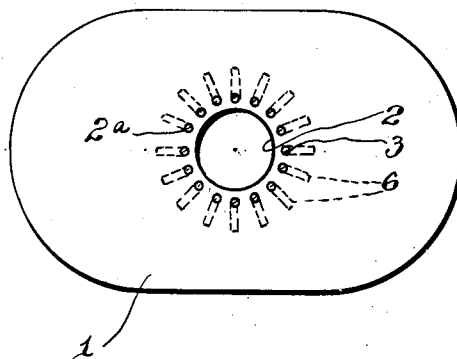


Fig. 4.

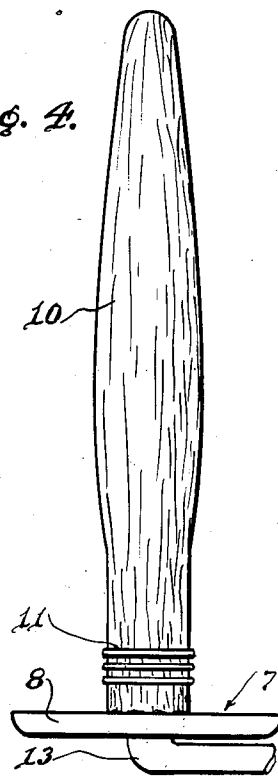
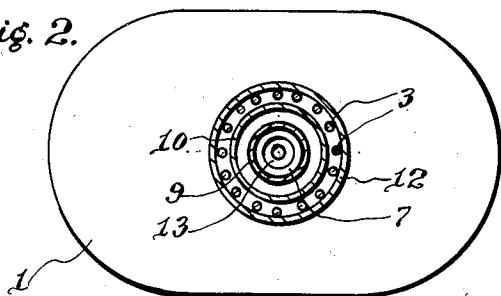


Fig. 2.



Inventor
James W. Kennedy

J. Kaplan
Attorney

By

UNITED STATES PATENT OFFICE

1,965,653

DILATOR

James W. Kennedy, Canton, Ohio

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3 Claims. (Cl. 128-344)

This invention relates to improvements in dilators and more particularly to an instrument for expanding the sphincter muscles in the rectum.

5 The principle object of the invention is to provide a device of this nature which will expand the sphincter muscles of the rectum without causing friction and without damage and pain.

10 Another object of the invention is the provision of a device for treating constipation, piles, poor circulation and other rectal diseases.

15 Another object of the invention is to provide a device which will expand the rectum throughout its length in an even and uniform manner.

20 Still another object of the invention is to provide an instrument of this character consisting of a tube made from pliable material and adapted to be inserted in the rectum and air pressure means for expanding the wall of said tube.

25 Still a further object of the invention is to provide an instrument of this kind comprising a pliable tube adapted to fit in the rectum, a series of wire guards longitudinally disposed in said tube and air pressure means for forcing said wire guards and the wall of the tube outwardly.

30 Other objects of the invention will appear as the disclosure progresses. The drawing is intended to merely indicate a possible embodiment of the invention. It is obvious that the actual needs of manufacture may necessitate certain mechanical changes. It is therefore not intended to limit the invention to the embodiment illustrated, but rather to define such limits in the appended claims.

35 For a more general understanding of the invention, attention is called to the drawing. In the drawing like reference characters denote like parts throughout the specification.

40 Figure 1 is a sectional view of the dilator.
Figure 2 is a section on line 2-2 of Figure 1.
Figure 3 is a top view of the base.
Figure 4 is a detached view of the sack shown applied to the sleeve.

45 Referring to the drawing in detail, the dilator comprises a base 1 made of soft spongy rubber and having a central bore 2. Passing through holes 2a in the base adjacent the bore is a series of wire guards 3. The upper ends 4 of the guards are tied or fastened together in the dome 5 while the lower ends 6 are bent over and bear against the bottom face of the base. Within the bore is a sleeve 7 having a flange 8 at the bottom abutting against the lower bent over ends 6 of the wire
55 guards 3.

Numeral 9 designates a soft rubber tube enclosed at the top and having its lower open end stretched on the sleeve 7. Encircling this tube is a sack 10 made of a non-stretchable fabric such as silk or cotton. The bottom of the sack is tied to the sleeve as at 11. This sack and tube structure as shown in Figure 1 fits within the series of wire guards 3. Surrounding the wire guards 3 and base 1 is a soft rubber covering 12. Fitting within the bore 13 of the sleeve 7 is a pipe 14 at the outer end of which is connected a rubber air supply hose 15.

The operation of the device is as follows: The dilator is first placed in the rectum and air pressure forced in the hose 15. The means to create the air pressure consisting of a standard rubber bulb operated by the palm of the hand is not shown here as this is not a part of the invention. As the air leaves the hose it enters the interior of the soft and pliable rubber tube 9 and causes the said pliable tube 9, the sack 10, the wire guards 3 and outer rubber covering 12 to distend and thereby expand and enlarge to a certain degree the membrane of the rectum. The amount which the dilator can distend the rectum is limited by the size of the sack which as heretofore mentioned is made from a non-stretchable material.

It is of utmost importance to limit the degree of enlargement of the dilator otherwise great injury can be suffered by the patient if the dilator is expanded too much. The sack is shown in Figures 1 and 4 more or less contracted or gathered. With sufficient amount of pressure it will expand up to a certain point and no more. Various sizes of sacks can be used to regulate the amount of expansion to suit the needs of the patient.

It will thus be seen that I have provided a simple, efficient, and practical dilator which can be used without any danger to the patient.

Having described my invention, I claim:

1. In a device of the class described, a sleeve, a rubber tube fitting over said sleeve, a sack made of non-stretchable material fitting over said sleeve and tube, means to tie said tube and sack to said sleeve, a soft rubber base having a central bore, said sleeve anchored in said bore, and a set of wire guards surrounding said sack, the lower ends of said wire guards vertically passing through the entire thickness of said base and having their ends bent outwardly underneath said base.

2. In a device of the class described, an oval shaped base, an inner tube associated with said

base, a tapered sack made of a non-stretchable material surrounding said inner tube, said taper being widest in the center, an outer tube, and a set of wire guards between said sack and said outer tube.

3. In a device of the class described, an oval shaped base, an inner tube associated with said

base, a non-stretchable sack surrounding said inner tube, the wall of said sack bulging outwardly in the center, a set of wire guards surrounding said sack, said wire guards vertically passing through holes in said base, and an outer tube covering said wire guards and said base.

JAMES W. KENNEDY.

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