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J. GMEINER

2,315,326

SURGICAL INSTRUMENT

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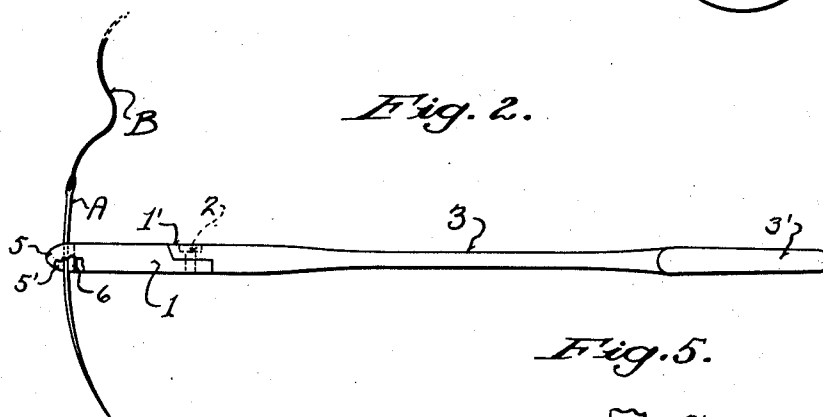
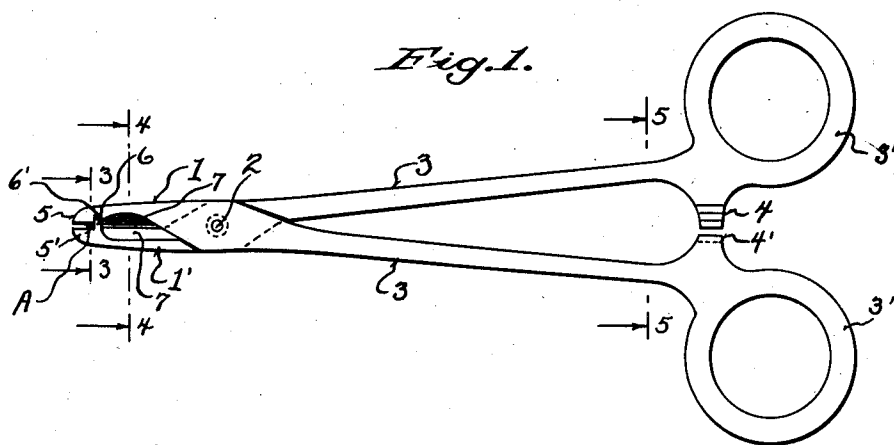


Fig. 5.

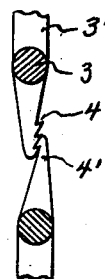


Fig. 3.

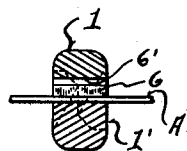
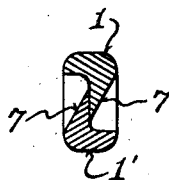


Fig. 4.



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SURGICAL INSTRUMENT

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1 Claim. (Cl. 128—340)

My invention refers to surgical instruments, and more particularly to an instrument which can be used for suturing cuts or wounds, and which is adapted to guide the needle and thereafter sever the thread between stitches.

Briefly, the instrument speeds up the work of the surgeon and eliminates assistance which is usually required in such cases.

A specific object of my invention is to provide a pair of hingedly connected jaws having end teeth for gripping a needle and a guide or stop therefor, together with a pair of longitudinally positioned shearing blades between the stop and jaw pivot in conjunction with a pair of handles preferably made of spring metal, terminating with a lock mechanism and loops for the fingers.

With the above objects in view, the invention consists in certain peculiarities of construction and combination of parts, as will be hereinafter set forth with reference to the accompanying drawing and subsequently claimed.

In the drawing:

Figure 1 represents a side elevational view of a surgical instrument embodying the features of my invention.

Figure 2 is a plan view of the same, with parts broken away to more clearly illustrate structural features.

Figure 3 is a magnified cross section through the end gripping teeth, the section being indicated by the line 3—3 of Figure 1.

Figure 4 is a magnified similar cross section through the jaw blades, the section being indicated by the line 4—4 of Figure 1.

Figure 5 is a magnified sectional elevation illustrating one means of locking the arms at selective distances.

Referring by characters to the drawing, the numerals 1 and 1' indicate jaws connected by a pivot 2, and the said jaws beyond the pivot have extended therefrom arms 3, 3', which are preferably formed from spring metal. The said arms terminate with finger loops 3', and one of said arms has a depending lug 4 provided with a plurality of teeth, while the other arm has a similar lug 4' terminating with a single locking tooth for engagement with a series of previously mentioned locking teeth.

It is understood that this particular lock, which is adjustable, is common practice and forms no part of my invention, but I wish it to be used in conjunction with the combination scissors and needle-holding jaws as I have originated the latter combination.

The ends of the jaws 1 and 1' terminate with

gripping teeth 5 and 5' for the reception of any type of needle A provided with a suture or thread B, as best shown in Figure 2 of the drawing.

The needle is guided and alined by a stop block 6, which extends upwardly from the lower jaw 1' formed with transversely disposed vertical thread stop faces. The stop block is adapted to mesh with a recess 6' formed in the opposite jaw 1.

Rearwardly of the teeth 5, 5', I provide the jaws with longitudinally disposed suture cutting blades 7, which blades are disposed between the stop block and the pivot 2 of the jaws.

It will be noted that the rear vertical face of the block 6 has merged therein the lower blade 7, with its cutting edge below the top surface of said block, whereby a corner is developed for the reception of the thread or suture, when it is desired to snip the same. Thus, this corner prevents said thread from slipping off the nose of the jaws when pulled taut. Attention is directed to the fact that the knives are centrally disposed with reference to the jaws and spaced a distance from the outer walls of the cheek pieces of said jaws whereby the cheek pieces, when laid upon the stitched wound will serve as gages for the length of cut of the threads which were previously knotted.

From the foregoing description it will be observed that in an operation the surgeon inserts the needle and suture properly guided between the jaws, and gripping the same, directs the needle to a stitch between the parts desired to be sutured. After the suture or thread has pierced the proposed stitched parts, the needle is freed from its grip by the operator, the suture is tied by the operator, or by the assistant to the surgeon, and the operator then inserts the open jaws over the thread or suture whereby the same is severed. Thus the operation may be continued indefinitely by a surgeon, who if working alone or with an assistant, is not compelled to lay down the needle holder and grasp a scissors from the instrument tray at the completion of each tie. By the old procedure, that is, when the needle holder and the scissors are separate instruments, it is especially inconvenient where the doctor is repairing lacerations without an assistant, which is encountered usually in the office and emergency work. This same inconvenience is present when repairing obstetrical lacerations and episiotomies. In these cases my combination needle holder and scissors guides the needle efficiently, assists in making the tie, and severs the suture without using any other instrument.

It will be observed that, owing to the spring

arms, the operator can firmly clamp the needle and exert a selective spring tension upon said needle to insure its grip by a single pressure of the arms to effect an adjustable lock between them through the toothed ratchet means.

While I have shown and described one specific form of my invention minutely as to detail, it is understood that I may vary the structural features within the scope of the claim.

I claim:

A surgical instrument comprising a pair of pivoted jaws having smooth cheek pieces and terminating in complementary needle receiving gripping teeth, a transversely disposed stop block having parallel side faces positioned rearwardly of the gripping teeth of one jaw for engaging the

needle and holding it at a right angle to the gripping teeth, the opposite jaw being provided with a recess for receiving the stop block, a pair of longitudinally disposed thread cutting blades formed by the jaws, rearwardly of the stop block, one blade being merged into said stop block below its top surface, whereby a thread holding corner between the stop block surface and cutting blade is formed to hold the thread in said corner when a cutting operation is effected, the said blades being centrally disposed with relation to the cheeks of the jaws and spaced inwardly therefrom, whereby the jaw cheeks form a gage for severing a length of thread from the tie knot.

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