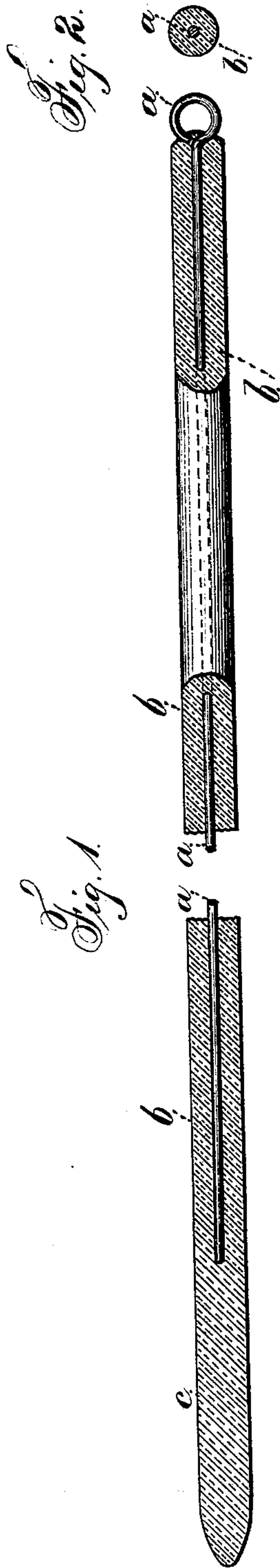


(No Model.)

E. PFARRE.
Bougie.

No. 229,633.

Patented July 6, 1880.



Witnesses
Harold Terrell
Geo. T. Pinckney

Inventor.
per Edward Farre
Lemuel W. Terrell
att.

UNITED STATES PATENT OFFICE.

EDWARD PFARRE, OF BROOKLYN, NEW YORK.

BOUGIE.

SPECIFICATION forming part of Letters Patent No. 229,633, dated July 6, 1880.

Application filed May 3, 1880. (No 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 improvement relates to the surgical instrument usually known as a "bougie," for the purpose of exploring and curing strictures in the urethra, esophagus, anus, &c.

Rigid bougies have commonly been made of metal, whalebone, catgut, &c. Partially elastic bougies have also been made of webbing covered with varnish and other materials commonly styled "gum-elastic."

I have invented an improvement in bougies, combining strength and elasticity, and allowing for curvatures being made in such instrument.

I make the bougie of india-rubber, of the proper shape, and of the size required for each particular purpose, and a wire is introduced a part of the length of the instrument. This makes it stiff for handling, leaving the point of the bougie elastic and pliable, in order that it may follow easily in the tortuous ways of a diseased natural passage in the human or animal body. The bougie may also be shaped by bending the same to suit the requirements of the surgeon, and the wire retains the same in the bent shape. The wire may be of copper, silver, iron, whalebone, or any other suitable material. If whalebone is used, it requires to be heated before it is bent to any particular shape.

These instruments are manufactured by taking sheet india-rubber, prepared in the usual way with sulphur or other material, and rolling it around the wire and securing it in a mold and curing by the action of heat in a closed vessel into which steam is admitted, the process being the usual way of curing rubber.

In the drawings I have shown the instrument by a longitudinal section, Figure 1, and cross-section, Fig. 2, the wire *a* being within the rubber portion *b*, and the point *c* being flexible.

I am aware that hollow instruments have been made into which a movable wire is inserted; but the same not adhering to the wire, the covering becomes detached and cannot be held in place by the wire when operating upon the patient.

I claim as my invention—

The combination, in the bougie, of a wire or stiffening-core extending part of the way along the instrument, and a flexible body composing the bougie, and having the flexible point extending beyond the stiffening-core, as and for the purposes set forth.

Signed by me this 30th day of April, A. D. 1880.

EDWARD PFARRE.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.