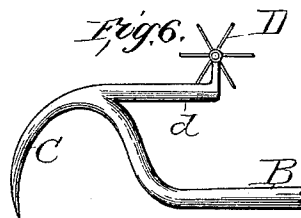
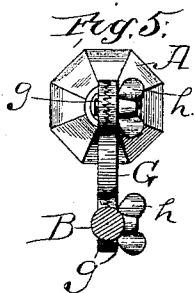
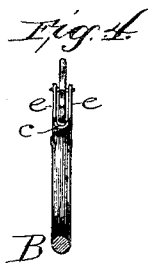
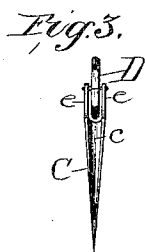
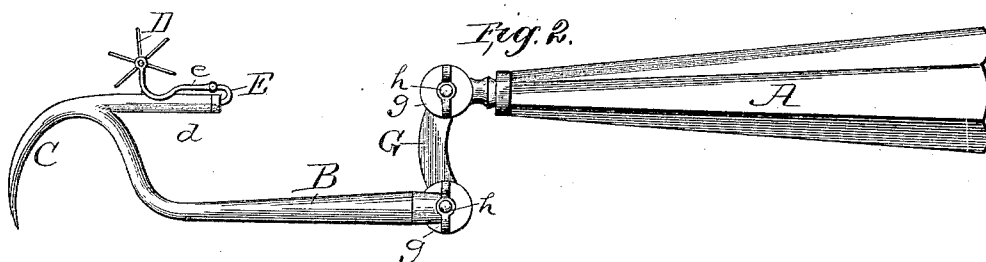
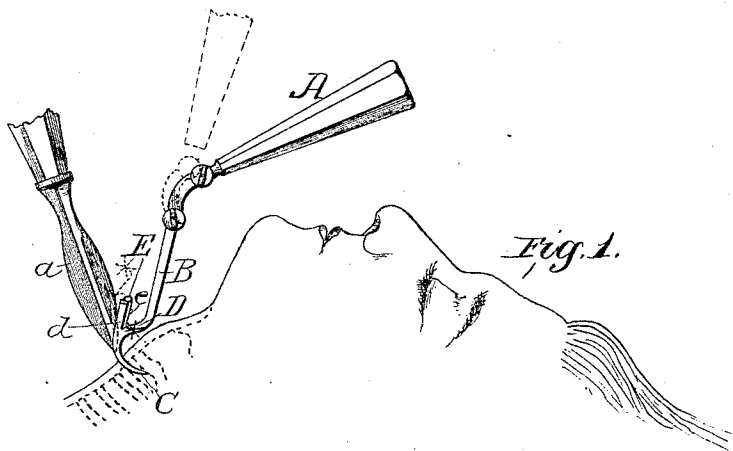


(No Model.)

L. OLIVIERI.
SURGICAL INSTRUMENT.

No. 442,386.

Patented Dec. 9, 1890.



Witnesses
Robert R. Byrr

Leonida Olivieri, M. D.
Inventor

By his Attorney
Frank D. Thomas

UNITED STATES PATENT OFFICE.

LEONIDA OLIVIERI, OF CHICAGO, ILLINOIS.

SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 442,386, dated December 9, 1890.

Application filed September 18, 1890. Serial No. 365,388. (No model.)

To all whom it may concern:

Be it known that I, LEONIDA OLIVIERI, residing in Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Surgical Instruments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to provide an instrument for use in making incipient incisions in the wind-pipe, either to permit respiration or to remove obstructions therefrom, or for other purposes, which by its peculiar construction clearly demonstrates to the operator when the throat is entered, and thus prevents the possibility of a deceptive or false incision, to remedy which often requires minutes when moments decide life or death, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1 shows a diagrammatical view of the human throat and the manner of inserting my improved instrument therein. Fig. 2 shows a side view of a full-sized instrument. Fig. 3 is a front view of the operating end thereof. Fig. 4 is a cross-section taken on dotted line 4 4, Fig. 2. Fig. 5 is a cross-section taken on dotted line 5 5, Fig. 2, looking toward the rear of the instrument; and Fig. 6 is a side view of a modification thereof.

Referring to the drawings, A represents the handle of my improved instrument, which is preferably polygonal in shape, and is serrated. B represents the body of the same, and C represents the hook on the operating end of said instrument, made by properly extending and shaping the body of the same, as shown. The point of hook C is very sharp, and its back from the point to the highest point thereof is provided with a channel or groove *c*, the lateral dimensions of which gradually increase as it passes back from the point until it reaches said highest point, whereupon it enters upon the arm *d* and continues back the entire length thereof. This arm *d* extends tangentially from the top of the back of the hook parallel with the body of the instrument toward the rear of the same.

In use the hook C of my improved instrument is inserted into the wind-pipe about as

shown in Fig. 1. When the point of the hook enters the wind-pipe, the suppressed air exhaled from the lungs rushes out through the groove *c* in its back and makes known to the operator that his instrument has reached the objective point. The back of the surgical knife or bistoury *a* (shown in Fig. 1) is then inserted in and moved longitudinally in the groove toward the point of the hook, so as to obtain entrance to the wind-pipe for the subsequent operation, which, however, it is not necessary for me to further describe so far as the purposes of the subject-matter hereof are concerned. Where the patient is exhausted and weak, the exit of the air through groove *c* is so faint as to be liable to deceive the operator. It is necessary, therefore, for some other means to be adopted which will be susceptible to the slightest exhalation and will demonstrate to the eye of the operator that he is all right. These means consist of, principally, a small delicate wind-wheel D, the axis of which is journaled in the extremities of suitable lugs arising from the rear end of arm *d*, and which is revolved rapidly more or less as the air from the throat passes it, as shown in Fig. 6.

While the use of the wind-wheel located as above described and as shown in said figure is superior to an instrument not possessing one, yet it is so far removed from the mouth of the incision that for all practical purposes I deem it advisable to place the same nearer the throat. This I accomplish by journaling said wind-wheel in the ends of corresponding arms *e e*, the opposite ends of which are journaled in the extremity of the goose-neck arm E, projecting from the center of a plug or collar F, which is inserted in the rear cylindrical end of arm *c*, or may surround the same, so as to be easily attached to or removed therefrom. Arms *e e* run parallel to each other, and are such a distance apart that when in proper position for an operation they rest on the edges of the groove *c*, and these arms have their extremities, in which the wind-wheel D is journaled, turned at right angles to their length, so as to bring the ends of the vanes of said wheel into said groove near the mouth of the incision, substantially as shown in Fig. 2.

It is evident that the body B of my instrument may pursue a straight course from the

hook to and into the handle of the same. I prefer, however, for convenience of manipulation, to joint the said body by a suitable link to the handle. This link G has its ends
 5 provided with disk-shaped bosses, which have lateral holes passing through their center and radial grooves in their articulating side surfaces. The adjacent ends of the body and handle of my instrument are also provided
 10 with similar disk-shaped bosses *g*, the surfaces of which, coming in contact with the radially-grooved surfaces of the bosses of link G, are similarly provided with radial grooves. Now by bringing the bosses of the link and
 15 those of the body and handle of the instrument, as shown, together and fastening them by the thumb-screws *h h* the serrations of the one interlock with those of the other and bind and lock the parts together, so that the
 20 handle may be at any angle to the operating part of the instrument which it is desired it should be in.

I do not wish to be confined to the use of the link for so jointing the handle and body of
 25 the instrument together. Any means which will enable me to accomplish this object will answer.

While I have confined myself in the description of my improved instrument to human beings, it will be understood that it can
 30 be used with equal success for animals in veterinary practice.

What I claim as new is—

1. A surgical instrument having a sharp hook-shaped operating end, the back of which
 35 is provided with a longitudinal groove therein extending from the point thereof rearward.

2. A surgical instrument having a sharp hook-shaped operating end which has an arm
 40 extending tangentially to the rear from the highest point thereof, and the back of which is provided with a longitudinal groove which extends from its point onto said arm, in combination with a wind-wheel D, arms *ee*, goose-neck arm E, and plug F, as and for the purpose
 45 set forth.

3. A surgical instrument having a sharp hook-shaped operating end which has an arm
 50 extending tangentially to the rear from the highest point thereof, and which is provided with a longitudinal groove in its back extending from the point thereof onto said arm, in combination with a wind-wheel, as set forth.

4. A surgical instrument having a sharp
 55 hook-shaped operating end which is provided with a groove in its back, a body, and a handle suitably jointed thereto, as set forth.

LEONIDA OLIVIERI.

Witnesses:

CHAS. H. EVANS,

FRANK D. THOMASON.