

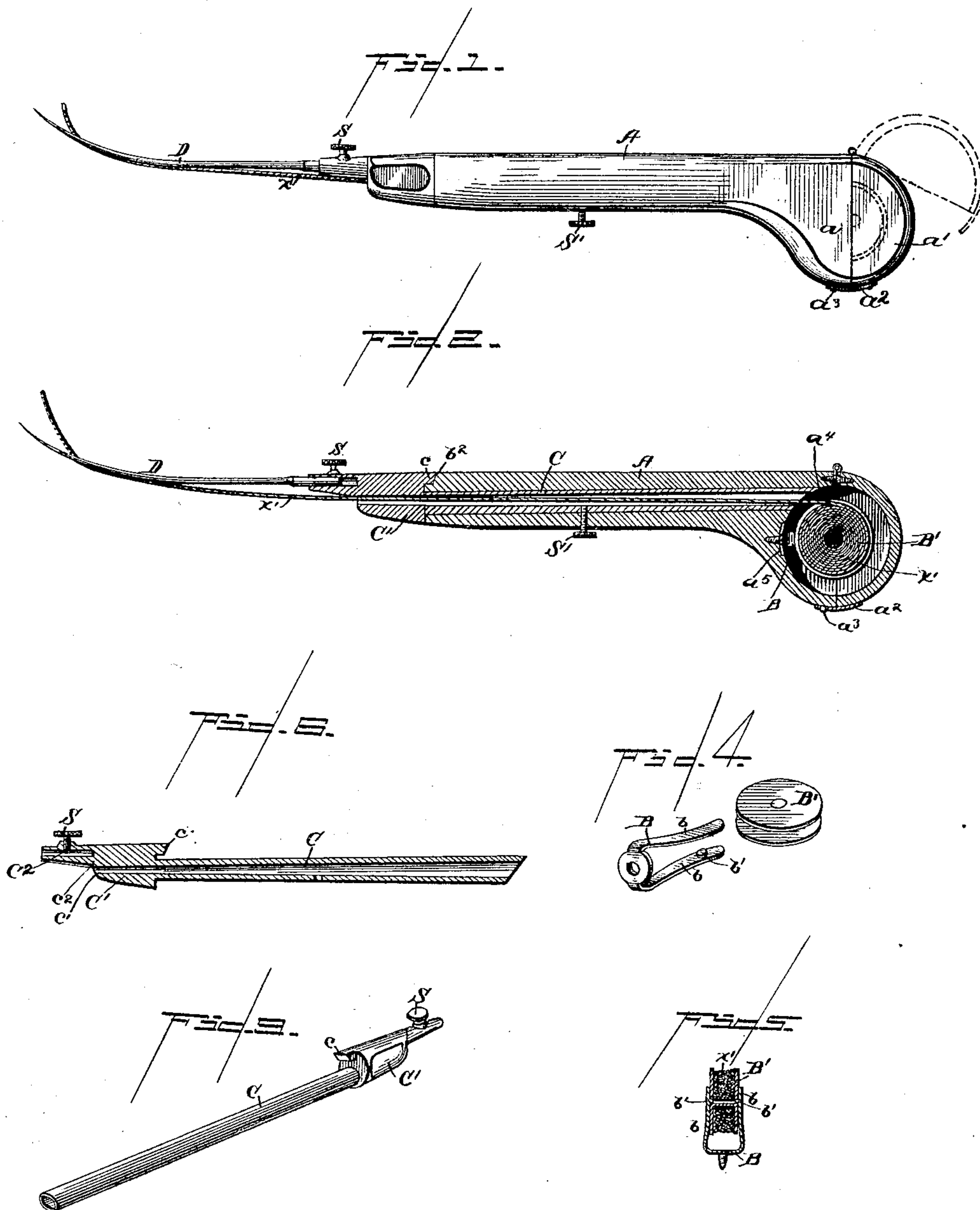
(No Model.)

T. E. McBRAYER.

SUTURE NEEDLE.

No. 389,235.

Patented Sept. 11, 1888.



Witnesses,

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UNITED STATES PATENT OFFICE.

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SUTURE-NEEDLE.

SPECIFICATION forming part of Letters Patent No. 389,235, dated September 11, 1888.

Application filed April 30, 1888. Serial No. 272,301. (No model.)

To all whom it may concern:

Be it known that I, THOMAS EVANS McBRAYER, a citizen of the United States, residing at Shelby, in the county of Cleveland and State of North Carolina, have invented certain new and useful Improvements in Suture-Needles; and I do hereby 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.

My invention relates to an improvement in suture-needles; and it consists in the provision of a handle having certain attachments in connection therewith, which will be more fully hereinafter described, and pointed out in the claims.

The object of my invention is to provide a device of this character which is simple and effective in its construction, the parts convenient, accessible, and removable, easily handled, and readily understood. I attain this object by the preferred form of construction illustrated in the accompanying drawings, wherein like letters of reference are used to designate similar parts in the several views, and in which—

Figure 1 is a side elevation of my improved device. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a detail perspective view of the ligature-guide and inclosing-tube. Fig. 4 is a detail perspective view of the bobbin-yoke, showing the bobbin removed therefrom and to one side thereof. Fig. 5 is a vertical sectional view of the yoke and bobbin in connection. Fig. 6 is a longitudinal sectional view of the ligature guide and inclosing-tube.

A indicates the handle, which is preferably made of hard or vulcanized rubber; but it will be understood that other materials may be used in the construction of this handle, if so desired. The handle is formed hollow, and has an enlarged end, *a*, provided with a hinged cap, *a'*, having a spring-catch, *a²*, adapted to engage with a stud, *a³*, projecting from one side of the said enlarged end, and thereby hold the cap in closed connection with the handle. An aperture, *a⁴*, is formed in one side of the socket of the enlarged end of the handle adjacent to the hinge of the cap, and a recess, *a⁵*, is provided centrally within said socket. Within

the recess *a⁵* the base of a spring-armed yoke, B, is secured and is immovably held in position. The inner opposing parts of the upper ends of the spring-arms *b* of the yoke B are provided with inwardly-projecting studs *b'*, which engage with the eye of a bobbin, B'. When the bobbin is removed from the spring-arms of the yoke B, said arms spring inward toward each other, as shown in Fig. 4. To insert the bobbin B' between said arms of the yoke, they are spread apart and the studs *b'* thereof engage with the eye of the bobbin; and while a free revoluble movement of the bobbin is permitted to feed the ligature therefrom the said spring-arms *b* of the yoke B, by their resiliency, exert sufficient pressure upon the bobbin to produce a slight tension and overcome any tendency to a loose feed of the said ligature.

The spring-arms of the yoke B and the bobbin B', when mounted therein, partly project into the cap *a'*, which is cavities. When the said cap is closed on the enlarged end *a* of the handle, the bobbin is housed, and when said cap is opened and thrown back the bobbin is exposed to view and may be removed from the spring-arms of the yoke B or otherwise manipulated.

The opening in the handle B is constructed at an angle, and said handle at its lower end is formed with a recess, *b²*, extending inward from the outer surface thereof. I then provide a metallic guide-tube, C, which is attached to or formed integral with a lower enlarged end, C', which is formed with a lug, *c*, adapted to engage with the recess *b²* in the lower end of the handle B, and thereby provide a guide to always insure the proper articulation of the parts with each other. The enlarged end C' is also formed with a shoulder, *c'*, having an aperture therein aligning with the tube C, and to one side of the said aperture an integral needle-clamp, C², is formed, having a clamping-screw, S, and a channel or groove, *c²*, in alignment with the aperture in the shoulder *c'*, to form a guide for the ligature. The tube C extends through the handle B, and the upper angularly-cut end thereof engages with the aperture *a⁴*, opening into the pocket in the enlarged end of the handle. The upper end of said tube is formed angular to conform to the angle of inclination

of the end wall of the cavity in the enlarged end of the handle and as formed by the partition. The tube C is arranged at an angle to properly engage with the aperture a' , and the opening in the handle is run crosswise of the same from end to end. This construction is necessary, for the reason that it is found preferable to allow the enlarged end a to project from one side only of the body of the handle B and be in the same plane with the other side. This construction forms a grip for the hand of the operator, and will be held downward, thereby retaining the hinged cap closed.

When the guide-tube C is mounted in the handle B, it is held therein by a set screw, S' , passing through the handle into said tube. By releasing said screw the guide-tube may be withdrawn from the handle at will.

The ligature x' passes off from the bobbin down through the tube C, out through the aperture in the shoulder formed with the enlarged lower end of said tube, and along the groove in the needle-clamp to the needle D, held by said clamp. As is particularly required in this class of instruments, the thread or ligature is kept perfectly clean and unsoiled by passing through the guide-tube C.

Ligatures of any material may be used with my improvement and the parts may be nickeled or otherwise ornamented. It will also be understood that any form of needle may be used.

As shown, the guide tube C is snugly inclosed within the handle A and forms a direct guide for the ligature from the bobbin to the needle. If the tension of the ligature should become loose, the slack is almost entirely confined in the small open space of the tube, which avoids any tendency of the ligature to knot or twist. The small opening in the handle A produces a strong and durable handle, and the ready removal and attachment of the guide-tube and the enlarged end C' , including the needle-clamp carried thereby from and to the handle, renders the device convenient and allows it to be packed in compact form for transportation, and is adapted to be quickly put together when adapted for use.

The advantage gained by mounting the bobbin B' in the outer end of the handle is the ready access thereto, whether for removal and replacement by another bobbin or to take up the slack ligature without separating the parts of the device, as has heretofore been necessary in devices of this class. The use of the hinged cap a' also facilitates this operation, in that less time and labor will be involved in gaining access to the bobbin than if a screw-cap were used. The operator can open the cap with the hand with which he grasps the handle A and adjust the ligature by turning the bobbin without the use of his other hand, whereas if a screw-cap were used it would necessitate the use of both hands to disengage the cap from the handle.

It is my intention to avoid the use of screw-threaded surfaces as much as possible in order to lessen the cost of manufacture.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a suture-needle, the combination of the apertured handle having an outer chambered end, a bobbin mounted in said chambered end, and a guide-tube extending through said handle from end to end, substantially as described.

2. In a suture-needle, the combination of the apertured handle having an enlarged flattened chambered end with a semicircular hinged cap, a spring-armed yoke mounted in said chambered end of the handle, a ligature-bobbin removably mounted between the arms of said bobbin, and a guide-tube extending through the apertured handle from end to end, having an enlarged shouldered apertured end abutting against one end of the handle, with a guide-lug on one side thereof, and provided with an integral needle-clamp, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS EVANS McBRAYER.

Witnesses:

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J. N. SCUTTS.