

B. D. LA FORCE.
SURGICAL INSTRUMENT.
APPLICATION FILED JAN. 21, 1918.

1,279,713.

Patented Sept. 24, 1918.

Fig. 1.

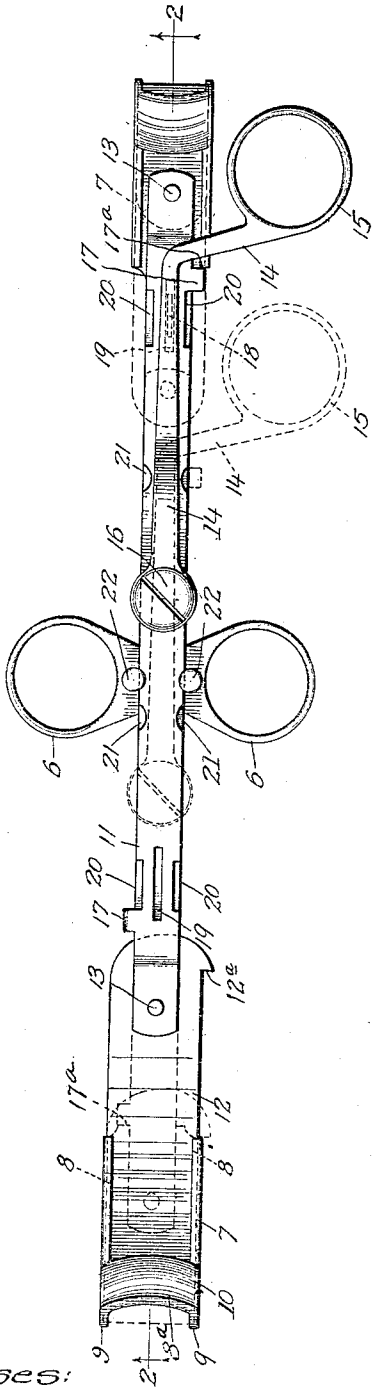
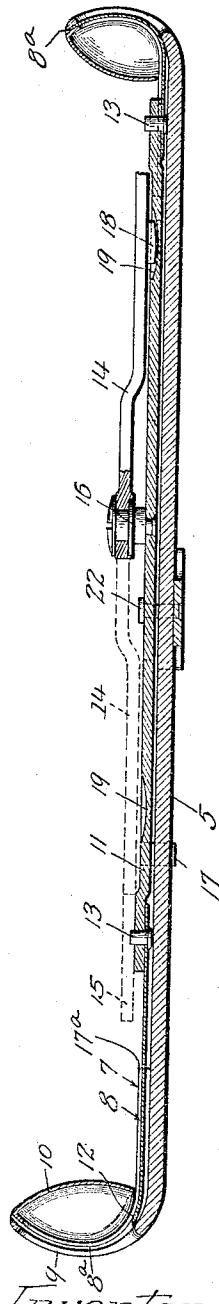


Fig. 2.



Witnesses:

Robert H. Wein

Arthur W. Carlson

Inventor
Burdette D. La Force

Benjamin R. Roodhouse
Att'y.

UNITED STATES PATENT OFFICE.

BURDETTE D. LA FORCE, OF OTTUMWA, IOWA.

SURGICAL INSTRUMENT.

1,279,713.

Specification of Letters Patent. Patented Sept. 24, 1918.

Application filed January 21, 1918. Serial No. 213,011.

To all whom it may concern:

Be it known that I, BURDETTE D. LA FORCE, a citizen of the United States and a resident of Ottumwa, county of Wapello, and State of Iowa, have invented certain new and useful Improvements in Surgical Instruments, of which the following is a specification.

My invention relates to surgical instruments and especially to a device adapted to operate upon or remove pharyngeal tonsils or adenoids, faucial and lingual tonsils and other more or less pedunculated growths, of similar size, growing from difficultly accessible portions of the throat and nasal passages.

Among the objects of my invention is the provision of an instrument that is provided at opposite ends with more or less boxlike structures that are adapted to fit over or receive the portion of the growth that is to be operated upon. Another object is the provision of an instrument that is provided at both ends with devices for operating upon the growth, which devices are actuated by common means. Still another object is the provision of an instrument of this character that is compact in construction and is so assembled that the divers parts may be readily separated, the one from the other, for the purpose of cleansing and sterilizing. It is also an object of my invention to provide an instrument that is double-ended, and to this end I provide a central finger-piece and a pivoted arm adapted to be swung in one direction or the other, for the purpose of operating with either end. Other objects will be apparent to those skilled in the art, after an understanding of my invention is had, and for which understanding, I now refer to the accompanying drawings that form a part of this specification.

In the drawings:—

Figure 1 is a longitudinal top plan of my improved instrument.

Fig. 2 is a central longitudinal section thereof taken on line 2—2, Fig. 1.

The instrument preferably comprises a longitudinally elongated bar 5, provided intermediate its ends with a pair of lateral extensions which are provided with finger openings 6—6, into which the index and second fingers of the operator's hand are adapted to be inserted to operate the instrument. The bar 5 may be straight, as shown, or it may be curved throughout its length,

or the ends may be hooked, as may be found most expedient. The ends of the bar 5 are preferably widened, as shown at 7, the longitudinal edges whereof are provided with upstanding ribs 8, that have facing slots or grooves 8^a, 8^a, disposed along the inner surfaces thereof. The outer ends of these ribs 8 extend along the sides to form the side-walls 9, 9, of the structures that engage the membrane or growth to be operated upon and said side-walls are likewise provided with continuations of the grooves 8^a. It may be found desirable, and in some cases necessary, to provide rear walls that are formed by providing a web connecting a portion or all of the side-walls, thus providing a box, as shown, having its front or downward portion open between the side-walls 9, and having the upper part or back of box partly open or closed, as shown.

Slidably mounted upon the bar 5, is a carrier plate 11, that has a blade 12 at each end. The carrier plate 11 is substantially the same width as plate 5 and the blades are wider than the same, so that the edges of the said blades will fit into the grooves 8^a and their continuations in the side-walls 9. The blades 12 may be of flexible steel, or the like, to provide knives for cutting the growth or may be blunt plates that provide hemostats or crushers. In either instance the operating edge is disposed upon the outer ends so that when the carrier 11 is moved longitudinally, the cutting edge of the knife or the crushing blade will pass across or through the opening formed in the front of the box. The blades are secured upon the ends of the carrier plate 11 by means of pins 13, so that they may be readily disconnected and removed from the carrier plate, or blades of different thickness may be supplied. When a cutting blade is used it is provided with a shoulder 12^a, so that it will abut the adjacent ends of the sides to prevent the knife edge passing beyond the outer end of the guide grooves 8.

In order to move the carrier plate longitudinally, it is essential to provide a suitable member that may be engaged by the thumb of the operator, and to this end I provide a suitable arm 14, the laterally extended end whereof is provided with a thumb-ring 15, and said arm is pivotally mounted upon the sliding plate 11 by means of a pivot 16, shown in detail in Fig. 2. The

carrier plate is adapted to be limited in its longitudinal movement by means of lugs 17, that project outwardly and downwardly from said slide plate 11, and are adapted to engage shoulders 17^a formed at the inner ends of the widened portions 7 of the bar 5. The pivoted arm 14 has its outer end held in position by means of a suitable lug 18, projecting downwardly from its underside, as shown in Fig. 2, which lug is adapted to seat in one of the recesses 19, 19, formed on the upper surface of carrier plate 11 adjacent the ends, and in order to permit said lug to ride easily into its recess, the sides of the carrier plate 11 are beveled, as shown at 20 in the drawings.

In operating, it is frequently found necessary to employ different sizes of boxes and blades, owing to the divers sizes of the growths to be removed. For this reason, the boxes formed at the ends of the bar 5 are made in two sizes and, consequently, larger or smaller blades will be employed and the surgeon need only provide himself with two such instruments so that at least four sizes of boxes and blades will be at hand. In practice, the surgeon places his index and second fingers in the openings 6, and his thumb in the ring 15, and moving the thumb and fingers away from each other, the carrier plate 11 and blades will be moved thereby. The instrument is then in position to be used by resting the box over the growth. The thumb is then moved toward the fingers and the growth will be severed, if a knife blade is used, or crushed if a dull blade is used. When it is desired to employ the smaller box, at the opposite end, the thumb ring 15 is raised slightly to move the lug 18 out of the recess 19 and the arm 14 is then swung on its pivot until the lug rides over the beveled edge 20, at the opposite end of the instrument, and snaps into its opposite slot 19, whereupon the opposite end of the instrument may be used in the same manner as above described. The parts may be readily separated and the carrier plate 11 removed from the bar 5 by raising the carrier at one end away from the blade and then moving the carrier toward that end of the instrument until one pair of inwardly cut recesses 21 comes opposite the retaining pins 22, whereupon the carrier plate can be lifted off the bar 5, as will be obvious.

I have, for the purpose of convenience in illustrating my instrument, shown the same as provided with a knife or cutting blade at each end, coöperating with respective structures that are adapted to engage the membrane or growth to be operated upon, but it is well known that a crusher or hemostatic blade may be substituted for the knife or cutting blade without materially departing from the principles involved in my invention. It will also be understood that the

structure for engaging the growth may be modified for this purpose by extending it at the end of the bar 5 substantially in the same plane thereof, so as to accommodate the comparatively rigid blade employed in the hemostatic operation. It will also be obvious that in lieu of the reversible arm 14 and its thumb-ring 15, heretofore described, I may employ a thumb-ring at each end of the movable carrier, the same being made integral therewith or secured thereto in any suitable manner. I therefore desire it understood that I do not restrict my invention to an instrument for performing a cutting or shearing operation in view of the modifications I have above pointed out, and I do not wish it to be understood that the appended claims are restricted or limited to the precise structure I have illustrated in the drawings.

What I claim as new is:—

1. A surgical instrument comprising an elongated bar, boxlike structures projecting laterally from the ends thereof the outer portions whereof are open and are provided with grooves in their opposite walls, facing grooves in the ends of said bar that form continuations of the grooves in the box walls, laterally disposed loops intermediate the ends of said bar adapted to receive the fingers of the operator, a reciprocable carrier having limited movement on said bar, cutter blades on the ends of said carrier and adapted to reciprocate in said grooves, a swinging arm pivotally mounted on said carrier and provided with a loop adapted to receive the thumb of the operator, and means for retaining said arm at the end of its movement in either direction.

2. A surgical instrument comprising an elongated bar, structures at opposite ends thereof adapted to engage the tissues to be operated upon, a reciprocable carrier movable on said bar the ends of which enter said structures and are moved across the same, a transverse member on said bar adapted to be engaged by the fingers of the operator, and an arm mounted on the carrier adapted to be positioned upon either side of said transverse member and engaged by the thumb of the operator.

3. A surgical instrument comprising an elongated bar, boxes at opposite ends thereof each provided with an opening in its wall, a reciprocable carrier movable on said bar, blades on the ends of said carrier coacting with said boxes and adapted to be moved across the openings therein, and a reversible finger grasp pivotally mounted on said carrier.

4. A surgical instrument comprising an elongated bar, boxes formed integrally adjacent the ends thereof, blades coacting with said boxes, and means adapted to be positioned in proximity to either end of said bar

and engaged by the fingers of the operator whereby either end portion of the instrument is capable of being employed in performing a cutting operation.

5 5. A surgical instrument comprising oppositely disposed boxes each having a co-acting blade, means connecting said boxes, and devices for actuating said blades in-
10 cluding an element capable of being positioned in proximity to either of said boxes whereby either end of the instrument is adapted to be employed in performing an operation.

15 6. A surgical instrument comprising oppositely disposed boxes each provided with oppositely disposed guides, a reciprocable blade movable in the guides of each box, means connecting said boxes, separate means connecting said blades, finger members on
20 said box connecting means, and a finger member mounted on said blade connecting means and adapted to be positioned in proximity to either of said boxes.

25 7. A surgical instrument comprising oppositely disposed boxes each provided with oppositely disposed guides, a reciprocable blade movable in the guides of each box, a bar connecting said boxes, a carrier upon which said blades are detachably mounted,
30 finger member on said bar, and a reversible

thumb member pivotally mounted on said carrier.

8. A surgical instrument comprising an elongated bar, structures at opposite ends thereof each provided with a fenestra, a re- 35 ciprocable member coacting with said bar the ends of which member are adapted to be moved across said fenestra, and an arm mounted on said member and adapted to be positioned in proximity to either end of said 40 bar and engaged by the thumb of the operator.

9. A surgical instrument comprising an elongated bar, provided with finger loops intermediate its ends, structures at opposite 45 ends of said bar each provided with a fenestra, a reciprocable member coacting with said bar the ends of which member are adapted to be moved across said fenestra, and a thumb-engaging device carried by said 50 member whereby said device may be operated at either end.

Signed at Chicago, county of Cook, and State of Illinois, this 15th day of January, 1918.

BURDETTE D. LA FORCE.

Witnesses:

E. K. LUNDY, Jr.,

H. SLACK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."