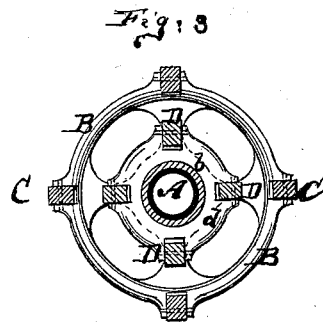
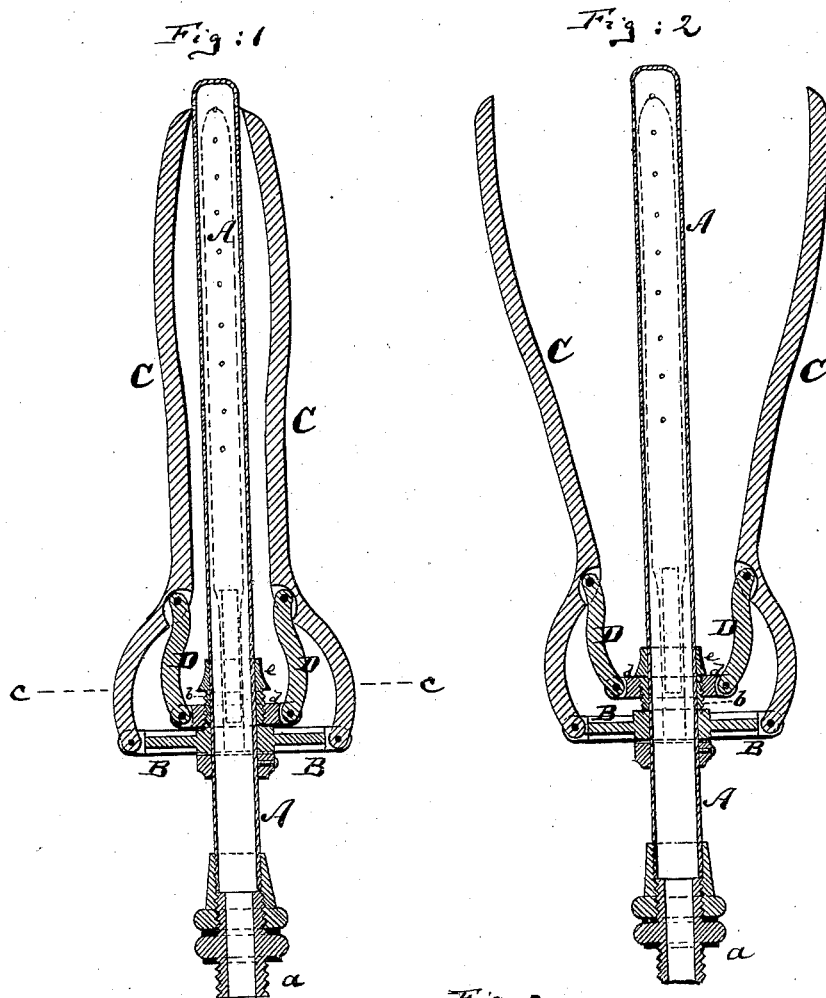


W. HARZ.
 Combined Speculum and Syringe.

No. 212,600.

Patented Feb. 25, 1879.



Witnesses:

John C. Tunbridge
 Wm. H. C. Smith.

Inventor:

Wm. Harz
 by his attorney
 A. B. Zieser

UNITED STATES PATENT OFFICE.

WILLIAM HARZ, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COMBINED SPECULUM AND SYRINGE.

Specification forming part of Letters Patent No. 212,600, dated February 25, 1879; application filed December 26, 1878.

To all whom it may concern:

Be it known that I, WILLIAM HARZ, of the city of Brooklyn, county of Kings, and State of New York, have invented a certain new and Improved Surgical Dilating-Instrument, of which the following is a specification:

Figure 1 is a longitudinal section of my improved dilating-instrument, showing it contracted. Fig. 2 is a similar section, showing it dilated; Fig. 3, a horizontal section on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to the arrangement of expansible and contractible wings or arms around a stem or rod, tube, or pipe, for the purpose of permitting the vagina, rectum, or other cavity or passage, or even incised wounds, of human or animal bodies to be dilated at the time the pipe is introduced, or to be dilated only.

The invention consists, principally, in providing the pipe with a swivel-ring that carries pivoted dilating-wings, which are, by pivoted braces, connected with a nut that is placed around a threaded portion of the pipe. By holding the ring and turning the pipe the nut is caused to move up or down, thereby spreading or contracting the wings, as occasion may require.

The letter A represents a vaginal pipe, which is at its lower part, *a*, adapted to be coupled to a syringe, pump, piston, or other apparatus. It is at its upper part either perforated, to be used with a syringe, or may be open-ended, to admit instruments of various kinds. On the lower part of the pipe A is a swivel-ring, B, to which the lower ends of the dilating wings or arms C are pivoted. Above the ring B a screw-thread, *b*, is formed on the tube A, and a nut, *d*, placed around the same. To this nut are pivoted links or braces D D,

which extend and are pivoted to the wings C, as shown.

Whenever the nut *d* is brought close to the ring B, the wings C are contracted against the pipe A as in Fig. 1; but when, by turning the pipe A, the nut *d* is screwed up against a shoulder, *e*, or other stop, the links or braces D will be moved to spread or dilate the wings or arms, as shown in Fig. 2.

All that is necessary to dilate or contract the instrument is to give a few turns to the pipe or to the ring B.

The instrument may be used for the cleaning and medicating of the cavities, passages, or wounds of the human or animal body by means of fluids injected through the pipe after the opening shall first have been properly enlarged by means of the dilating-arms; or the dilating portion of the instrument may alone be used on a suitable rod or tube for the purpose of inspection, or for the performance of suitable surgical operations, in which case a solid or a grooved rod may be substituted for the pipe A.

The perforations in the upper part of the pipe A may be shaped so as to throw a spray or jets of round or of rectangular or any other desired form.

I claim as my invention—

1. The dilating-instrument composed of the swivel-ring B, pivoted wings C, links or braces D, and nut *d*, placed around the screw *b*, substantially as specified.

2. The combined dilating-instrument and injecting-pipe, consisting of the pipe A, swivel-ring B, pivoted arms C, braces D, and nut *d*, for operation substantially as herein shown and described.

WILLIAM HARZ.

Witnesses:

F. V. BRIESEN,
WM. SCHULTZ.