No. 728,444. PATENTED MAY 19, 1903.

H. L. COX.

ASEPTIC LIGATURE RECEPTACLE.

APPLICATION FILED JAN. 21, 1903.

NO MODEL.

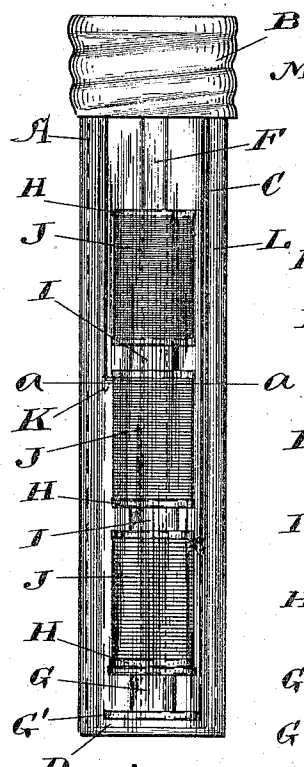

Fig. 1

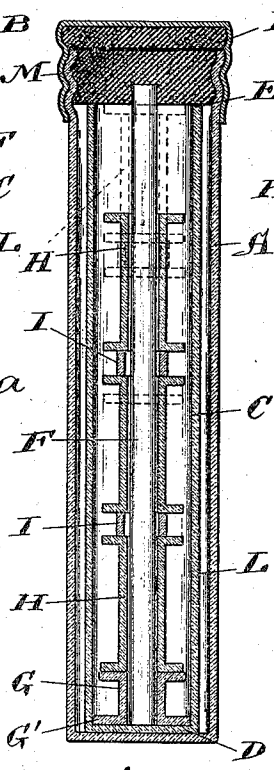

Fig. 2

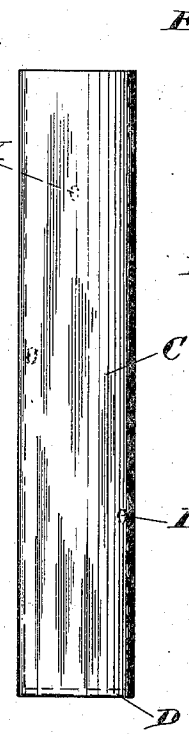

Fig. 3



Fig. 4

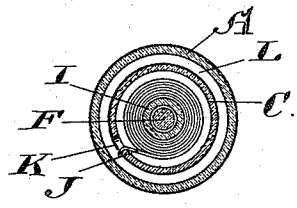

Fig. 5

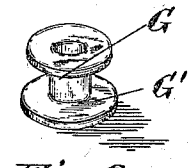

Fig. 6

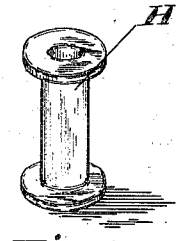

Fig. 7



Fig. 8

Witnesses
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No. 728,444. Patented May 19, 1903.

UNITED STATES PATENT OFFICE.

HOWARD L. COX, OF TORONTO, CANADA.

ASEPTIC LIGATURE-RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 728,444, dated May 19, 1903.

Application filed January 21, 1903. Serial No. 139,938. (No model.)

To all whom it may concern:

Be it known that I, HOWARD LINCOLN COX, a citizen of the United States, residing at Toronto, in the county of York and Province of Ontario, Canada, have invented a new and useful Improvement in Aseptic Ligature-Receptacles, of which the following is a specification.

The objects of my invention are to provide an aseptic ligature-receptacle in which may be contained any desired number of slidable rotatable glass spools containing silken or catgut ligature, and for this purpose I arrange a series of glass spools on a vertical glass spindle and contained within a glass retaining-shell. I provide the retaining-shell with a series of openings through which the free ends of the ligature can pass to be carried to the point of withdrawal from the receptacle for use. I mount the lower end of the spindle in a spool-shaped base, the circular flange of the base being of the same diameter as the inner diameter of the retaining-shell, so as to prevent the spindle leaving the center of the retaining-shell, which obviates the possibility of the flange of the spools binding on the retaining-shell when the spools are being turned by the unwinding of the ligatures from the spool. I provide for an interval corresponding to the width of the space between the two flanges of the spools on the spindle to allow a sliding-space for the spools, so that as each strand of ligature is being unwound from the spool the corresponding strand will be drawn opposite to the opening in the retaining-shell and prevent a tendency of binding of the ligature by being drawn off at an acute angle from the spool to the opening. I arrange the winding of the ligature on the spools so that each alternate winding will be in the opposite direction. Thus the unwinding of one spool will have the tendency to wind the other spools in the opposite way to the unwinding of their respective windings.

Mounted on the spindle and interposed between each two spools are washers or separators arranged to rise and lower with the spools when in the act of being unwound. I inclose the retaining-shell containing the spindle on which are mounted the spools, washers, and base in an ordinary glass-bottle receptacle provided with an ordinary screw-top, the bottle containing any suitable antiseptic fluid to preserve the ligatures and also to keep them in a moist and pliable condition.

In the drawings, Figure 1 is an elevation view of the complete receptacle, showing three spools of ligatures. Fig. 2 is a sectional elevation view showing three spools with the ligatures removed and showing two spools in dotted lines as when the middle spool is being unwound. Fig. 3 is an elevation view of the retaining-shell. Fig. 4 is a view of the carrying-spindle. Fig. 5 is a cross-sectional view on lines *a a*, Fig. 1. Fig. 6 is a perspective view of the spindle-base. Fig. 7 is a perspective view of one of the ligature-spools. Fig. 8 is a perspective view of one of the washers or separators.

Like letters refer to like parts throughout the drawings and specification.

Contained within a glass receptacle A in the shape of a bottle provided with a screw-cap B is a retaining-shell C. The shell C is formed of a closed bottom D and an open top E. Vertically supported in the center of the shell C is a glass carrying-spindle F. The lower end of the spindle F is set and supported in a spool-shaped base G. The lower flange G′ of the base G is of the same diameter as the interior diameter of the shell C, and thus prevents the spindle F from shifting from the common center in the shell C. Mounted on the spindle F are a series of glass spools H, and mounted on the spindle and interposed between each two spools H are glass washers or separators I. The glass washers or separators I are for the purpose of keeping the spools H out of frictional contact and prevent as far as possible one spool from turning the next as the ligature J, wound upon the spools, is being unwound. Formed through the sides of the retaining-shell C and opposite to each of the spools is an opening K. The retaining-shell C is of lesser diameter than the receptacle A, thus leaving a space L all around the shell C. Closing the open top of the receptacle A is a plug M, of rubber or any suitable material. The plug M fits tightly upon the upper end of the shell C and secures the shell from moving upward or sliding sidewise. The spindle F is slightly longer than the shell C and projects above the top E and is fitted into the plug M, which prevents the upper end of

the spindle from inclining from its true center. The ligatures J are wound upon the spools H, and the free ends are carried through their respective openings K in the shell C into the space L and upward and out through small openings in the plug M. Within the receptacle A and shell C is any suitable antiseptic fluid. To procure any desired amount of ligature from any of the spools, the cap B is removed from the receptacle A and the end of the ligature is withdrawn to the desired length, and as the ligature is being withdrawn from the spool and as each strand is unwound the spool will slide upward on the spindle F until the strand being unwound will come opposite to the opening K in the shell C, and thus provide for a direct draw and obviate a binding on the edge of the opening that would be caused if the ligature were drawn off at an acute angle.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an aseptic ligature-receptacle consisting of a suitable receptacle, a retaining-shell contained within the said receptacle, a carrying-spindle supported within said shell, a series of ligature-carrying spools, slidably and rotatably mounted on said spindles, washers or separators interposed between said spools, substantially as specified.

2. In an aseptic ligature-receptacle, a suitable receptacle, a retaining-shell contained within said receptacle, openings in the said shell communicating with the said receptacle, a base contained within the said shell, a carrying-spindle supported in said base, a series of slidable and rotatable spools mounted on the said spindle, slidable washers or separators mounted on said spindle, said washers or separators interposed between said spools, ligatures wound upon the said spools, substantially as specified.

3. In an aseptic ligature-receptacle, a suitable receptacle, a retaining-shell contained within the said receptacle, openings in the said shell communicating with the said receptacle, a base contained within the said shell, a vertical carrying-spindle supported in the said base, a series of slidable and rotatable spools mounted on the said spindle, slidable washers or separators mounted on the said spindle, said washers or separators interposed between the said spools, ligatures wound upon the said spools, a plug closing the upper end of the said receptacle, the free ends of the said ligatures passing through the said openings in the said shell into the said receptacle, and out through the plug in upper end of said receptacle, a metal cap inclosing the upper end of said receptacle, substantially as specified.

Signed at Toronto this 28th day of November, 1902.

HOWARD L. COX.

In presence of—
SPENCER LOVE,
WALTER O. SADLER.