July 14, 1925. 1,545,761

J. J. GURTOV

TONSILLOTOME

Filed July 14, 1923

Fig. 1.

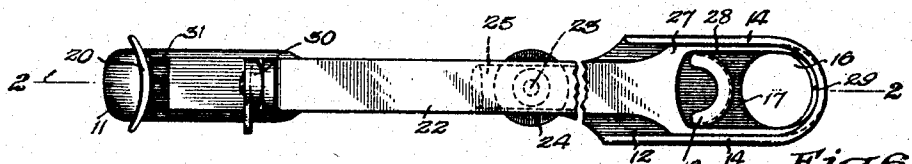


Fig. 6.

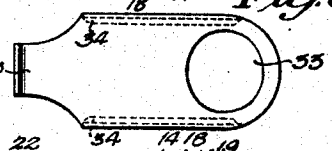


Fig. 2.

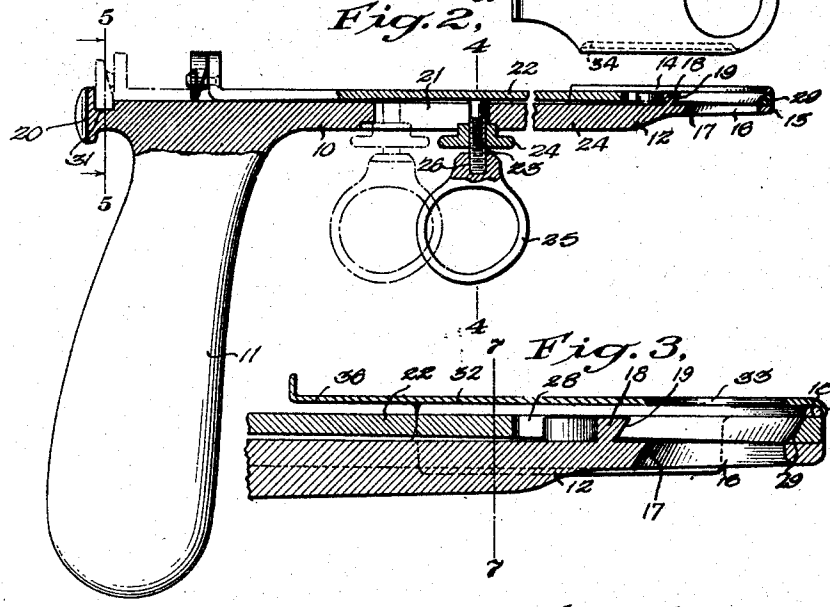


Fig. 3.

Fig. 7.

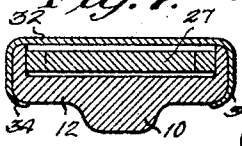


Fig. 4.

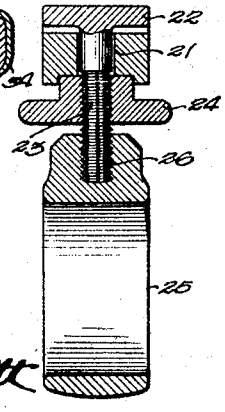
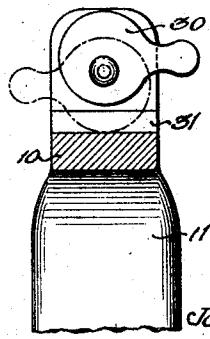


Fig. 5.



WITNESSES

E. M. Wilson

Hugh H. Hall

INVENTOR

JOHN J. GURTOV

BY

ATTORNEYS

Patented July 14, 1925. 1,545,761

UNITED STATES PATENT OFFICE.

JOHN J. GURTOV, OF NEW YORK, N. Y.

TONSILLOTOME.

Application filed July 14, 1923. Serial No. 651,564.

To all whom it may concern:

Be it known that I, JOHN J. GURTOV, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county of Bronx and State of New York, have invented a new and Improved Tonsillotome, of which the following is a full, clear, and exact description.

This invention relates to surgical instruments and has particular reference to an improvement in an instrument for removing the tonsils or other parts, and commonly known to the medical profession as a tonsillotome.

It is a well recognized fact that in the surgery of the faucial tonsils, there is an ever present danger of injuring adjacent parts such as the anterior or posterior pillars, as well as the uvula, and that such an injury is a source of excessive bleeding or hemorrhage.

To this end, it is therefore an object of the present invention to provide an instrument of this character by means of which the severing and removal of the tonsils may be effected in such a manner as to leave the adjacent parts and surrounding tissues intact, whereby to avoid hemorrhage and reduce bleeding to a minimum.

More specifically the invention contemplates as a further object an instrument in which the cutting edges during the shearing or cutting action are moved in a direction from the attached margins of the pillars or from the bottom of the tonsillar fossa toward the free margins of the pillars.

As a still further object the invention contemplates an instrument in which the stock and movable blade are both apertured to provide initially registering passages through which the tonsil is forced and the coacting edges of which apertures are sharpened to provide cutting edges whereby upon relative movement of said edges past one another, the said tonsil is severed prior to the cutting edge reaching the free margin of the anterior pillar.

Another object in view is to provide a tonsillotome which is designed to be operated with one hand and in a manner similar to a pistol, whereby the other hand is free for use, to force and hold the tonsil in the proper position for severance or for any other purpose.

Another object in view resides in the provision of means in connection with an instrument of the character described for regulating the receiving apertures to conform with the size of each tonsil.

The invention furthermore contemplates an instrument of the character set forth which is comparatively simple in its construction, and thoroughly reliable and highly efficient in its purpose.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that the right is reserved to embodiments other than those actually illustrated herein to the full extent indicated by the general meaning of the terms in which the claims are expressed.

In the drawings—

Figure 1 is a plan view of an instrument constructed in accordance with the invention.

Fig. 2 is a longitudinal sectional view therethrough taken approximately on the line 2—2 of Fig. 1 and illustrating respectively in full and dotted lines the extreme positions of the cutting blade.

Fig. 3 is an enlarged fragmentary longitudinal sectional view, with the sheath applied.

Fig. 4 is a cross sectional view taken approximately on the line 4—4 of Fig. 2.

Fig. 5 is a similar view taken approximately on the line 5—5 of Fig. 2.

Fig. 6 is a plan view of the sheath removed.

Fig. 7 is a transverse sectional view taken approximately on the line 7—7 of Fig. 3.

Referring to the drawings by characters of reference, the stock 10 of the instrument consists of an elongated bar provided at one end with a depending hand grip or handle 11 and at its opposite end with a relatively wide head 12 formed with a semi-circular end 13. A marginal flange 14 extends from the juncture of the head at one side of the bar 10 around the semi-circular end to its juncture at the opposite side of the head and the semi-circular portion of said flange is formed with a slot 15. A concentric aperture 16 is provied adjacent the free end of the head which may be beveled and sharpened as at 17 to provide a cutting edge. On the upper face of the head immediately in the rear of the cutting ege 17 a semi-circular

abutment 18 is provided which is formed with a beveled cutting edge 19, the purpose of which will be hereinafter set forth. The stop or bar 10 projects slightly in rear of the handle or hand grip 11 and is formed with a thumb rest 20. The stock or bar 10 is provided with a longitudinal slot 21 extending vertically therethrough. A longitudinally slidable blade 22 is mounted on the stock or bar 10 for longitudinal movement and said blade is bowed vertically from end to end as illustrated whereby its central portion is slightly spaced from the upper face of the stock or bar 10, while its opposite ends contact therewith. A depending threaded stem 23 is provided on the blade 22 and extends through the slot 21. A thumb nut 24 is threadedly engaged on the stem 23 and engages the under side of the stock or bar 10 for the purpose of regulating the frictional resistance of the blade 22 against sliding movement. A manipulating ring or trigger 25 having an internally threaded socket 26 engages over the free lower extremity of the stem 23 and affords means for engagement by the finger for moving the blade 22 longitudinally and relative to the stock 10. The forward free end of the blade 22 is provided with a relatively wider head 27 which is of an appropriate width to snugly fit between the side leads of the flange 14. The head 27 is cut away or apertured as at 28 and one end wall defining said aperture is of semi-circular formation and oppositely beveled as at 29 to the cutting edge 17 of the aperture 16 whereby the said end wall 29 will register and coincide with the opening 16 when the blade is shifted forwardly to the limit of its movement and whereby said outer end portion of the head will be received in the slot 15. The opposite rear extremity of the blade is provided with a suitable means such as a cam 30 which co-operates with the groove 31 in the stock to advance and lock the cutting edge or beveled end wall 29 in close contact with the abutment 18 after the cutting edges 17 and 29 have passed each other during the severing operation.

In use and operation the instrument with the blade 22 advanced forwardly to the limit of its movement is inserted between the pillars, the operator grasping the handle 11 with the index finger inserted in the ring or trigger 25 similar to the manner in which a pistol is held, the tonsil is forced through the aligned apertures in the heads of the stock and blade by pressure with the free hand on the anterior pillar. By pulling with the index finger on the trigger or ring 25 the cutting edge 29 is advanced toward the cutting edge 17 to set up a shearing action for severing the connection between the tonsil and adjacent parts. It will be noted that the cutting edge 29 during the severing or shearing operation is thus moved in a direction from the attached margins of the pillars or from the bottom of the tonsillar fossa towards the free margin of the pillars in order to preclude any likelihood of cutting and injuring the pillars. After the cutting edge 29 has passed the cutting edge 17 the operator manipulates the cam 30 to effect a final advancement of the cutting edge 29 toward the beveled edge 19 of the abutment 18. When the high point of the cam 30 is brought into contact with the groove 31 the edges 29 and 19 are in tight engagement and locked against separation until the cam is manipulated to release the same. The instrument may then be manipulated by the handle 11 without the necessity of the operator exerting a pulling force on the trigger. By manipulating the nut 24 the frictional engagement between the blade and the stock may be regulated to allow for any degree of freeness of movement of the same. The parts or elements of the instrument may be readily disassembled and assembled for the purpose of cleansing and sterilization by removing the ring or trigger 25 and the nut 24.

In order to provide means for adjusting the size of the tonsil receiving apparatus whereby the same will snugly fit each tonsil and retain the same against displacement during the severing operation, a sheath 32 is employed which is substantially of the same size and configuration as the heads 12 and 27 of the stock and blade. The sheath is formed with an aperture 33 of the same size as the apertures in said heads and the same is mounted on the head of the stock for longitudinal movement by virtue of side flanges 34 which embrace and frictionally coact with the sides of the head 12 of the stock to hold the sheath in adjusted position against casual movement. At its forward end the sheath is provided with a downturned bead 35 which constitutes a stop engageable with the forward semi-circular portion of the marginal flange 14, in order to limit rearward sliding movement of the sheath and at the same time register the aperture 33 thereof with the apertures 16 and 28 whereby to obtain the maximum size of said apertures. At its rear end the sheath is provided with a manipulating stem 36 by means of which the operator may effect the longitudinal movement thereof.

It is of course understood that the instrument may be used with or without the sheath as found expedient. In use of the sheath, the same is engaged over the head 12 of the stock as illustrated in Figs. 3 and 7. After the tonsil is forced into the apertures 33, 28 and 16 the operator may press forwardly on the manipulating stem 36 of the sheath to bring the rear edge of the aperture 33 into close contact with the tonsil which will be

gripped between said edge and the forward edges of the apertures 28 and 16. This prevents possible displacement during the severing operation.

I claim:

1. A tonsillotome comprising a stock and a superimposed slidable blade, each of which is formed at one end with an aperture normally in register with each other to receive therethrough the tonsil, said apertures having opposed concaved cutting edges operable upon sliding of the blade on the stock, to pass each other for severing the connection between the capsule and the adjacent parts, and a complementary convexed abutment on the stock disposed in the path of movement of the cutting edge of the blade after its passage beyond the cutting edge of the stock, for arresting the movement of the same and for gripping a portion of the tonsil therebetween to effect its removal.

2. A tonsillotome comprising a stock and a superimposed slidable blade, each of which is formed at one end with an aperture normally in register with each other to receive therethrough the tonsil, said apertures having opposed concaved cutting edges operable upon sliding of the blade on the stock, to pass each other for severing the connection between the capsule and the adjacent parts, a complementary convexed abutment on the stock disposed in the path of movement of the cutting edge of the blade after its passage beyond the cutting edge of the stock, for arresting the movement of the same, and coacting means on the blade and stock for effecting a final advancement, impingement and locking of the blade cutting edge against the abutment.

3. In a tonsillotome, superimposed relatively slidable severing elements, each of which is formed at one end with an aperture which is normally in register with the other to receive therethrough the tonsil, said apertures having opposed concaved cutting edges relatively slidable past one another upon manipulation of the instrument to sever the connection between the tonsil and the pillar, and means for retaining the tonsil in said apertures during the severing operation, said means comprising a sheath having an aperture longitudinally adjustable with respect to the apertured ends of the severing elements.

4. A surgical instrument of the character set forth comprising a stock having a handle at one end and an apertured head at its opposite end, a blade slidably superimposed on the handle having an apertured head at one end, said apertures having beveled arcuate opposed walls constituting coacting cutting edges upon relative movement between the heads of the blade and stock, and means for reducing the size of the apertures when in register and after the reception of the tonsil, comprising a sheath longitudinally movable with respect to the apertured head of the stock, and a means for frictionally maintaining said sheath in its adjusted positions.

JOHN J. GURTOV.