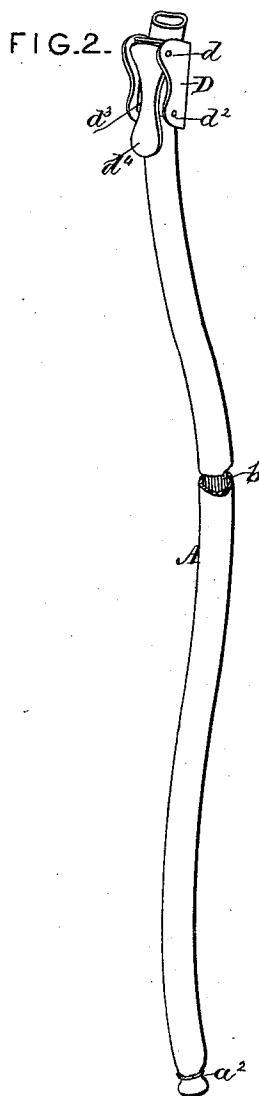
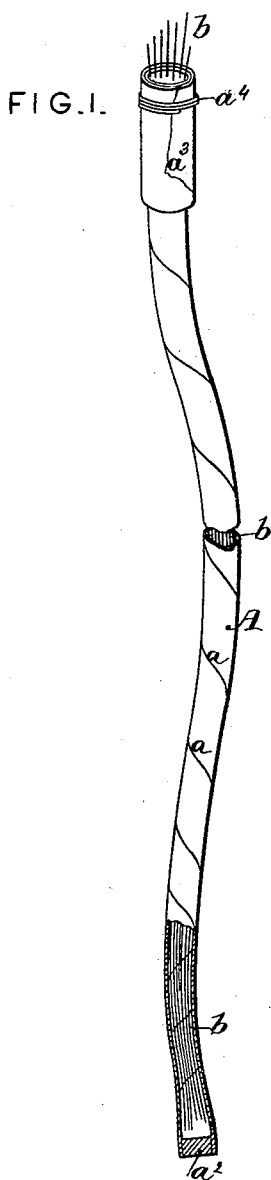


(No Model.)

R. W. JOHNSON.
FLEXIBLE RECEPTACLE FOR LIGATURES.

No. 404,843.

Patented June 11, 1889.



ATTEST -

Harry L. Amor.
I. J. Masson

INVENTOR -

Robert W. Johnson,
by E. E. Masson
att'y.

UNITED STATES PATENT OFFICE.

ROBERT W. JOHNSON, OF NEW BRUNSWICK, NEW JERSEY.

FLEXIBLE RECEPTACLE FOR LIGATURES.

SPECIFICATION forming part of Letters Patent No. 404,843, dated June 11, 1889.

Application filed May 8, 1889. Serial No. 310,011. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. JOHNSON, a citizen of the United States of America, residing at New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Flexible Inclosures for Medical Ligatures, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to inclosures to contain medical ligatures; and the objects of my invention are to produce flexible tubular inclosures to receive ligatures of catgut, silk, and other substances, which will be strong but flexible and not brittle, and also capable of retaining an antiseptic liquid and permit the ligatures to be maintained straight and untwisted, and from which said ligatures can be taken out one at a time and the balance thereof can easily be retained hermetically sealed. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 represents in side view, partly broken away and in section, an inclosure constructed in accordance with my invention. Fig. 2 represents in side view, partly broken away, a modification of the same.

In Fig. 1 the inclosure consists of a tube A, consisting of a strip of paper or cloth, or other suitable thin and flexible material, preferably wound spirally, as shown at a , coated with gelatasolve or other flexible impermeable material capable of containing oil or antiseptic liquid. For this purpose a strip of thin paper or cloth is wound spirally upon a mandrel, and is dipped in or coated with gelatasolve rendered fluid by heat applied to the vessel containing it, and after said coating has become cooled and solidified the mandrel is withdrawn, and a flexible tube is thus obtained, the mandrel being preferably slightly tapering to facilitate its removal. A short plug a^2 of gelatasolve is then inserted in the small end of the tube. Said plug before insertion is sufficiently heated to cause it to slightly melt, so that when inserted it will adhere to the walls of the tube and hermetically seal it, and for further protection the plugged end of the tube may be dipped for an instant in fluid

gelatasolve. The opposite end of the tube is re-enforced by one or two thicknesses of cloth or paper dipped in fluid gelatasolve and wrapped around said tube, as shown at a^3 , while said extra thicknesses are still in adhesive condition. That end of the tube may be still further re-enforced by tying the extra thicknesses with silk or catgut a^4 dipped in gelatasolve. The ligatures b are then inserted in the tube through its open end and allowed to project therefrom about half an inch. The desired antiseptic liquid is then poured in the tube on the side of the ligatures until it nearly fills it. The tube is then compressed with a small clamp close to the under side of the tie a^4 , and fluid gelatasolve is poured in around the ligatures, where it soon solidifies and hermetically closes the tube with the ends of the ligatures projecting, as shown in Fig. 1.

When a surgeon or other person desires to use or withdraw one of the ligatures b , he can do so either with a small pair of nippers or with a needle after he has threaded it with said ligature and bent or twisted the end close to the eye of said needle. The very small aperture thus left in the solidified gelatasolve may then be closed by inserting a heated needle or pin for an instant in said aperture, as it melts its edges and thus seals the perforation.

In the modification shown in Fig. 2 a suitable length of flexible rubber tubing A is used, and one end of said tube is tightly compressed and tied at a^2 . The ligatures b are then inserted and placed within the tube, and they are preferably of such length as to project about half an inch beyond the open end of the tube. An antiseptic liquid is then poured in until it is nearly full, and any suitable clamp, as D, is made to embrace the open end of the tube. In the present instance the clamp consists of a plate having two of its edges bent at right angles thereto to form lugs d^2 . To the lugs d^2 is pivoted a small flat plate d^3 , and to the lugs d is pivoted the eccentric end of a lever d^4 , said eccentric end being adapted to press against the free end of the plate d^3 to compress the rubber tube between it and the inner surface of the clamp-plate D.

As the ligatures are preferably about half an inch longer than the tube, and in this case it is desirable to inclose them wholly within the tube, this is accomplished by grasping 5 or pinching the edge of the tube above the clamp D with one hand, grasping with the other hand the opposite end of the tube, together with the ligatures therein, and stretching the tube one inch or more, which motion 10 will withdraw all the ligatures within the tube, and while in this retracted position the clamp is made to compress the upper end of the tube. When it is desired to take out some of the ligatures, the clamp D is opened 15 and one end of the ligatures will immediately project beyond it in proper position to be grasped, after which they are again retracted and the tube closed by the clamp, as above stated.

20 Having now fully described my invention, I claim—

1. A receptacle for ligatures for surgical purposes, consisting of a flexible tube in which said ligatures can be retained side by side in an unbent condition, with an antiseptic liquid 25 therein, the whole hermetically closed, substantially as described.

2. A receptacle for ligatures for surgical purposes, consisting of a flexible tube of gelatin, in combination with ligatures retained 30 side by side therein in an unbent condition and projecting beyond one of the ends of the tube, and an antiseptic liquid hermetically closed with flexible gelatine, substantially as 35 described.

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

ROBERT W. JOHNSON.

Witnesses:

J. W. JOHNSON,
THOS. G. PHINNY.