

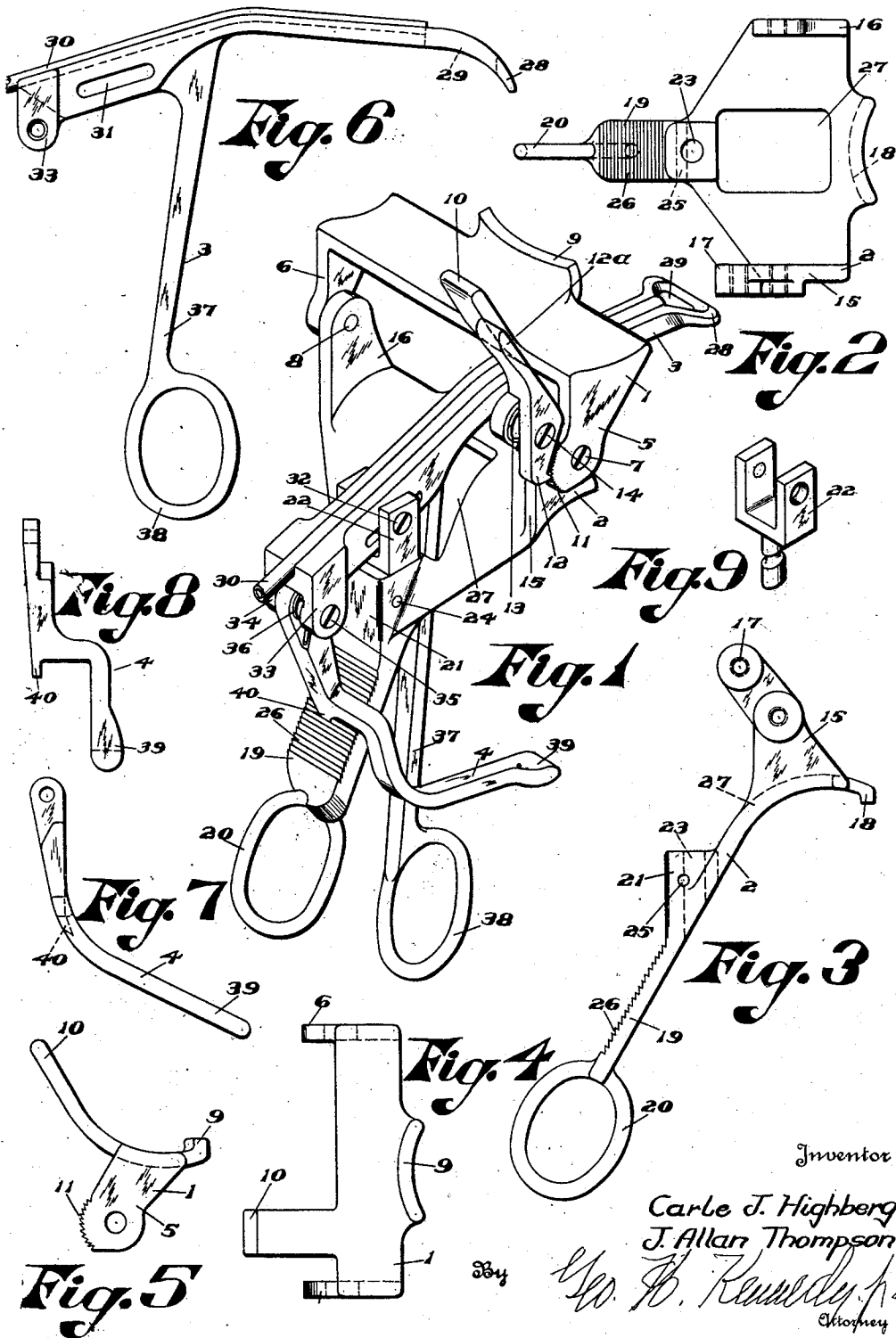
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MOUTH GAG

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UNITED STATES PATENT OFFICE

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MOUTH GAG

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The invention relates to mouth gags and tongue depressors and has for an object to provide a combined gag and tongue depressor in which the mouth gag is readily adjusted to suit the patient's mouth.

Another object is to provide an adjustable tongue depressor that can be adjusted to fit the patient's mouth and is swivelable in order to readily hold down the patient's tongue on either side of the throat.

A further object is to provide a mouth gag and tongue depressor with means whereby an anesthetic can be readily administered, to the patient's throat, by the surgeon operating so that he may have the greatest freedom during the operation.

A still further object is to provide a mouth gag that is simple in construction, yet strong and positive in its functions, and instantly removable from the patient's mouth at any time.

Further objects and advantages will more fully appear from the following detailed description which, taken together with the accompanying drawing, illustrates some embodiments of said invention:—

Fig. 1 is an isometric assembled view of the instrument.

Fig. 2 is a plan view of the lower jaw piece.

Fig. 3 is a side view of the lower jaw piece.

Fig. 4 is a plan view of the upper jaw piece.

Fig. 5 is a side view of the upper jaw piece.

Fig. 6 is a side view of the tongue spatula.

Fig. 7 is a side view of the clamping member.

Fig. 8 is a front view of the clamping member.

Fig. 9 is an isometric view of the bifurcated member 22.

Like reference characters refer to like parts throughout the drawings.

Referring first to Fig. 1, a mouth gag is shown which comprises mainly of upper and lower separating members 1 and 2 respectively and a swivelable tongue depressor or spatula 3, by which the tongue is firmly held in any desired position due to the action of a clamping member 4 forcing said spatula against the tongue.

The upper jaw separating member 1 is a channel shaped piece, having depending sides 5 and 6 which furnish means for holding studs 7 and 8 so that it can be rotatably connected to the lower jaw piece 2. It is further provided with an upwardly extending portion 9 that fits behind the teeth of the patient and prevents the gag from slipping out after being put in place and also is provided with a finger grip 10.

The depending side 5 is shaped so that ratchet teeth 11 may be cut thereon for the reception of a locking pawl 12, having a thumb piece 12^a, which is held in connection with said ratchet teeth by means of a spring 13 and is rotatably mounted on a stud 14, held in the lower jaw piece 2.

The lower jaw separating member 2 has upwardly extending arms 15 and 16 which provide hubs for the reception of the threaded ends of the studs 7 and 8. The arm 15 supporting the locking pawl 12. A downwardly projecting portion 18 is made integral with the lower jaw member which fits behind the teeth in the lower jaw of the patient to prevent the gag from slipping out.

An elongated portion 19 of the lower jaw member, ending in a finger grip 20, provides a boss 21 in which is swivelably mounted a bifurcated member 22, said member having a reduced round portion, not shown, which fits in a hole 23 and is circumferentially grooved for the reception of a pin 24 that is held in a hole 25. It will thus be seen that the member 22 is free to

rotate, but is held from axial movement by means of the pin and groove. Ratchet teeth 26 are cut in the elongated portion 19 for the purpose of forming a purchase for the clamping member 4. An opening 27 is provided in the lower jaw member for the purpose hereinafter described.

The spatula 3 is substantially a long rectangular shaped piece, having an enlarged end 28 provided with an opening 29, said opening being for the purpose of assisting in the holding the spatula from slipping on the tongue after being properly placed, due to the fact that the tongue will bulge upwardly into the opening when pressure is applied. A groove is cut lengthwise of the spatula for the purpose of receiving a small tube 30 which is used to administer anesthetic to the throat of the patient during the operation.

One end of the spatula is widened and an elongated slot 31 is cut therein for the purpose of allowing the spatula to be adjusted according to conditions governed by the depth of the patient's mouth. It will be readily recognized that the distance from a child's lips to its throat will be considerably less than that of a grown person and there are varying conditions among grown people. A screw stud 32 is held by the swivel block 22 and passes through the slot 31 thereby furnishing an axis about which the spatula may swing and slide in order to facilitate the adjustment of said spatula. On the extreme outer end of the spatula two arms 33 and 34 are provided for the reception of a stud 35 on which is hung the clamping member 4 which is kept in engagement with the ratchet teeth 26 by means of a spring 36.

A downwardly projecting portion 37, ending in a finger grip 38, is provided by the spatula to aid in properly placing and adjusting the said spatula to the patient's mouth.

The clamping member 4 has a finger portion 39 to aid in readily placing the spatula in position and clamping it in place. A small tooth shaped detent 40 is provided by the clamping member for engagement with the ratchet teeth 26.

In assembling the gag the swivel block 22 is placed in the hole 23 of the boss 21 on the lower jaw separating member where it is held by the pin 24. The spatula 3 is then placed in the slot of the member 22, by passing the downwardly projecting portion 30 through the opening 27, in the lower jaw member 2, and holding it in position by means of the stud 32.

The upper jaw separating member 1 is then placed over the lower jaw member and is held rotatably thereto by means of the studs 7 and 8.

The method of operating the gag is as follows: The upper and lower jaw separ-

ing members 1 and 2 are placed in the patient's mouth with the upward and downward projections 9 and 18 behind the teeth and the gag is then opened by pressing backward on the thumb piece 10, whereupon the locking pawl 12 will engage the ratchet teeth 11 and hold the instrument open.

The spatula is next adjusted to the proper position on the patient's tongue, the operator drawing the tongue portion 28 of the said spatula down by means of the finger grip 38, the clamping member 4 being forced into contact with the ratchet teeth 26 by means of the spring 36. The tongue portion 28 is held from rising by the combined effect of the clamping member 4 and the pin and slot connection 31 and 32, while the friction of the portion 28 on the tongue due to the downward pressure prevents any movement in a horizontal direction.

When the gag has been properly placed, as outlined above, it provides the operator with the maximum amount of room in which to manipulate his instruments, and owing to the greater freedom with which he can work, said work can be accomplished more efficiently.

As the operation progresses it may become necessary to administer anesthetic to the throat of the patient and this can be done by connecting the tube 30 to a source of supply by means of a rubber tube and a bulb, neither of which are shown as they are well known to any one skilled in the art.

Should the patient show signs of choking during the operation, the operator can quickly remove the gag by simply pressing upward on the locking pawl 12, whereupon the jaw members 1 and 2 immediately close, and at the same time draw the finger portion 38 toward the finger portion 20 and press downward on the finger member 39 of the clamping member 4 which releases the spatula and the gag can be readily removed.

We claim:

1. In a mouth gag, the combination with relatively movable, pivoted jaw separating members, of a thumb piece integral with one of the members to adjust the same, a spring pressed pawl on the lower jaw member, ratchet teeth on the upper jaw member, said pawl and ratchet holding said jaw separating members in adjusted position, a tongue depressor, a pawl and ratchet to hold said tongue depressor in adjusted position and means to administer an anesthetic integral with said tongue depressor.

2. In a mouth gag, the combination with relatively movable jaw separating members, of a tongue depressor having an anesthetic tube integral therewith, means to adjust said tongue depressor, and a pawl and ratchet to hold said tongue depressor in adjusted position.

3. In a mouth gag, the combination with

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| | relatively movable jaw separating members, of a tongue depressor having an open portion in one end thereof and an anesthetic tube integral therewith, swivelable means to adjust said tongue depressor and a pawl and ratchet to hold said depressor in adjusted position. | |
| 5 | 4. In a mouth gag, the combination with relatively movable jaw separating members, a thumb piece to adjust said members, a spring pressed pawl and a ratchet for holding said members in adjusted position, a tongue depressor having an opening in one end thereof and an anesthetic tube integral therewith, swivelable means to adjust said tongue depressor, a spring pressed pawl and a ratchet to hold said depressor in adjusted position and means to release said depressor. | |
| 10 | 5. In a mouth gag, the combination with relatively movable jaw separating members, of means integral with the upper jaw member to adjust said member relative to the lower jaw member, automatic means on lower jaw member to lock said members in adjusted position, a spatula, swivelable means to adjust said spatula in two directions and automatic means to hold said spatula in adjusted position. | 70 |
| 15 | 6. In a mouth gag, the combination with pivotally mounted jaw separating members, of means integral with the upper jaw member to adjust said member relative to the lower jaw member, a spring pressed pawl on the lower jaw member, a ratchet on the upper jaw member, said pawl and ratchet holding said jaw separating members in adjusted position. | 75 |
| 20 | 7. In a mouth gag, the combination with pivotally mounted jaw separating members, of a spatula adjustable in two directions at substantially right angles to each other and means to automatically lock said spatula in adjusted positions. | 80 |
| 25 | 8. In a mouth gag, the combination with relatively movable members, of a tongue depressor having an anesthetic tube integral therewith, means to adjust said spatula in two directions at substantially right angles to each other and automatic means to lock said spatula in adjusted positions. | 85 |
| 30 | 9. In an apparatus of the class described, a pair of pivotally mounted adjustable members, means provided by the lower member to lock the upper member in adjusted position, a spatula having a tube integral therewith, means to adjust said spatula in two directions and means to automatically lock said spatula in adjusted position. | 90 |
| 35 | 10. In an apparatus of the class described a pair of pivotally mounted, adjustable jaw separating members, means to lock said members in adjusted position, a spatula having a tongue portion and an anesthetic tube integral therewith, means to adjust said spatula in two directions, means to auto- | 95 |
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