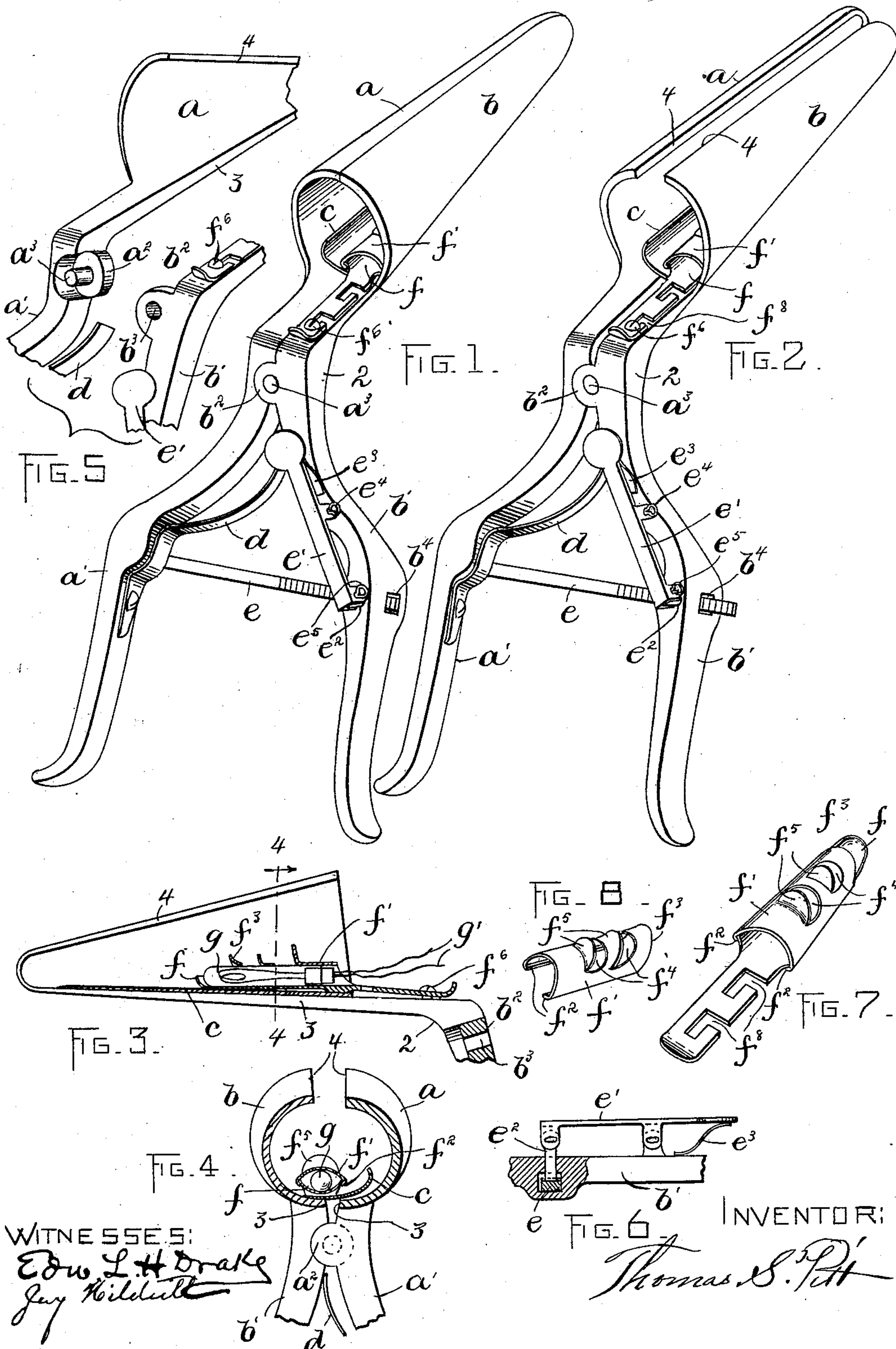


(No Model.)

T. S. PITT.
ENDOSCOPIC INSTRUMENT.

No. 605,652.

Patented June 14, 1898.



UNITED STATES PATENT OFFICE.

THOMAS S. PITT, OF BOSTON, MASSACHUSETTS.

ENDOSCOPIC INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 605,652, dated June 14, 1898.

Application filed June 1, 1897. Serial No. 638,891. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. PITT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Endoscopic Instruments, of which the following is a specification.

This invention has relation to endoscopic instruments, and has for its object to provide a speculum or instrument of a similar nature with an incandescent or other illuminating means which will be so located as to have its rays reflect only upon the portion of the body which it may be desired to examine or treat.

One of the serious objections to equipping an instrument with an electric or other incandescent has been due to the fact that the latter has been in danger of breakage and that the light emitted therefrom was reflected into the eyes of the operator.

My invention consists of an instrument equipped with an incandescent-holder so arranged as to receive an incandescent and reflect its light upon the part of the body upon which it is desired to operate and so constructed as to effectually protect the bulb of the incandescent from being fractured or broken.

The invention further consists in various other features of improvement, all as illustrated upon the drawings and now to be described in detail, and pointed out in the claims hereto appended.

Of the drawings, Figure 1 represents a perspective view of my improved endoscope. Fig. 2 is a similar view, but showing the jaws thereof partially open, so as to allow the light from the incandescent to be reflected upon the portion of the walls of the cavity into which the instrument is inserted. Fig. 3 represents a longitudinal section through the instrument. Fig. 4 represents a cross-section on the line 4 4 of Fig. 3. Fig. 5 represents the two halves of the instrument as being disjoined and also showing the pivotal connection between the said parts. Fig. 6 is a detail view of the latch for engaging the stop-bar which holds the jaws in any desired position. Fig. 7 represents a perspective view of the incandescent or light holder. Fig. 8

represents the perspective view of the shield or cover which forms a part of the holder.

Referring to the drawings, I have illustrated an instrument which is especially adapted for certain cavities in the human body, but it will be understood that I do not propose to limit myself to that particular form of the instrument, as the jaws thereof may be shaped and formed for any other use, as may be desired. As illustrated, the two complementary jaws a b , when placed side by side, form a cone with a rounded apex. Extending rearward from each jaw are handles a' b' , which are bent at an angle to the jaws at 2 and which diverge, as clearly shown in Figs. 1 and 2. The two handles are provided with overlapping ears or lugs a^2 b^2 , the former having a pintle a^3 , adapted to take into an aperture b^3 in the lug or ear b^2 . The pintle or pivot a^3 is substantially parallel to the axis-line of the cone formed by the jaws, so that when the handles are drawn together the jaws are separated in parallel lines, as shown in Fig. 2.

The jaw b is provided with a curved plate c , which projects across the edges 3 of the jaws into the recess in the jaw a , as shown in Fig. 4, so that when the jaws are separated the surrounding walls of the cavity in the body are prevented from projecting between the said edges 3 3. The said plate extends practically the entire length of the jaws, as shown in Fig. 3.

The jaws are held normally closed by a flat spring d , having one end secured to the handle a' and its other end pressing against the inner edge of the handle b' , but they may be held apart by a rod or rack-bar e , having one end pivoted to the handle a' and the other end projecting through an aperture b^4 in the handle b' . The thumb-lever c' is pivoted to the handle b' and is connected at its front end with a latch e^2 , which is thrust into engagement with the teeth on the bar e by a spring e^3 , bearing against the under side of the other end of the thumb-lever e' . The pivots e^4 e^5 , which connect the thumb-lever with the handle and with the latch, may be withdrawn, so as to remove the parts for the purpose of cleaning them or rendering them antiseptic.

My improved light-holder consists of a re-

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ceptacle having a concavo-convex body portion f and the oppositely-curved guard or cover f' , the edges f^2 of which are bent inwardly to take over the edges of the body portion f . Into the cavity in the light-receptacle may be placed an incandescent-light bulb of any character such as conventionally illustrated at g in Figs. 3 and 4, the wires which are connected to the filament being indicated by g' . The front end of the shield is curved upwardly, as at f^3 , to act as a reflector to reflect the rays of light from the incandescent upward and forward against the edges 4 4 of the jaws. The shield is also provided with apertures f^4 and with reflectors f^5 , which reflect the light emitted through said apertures. The receptacle is held in place upon the plate c , which protects it by a screw f^6 , threaded into the handle near the base of one of the jaws and passing through a bayonet-slot f^8 in the extended end of the lower portion of the receptacle. The said end is likewise provided with another bayonet-slot f^9 , so that the receptacle may be adjusted in position.

From the foregoing it will be seen that I have provided a very simple instrument for endoscopic purposes.

The incandescent receptacle is adjustable and is constructed so as to reflect the light against the walls of the cavity which are exposed to view between the edges 4 4 of the jaws when the jaws are open or separated, and the upwardly-projecting portions f^3 f^5 not only act as reflectors in throwing the light upward, but also prevent the rays of light from being reflected into the eyes of the surgeon or operator.

When an instrument is introduced into the cavity between the jaws, there is no danger of its breaking or destroying the glass bulb of the incandescent-lamp bulb, as the reflec-

tors form a safeguard for it, and, moreover, the plate c prevents any portion of the body from coming into contact with the holder. 45

I claim—

1. A light holder or receptacle for use on an endoscopic instrument, having a curved body portion to receive an incandescent, and a freely-removable concavo-convex guard having inwardly-turned edges fitting on said body portion and having one or more upwardly-turned lugs which operate as reflectors to throw the light upward and forward. 50

2. A light holder or receptacle for use on an endoscopic instrument, having a curved body portion to receive an incandescent, and a concavo-convex guard fitting on said body portion and having a series of light-emitting apertures and a reflector in the rear of each aperture to throw the light upward and forward. 60

3. A light holder or receptacle for use on an endoscopic instrument, having a curved body portion to receive an incandescent, and a concavo-convex guard fitting on said body portion and having one or more reflectors bent up therefrom, and having one or more light-emitting apertures. 65

4. A detachable light holder or receptacle for use on an endoscopic instrument comprising a concavo-convex body portion for receiving the incandescent, and having an extended shank with bayonet-slots for attaching it in place, and a removable sliding cover formed with upwardly-turned reflectors. 70 75

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 10th day of March, A. D. 1897.

THOMAS S. PITT.

Witnesses:

EDW. L. II. DRAKE,
JAY HILDRETH.