(No Model.)

V. H. HALLMAN.

SURGICAL INSTRUMENT.

No. 518,600. Patented Apr. 24, 1894.

Fig. 1.

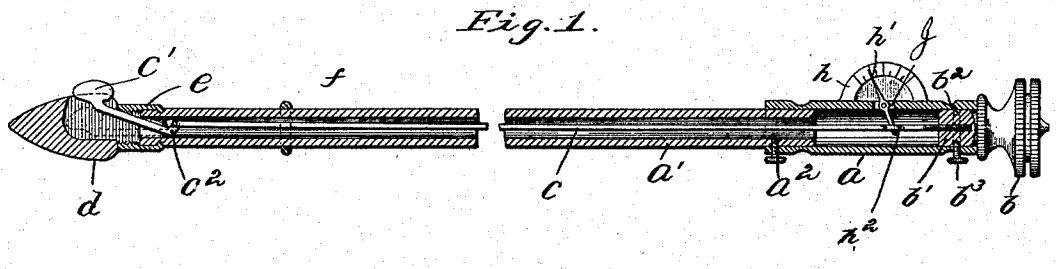


Fig. 2.

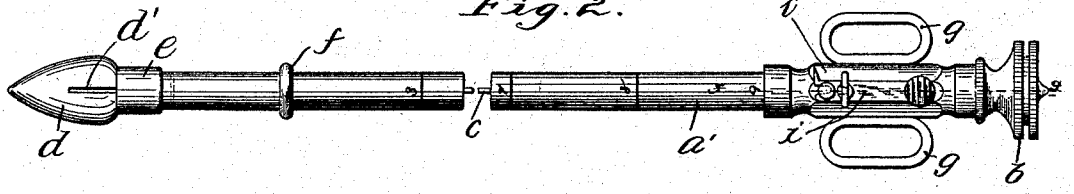


Fig. 3.

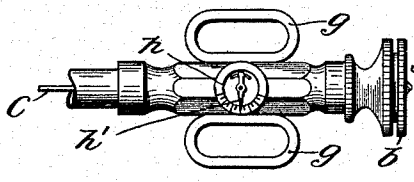


Fig. 8.

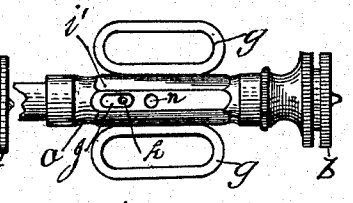


Fig. 7.

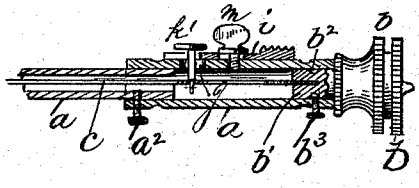


Fig. 4.

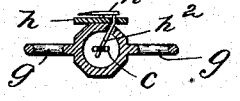


Fig. 9.

Fig. 5.

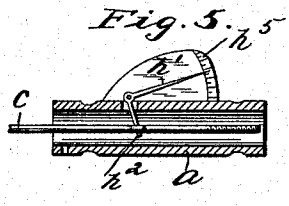
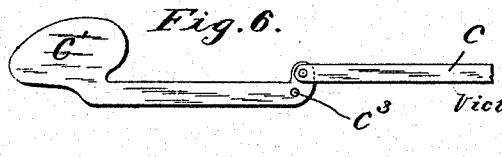


Fig. 6.



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SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 518,600, dated April 24, 1894.

Application filed September 22, 1893. Serial No. 486,170. (No model.)

To all whom it may concern:

Be it known that I, VICTOR HENRY HALLMAN, a citizen of the United States, residing at Hot Springs, in the county of Garland and State of Arkansas, have invented certain new and useful Improvements in Surgical Instruments, viz: Urethratome and Meatatome; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention is a "surgical instrument"—urethratome and meatatome; and consists in the novel construction and arrangement of its parts.

This instrument is designed for locating, dilating and cutting urethral strictures and for enlarging the meatus.

The knife used and shown in the drawings is suited to all bulbs. The knife is absolutely under the control of the operator, and he may cut any depth desired, from a mere scratch to a reasonable deep incision. The instrument may be turned in the uretha with perfect ease; the pressure and tension on the fibers are uniform around the entire urethral caliber, so that cutting may be done easily and thoroughly. The bulb may be made any size desired and all are so shaped that the surface and thickest portion of each one corresponds exactly to the curvature of the blade edge, so that cutting may be done when introducing or while holding still immediately in the stricture or on withdrawing the instrument. The stem may be crooked or straight and the caliber may be smaller or larger, any size bulb desired can be easily and quickly adjusted and the connection is firm and durable.

The instrument is provided with a lock so that the blade may be set and locked at any depth, thus avoiding any accident that might arise from the blade changing position in introducing or withdrawing the instrument.

When a stricture is located the blade can be immediately thrown out the desired depth and locked, and the band h', or pointer i^2 show exactly on the face of the dial h, or face i' for any size bulb the cutting depth of the knife, thus avoiding the necessity of removing the instrument to adjust the knife.

In the accompanying drawings: Figure 1 is a longitudinal sectional view of my invention. Fig. 2 is a perspective view of my invention. Figs. 3, 4, 5, 6, 7 and 8 are detail views.

My invention is described as follows:

a, is a hollow cylinder in one end of which fits one end of a smaller cylinder a', and is held in place by a small thumb-screw a^2.

b, is a thumb-screw that turns freely in the end of the cylinder a, having entirely around its neck b', a groove b^2, in which the inner end of a thumb-screw b^3, works and holds said thumb screw from moving longitudinally in the cylinder a. Said thumb screw b^3, may be turned in until its point impinges against the bottom of the groove b^2, locks the nut b, and consequently the rod c, and blade c'. The neck of said thumb-screw is provided with a long threaded opening in which works the threaded end of a rod c. On the front end of said rod is hinged a blade c'; said blade is pivoted in the cylinder a', by a rivet passing through said cylinder at the point c^2, and through the perforation c^3, in the shank of said blade. On the front end of said cylinder is secured a bulb d, having in one side a slot d', through which the blade may protrude. This bulb is secured to the end of the cylinder by a nut e. Around the cylinder a', is a ring f, which may slip back and forth the entire length of said cylinder. This ring is for the purpose of measuring the depth of the stricture.

g, are handles to enable the operator to securely hold the instrument.

The instrument is provided with a graduated dial h, and pointer h'. Said pointer is pivoted in the cylinder a, with its lower end working through a slot h^2, on the rod c. The dial may be a half circle as shown in Fig. 1, or a whole circle as shown in Fig. 3, or a quarter circle as shown in Fig. 5 or face i', as shown in Figs. 2 and 8.

The operation of my instrument is as follows: We will assume that the blade c', is buried in the bulb d. The operator turns the thumb-screw b, to the right, and as it rotates, being held in place by the small thumb-screw b^2, the rod c, is drawn backward or to the right.

This throws the blade c', out of the slot d' and at the same time the hand h', is moved on the dial plate which shows exactly how far the blade has protruded beyond the surface of the bulb d.

Sometimes in addition to the thumb screw b^3, I manufacture the instrument with an additional lock or stop, in which case the cylinder a, is provided with a slot j, and the rod c, with a perforation k, through which slot works, and into which perforation a thumb screw k', is screwed. Over said slot j, is fitted a lock plate i, and through its slot l, works a thumb screw m, which is screwed into perforation n. The bifurcated end o, of said plate straddles the thumb screw k'. When I turn the thumb screw b, to the right, the rod c, is also carried to the right or butt end of the instrument, and the blade c', is thrown out. When it is thrown out as far as desired, the plate i, is moved forward until it impinges against the screw k'; then I hold it fast by turning the thumb screw m. Thus the blade is held from protruding farther, and I may also, as an additional security, turn the thumb screw b^3, as above shown. When I use the last above described lock I dispense with the dial h, and hand h', using instead of said hand a thumb screw k'.

Fig. 2 shows my instrument provided with a gage i, but I prefer the dial and pointer.

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

1. A surgical instrument consisting of hollow cylinders a, and a', with a detachable slotted bulb d; a blade c', hinged in the front end of said cylinder; a rod c, one end hinged to the shank of said blade and the other threaded and turning in the threaded end of thumb screw b; thumb screw b, turning in the end of the cylinder a, and provided with a peripherical groove b^2; and thumb screw b^3, screwing into the cylinder a, its inner end working in the groove b^2, adapted to hold said thumb screw in place and to lock the same from turning, substantially as shown and described and for the purposes set forth.

2. A surgical instrument, consisting of hollow cylinders a, and a', with a detachable slotted bulb d; a blade c', hinged in the front end of said cylinder; a rod c, one end hinged to the shank of said blade, and the other threaded and turning in the threaded end of thumb screw b; thumb screw b, turning in the end of the cylinder a, and provided with a peripherical groove b^2; and thumb screw b^3, screwing into the cylinder a, its inner end working in the groove b^2, adapted to hold said thumb screw in place and to lock the same from turning; thumb screw k', passing through slot j, of cylinder a, and screwing into the perforation in the rod c; lock plate i, provided with slot l, and bifurcated end o, and pointer i^2; thumb screw m, working through the slot l, and screwing into the perforation n, substantially as shown and described and for the purposes set forth.

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

VICTOR HENRY HALLMAN.

Witnesses:
WM. H. MORTON,
J. E. GOLLADAY.