Feb. 22, 1927. 1,618,261

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VISCERA RETAINER FOR USE IN ABDOMINAL OPERATIONS

Filed May 1, 1926 2 Sheets-Sheet 1

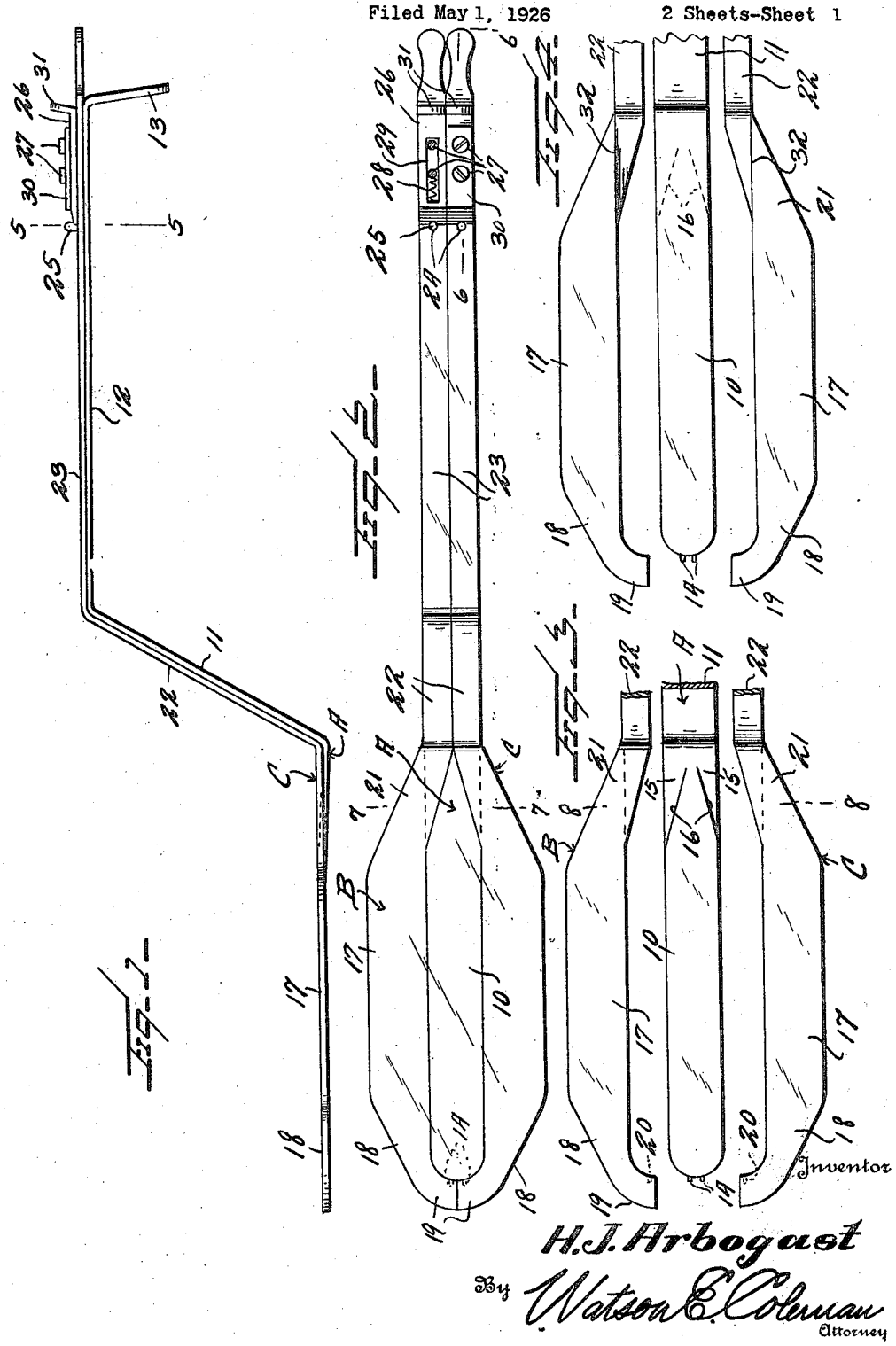

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Fig. 9.

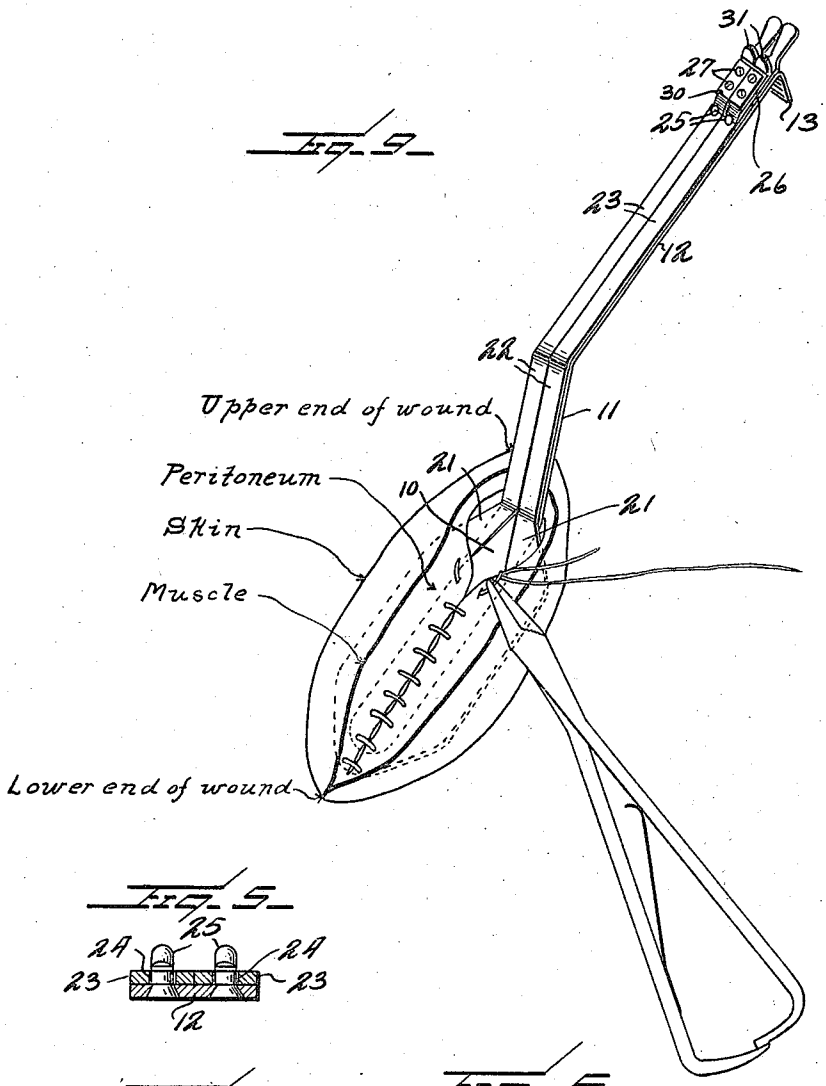


Fig. 5.

Fig. 7.

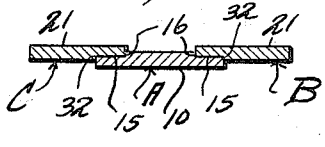


Fig. 6.

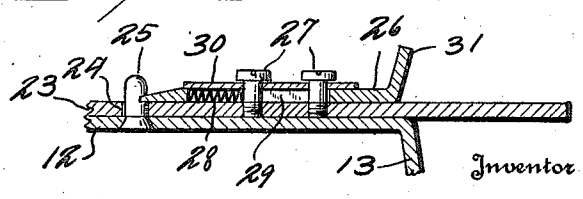
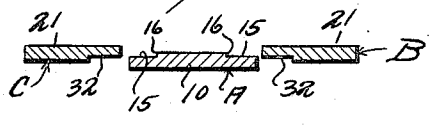


Fig. 8.



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UNITED STATES PATENT OFFICE.

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VISCERA RETAINER FOR USE IN ABDOMINAL OPERATIONS.

Application filed May 1, 1926. Serial No. 106,033.

This invention relates to surgical instruments and particularly to means for retaining the abdominal viscera in place and from protrusion while effecting a closure of the peritoneum.

The general object of this invention is to provide an instrument for this purpose which is so constructed that it may readily be introduced into the wound or removed therefrom and in this connection to provide an instrument formed in a plurality of longitudinally extending sections which are operatively locked together while the peritoneum is being initially sewed up and and in which the sections may be withdrawn one by one as the sewing nears completion.

A further object is to provide a device of this character having a broad and flattened portion which when introduced in the wound inside of the parietal wall may be held against this wall with sufficient firmness to prevent any of the viscera from projecting into the wound and, therefore, preventing the introduction of the suture which is to close the peritoneum.

Other objects have to do with the details of construction and arrangement of parts to appear more fully hereinafter.

My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is an edge elevation of my instrument;

Fig. 2 is a top plan view with the several sections engaged with each other and ready for introduction into the wound;

Fig. 3 is a fragmentary top plan view with the sections separated;

Fig. 4 is a bottom plan view like Figure 3 and showing the sections separated;

Fig. 5 is a section on the line 5—5 of Figure 1;

Fig. 6 is a longitudinal fragmentary section through the handle of the device and showing the latching means;

Fig. 7 is a section on the line 7—7 of Figure 2;

Fig. 8 is a section on the line 8—8 of Figure 3;

Fig. 9 is a perspective view of the instrument in actual use.

Referring to these drawings, and particularly to Figures 1 and 3, it will be seen that the instrument is formed of three separate sections, A being the middle section and B and C being the lateral sections. The middle section consists of the flat and relatively narrow blade 10. The rear portion of this blade terminates in a shank 11 which extends upward and rearward at an angle as shown in Figure 1 and then extends longitudinally parallel to the blade 10 as at 12. The rear end of the handle so formed is downwardly bent as at 13. The forward extremity of the blade 10 is formed with two forwardly projecting relatively short pins 14 disposed on each side of the medial line of the blade. The rear portion of the blade 10 is depressed as at 15, this depressed portion extending downward and rearward at a slight angle to the face of the blade 10, there being convergent shoulders 16 which define the forward boundary of this depressed portion 15.

The section B consists of a flat blade 17 the same width at its middle as the blade 11 and adapted to be disposed in edge contact with the same and with its upper face flush with the upper face of the blade 10. The forward end of this blade 17 is beveled at its outer corner as at 18, and the forward extremity of the blade 17 is inwardly extended as at 19, this inward extension being formed with a recess 20 to receive one of the pins 14. The rear portion of the blade 14 is inwardly extended at 21 so that the inner edge face of this angular portion 21 will bear against the corresponding shoulder 16. This blade 17 is also provided with the upwardly extending shank 22 corresponding to shank 11, which shank extends upwardly and rearwardly and extends rearwardly parallel to the face of the blade as at 23. The shank 22 and the handle portion 23 have a width equal to half the width of the shank 11 and in use overlie this shank.

The section C is constructed in the same manner as the section B and the several reference numerals have been used to designate like parts. The section C is complementary to the section B so that when the sections B and C are disposed in engagement with the section A, the blades 17 of the sections B and C will lie against and flush with the blade 10, as illustrated in Figure 2, and the portions 21 of the two lateral sections will fit against the shoulders 16 and the handle portions 23 will extend over and rest upon the handle portions 11 and 12.

Adjacent the rear ends of the portions 23 are apertures 24 and the handle portion 12 of section A is provided with a pair of upwardly projecting studs 25 adapted to pass

through these apertures 24. Mounted upon the rear ends of the handle sections 23 are slidable latches 26, each of these latches being longitudinally slotted and guided by two screw pins 27 extending through the latches and into the corresponding handle sections. The forward end of each latch is beveled and each pin or stud 25 is notched to receive the beveled end of the corresponding latch. A spring 28 is disposed within the slot 29 of the latch and urges the latch forward and into engagement with the corresponding pin. Preferably a washer-like plate 30 is disposed between the screw heads of the screws 27 and the face of each latch, thus holding the latch firmly in place but permitting its sliding movement. Each latch at its rear end is angularly bent as at 31 to provide a finger hold whereby the latch may be retracted. The under face of the rear end of each blade portion 17 is recessed at 32 or depressed, this depressed or recessed portion 32 being complementary to one half of the recessed portion 15 on the section A so that the edge faces of the portions 21 will abut against the shoulders 16 and the recessed portions 32 will lie over the recessed portions 15 and thus the faces of all three blade portions rearward to the handle will be disposed in one plane or flush with each other.

It will be seen that with this construction the lateral sections B and C will be held in engagement with the middle section A so long as the latches are projected into engagement with the studs 25 but that when a latch 26 is retracted, the corresponding section may then be slightly lifted to withdraw the stud 25 from the aperture 24 and then slightly shifted forward which will detach the portion 19 from its engagement with the corresponding pin 14 and thus the several sections may be detached from each other within a wound and withdrawn through the opening of the wound.

In the actual use of this device the three sections are engaged with each other as shown in Figures 1, 2 and 9 and the broad flat portion of the instrument is introduced into the wound inside of the parietal peritoneum and held against the parietal wall with sufficient firmness to prevent any of the viscera from protruding into the wound and thus prevent the introduction of the suture that is to close the peritoneum. When sufficient stitches have been taken as illustrated in Figure 9, to effect a closing of the wound in the peritoneum up to the neck of the instrument, one of the latches 26 is pulled back, thus releasing the corresponding section and this section thus released after being slightly raised to detach it from engagement with the corresponding pin 25, is pushed very slightly ahead so as to release it from its engagement with the corresponding pin 14. Then this section is easily withdrawn since its width is no greater than the width of the neck of the instrument. The other section is then withdrawn in a similar manner and lastly the middle section is withdrawn and then the last stitch or two which are necessary to finish the closure are taken.

In the actual operation a small retractor is placed so as to retract the muscular fascia, next the apices of the wound are grasped by small forceps and then the instrument is inserted. When this has been accomplished the operator is ready to commence stitching up the wound. It will be seen that this device is very simple, is very effective for the purpose intended, that it is easily introduced and removed without injury to the parts and that while it is particularly designed for the purpose disclosed it is not necessarily limited to this purpose as it might be used in other operations.

It will be noted that this instrument not only holds the viscera from protruding into the wound but supports the peritoneum so that stitches may be more readily taken therethrough.

I claim:—

1. A visceral retainer consisting of a plurality of sections, each section having a blade portion and a handle portion, the sections being detachably engaged with each other with the blade portions flush.

2. A visceral retainer consisting of a plurality of sections, each having a blade portion and a handle portion, the sections being detachably engaged with each other with the blade portions lying in the same plane and the handle portions of certain sections overlapping.

3. A visceral retainer consisting of a middle section and two lateral sections, each section having a blade portion and a handle portion, the sections being detachably engaged with each other with the blade portions lying in the same plane, each lateral section when detached from the middle section being independently withdrawable from a wound.

4. A visceral retainer consisting of a middle section and two lateral sections, each section having a blade portion and a handle portion, the sections being detachably engaged with each other with the blade portions lying in the same plane, the lateral sections being each detachable independently from the middle section.

5. A visceral retainer consisting of a middle section and two lateral sections, the middle section having a blade portion and a handle portion, the two lateral sections coacting with the middle section, each lateral section having a blade portion and a handle portion, the blade portion at its rear being inwardly offset so as to overlie the rear of the

middle section, the handle portion of the lateral sections being adapted to overlie the handle portion of the middle section, and means on each lateral section for detachably locking it to the middle section.

6. A visceral retainer consisting of a middle section and two lateral sections, the middle section having a blade portion, an upwardly and rearwardly extending shank, and a longitudinally extending handle, the lateral sections each having a blade portion, an upwardly and rearwardly extending shank, and a rearwardly extending handle, the shank and handle of each lateral section having a width approximately half the width of the shank and handle of the middle section, the upper face of the blade portion of the middle section at the rear thereof being depressed, this depression being defined by two rearwardly converging shoulders, the rear of each lateral section being inwardly offset to provide an inner inclined edge adapted to bear against the corresponding shoulder of the middle section, the under face of the laterally offset portion being reduced in thickness whereby to permit the laterally offset portions to fit over the depression at the rear end of the middle section and permit the handle portions of the lateral sections to overlie the handle portion of the middle section, and means for engaging the sections to each other.

7. A visceral retainer consisting of a middle section and two lateral sections, the middle section having a blade portion, an upwardly and rearwardly extending shank, and a longitudinally extending handle, the lateral sections each having a blade portion, an upwardly and rearwardly extending shank and a rearwardly extending handle, the shank and handle of each lateral section having a width approximately half the width of the shank and handle of the middle section, the upper face of the blade portion of the middle section at the rear thereof being depressed, this depression being defined by two rearwardly converging shoulders, the rear of each lateral section being inwardly offset to provide an inner inclined edge adapted to bear against the corresponding shoulder of the middle section, the under face of the laterally offset portion being reduced in thickness whereby to permit the laterally offset portions to fit over the depression at the rear end of the middle section and permit the handle portions of the lateral sections to overlie the handle portion of the middle section, and means for engaging the sections to each other comprising coacting pins and recesses formed respectively upon the forward ends of the lateral and middle sections and latches detachably engaging the handle of each lateral section with the handle of the middle section.

8. A visceral retainer consisting of a middle section and two lateral sections, the middle section having a blade portion, an upwardly and rearwardly extending shank, and a longitudinally extending handle, the lateral sections each having a blade portion, an upwardly and rearwardly extending shank, and a rearwardly extending handle, the shank and handle of each lateral section having a width approximately half the width of the shank and handle of the middle section, the upper face of the blade portion of the middle section at the rear thereof being depressed, this depression being defined by two rearwardly converging shoulders, the rear of each lateral section being inwardly offset to provide an inner inclined edge adapted to bear against the corresponding shoulder of the middle section, the upper face of the laterally offset portion being reduced in thickness whereby to permit the laterally offset portions to fit over the depression at the rear end of the middle section and permit the handle portions of the lateral sections to overlie the handle portion of the middle section, and means for engaging the sections to each other comprising latches mounted upon the rear ends of the handle portions of the lateral sections, studs projecting from the middle section, the handles of the lateral sections being perforated for the reception of said studs and the latches engaging said studs, the forward ends of the lateral sections being inwardly extended to engage around the forward end of the blade portion of the middle section, the middle section being provided with outwardly projecting studs, and the curved ends of the lateral sections having recesses to receive said studs.

In testimony whereof I hereunto affix my signature.

HOYE J. ARBOGAST.