

(No Model.)

T. W. BAUGH.  
SURGICAL INSTRUMENT.

No. 460,940.

Patented Oct. 13, 1891.

Fig. 1.

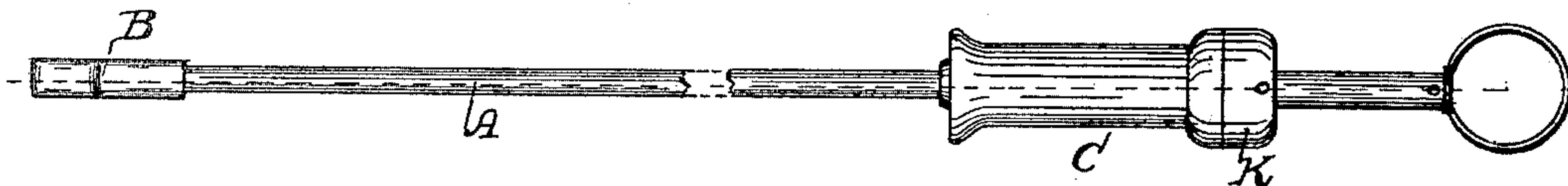


Fig. 2.

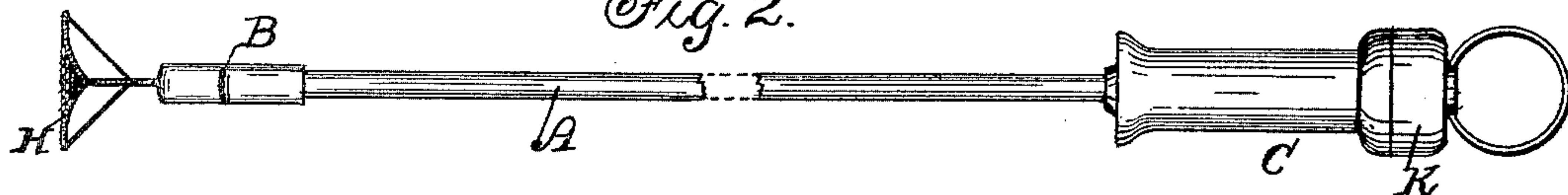
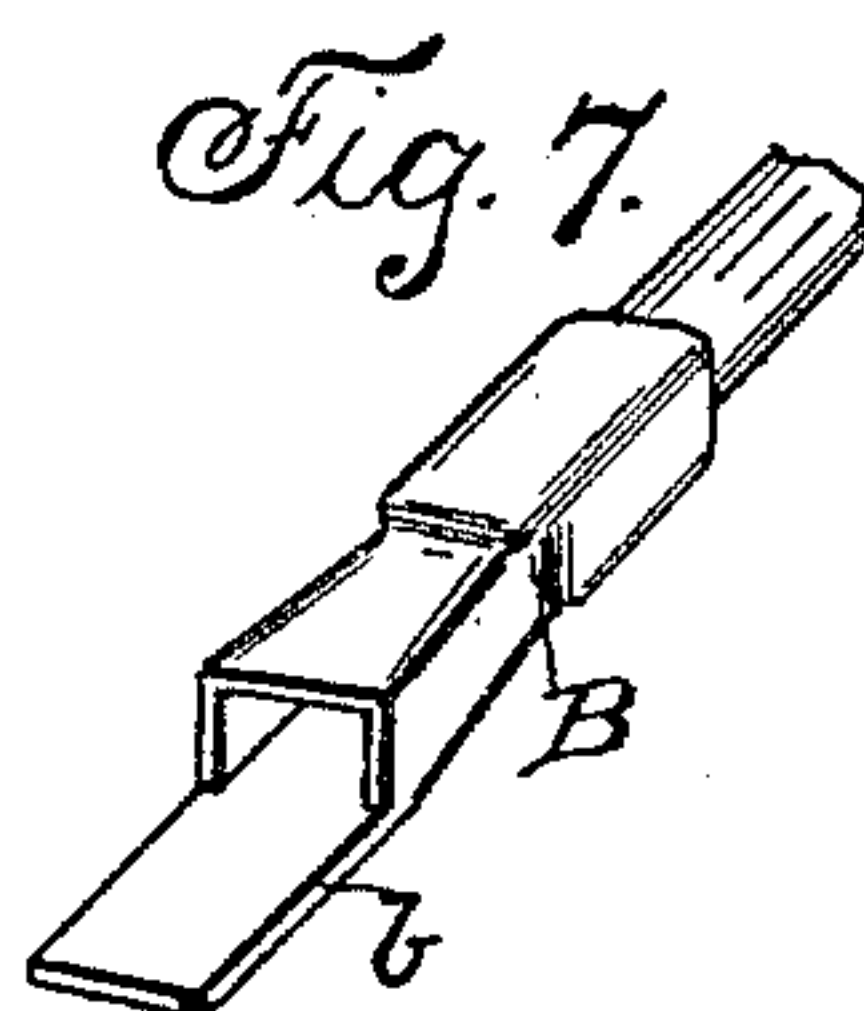
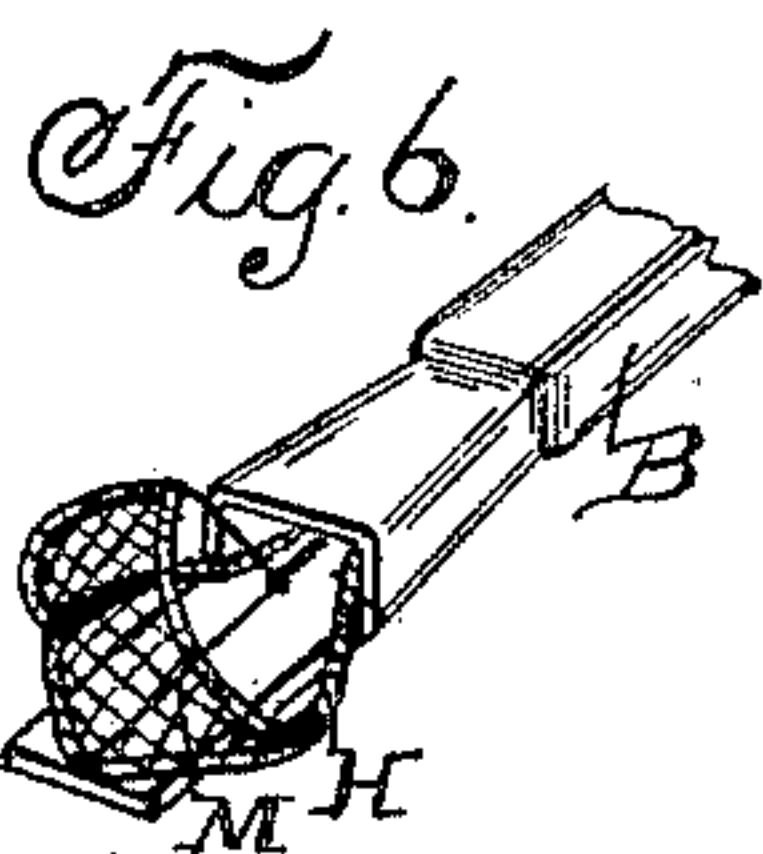
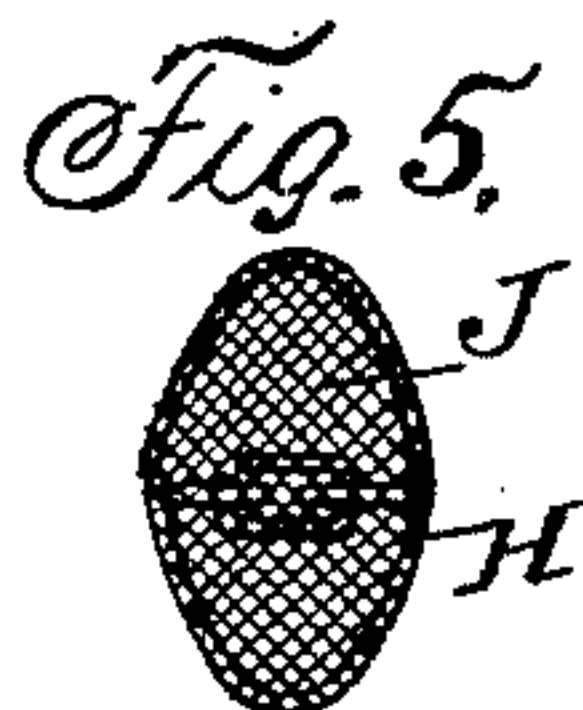
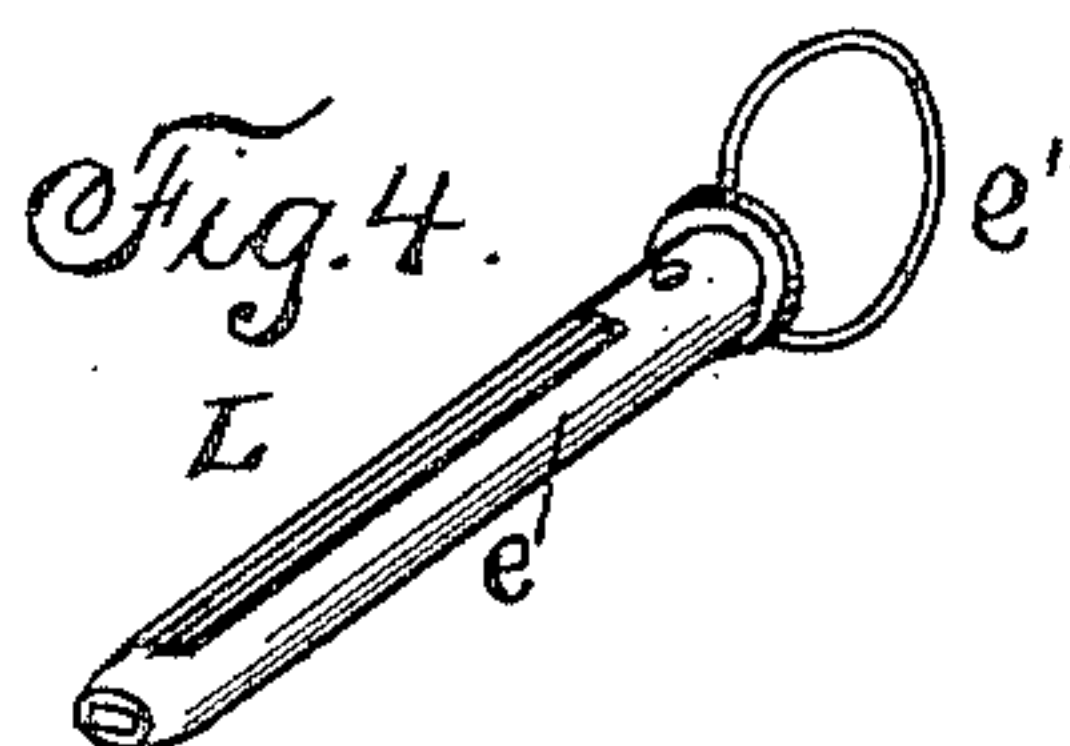
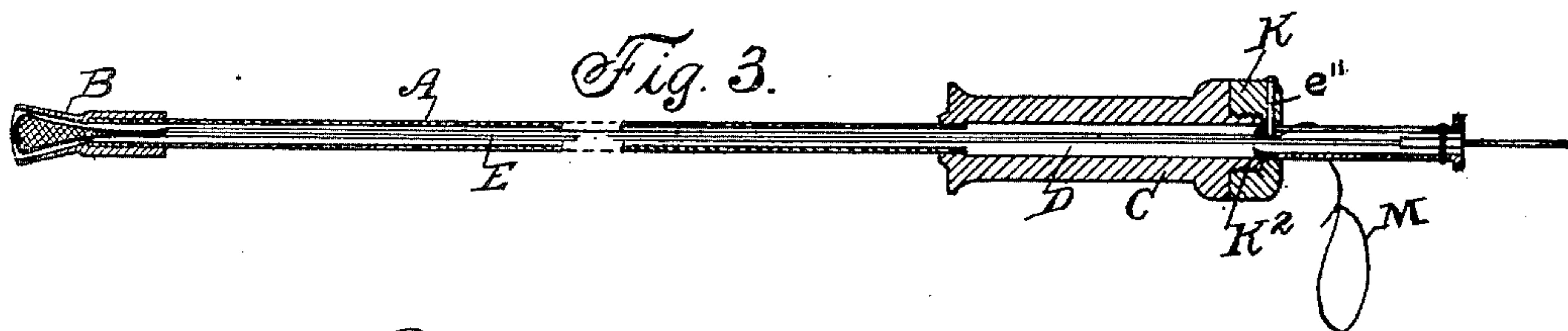


Fig. 3.



Witnesses: Inventor: Thomas W. Baugh, M.D.  
M. P. Smith }  
Chas. W. Bulkley } By Thomas G. Orwig, Atty



# UNITED STATES PATENT OFFICE.

THOMAS W. BAUGH, OF CARLISLE, IOWA.

## SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 460,940, dated October 13, 1891.

Application filed July 14, 1890. Renewed August 24, 1891. Serial No. 403,527. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. BAUGH, a citizen of the United States, and a resident of Carlisle, in the county of Warren and State of Iowa, have invented a new and useful Surgical Instrument for Removing Objects from the Trachea, &c., of which the following is a specification.

My object is to provide a surgical instrument for use in withdrawing from the interior parts of the body foreign objects or matter, which shall be especially adapted for use in extracting such objects as are not within the vision of the operator.

My invention consists, primarily, in a flexible extending extractor-rod having a hollow interior, a handle, also having a circular bore in its interior, a flexible springing frame, to which is attached a net, and means by which the frame may be spread or withdrawn into the rod or into a cap-piece thereon, and in certain details of construction hereinafter more particularly described, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of the instrument embodying my invention, shown in position ready for insertion. Fig. 2 is a side view showing the frame and net in the position assumed when about to inclose about an object. Fig. 3 is a sectional view on the line  $x x$ , Fig. 1. Fig. 4 is a detail view of the handle for actuating the extracting-rod. Fig. 5 is a detail end view showing the position of the frame and net without the ferrule. Fig. 6 is a perspective view of the end of the rod. Fig. 7 is a detail view showing a modified form of ferrule.

A is a flexible hollow rod having at one end a flattened ferrule B and being connected at its other end to a handle C, which latter has a circular bore D. Through the hollow interior of the rod A a wire E extends to and within the ferrule B, and is there connected to a frame H, formed of wire, to which latter a net J is attached. The other end of the wire E is formed with an enlarged portion, which is perforated and extends through the handle C.

K is a detachable cap-piece having a circular bore provided with screw-threads which engage threads on the circular projection  $K^2$ .

L is a detachable handle for actuating the wire E and consists of a circular piece of metal  $e$ , having a rectangular bore and an elongated slot and a loop or ring  $e'$ . The circular piece of metal  $e$  has perforations adapted to receive a pin which also enters one of a series of perforations coincident with it in the enlarged portion of the wire E, thus detachably connecting the said wire with its actuating-handle. The said enlarged portion of the wire has another perforation adapted to receive a pin which first passes through a perforation in the cap-piece K, thus preventing rotary movement of the wire E and holding the end of the same securely in position.

The circular projection  $K^2$  is split, and is thus adapted to receive the knotted end of a flexible cord M, which latter, extending double through the hollow interior of rod A, is secured to the two outer sides of the frame H, and also to the wire E.

When the instrument is in readiness for insertion, the frame and its net are within the ferrule, and the end of the instrument having the ferrule is then inserted into the passage where the object is lodged. When the operator has located the object or foreign substance, pressure inwardly upon the ring is applied in the direction of the handle C, causing the wire E to move outwardly, which, being connected to the frame H, causes the latter to take a position without the ferrule E, and as the wires of the frame H spring apart the net is thus partially spread. Upon the further extension of the wire E the cord M, being also moved outwardly, since it is attached to the frame, becomes taut and stops the outer portions of the frame from further movement, while that portion of the frame to which the wire E is attached still continues an outward movement, thus opening the frame and placing the net in readiness to be inclosed about an object. In the next step in the operation the operator, having located the object and having pressed the net upon the same, draws upon the ring  $e''$  in a direction away from the handle C, causing the sides of the frame as they are retracted within the ferrule to inclose upon the object, now within the meshing of the net.

In Fig. 7 is shown a modified form of fer-

rule B, having an extending lug *b*, which serves as a backing or stiffener, being especially applicable in its use to a case where it is desired to pass or partially pass an object.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a surgical extracting-instrument, of a flexible hollow rod provided  
10 with a ferrule at one end and a handle at the other, and an extracting-wire within the hollow interior of said rod, connected at one end to a springing frame, to which a net is secured, and at the other to a supplemental handle, as  
15 and for the purposes set forth.

2. In a surgical instrument for extracting purposes, the combination, with an extracting-rod and handle, of an outwardly-springing frame and a net secured thereto and means

by which the said frame and net may be re- 20 tracted, as and for the purposes set forth.

3. The combination, with the extracting-rod, of a ferrule secured to the end thereof, within which a springing frame and net are adapted to be retracted, said ferrule having  
25 an extending lug forming a backing, as set forth.

4. The combination, with the hollow extractor-rod and extending wire in the interior thereof, of a flexible connection between the  
30 end of the handle and the sides of the frame, to which is secured the net, as and for the purposes described.

THOMAS W. BAUGH.

Witnesses:

CHAS. C. BULKLEY,

THOMAS G. ORWIG.