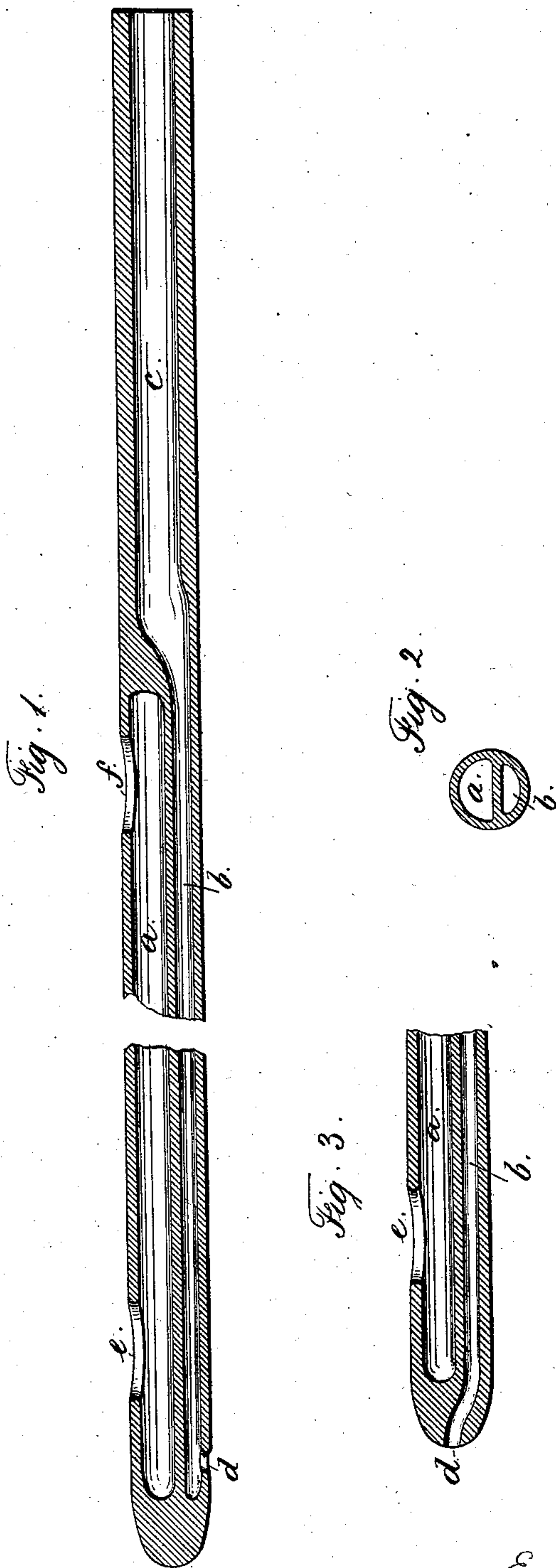


(Model.)

E. PFARRE.
DOUBLE CATHETER.

No. 256,590.

Patented Apr. 18, 1882



Witnesses

Chas H. Smith
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Edward Pfarre
per Lemuel W. Perrell atty.

UNITED STATES PATENT OFFICE.

EDWARD PFARRE, OF BROOKLYN, NEW YORK.

DOUBLE CATHETER.

SPECIFICATION forming part of Letters Patent No. 256,590, dated April 18, 1882.

Application filed December 19, 1881. (Model.)

To all whom it may concern:

Be it known that I, EDWARD PFARRE, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Surgical Instruments, of which the following is a specification.

This invention is for use in washing, bathing, cooling, or warming and cleansing the bladder, stomach, ear, nose, rectum, and other diseased cavities or wounds of the human or animal body. Instruments heretofore in use for this purpose are known by the name of "double-current catheters," and are made of silver or other metals or rigid material. They consist either of two half-semicircular tubes soldered together, thus forming a circular outside, but divided in the middle by a metal partition or by a large tube containing a small tube within it, one of the tubes leading the injection-fluid into the body, the other allowing it to escape. In inexperienced hands these are difficult to introduce and painful to the patient, and they are expensive to manufacture.

An instrument for the purposes above stated that will be easy of introduction, soft, and give no pain, and at the same time be inexpensive, has long been desired.

I have experimented for some time, and have at last succeeded in producing an instrument that will be soft and easy of introduction, so that patients may be educated by their physicians to wash their bladder, stomach, &c., without pain and with ease.

In the drawings, Figure 1 is a longitudinal view of the two end portions in enlarged size. Fig. 2 is a cross-section, and Fig. 3 is a section at the point of the instrument in a slightly modified form.

I make this instrument of india-rubber or other elastic material, so as to be soft and pliable or elastic. It has the exterior shape and appearance of the usual soft-rubber catheter or stomach-tube. Its inside is constructed as follows: At one end is a piece of rubber tubing, *c*, large enough to allow the entrance of the nozzle of a syringe-pipe. This tube continues for an inch or two in length, and then leads into a small duct, *b*, running the

remainder of the length of the instrument and terminating in one or more small openings, *d*, near or at the point. This is for conveying the injecting-fluid.

The instrument is of uniform external diameter, or nearly so, and the larger or exterior tube, *a*, is for the purpose of discharging the injected fluid. It is provided with an eye at *e*, into which the fluid enters, and with another eye at *f*, where it flows out. The instrument may be used in this shape, or may be provided with fittings to carry the ejected fluid into a basin. The instrument may be made, as shown in Fig. 3, with the small injection-tube *b* terminating at the end of the instrument.

The manner in which I prefer to make this instrument is as follows:

First. A strip of rubber is formed into a tube by being rolled over a mandrel and cemented. Let this be the large tube *a*.

Second. A small mandrel is placed on top of the so-formed tube and a strip of rubber laid over it with the edges resting upon the rubber of the large tube, and these edges are cemented to the larger tube. The end portion, *c*, is cemented to or formed with the tubes *a* and *b*, and the point or end of the instrument is formed by closing both tubes *a* and *b*.

Third. The large mandrel is removed and both the ends of the large tube are closed, the mandrel remaining in the small tube.

Fourth. The large tube and end tube are filled with water.

Fifth. The whole is put into a glass mold and sealed with rubber.

Sixth. The instrument is vulcanized in the usual manner.

Seventh. When vulcanized the instrument is pulled out of the glass tube and the eyes or holes are cut into the respective tubes at the places shown in the drawings. The glass mold may have interior projections to form the rounded edges of the holes, as in my Patent No. 243,396.

I claim as my invention—

The catheter of soft rubber, having a smooth exterior surface and of uniform diameter, or nearly so, and formed as a single tube at one

end for the reception of the syringe, and the remainder of the instrument divided into two tubes, one of which forms the injecting-duct running to the point of the instrument, or
5 nearly so, and the other the discharge-tube *a*, terminating at the back end within the main tube, and having the eyes *e* and *f*, substantially as set forth.

Signed by me this 15th day of December,
A. D. 1881.

EDWARD PFARRE.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.