

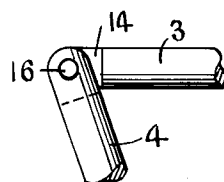
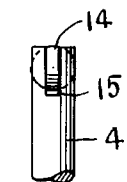
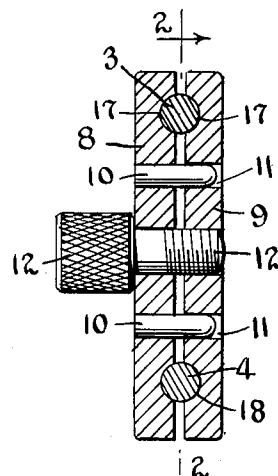
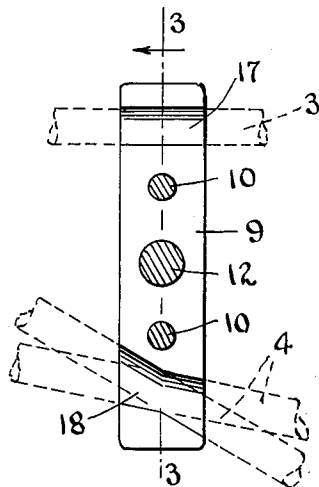
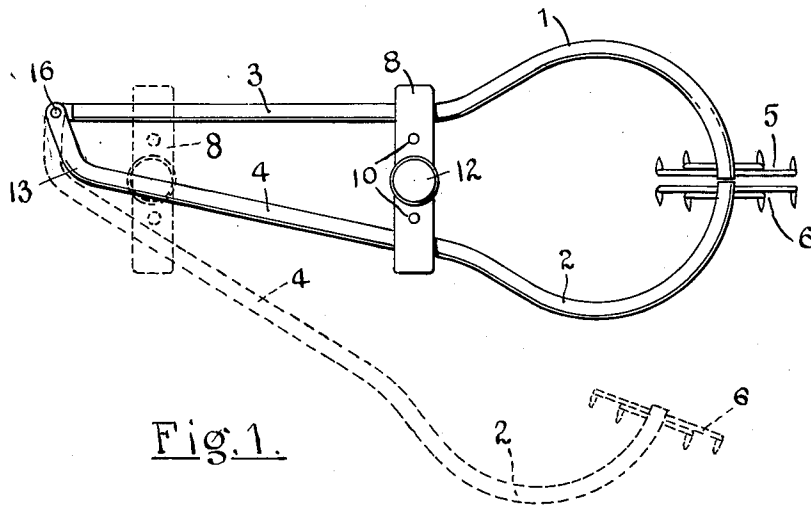
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2,717,592

PIVOTED SURGICAL RETRACTOR

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2,717,592

PIVOTED SURGICAL RETRACTOR

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2 Claims. (Cl. 128—17)

This invention relates to surgical instruments of the type commonly known as retractors which are for the purpose of holding open an incision in the flesh during operation.

The device is in the nature of a pair of jaws having teeth which grasp the flesh at the sides of the incision and the jaws may be opened the desired distance and firmly clamped so that the incision is held open as long as desired.

The retractor is simple in construction and of light weight so that it will not hang heavy to distort the flesh. The parts are few in number and may be easily disassembled for cleaning which is always important in surgical instruments.

The invention is hereafter more fully described, reference being had to the accompanying drawings in which:

Fig. 1 is a plan view of a retractor embodying the invention, one of the jaws being shown open in dotted lines,

Fig. 2 is an enlarged sectional view of the sliding clamp on the line 2—2 of Fig. 3,

Fig. 3 is a sectional elevation of the sliding clamp on the line 3—3 of Fig. 2,

Fig. 4 is an enlarged fragmentary view of the jaw pivot and

Fig. 5 is an enlarged fragmentary side view of the jaw pivot.

Like reference numbers refer to like parts in all of the figures.

The retractor comprises a pair of jaws 1 and 2 each having a straight arm 3 and 4 which are pivotally connected together at their ends. The free ends of the jaws are provided with teeth 5 and 6 which grip the flesh at the sides of the incision.

A sliding clamp has a cam action on the arms 3 and 4 and spreads the jaws 1 and 2 and holds them firmly in the desired position. The clamp comprises upper and lower bars 8 and 9, the ends of which embrace the respective arms 1 and 2. One of the bars 8 has two projecting round nosed studs 10 which enter holes 11 in the other bar 9 to properly align the bars relative to each other and a knurled headed clamping screw 12 passes through a hole in the bar 8 and is screwed into a threaded hole in the bar 9.

The arms 3 and 4 are arranged in inclined relation to each other and the arm 4 is bent at 13 near its end where it approaches the arm 3 to which it is pivoted. The end of one arm 3 is flattened at 14 and the end of the other arm 4 is slotted at 15 to receive the flattened portion and a pivot pin 16 passes through both parts. This provides a simple pivot construction with no projections and which is easy to clean.

The inner surfaces of the bars 8 and 9 near the ends which straddle the arm 3 are provided with straight grooves 17 to receive the arm 3. The inner faces of the other ends of the bars 8 and 9 which embrace the arm

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4 are also provided with grooves 18 to receive the arm 4 but since this arm 4 changes its angularity in different positions of the clamping bars 8 and 9, the grooves 18 must be shaped to receive the arm 4 in any position it assumes in its different positions of adjustment. The shape of these grooves is preferably the size of the cross section of the arm 4 at the longitudinal center of the bar and the groove tapers outwardly from the center toward both side edges of the bar.

In use, the jaws 1 and 2 are closed with the clamping bars 8 and 9 slid on the arms 3 and 4 away from the pivot 16. The teeth 5 and 6 are inserted in the incision in the flesh and the jaws are then opened as far as necessary to open the incision as desired. This opening of the jaws is accomplished by sliding the clamp, with the clamping screw 12 released, toward the pivot 16. In this movement, the bars 8 and 9 move smoothly with their grooves 17 embracing the arm 3 and the tapered grooves 18 at the other ends of the bars exert a cam action on the arm 4, which is inclined to the arm 3, causing it to swing away from the arm 3 and open the jaws 1 and 2. When the jaws have been opened, the desired distance the clamping screw 12 is tightened forcing the bars 8 and 9 toward each other and firmly gripping the arms 3 and 4 holding them rigidly in the set position.

Closing of the jaws is done by reversal of the above movements and when the retractor is removed from the incision the clamping screw is completely unscrewed from the bar 9 and the bars separated and when thus disassembled, the parts may be easily and thoroughly sterilized.

The parts are light in weight so that in use and when released from the hand of the operator, it will not hang heavy on the flesh. The shapes of the arms and jaws provide wide clearance for operation in the incision and the retractor is easy to handle by the surgeon.

The invention is defined by the appended claims which are to be considered comprehensive of all forms coming within their scope.

I claim:

1. A pivoted surgical retractor comprising two arcuate jaws each having an arm extending therefrom, said arms being movably joined together at their ends remote from the jaws and being inclined relative to each other and a sliding clamp embracing said arms at its respective ends, said clamp being slidable on said arms and having releasable means for rigidly clamping upon said arms in adjusted positions, said sliding clamp comprising two separable bars slidably embracing at their respective ends said arms, said bars having on their inner surfaces inwardly facing grooves to receive said arms, means on the bars for aligning said bars relative to each other and a removable set screw interengaging said bars and acting to clamp the bars upon the arms, whereby moving the clamp upon the bars varies the distance between the jaws.

2. The elements of claim 1 in which the grooves which embrace one arm are straight and have a diameter substantially the same as that of the arm which they embrace and the grooves which embrace the other arm have portions wider than the arm they embrace, whereby the angular position of the arm is accommodated.

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