

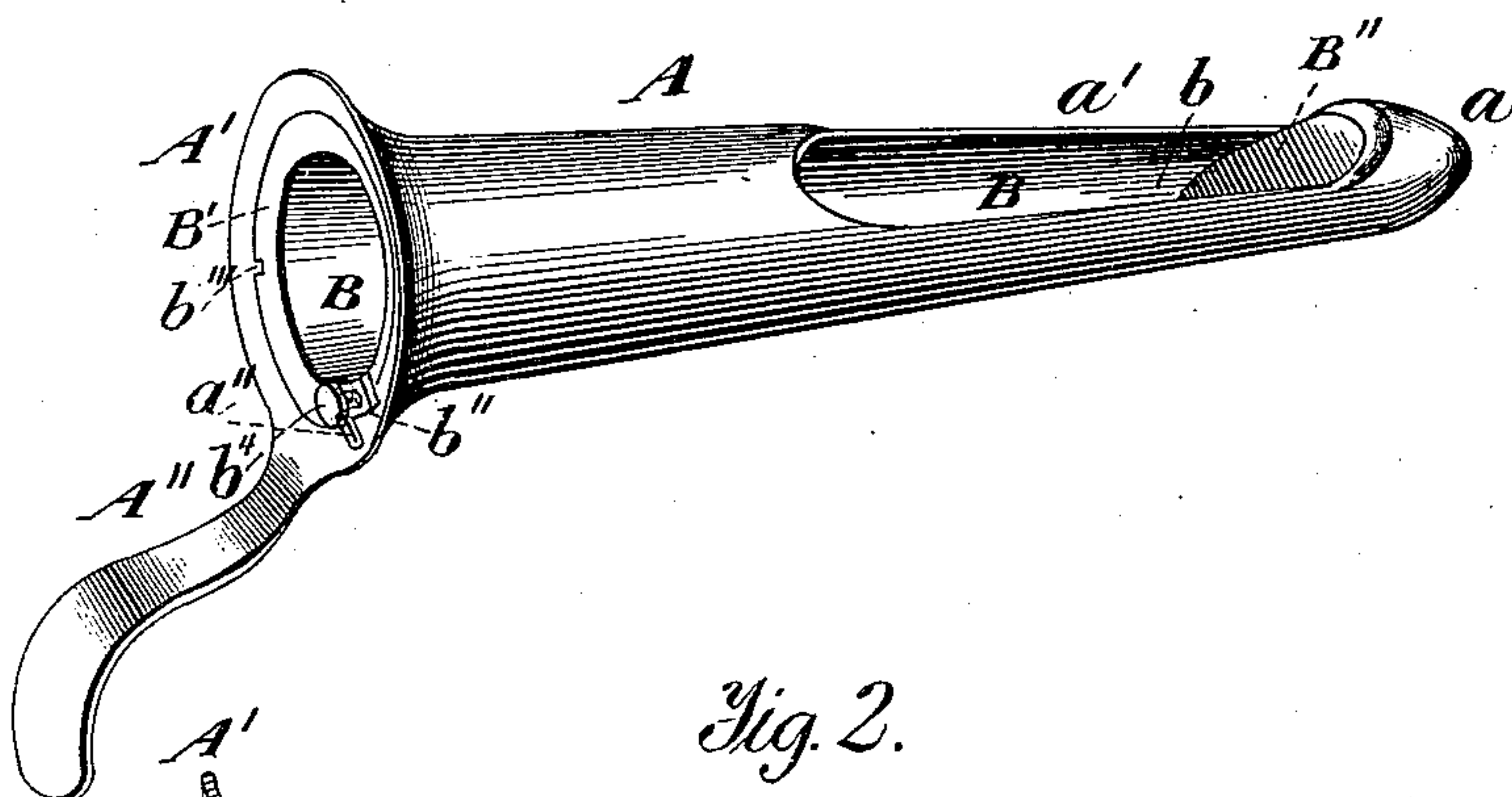
(No Model.)

P. P. PRICE.  
ANAL SPECULUM.

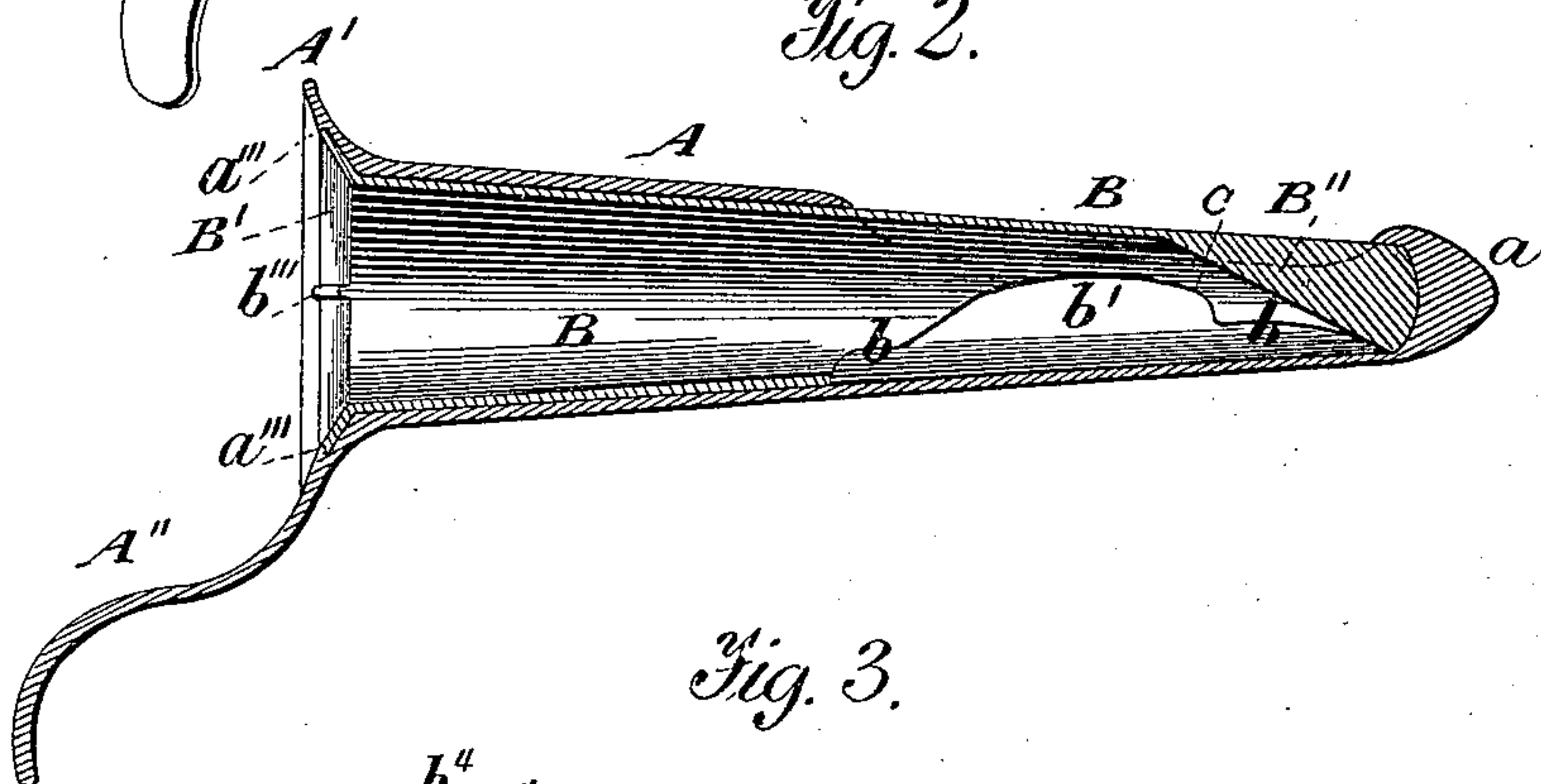
No. 344,984.

Patented July 6, 1886.

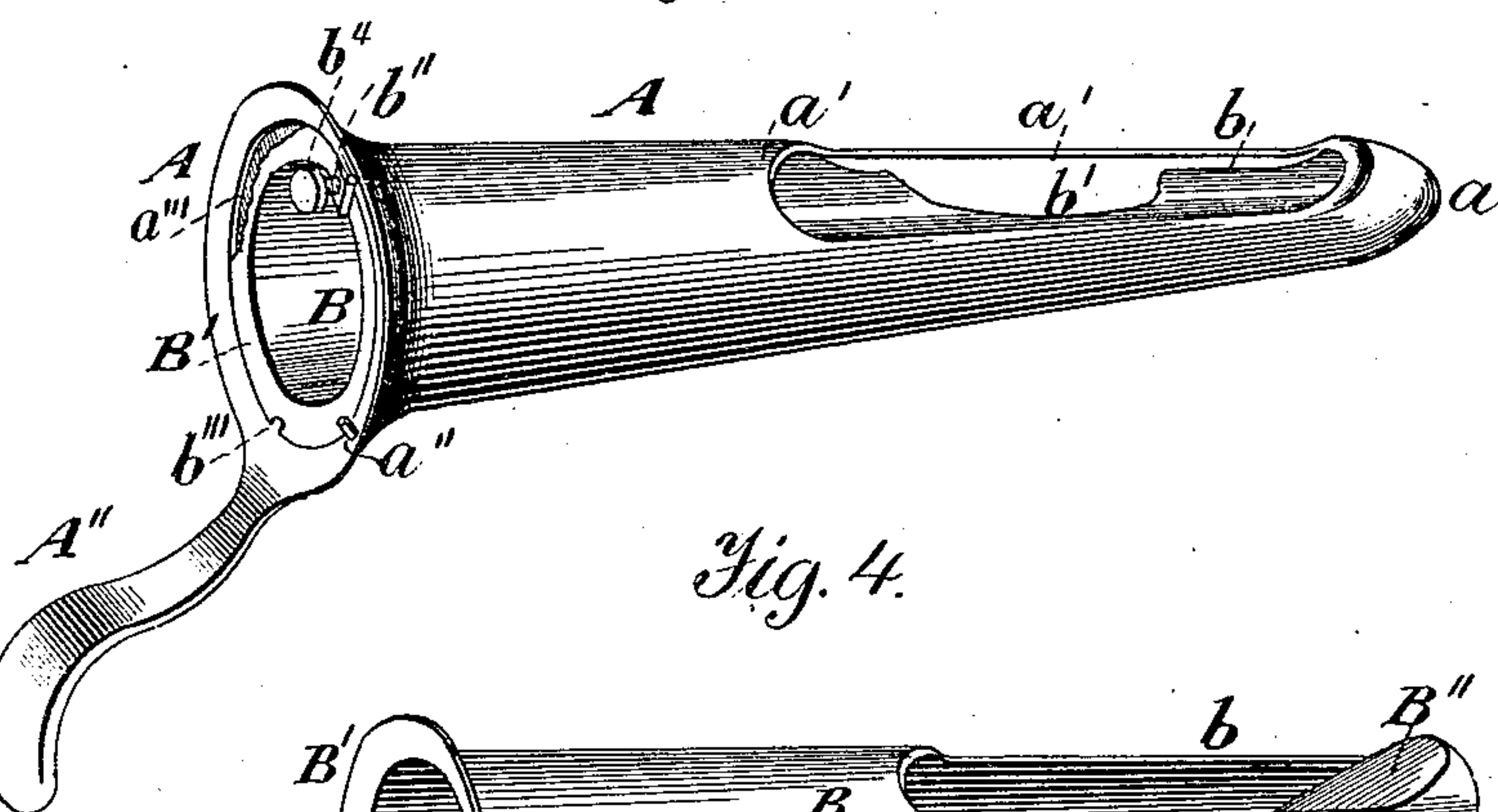
*Fig. 1.*



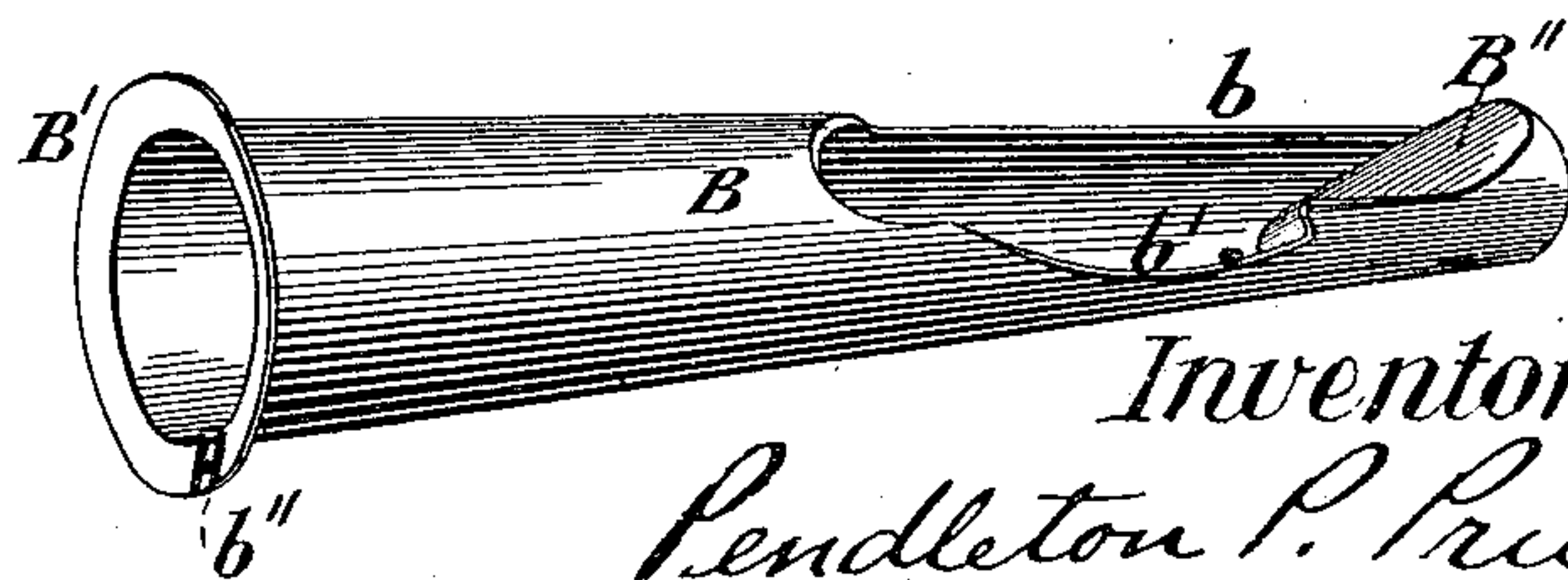
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses.*  
*A. Ruppert,*  
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*Pendleton P. Price*  
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*his Atty.*



# UNITED STATES PATENT OFFICE.

PENDLETON P. PRICE, OF LOUISVILLE, KENTUCKY.

## ANAL SPECULUM.

SPECIFICATION forming part of Letters Patent No. 344,984, dated July 6, 1886.

Application filed September 24, 1885. Serial No. 178,067. (No model.)

*To all whom it may concern:*

Be it known that I, PENDLETON P. PRICE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Anal Speculums for the Treatment of Hemorrhoidal Tumors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in anal speculums designed, generally, for use in performing surgical and curative operations upon the walls of the anal passage, but especially adapted to the treatment of hemorrhoidal tumors within and upon said walls.

The particular construction which I have adopted in carrying out my invention is illustrated in the accompanying drawings, forming a part of this specification, and wherein—

Figure 1 represents a perspective view of my improved speculum in one position of adjustment. Fig. 2 represents a central longitudinal section. Fig. 3 represents a perspective view in another position of adjustment, and Fig. 4 represents a detail perspective of one of the constituent parts.

Throughout the several views similar letters indicate similar parts.

My improved speculum is of compound character, consisting of an internal conical shell, B, and an external one, A. The latter is rounded off at the tip *a*, and is given a very smooth polish, so as to facilitate its entrance into the anal canal with as little pain and inconvenience to the patient as possible. It is provided with a curved hand-grasp, A'', for its manipulation after insertion, and for its ready withdrawal at the end of the operation.

A longitudinal slot, *a'*, extends through its walls, and the bounding edges of this slot are curved or beveled so that the entrance of the hemorrhoid, as hereinafter described, may be less abrupt and with less shock to the patient than if said bounding edges were straight.

At its forward end the shell A is provided with a flaring rim, A', and within said rim it has an annular seat, *a'''*, slightly depressed be-

low the slanting surface of the rim. The internal shell has a flaring mouth-piece or rim, B', of like inclination with that of the rim A', and which, when locked in position, as shown in Figs. 1, 2, and 3, forms a continuation thereof. The rim B' rests upon the annular seat, and is held in place against longitudinal displacement by means of the pin *a''* projecting over its edge and soldered to the rim. A notch, *b'''*, is cut in the periphery of the rim to enable the same to pass the pin in inserting the inner shell within the outer, or in subsequently separating the two.

The inner shell fits with substantial accuracy within the outer, and its forward end is provided with the reflecting-surface B''. In front of this surface B'' it is provided with a longitudinal slot, *b*, the main portion of which follows exactly the contour of the slot *a'* of the external shell. The function of the slots *a'* *b* is to enable the operator to readily locate the hemorrhoid to be treated. This he is enabled to do in the following manner: Before inserting the speculum he closes the slot *a'* of the external shell by revolving the inner shell until the unbroken portion of the wall of the latter covers the said slot. After insertion the inner shell is revolved in the contrary direction until the slot *a'* is entirely uncovered and coincides with the main portion of the slot in the outer shell. A projection, *b''*, upon the rim B' is arranged at such a position thereon as to abut against the pin *a''* upon the rim A' just as the described coincidence occurs. The external shell is then revolved within the anal passage until the coinciding slots are opposite the hemorrhoid, which thereupon protrudes through them into the inner shell. In this position it may be treated by the highly skilled and long-experienced operator in most cases with satisfactory results. There are, however, certain difficulties which require the exercise of the most delicate care and painstaking patience to surmount should the hemorrhoid be treated in this adjustment of the speculum. Thus, where the hemorrhoid is hard or callous its walls oppose a very considerable obstacle to the penetration of the hypodermic needle. A corresponding amount of force is requisite to force its entrance, and in exerting such force the needle tends to



crowd the hemorrhoid up out of the slot. Again, the needle after being passed through the hemorrhoid is liable to puncture the walls of the anal passage beyond it, thereby carrying the injected fluid into the system, often times with disastrous results. For the purpose of obviating these difficulties, and to enable the operation to be performed with less danger to the patient, I have provided the inner shell with the auxiliary slot,  $b'$ , having at its forward extremity the abrupt edge  $c$ , and extending forward in a gradual curve, as shown. This auxiliary slot is designed to receive and surround the hemorrhoid, and the speculum is manipulated until this object is effected. Thereupon the inner shell is revolved toward the left until the edge of the auxiliary slot clamps the base of the hemorrhoid between such edge and the edge of the slot of the outer shell. The speculum will then be in the adjustment illustrated in Fig. 3. In this position the clamping or compressing edges of the slots cut off the circulation of the system from the hemorrhoid, whereby the injected fluid is kept out of the circulation of the healthy blood. The inner shell is maintained in this adjustment by means of the set-screw  $b^4$ , which, passing through a screw-threaded aperture in the boss  $b''$  upon the rim  $B'$ , bears against the annular seat  $a'''$ , thereby clamping the shell-rim against the pin. The hemorrhoid in the isolated position it now finds itself may be treated with great facility, even by those having but little experience in or adaptability to treating it, and with substantially all the elements of danger to the patient removed. The abrupt rear edge of the auxiliary slot prevents the hemorrhoid from being forced out of the slot longitudinally, and the compressing edges (besides cutting off the circulation, as above explained) prevent it from being forced upward. Should the needle be accidentally forced through it with considerable energy, from nervousness or inexperience, it cannot enter the healthy walls of the anal passage, as they are protected by the shell beyond the auxiliary slot.

It is evident that by means of my speculum I can treat other affections of the anal passage—for instance, ulcers caused by the laceration of its walls in the passage of hard foreign matters with the faces. The slots admit of the insertion of a probe, to gage the depth of the ulcer and permit the application of the necessary curatives.

For the treatment of anal fissures occurring between the two sets of sphincter muscles, the inner shell alone, removed from the outer one, will in general suffice.

In some instances it may be found practicable to dispense with the set-screw, or its equivalent, for locking the two shells together after compression of the hemorrhoid. I prefer, however, to use it for insuring the permanency of the adjustment.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An anal speculum for the treatment of hemorrhoidal tumors, consisting of an outer shell having a longitudinal slot, an inner shell having a coincident longitudinal slot, and an auxiliary slot having an abrupt rear edge, the outer shell having an angular seat,  $a'''$ , and stop-pin  $a''$ , and the inner shell having an annular flange,  $B'$ , notched at  $b'''$ , and a locking set-screw,  $b^4$ , substantially as described.

2. An anal speculum for the treatment of hemorrhoidal tumors, consisting of an outer shell having a longitudinal slot and an inner shell having a coincident longitudinal slot, and an auxiliary slot, as described, said auxiliary slot having an abrupt rear edge and a gradual forward curve, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PENDLETON P. PRICE.

Witnesses:

JOHN C. PENNIE,  
WILLIAM FITCH.

Correction in Letters Patent No. 344,984.

It is hereby certified that in Letters Patent No. 344,984, granted July 6, 1886, upon the application of Pendleton P. Price, of Louisville, Kentucky, for an improvement in "Anal Speculums," an error appears in the printed specification requiring correction, as follows: In line 52, page 2, the word "faces" should read *fæces*; and that the Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 3d day of August, A. D. 1886.

[SEAL.]

H. L. MULDROW,  
*Acting Secretary of the Interior.*

Countersigned:

R. B. VANCE,  
*Acting Commissioner of Patents.*