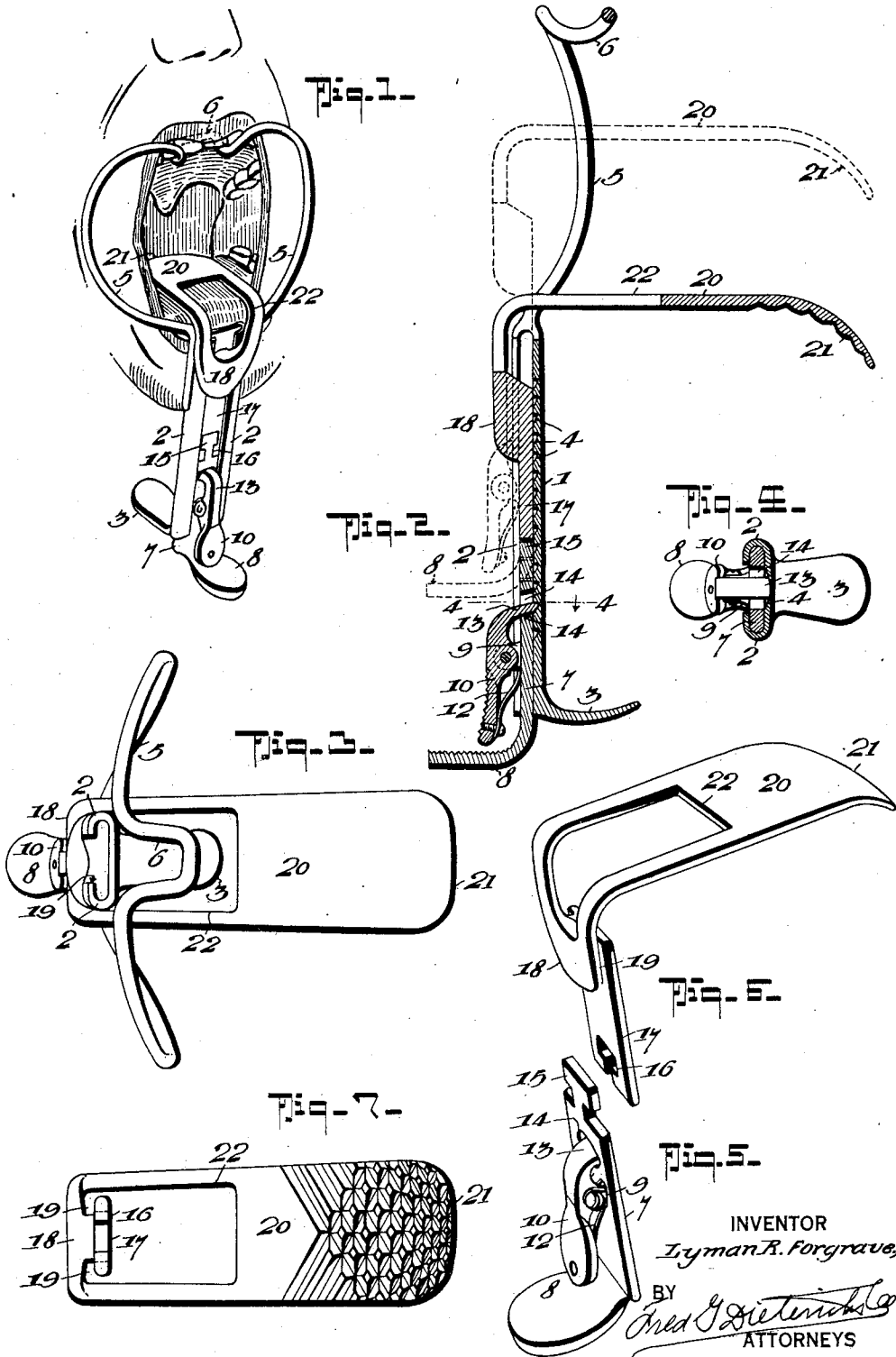


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THROAT AND MOUTH GAG.
APPLICATION FILED APR. 2, 1921.

1,388,421.

Patented Aug. 23, 1921.

2 SHEETS—SHEET 1.



INVENTOR

Lyman R. Forgrave,

BY

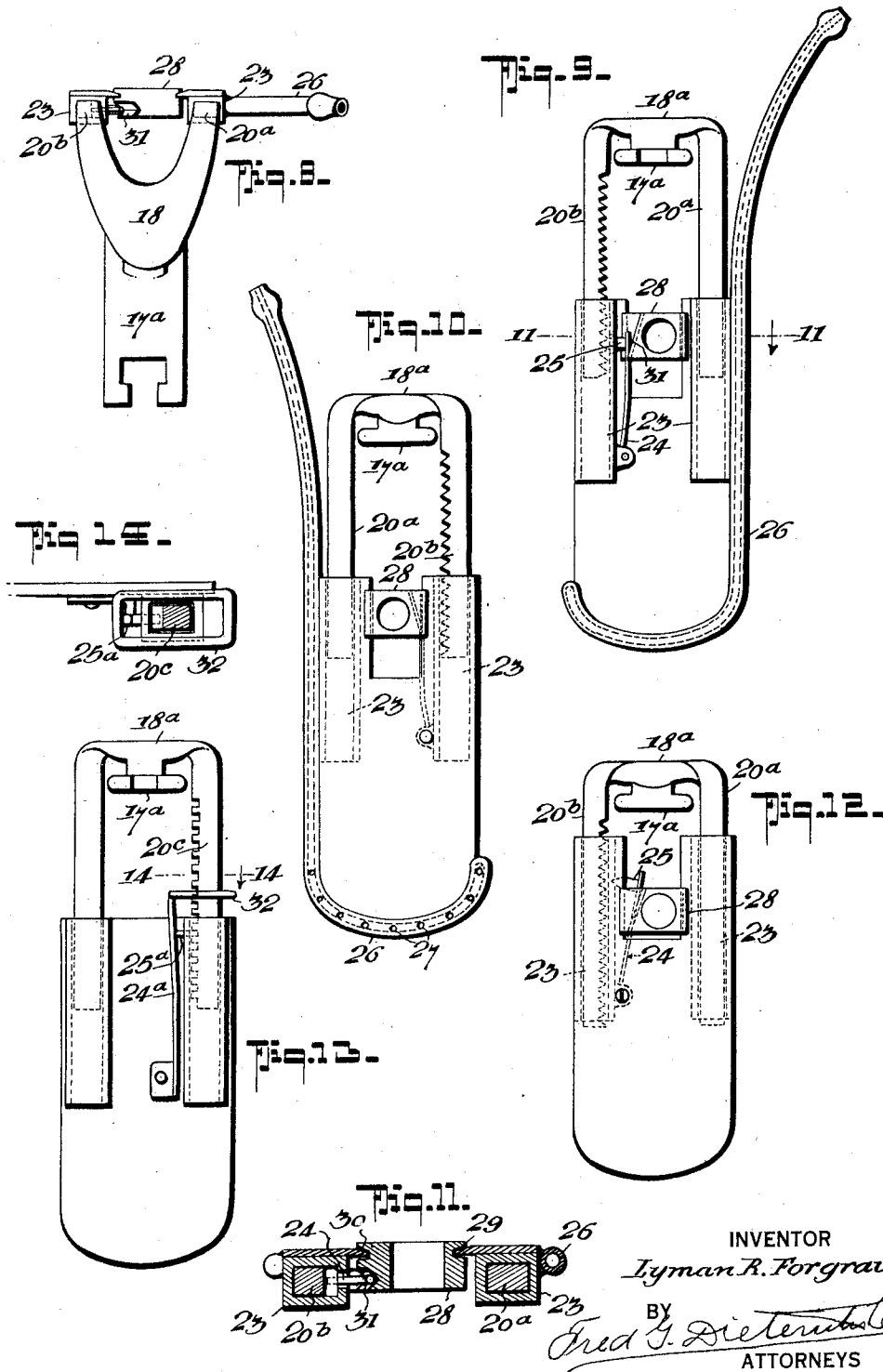
Attorneys

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LYMAN ROBERT FORGRAVE, OF ST. JOSEPH, MISSOURI.

THROAT AND MOUTH GAG.

1,388,421.

Specification of Letters Patent.

Patented Aug. 23, 1921.

Application filed April 2, 1921. Serial No. 458,149.

To all whom it may concern:

Be it known that I, LYMAN R. FORGRAVE, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Throat and Mouth Gags, of which the following is a specification.

My invention relates to certain new and useful improvements in throat and mouth gags used in surgical treatment of the mouth or throat necessitating continuous exposure of the mouth and throat.

My invention primarily has for its object to provide a combined throat and mouth gag and tongue depressor of such construction and arrangement of parts that will enable the instrument to be readily taken apart for cleaning and sterilizing and for the substitution of tongue depressors of varying lengths or the use of an adjustable tongue depressor.

Referring now to the accompanying drawings,

Figure 1 is a perspective view illustrating the invention in use.

Fig. 2 is a longitudinal section of the same.

Fig. 3 is a top plan view thereof.

Fig. 4 is a cross section on the line 4—4 of Fig. 2.

Fig. 5 is a perspective view of the latch slide.

Fig. 6 is a perspective view of the simplest form of tongue depressor forming a part of my invention.

Fig. 7 is an inverted plan view of the tongue depressor shown in Fig. 1.

Fig. 8 is an elevation of a modified form of tongue depressor.

Fig. 9 is a bottom plan view of the same.

Fig. 10 is a top plan view of the same.

Fig. 11 is a cross section on the line 11—11 on Fig. 9.

Fig. 12 is a detail top plan view of another modification of tongue depressor, the anesthetic tube being removed.

Fig. 13 is a detail bottom plan view of a further modification.

Fig. 14 is a cross section on the line 14—14 of Fig. 13.

In the drawings like numerals and letters of reference indicate like parts in all of the figures.

1 represents the shank of the gag which has its side edges curled over to form guides

2—2 for the latch slide 7, the shank 1 having a finger engagement 3 and a loop or frame 5 bent at 6 to receive the teeth of the upper jaw of the patient.

7 is the latch slide which consists of a plate having one end turned up at 8 to form a finger engagement and having the other end provided with a T-member 15 to fit into the T-slot 16 of the plate 17 of the tongue depressor, as will be clear from an inspection of Fig. 1.

The latch slide 7 has ears 9 between which the finger latch 10 is pivoted and held by a spring 12 to have its engaging end 13 project through the hole 14 in the plate 7 so as to engage the ratchet recesses 4 of the shank 1, see Fig. 2.

The tongue depressor, in its simplest form, consists of a plate 17 to slide in the guides 2 and has a T-slot 16 to connect with the T-member 15 of the latch plate or slide 7. It also has a body 20 having a portion projected at right angles at 18 and united to the plate 17 by a web, which leaves grooves 19 to pass over edges of the guides 2.

The free end of the tongue depressor is bent over at 21 to fit over the tongue at the throat or base end and thus aid in drawing the tongue forward to open the throat cavity.

Preferably the tongue depressor body 20 is apertured at 22, see Figs. 6 and 7.

Instead of making the tongue depressor as shown in Figs. 1, 2, 3 and 6, the same may be made as shown in Figs. 9 *et seq.*

By referring to Figs. 9, 10 and 11, it will be seen that the tongue depressor there shown is of the extensible form and consists of the plate 18^a and a slide plate 17^a, arms 20^a and 20^b projecting from the plate 18^a at right angles thereto and fitting into the guides 23 of the plate 21^a, which engages the tongue at the base or back part thereof.

The arms 20^a and 20^b are preferably substantially rectangular in cross section as are also the guides 23 which receive them and one of the arms (20^b) is serrated or provided with a ratchet face to cooperate with the latch 25 that is normally held out of engagement by a leaf spring 24 but is adapted to be pressed into engagement by a slide 28 which has its sides tongue and groove fitted at 29—30 in a recess in the plate 21 so as to be slidable therein and has a grooved incline portion 31 to engage the spring 24 and push the latch 25 into engagement with the

ratchet teeth and hold the plate 21^a in proper position with respect to the arms 20^a—20^b.

In this way, the tongue depressor can be lengthened or shortened, as desired.

5 If desired, the plate 21^a may have secured thereto, in any desired way, a tube 26 having discharge apertures 27 through which tube anesthetic may be administered to the patient.

10 In Fig. 12, I have shown substantially the same construction as is shown in Fig. 10 except that the anesthetic tube is omitted showing that its use in connection with the tongue depressor may be optional.

15 Instead of providing a slide 28 for moving the latch 25 into engagement, one of the arms of the tongue depressor (20^c) may be provided with teeth, as shown in Fig. 13, to be engaged by a spring pressed pawl 25^a which is normally held in engagement by a
20 leaf spring 24^a and is adapted to be moved out of engagement by a slotted guide 32 toward the central line of the tongue depressor.

25 It will be seen that by my construction of tongue depressor, the distinct advantage of enabling the user to have sufficient space for the manipulation of any instrument necessarily used for any surgical treatment for
30 mouth or throat (especially the use of the instrument known as the adenotome) is provided.

Again, the simple construction of the instrument allows of thorough sterilization
35 and prolongs its life and durability.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction and advantages of the invention will be
40 clear to those skilled in the art to which it appertains.

What I claim is:

1. A throat and mouth gag comprising a shank having a slideway provided with a
45 ratchet surface, a latch slide plate operable in said slideway, a tongue depressor having a slide plate slidable in said slideway, said slide plates having separable engaging elements held together by the said slideway,
50 when said slide plates are both in the slideway, a latch carried by said latch slide plate to cooperate with said ratchet surface and a loop carried by the shank and having provisions to lie under the upper jaw of the
55 patient.

2. In throat and mouth gags, a shank having a slideway, a loop secured to one end of said shank and having provision to lie under the upper jaw of the patient and having
60 a finger piece at the other end, a tongue depressor comprising a tongue engaging body and a slide plate held at approximate right angles to said body to lie in said slideway, a latch slide plate held in said slideway, said slide plates having interconnect-
65 way, said slide plates having interconnect-

ing portions held against separation by the slideway, a latch on said latch slide plate, said shank having provisions cooperating with said latch to hold said tongue depressor down substantially as shown and described. 70

3. In throat and mouth gags, a shank having a slideway, a loop secured to one end of said shank and having provision to lie under the upper jaw of the patient and having
75 a finger piece at the other end, a tongue depressor comprising a tongue engaging body and a slide plate held at approximate right angles to said body to lie in said slideway, a latch slide plate held in said slideway, said slide plates having interconnecting
80 portions held against separation by the slideway, a latch on said latch slide plate, said shank having provisions cooperating with said latch to hold said tongue depressor down, and an anesthetic delivery tube
85 carried by said tongue depressor and having provisions to deliver the anesthetic to the throat of the patient.

4. In throat and mouth gags, a shank having a slideway, a loop secured to one
90 end of said shank and having provision to lie under the upper jaw of the patient and having a finger piece at the other end, a tongue depressor comprising a tongue engaging body and a slide plate held at ap-
95 proximate right angles to said body to lie in said slideway, a latch slide plate held in said slideway, said slide plates having interconnecting portions held against separation by the slideway, a latch on said latch
100 slide plate, said shank having provisions cooperating with said latch to hold said tongue depressor down, said tongue engaging body of said tongue depressor comprising sections extensibly connected together
105 and means to hold said sections against movement relatively one to the other.

5. In throat and mouth gags, a shank having a slideway, a loop secured to one
110 end of said shank and having provision to lie under the upper jaw of the patient and having a finger piece at the other end, a tongue depressor comprising a tongue engaging body and a slide plate held at ap-
115 proximate right angles to said body to lie in said slideway, a latch slide plate held in said slideway, said slide plates having interconnecting portions held against separation by the slideway, a latch on said latch slide
120 plate, said shank having provisions cooperating with said latch to hold said tongue depressor down, said tongue engaging body of said tongue depressor comprising sections extensibly connected together, means
130 to hold said sections against movement relatively one to the other, and an anesthetic delivery tube carried by said tongue depressor and having provisions to deliver anesthetic to the throat of the patient.

6. In throat and mouth gags, a shank 130

having a slideway, a loop secured to one end of said shank and having provision to lie under the upper jaw of the patient and having a finger piece at the other end, a
5 tongue depressor comprising a tongue engaging body and a slide plate held at approximate right angles to said body to lie in said slideway, a latch slide plate held in said slideway, said slide plates having inter-
10 connecting portions held against separation by the slideway, a latch on said latch slide plate, said shank having provisions coöperating with said latch to hold said tongue depressor down, said tongue engaging body of said tongue depressor comprising sec- 15
tions extensibly connected together and means to hold said sections against movement relatively one to the other, said last
named means comprising a ratchet member carried by one of said sections and a 20
pawl carried by the other section, and means coöperative with said pawl for causing the pawl to coöperate with said ratchet member to hold the sections in position relatively one to the other.

LYMAN ROBERT FORGRAVE.