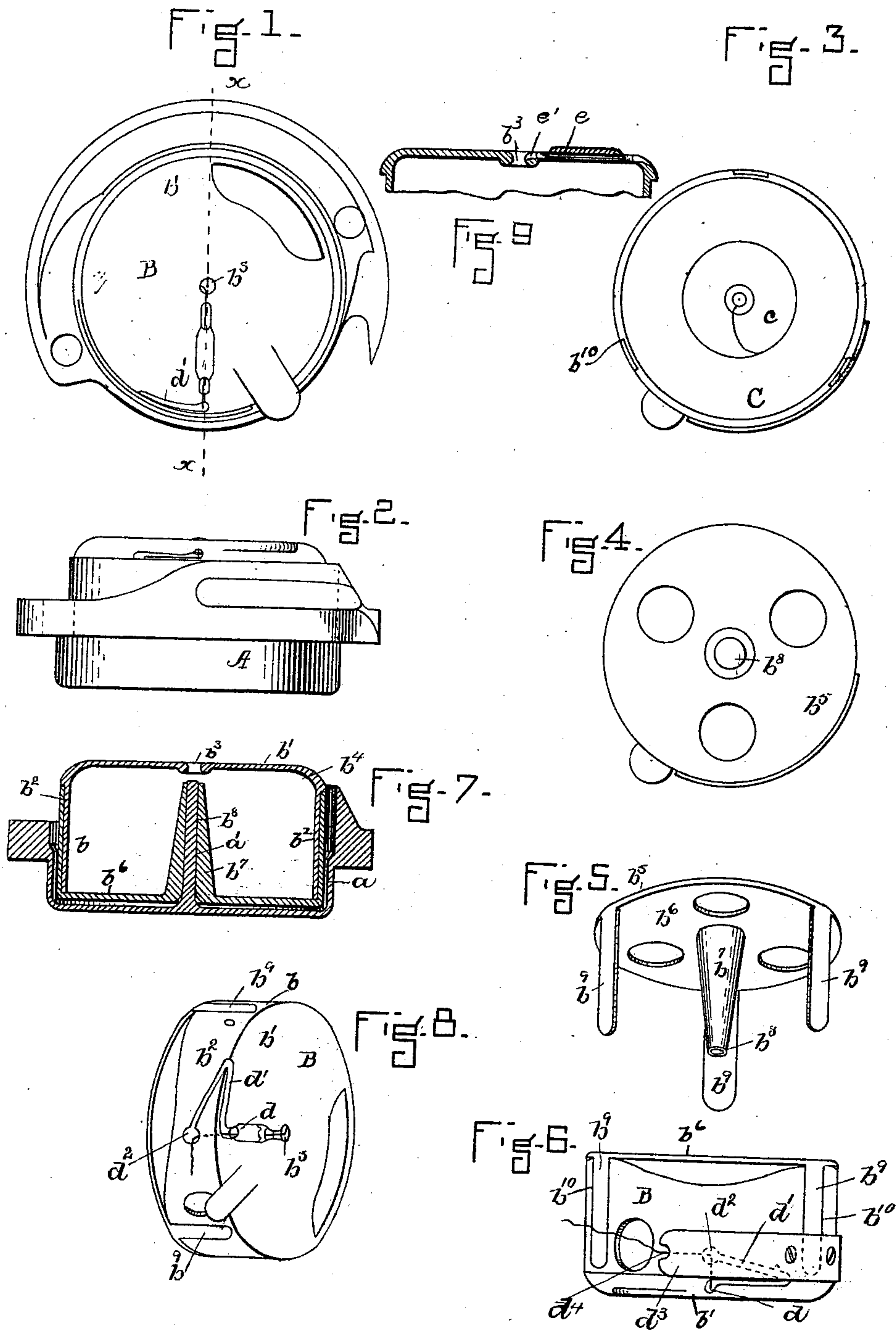


(No Model.)

J. T. JONES.
COP HOLDER FOR SEWING MACHINE SHUTTLES.
No. 519,428.

Patented May 8, 1894.



WITNESSES.

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COP-HOLDER FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 519,428, dated May 8, 1894.

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To all whom it may concern:

Be it known that I, JOHN THOMAS JONES, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented a new and useful Improvement in Cop-Holders for Sewing-Machine Shuttles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The object of the invention is to provide a holder for a cop or bobbin which is unwound from its interior and also to provide a central bearing or support for the same in the shuttle, also to facilitate the unwinding of the thread by a cone within the cop holder having its apex close to the throat or hole through which the thread leaves the cop holder.

It further relates to the various other features of construction to which reference will hereinafter be made.

The invention is illustrated as applied to the rotary shuttle of the machine known as the Standard rotary shuttle sewing machine.

In the drawings: Figure 1 is a view in side elevation of the shuttle and cop holder. Fig. 2 is a view in plan thereof. Fig. 3 is a view of the cop holder with the cop therein the cover being removed. Fig. 4 is a view of the cop holder showing the cover. Fig. 5 is a view in perspective of the cover of the cop holder showing inner side thereof. Fig. 6 is a view of the two parts of the cop holder together and of the thread leading holes and tension. Fig. 7 is a horizontal section taken through the cop holder, and shuttle. Fig. 8 is a view in perspective of the cop holder. Fig. 9 is a partial sectional view of the cop holder on line $x-x$ of Fig. 1.

A is the shuttle.

B is the cop holder.

The shuttle has a cavity a for receiving the cop holder and a spindle or long pivot a' which supports the cop holder at its center and which pivot or post is centrally arranged in the cavity a of the shuttle.

The cop holder comprises the section or shell b consisting of a closed end b' and a cylindrical wall b^2 . In the closed end at its center is the throat or passage b^3 . The shell

or section b forms a chamber or cavity b^4 of a size sufficient to receive the cop C the outer edge of the cop being in contact with the inner edge of the wall of the shell. The cop is of cylindrical form having a central cavity c and the thread is drawn from the inner edge.

b^5 is the other section or cover of the cop holder; it comprises a flat plate b^6 projecting centrally from the inner surface of which is the cone b^7 the base of which is against the plate. The cone has a hole b^8 of a size to receive the spindle or post a' of the shuttle carrier. The cover b^6 is represented as secured to the section b by arms b^9 extending from the edge thereof, which enter recesses b^{10} in the outer surface of the cylindrical section b^2 of the shell. The thread is led from the cop through the hole b^3 , thence through the short passage d in the end b' of the shell, thence by means of the V shaped threading passage d' to the hole d^2 in the side of the shell beneath the curved flat spring d^3 , which is fastened to the outer surface of the shell and has the curved recess d^4 at its end, the thread passing from the hole d^2 between the spring and the cop holder to the groove d^4 (see Figs. 1, 6 and 8).

The outer section b of the cop holder is provided with a thread passage e' below or inside the outer face thereof; said thread passage extending from the central thread delivery hole b^3 to the periphery of the cop holder and being preferably partially or wholly covered by a thin web e of metal, said passage and web being formed, in the present instance, simply by indenting the said section of the cop holder from its inner face and slightly striking up the said metal to form the said web. This thread passage lying within the outer face of the cop holder is an important feature of my device for the reason that the thread running from the inside of the cop is unwound by the slightest pull thereon and the friction of the needle thread passing in contact with the cop thread would be sufficient to pull the latter from the cop and form a slack loop which would cause trouble were not the cop thread protected by being led through the thread passage e' below the outer face of the cop holder. While I prefer to cover the thread passage e' , wholly or partially, by the web e it will be under-

stood that this is not really necessary as the thread would be protected in the depressed thread passage without the covering web *e*.

I would say that I do not confine myself to the especial means herein described for securing the cone cover plate to the remainder of the shell and may use any mechanical equivalent for that herein described.

A hollow spindle *b*⁷ centrally arranged inside of the portion or section *b*⁵ of the cop holder and preferably made conical, as shown, receives the pin or spindle *a*' of the shuttle and thus serves as a support for the cop holder which latter is held stationary in any suitable manner while the shuttle revolves around it. By forming this spindle *b*⁷ conical rather than cylindrical I avoid a trouble which might otherwise occur by reason of the thread which is drawn from the interior of the cop becoming caught upon the spindle, and as the apex of said conical spindle is toward the delivery hole *b*³ of the shell or section *b*, the inclined walls of the said spindle will assist in casting the thread off from the same, should it accidentally be caught thereon, as the said thread is drawn from the cop in the operation of sewing.

By arranging the thread delivery throat or hole *b*³ in the center of the outer section *b* of the cop holder, and by providing the hollow spindle *b*⁷ as a means of support for the said cop holder the latter is securely retained in place relative to the rotating shuttle and the thread from the cop is easily drawn from the interior of the latter through the said thread delivery hole.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination with a sewing machine shuttle having a central cavity and a pin extending into said cavity, of a cylindrical cop holder consisting of two separable parts formed separate from the said shuttle and suitably fitted together, the inner of said parts being provided with a hollow cone loosely fitting said pin, and the outer of said parts having a central thread delivery hole and a thread passage, the latter being formed within the outer face of said part and extend-

ing from said delivery hole to the periphery of the case, and the said outer part of said case being also provided with a tension device.

2. A cop holder for sewing machine shuttles consisting of a circular shell formed in two sections or portions fitted together, one of said sections being provided with a central hollow spindle to receive the pin or spindle of the shuttle, the said hollow spindle extending into and nearly across the cavity of said cop holder, and the other section of the said cop holder being provided in its outer face with a centrally arranged thread delivery throat or hole which is opposite the end of the said hollow spindle.

3. A cop holder for sewing machine shuttles consisting of a circular shell formed in two sections or portions, one of which is provided interiorly with a centrally arranged conical hollow spindle extending into and nearly across the cavity of the said cop holder, the other section or portion having in its outer face a central thread delivery throat or hole which is opposite the apex of the said spindle.

4. A cop holder for sewing machine shuttles consisting of a circular shell formed in two sections or portions one of which is provided with an interior hollow spindle extending into and nearly across the cavity of the cop holder and the other of which has in its outer face a centrally arranged thread delivery hole or throat, combined with a tension device attached to the periphery of the said portion having the thread delivery hole or throat.

5. The combination with a sewing machine shuttle provided with a post or spindle *a*', of a cop holder formed in two sections or portions, one of which is provided with an interior hollow spindle fitting the said post *a*' and extending into and nearly across the cavity of the said cop holder, and the other of which is provided with a centrally arranged thread delivery hole or throat opposite the end of the said hollow spindle.

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Witnesses:

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