No. 706,183. Patented Aug. 5, 1902.

E. H. JONES & E. C. ESPEY.

SEWING AWL.

(Application filed Jan. 23, 1902.)

(No Model.)

Fig. 1.

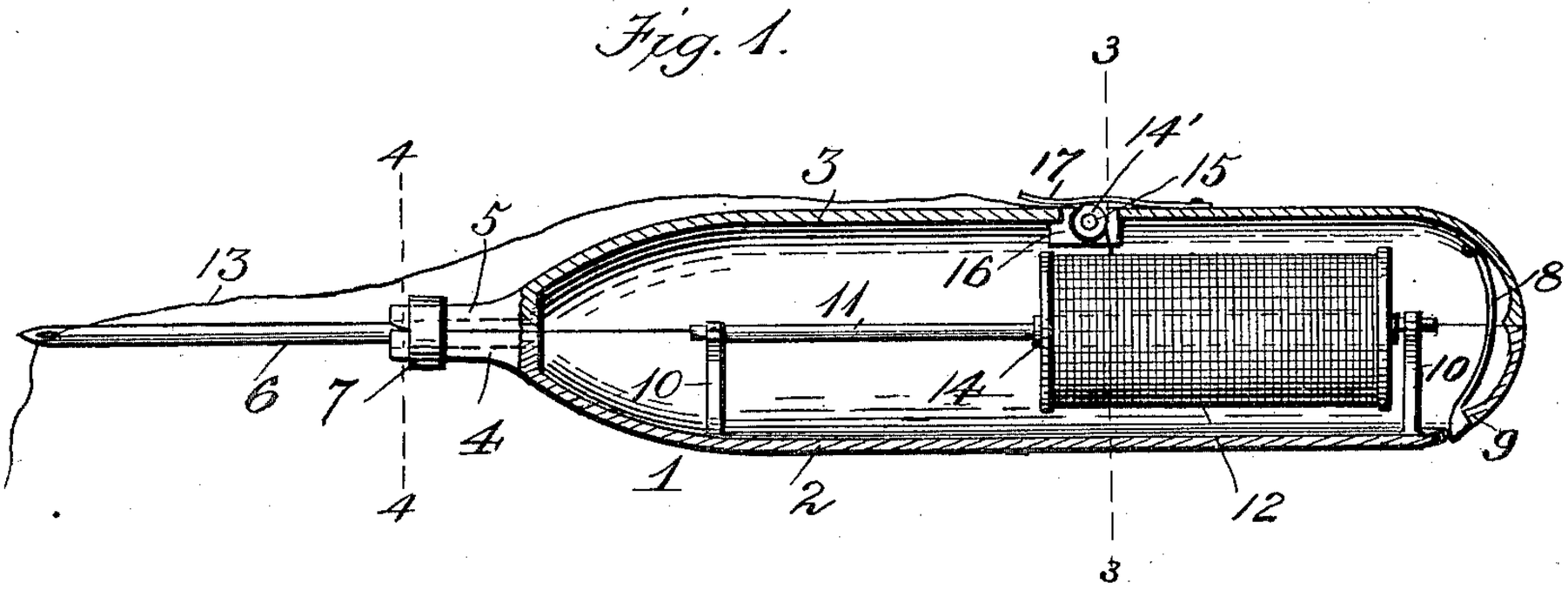


Fig. 2.

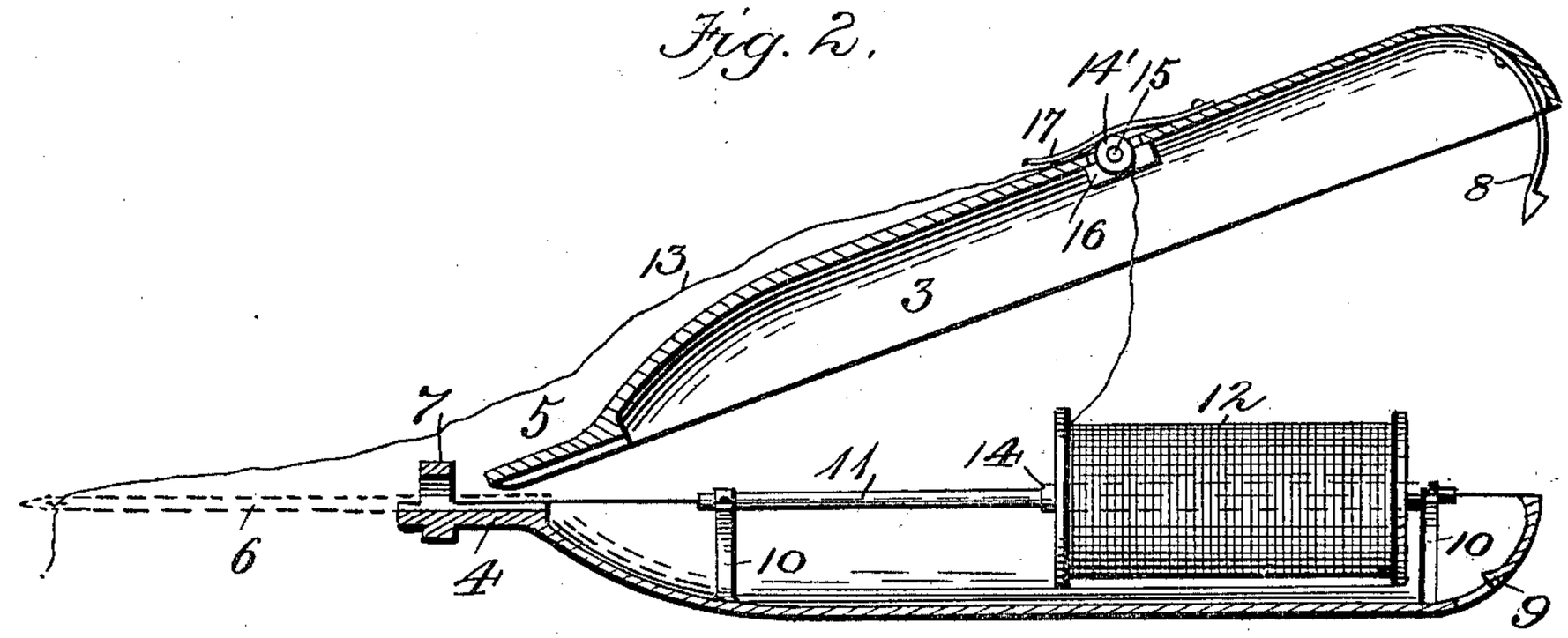


Fig. 4.

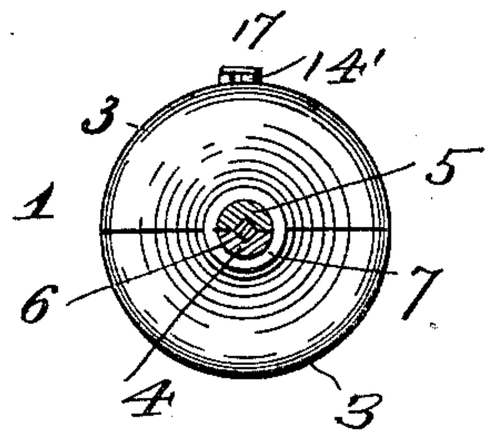
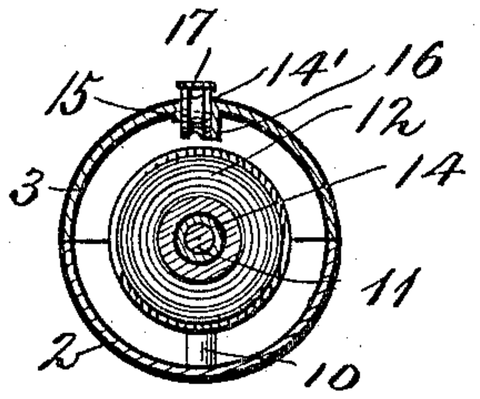


Fig. 3.



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ERASTUS HIRAM JONES AND ELI COLLINS ESPEY, OF PLEASANTON, KANSAS.

SEWING-AWL.

SPECIFICATION forming part of Letters Patent No. 706,183, dated August 5, 1902.

Application filed January 23, 1902. Serial No. 90,965. (No model.)

To all whom it may concern:

Be it known that we, ERASTUS HIRAM JONES and ELI COLLINS ESPEY, citizens of the United States, residing at Pleasanton, in the county of Linn and State of Kansas, have invented certain new and useful Improvements in Sewing-Awls; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in that class of sewing-awls whose handles are provided with a recess or chamber to receive a thread-wound spool from which the thread passes to the eye of a needle and is drawn off as required.

The invention consists in certain novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical longitudinal section showing the handle closed. Fig. 2 is a similar view showing the parts of the handle disengaged. Fig. 3 is a cross-section on the line 3 3 of Fig. 1. Fig. 4 is a similar view on the line 4 4 of Fig. 1.

The improved sewing-awl comprises in its construction a handle 1, longitudinally divided to form two sections 2 and 3, the section 2 being provided at its forward end with a jaw 4 and the section 3 with a corresponding jaw 5. These jaws are longitudinally grooved to receive the shank of the needle 6, and the under surface of the jaw 5 is curved or tapered to exert a wedging action on the needle-shank to firmly hold the needle in position. The two jaws 4 and 5 are held in accurate connection by a collar 7, which is preferably formed integral with the jaw 4, but may be independent thereof.

In applying the needle the shank of the needle is first seated in the groove in the jaw 4, and then the upper section 3 of the handle is moved forward to force the jaw 5 into the collar 7 and to cause a firm frictional engagement between the parts, whereby the needle is clamped in position. In releasing the needle the section 3 is simply moved backwardly to withdraw the jaw 5 from the collar in an obvious manner.

The handle 1 may be constructed of wood, if desired, but is preferably formed of metal, and the two parts or sections 2 and 3 are adapted to be held locked by the engagement of the jaw 5 with the collar 7 and by the use of a spring-catch 8, which catch is mounted upon the rear end of the section 3 and is adapted to engage a notch or keeper 9 in the corresponding end of the section 2. When the two parts are connected together in the manner described, an interior casing or chamber is formed to receive and inclose the spool and coöperating devices which contain and guide the thread which is to be automatically supplied to the needle.

Secured to the section 2 upon the interior of the handle 1 are bearings 10, in which is removably mounted a rod or stem 11, which serves as a support for the spool 12, carrying the thread 13. The spool has a longitudinal tube or bore 14, through which passes the rod 11, whereby the spool is mounted to rotate and to slide longitudinally upon said rod.

The thread unwinding from the spool passes over a guide-roller 14′, mounted on a stem 15, journaled in a support 16, secured below a slot formed in the upper surface of the handle-section 2, and thence down alongside the exterior of the handle to the needle, where its free end is passed through the eye of the needle in the usual way.

A plate-spring 17 is connected at one end to the section 3 and bears upon the roller 14′, so as to produce the necessary tension upon and resistance to the feed of the thread 13. Heretofore it has been necessary to employ thread-guides of various kinds, among them fixed or movable eyes; but it has been found in practice that these are objectionable, as they act to strip the wax from the moving thread and are liable to be choked up by the removed wax and prevent the feed of the thread with the desired freedom to the needle. By employing a tension-roller and guide this objection is overcome, as the thread passes freely over the roller without coming in contact with any interfering surfaces, and

thus little or no removal of wax from the thread can take place. As the thread unwinds from the spool the loose connection of the tube 14 with the rod or stem 11 permits the spool to revolve and also to reciprocate longitudinally on said rod, by means of which the unwinding portion of the thread is at all times arranged at right angles to and below or in direct alinement transversely of the handle with the tension-roller, thus obviating the necessity of having the roller move longitudinally along the spool and preventing the friction and resistance to the movement of the thread ordinarily produced by such movement.

By constructing the handle 1 in sections, as described, and forming it of metal the wall of the handle may be made much thinner than if it were formed of wood or other material than metal and a chamber of maximum size thus produced, so that a very large spool filled with quite an amount of thread may be mounted within the chamber, thus adapting the awl to be used for a considerable length of time before the thread is used up and before a new spool needs to be inserted in the handle. By the construction described also access to the interior of the chamber may be conveniently obtained by simply pressing inward upon the spring-catch 8, whereupon the handle-section 3 may be lifted and moved rearwardly to withdraw the jaw 5 from engagement with the collar 7, whereupon the interior of the base-section 2 and the spool and its mountings will be exposed, thus enabling a filled spool to be quickly and conveniently substituted for an old one for beginning a new seam on the work in hand.

In supplying the handle with thread for use the section 3 is detached from the section 2 and the rod 11 lifted from its bearings, whereupon the spool 12 may be fitted upon the rod, which is then placed within its bearings, as before. The free end of the thread is then passed upward around the roller 14′ and to the exterior and through the slot in the section 3, the needle fitted in position on the jaw 4, the jaw 5 inserted within the collar 7 to clamp the needle in the manner before described, and the rear end of the section 3 then forced down to bring the catch 8 into engagement with the keeper 9, whereupon the two sections of the handle will be securely connected together to confine the spool therein. The free end of the thread is then passed through the eye in the needle in the usual way, and the device is ready for use.

From the foregoing description, taken in connection with the accompanying drawings, it is throught that the construction, mode of operation, and advantages of our improved sewing-awl will be readily apparent without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described our invention, what is claimed, and desired to be secured by Letters Patent, is—

1. An awl comprising a casing having a chamber, a tension device having a fixed position upon the casing, a spool-holder within the chamber, and a spool mounted to rotate and to reciprocate longitudinally upon said holder as the thread is drawn out, whereby the unwinding portion of the thread is maintained substantially at right angles to or in alinement with the tension device, substantially as described.

2. An awl comprising a casing having a chamber, a tension device having a fixed position upon the casing, an elongated supporting-rod extending longitudinally within the casing, bearings in which said rod is removably mounted, and a spool having a bore through which the rod loosely extends, whereby the spool is free to rotate and reciprocate loosely on the rod as the thread is drawn out, substantially as set forth.

3. An awl comprising a chambered handle longitudinally divided to form two sections, means for uniting the sections in closed position, a tension device having a fixed position on one of the sections, a spool-support upon the other section, and a spool mounted to reciprocate and rotate upon said support, substantially as and for the purpose set forth.

4. An awl comprising a casing having a chamber, a tension-roller mounted in fixed bearings upon the casing, a spring exerting a resistance to the rotation of said roller, a spool-holder within the chamber, and a spool mounted to reciprocate and rotate upon the holder, the thread from the spool adapted to be drawn out over the roller, whereby the position of the thread relative to said roller will be maintained by the reciprocation of the spool, substantially as described.

5. An awl comprising a chambered handle longitudinally divided to form two sections, said sections being provided at their forward ends with jaws to receive and clamp the needle, one of said jaws having a guide to receive and hold the other jaw, whereby the jaws are adapted to be connected and disconnected by an endwise sliding movement, fastening means for uniting the rear ends of the sections, a spool-holder within the handle, a spool removably mounted upon said holder, and a tension device for the thread passing from the spool, substantially as specified.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ERASTUS HIRAM JONES.
ELI COLLINS ESPEY.

Witnesses:
L. C. CROSS,
JOSEPH KINCAID.