

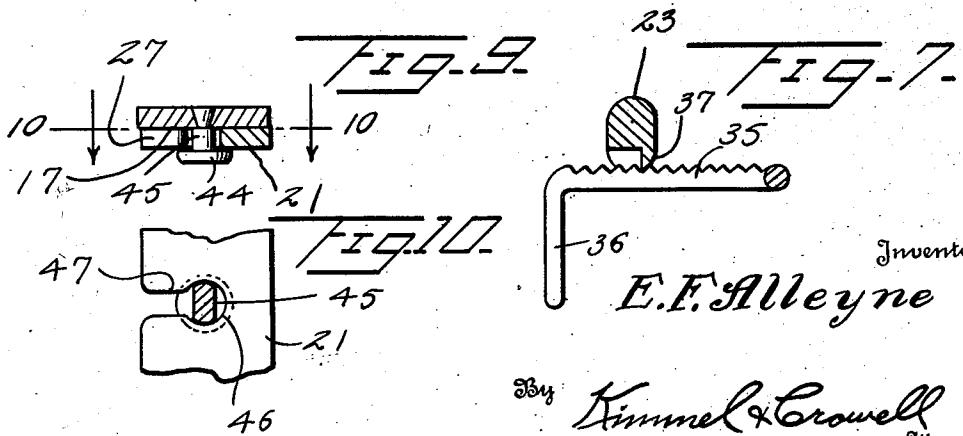
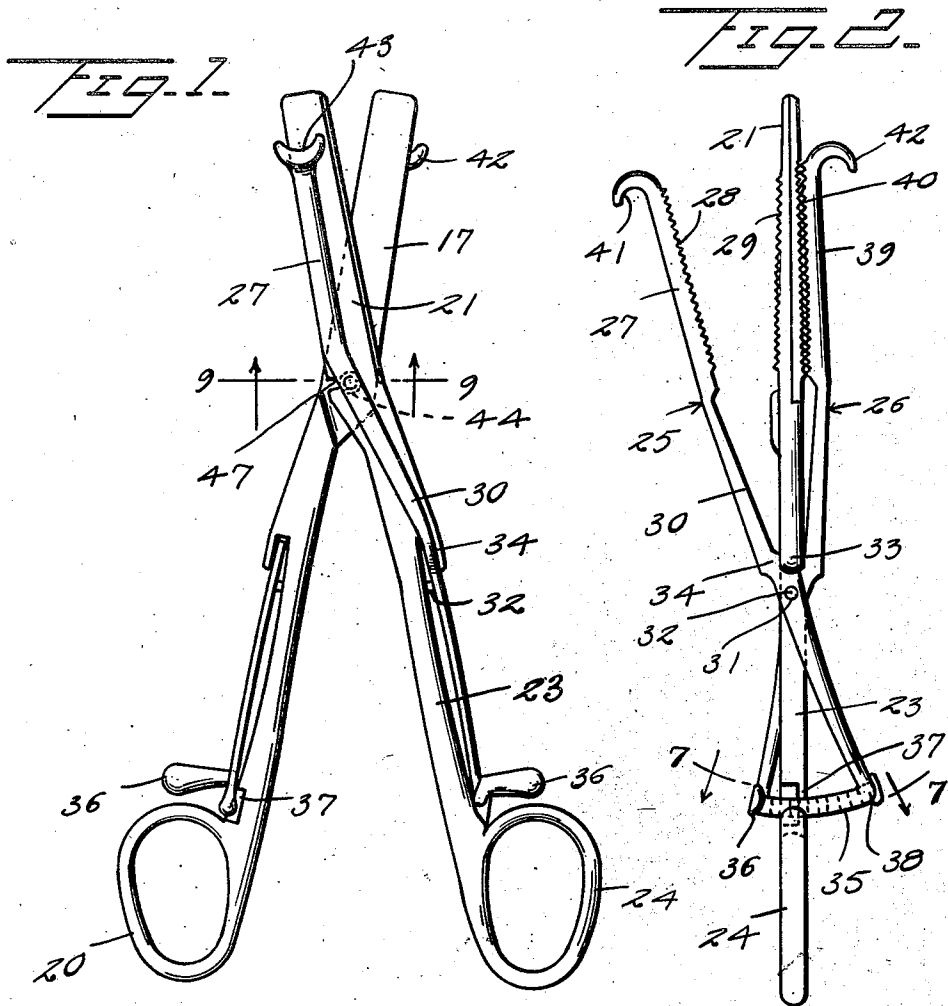
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E. F. ALLEYNE
OBSTETRICAL INSTRUMENT

2,323,183

Filed Sept. 2, 1942

3 Sheets-Sheet 1



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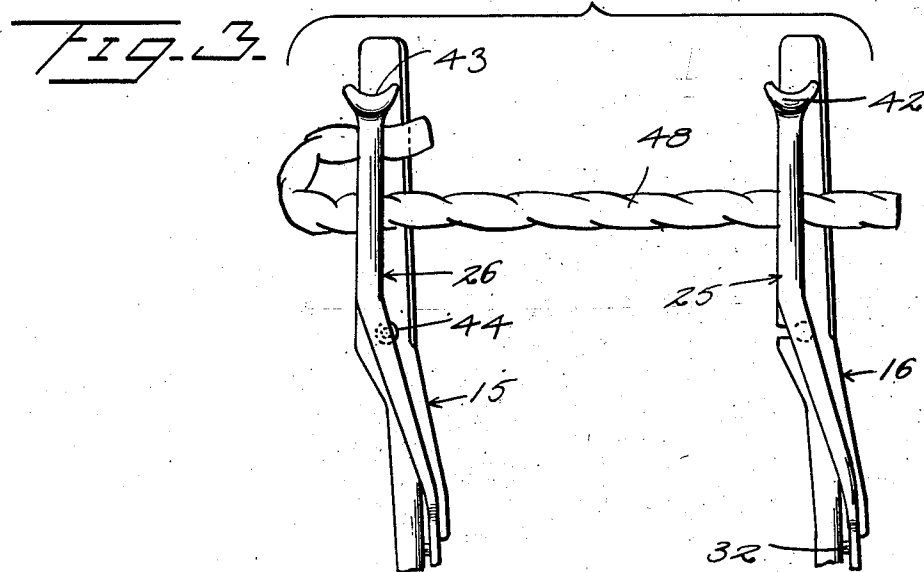
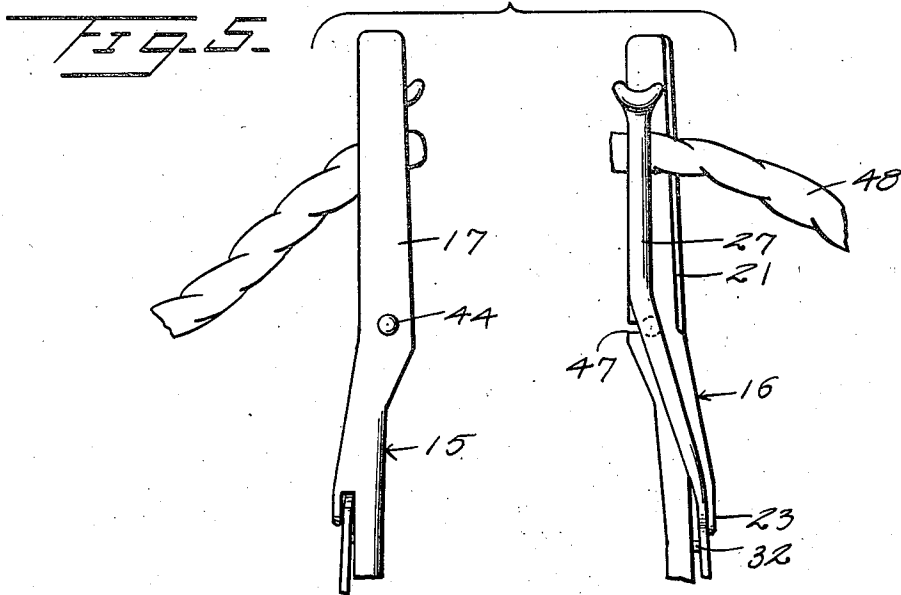
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OBSTETRICAL INSTRUMENT

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3 Sheets-Sheet 2



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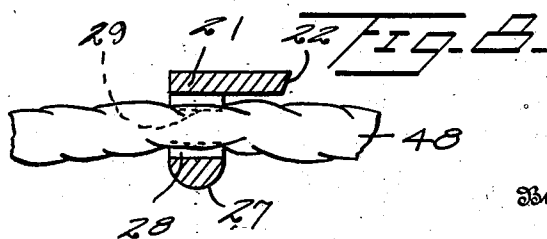
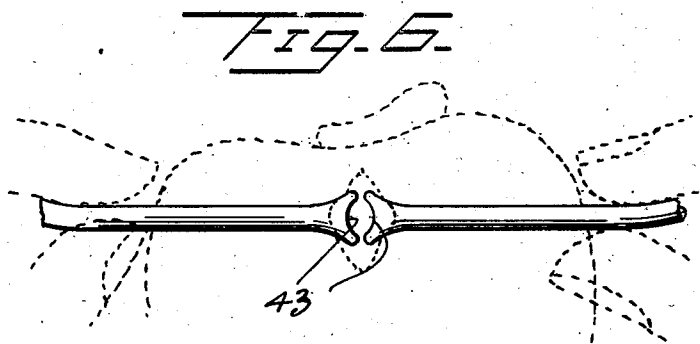
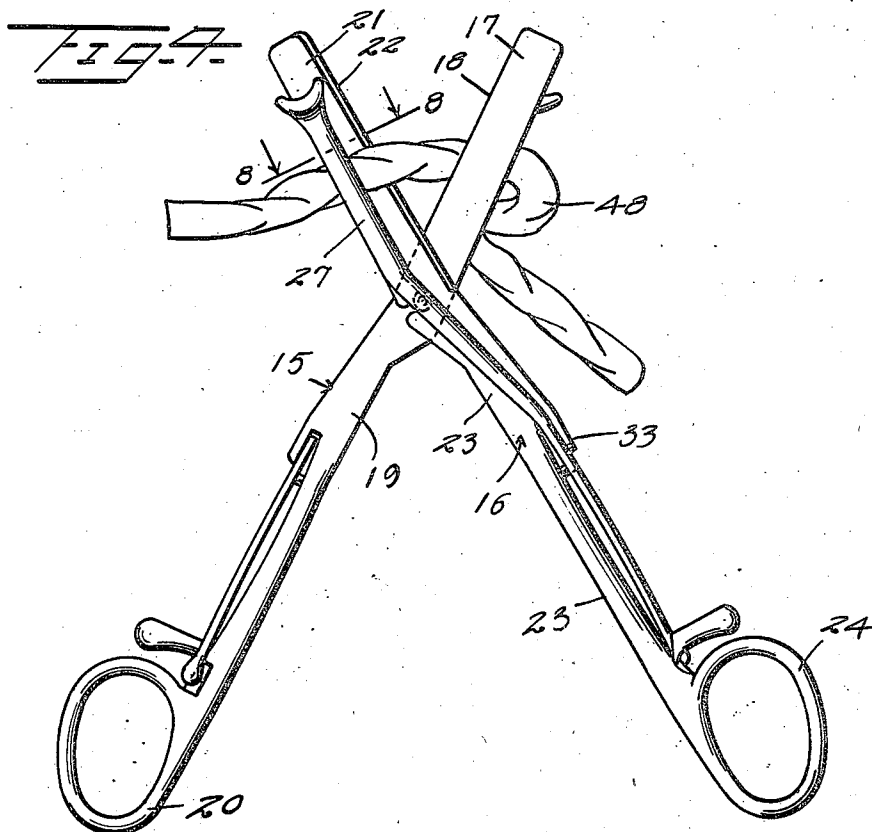
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OBSTETRICAL INSTRUMENT

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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OBSTETRICAL INSTRUMENT

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10 Claims. (Cl. 128—361)

This invention relates to surgical instruments, and particularly to an instrument for use in obstetrics.

An object of this invention is to provide a single instrument which is designed for use by a physician during the birth of a child which is so constructed as to eliminate the possibility of excessive bleeding.

Another object of this invention is to provide a separable instrument in the form of a pair of scissors and a cord clamping member carried by each blade thereof, the blades of the scissors being separable so that initially the blades may be separated and the two clamping members may be individually clamped onto the umbilical cord in spaced apart relation, the scissors then reassembled in a manner to position the umbilical cord between the cutting edges of the blades, and after severance of the cord the blades may again be separated with the clamping members in clamping position, one on the placenta end of the cord and the other on the fetal end thereof.

A further object of this invention is to provide an eyelid retractor on the outer ends of the cord clamping members so that after the fetal end of the cord has been disposed of and the placenta discharged, the clamping members may be separated from the scissor blades and used for retraction of the eyelids.

A further object of this invention is to provide an instrument of this kind which can be readily sterilized and will provide a separable compact combination instrument for performing the normal operations attendant upon the birth of a child.

A further object of this invention is to provide a suitable needle holder in event of a perineal laceration during the birth of the child. With the scissors and clamping members assembled, a curved cutting needle is placed between the upper ends of the clamping members just below either lid retractor and clamped at right angles to it.

With the foregoing objects and others in view which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawings wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications of the invention may be resorted to which fall within the scope of the claims.

In the drawings:

Figure 1 is a plan view of a surgical instru-

ment constructed according to an embodiment of this invention.

Figure 2 is a detail side elevation of the instrument with one of the clamping members in released position,

Figure 3 is a fragmentary plan view of the instrument in separated position showing the initial step in the use of the instrument,

Figure 4 is a plan view of the instrument in assembled position with the clamped element in position for cutting thereof,

Figure 5 is a plan view, broken away, of the instrument separated and with the clamped element cut and gripped by the clamping members,

Figure 6 is a plan view of the eyelid retractors carried by the outer ends of the clamping members,

Figure 7 is a sectional view taken on the line 7—7 of Figure 2,

Figure 8 is a sectional view taken on the line 8—8 of Figure 4,

Figure 9 is a sectional view taken on the line 9—9 of Figure 1, and

Figure 10 is a sectional view taken on the line 10—10 of Figure 9.

Referring to the drawings, the numerals 15 and 16 designate generally a pair of scissor elements which are of like construction with the exception of the pivot means as will be hereinafter described. The scissor elements include a cutting blade 17 having a keen edge 18 and an elongated handle 19 which is integral with the inner end portion of the blade 17. The handle 19 at its inner or rear end terminates in an eye or closed loop 20 within which a finger or thumb is adapted to engage. The scissor element 16 is similar to the element 15 and includes an outer blade 21 having a keen edge 23 correlated with the keen edge 18 for cutting a member engaging between the two keen edges. The blade 21 has formed integral with the inner end portion thereof an elongated handle 23 terminating at its inner end in an eye or loop 24.

The blades 17 and 21 have separably mounted thereon pivoted clamping members, generally designated as 25 and 26. The clamping members 25 and 26 are of like construction and each includes an outer clamping member 27 formed with a serrated clamping face 28 confronting a serrated clamping face 29 which is formed on and carried by the outer side of the blade 21. The clamping member or jaw 27 has formed integral therewith an elongated lever 30 which is formed intermediate the ends thereof with an opening 31 within which a pivot pin 32 carried by the

handle 23 is adapted to engage. The handle 23 at a point spaced outwardly from the pivot pin 32 has an outwardly offset and longitudinally extending lever retaining lug 33 which extends inwardly or rearwardly in the direction of the pivot pin 32 and engages over an offset portion 34 which is formed on the lever 30.

The lug 33 is adapted to retain the lever 30 on the pin 32 when the clamping element 25 is in a position for swinging movement toward the clamping jaw 29 formed on the blade 21. The lever 30 at its inner or rear end is formed with an arcuate toothed ratchet 35 which terminates in a laterally extending handle 36. The ratchet 35 is adapted to engage a tooth 37 which is formed on the handle 23 in a position confronting the teeth of the ratchet 35 so that the clamping element 25 may be adjustably held in either clamping or released position. The tooth 37 is disposed closely adjacent the eye 24 so that the handle 36 may be easily manipulated to thereby swing the clamping element 25 to a clamping position.

The handle 36 is provided to permit release and swinging movement of the clamping element 25. The clamping element 25 is adapted to be swung towards a clamping position by engagement of a finger with an enlargement 38 which is formed at the junction between the inner or rear end of the lever 30 and the adjacent end of the ratchet 35. The clamping element 26 is similar in every detail to the clamping element 25, but is in a reverse position for clamping engagement of the clamping jaw 39 thereof against the serrated clamping jaw 40 which is carried by the blade 17. The outer end of the clamping jaw 27 has formed integral therewith a hook-shaped eyelid retractor 41, and the outer end of the clamping jaw 39 has formed integral therewith a hook-shaped lid retractor 42. The outer sides of the two retractors 41 and 42 are formed with a convex surface 43 so that when the two retractors 41 and 42 are in lid engaging position, as shown in Figure 6, the two concave surfaces 43 will be in confronting position and form a guide for placing a suitable liquid or the like on the eye of the infant.

The two scissor elements 15 and 16 are separably connected together by means of a headed pivot pin 44 which is mounted on the inner end of the blade 17. The pivot pin 44 is provided with a pair of opposed flat surfaces 45 and the inner portion of the blade 21 is formed with a round opening 46 within which the shank of the pivot pin 44 is adapted to engage. The blade 21 is also formed with a laterally extending slot 47 opening through the adjacent or other edge of the blade 21 so that when the blade 21 is rocked to a position where the flat sides 45 of the shank of the pivot member 44 are parallel with the sides of the slot 47, the two scissor elements 15 and 16 may be readily pulled apart with the shank of the pivot member 44 sliding through the slot 47.

In the use and operation of this instrument, the instrument is initially separated as shown in Figure 3 and the clamping elements 25 and 26 are moved to an open or released position, and then engaged with the umbilical cord 48. The two scissor elements 15 and 16 are disposed in a spaced apart relation, as shown in Figure 3 and when the cord 48 has been clamped between the clamping members 25 and 26, the scissor elements 15 and 16 are assembled as shown in Figure 4.

In assembling the scissor construction, the cord 48 is arranged so that it will be positioned between the keen edges 18 and 22 of the blades 17 and 21. The cord 48 is then cut off by the blades 17 and 21, whereupon the scissor elements 15 and 16 are again separated as shown in Figure 5. It will be noted that the ends of the cord 48 which are cut by the blades 17 and 21 are firmly gripped by the gripping or clamping members 25 and 26. The clamping member which is engaged with the cut end of the umbilical cord 48 connected with the placenta may be left in a clamping position until the placenta has been discharged. The clamping element which is clamped to the fetal end of the umbilical cord may be left in the clamping position until the fetal end of the cord has been tied or otherwise treated so as to prevent bleeding upon release of the clamping element engaged with this end of the cord 48.

After the umbilical cord has been cut and released from the clamping element, the respective clamping elements 25 and 26 may be detached from the scissor elements 15 and 16 by swinging the clamping elements to a position disengaged from the overlapping holding lug 33. The eyelid retractors 41 and 42 may then be engaged with the eyelids as shown in Figure 6 and the desired medicine or liquid dropped into the eye between the confronting concave guide surfaces 43.

With an instrument of this kind, a physician need only use a single instrument during the normal birth of a child and the danger of fatal bleeding when the umbilical cord has been cut is reduced to a minimum, if not entirely eliminated.

This instrument may also be used as a curved needle holder in the event of a perineal laceration during the birth of the child. The curved needle is inserted between a pair of clamping jaws, such as jaws 28 and 29, and positioned at right angles to the length of these jaws. The gripped needle may then be used in the usual manner to perform the necessary stitching.

What I claim is:

1. A surgical instrument comprising a pair of scissor blades, means detachably connecting said blades together, a lever integral with each blade, a pivoted clamping member for each blade, confronting serrated clamping surfaces carried by said blades and said clamping members, and correlated means carried by said clamping members and said levers for releasably locking said members in clamped position.

2. A surgical instrument, a scissor member formed of a pair of separable blade members pivotally secured together, a clamping member pivotally carried by each blade member, the axes of said clamping members being disposed at right angles with respect to the axis of said blade members, and correlated means carried by said blade members and said clamping members for releasably locking the latter in clamping position.

3. A surgical instrument comprising a scissor element including separable combined blade and handle members, a clamping member pivotally carried by each blade and handle member, confronting clamping surfaces carried by said clamping member and combined blade and handle member and means releasably locking said clamping member in clamping position with respect to a blade and handle member.

4. A surgical instrument comprising a scissor element including separable blade members, elongated handles integral with said members, a

clamping member for each blade member, means pivotally and separably mounting a clamping member on a blade member, a toothed ratchet carried by each clamping member, and a tooth carried by each handle engaging said ratchet for holding a clamping member in adjusted position with respect to a correlated blade member.

5. In combination a scissor element formed of a pair of separable blade members, a clamping member extending lengthwise of each blade member, a pivot pin fixed on each blade member for each clamping member, a holding lug carried by said blade member for retaining said clamping member on said pivot pin, and correlated locking means carried by said blade and clamping members for releasably locking said clamping member relative to said blade member.

6. In combination a scissor element formed of a pair of blade members, a headed pivot pin fixed to one of said members and formed with a shank having a pair of flat faces, the other of said members being formed with a round opening to receive said pin and a slot extending from said opening to the adjacent edge of said other member, a pair of elongated clamping members pivotally mounted one on each blade member, confronting serrations carried by said clamping and blade members, and correlated locking means carried by said blade and clamping members for releasably locking said clamping members relative to said blade members.

7. In combination a combined cutting and clamping structure comprising a pair of pivoted cutting members, elongated handles extending lengthwise from said members, each cutting member including a clamping jaw integrally formed thereon, a pivoted clamping jaw for each cutting member and correlated with said first clamping jaw, an elongated handle for each pivoted clamping jaw, said second handles extending lengthwise of said first handles, and correlated releasable locking means carried by said first and second handles for holding said jaws in adjusted position.

8. In combination a combined cutting and clamping structure comprising a pair of pivoted cutting members, elongated handles extending lengthwise from said members, each cutting member including a clamping jaw integrally formed thereon, a pivoted clamping jaw for each cutting member and correlated with said first clamping jaw, an elongated handle for each pivoted clamping jaw, said second handles extending lengthwise of said first handles, and correlated releasable locking means carried by said first and second handles for holding said jaws in adjusted position, said second handles being resilient and longitudinally bowed whereby to resiliently maintain said locking means in adjusted position.

9. In combination a combined cutting and clamping structure comprising a pair of pivoted cutting members, elongated handles extending lengthwise from said members, each cutting member including a clamping jaw integrally formed thereon, a pivoted clamping jaw for each cutting member and correlated with said first clamping jaw, an elongated handle for each pivoted clamping jaw, said second handles extending lengthwise of said first handles, and correlated releasable locking means carried by said first and second handles for holding said jaws in adjusted position, said second handles being resilient and longitudinally bowed to thereby resiliently maintain said locking means in adjusted position, and the locking means carried by said second handles including a laterally extending arcuate toothed member terminating in an angularly disposed finger piece.

10. A surgical instrument, a scissor member formed of a pair of separable blade members pivotally secured together, a clamping member pivotally carried by each blade member, the axes of said clamping members being disposed at right angles with respect to the axis of said blade members, correlated means carried by said blade members and said clamping members for releasably locking the latter in clamping position.

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