

(No Model.)

C. E. WILKINSON.  
COP HOLDER FOR SEWING MACHINE SHUTTLES.

No. 414,354.

Patented Nov. 5, 1889.

Fig. 2.

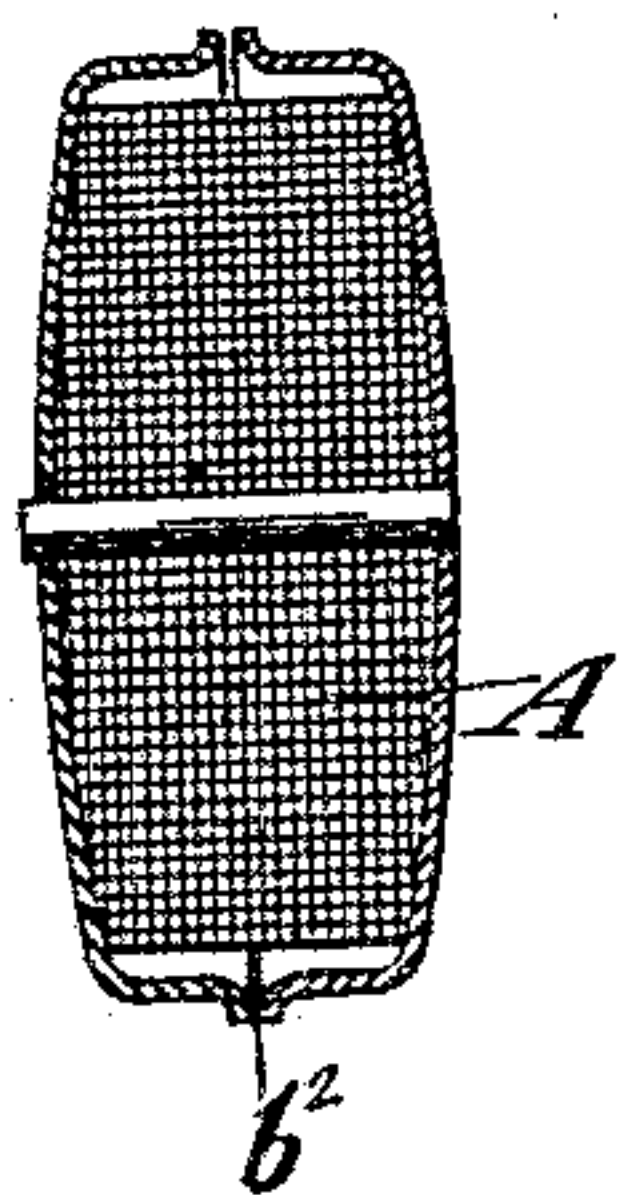


Fig. 1.

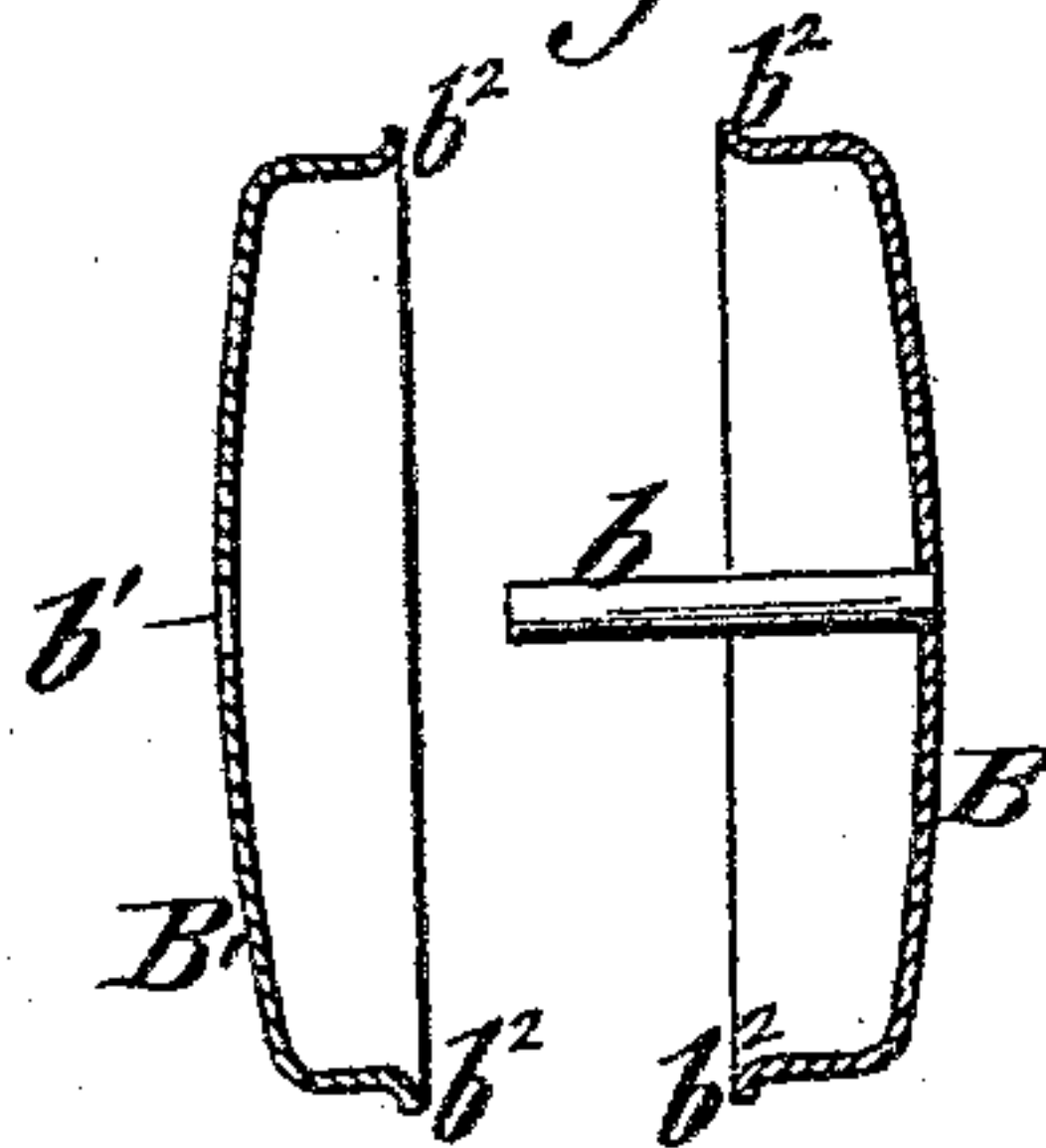


Fig. 3.

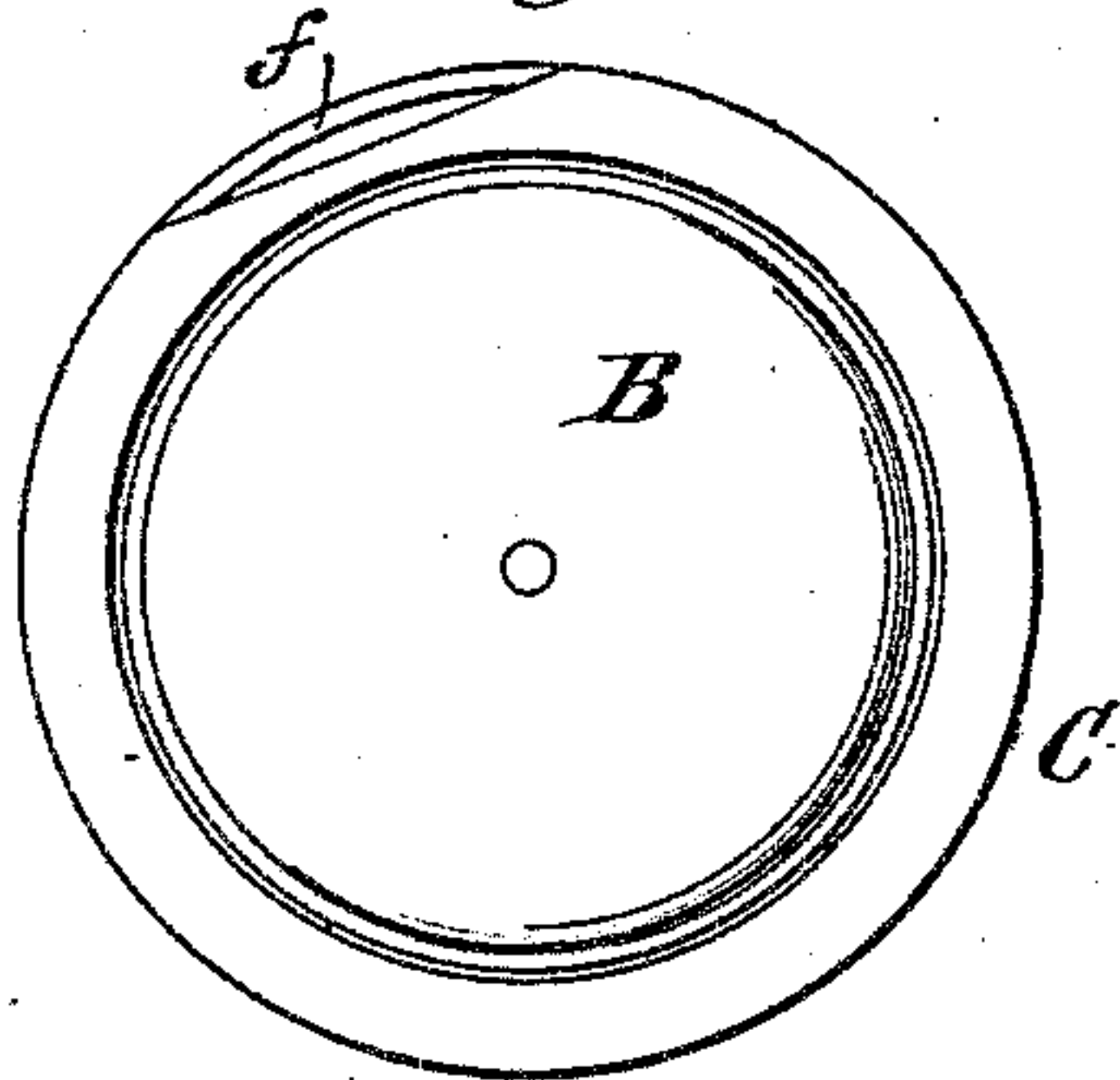


Fig. 4.

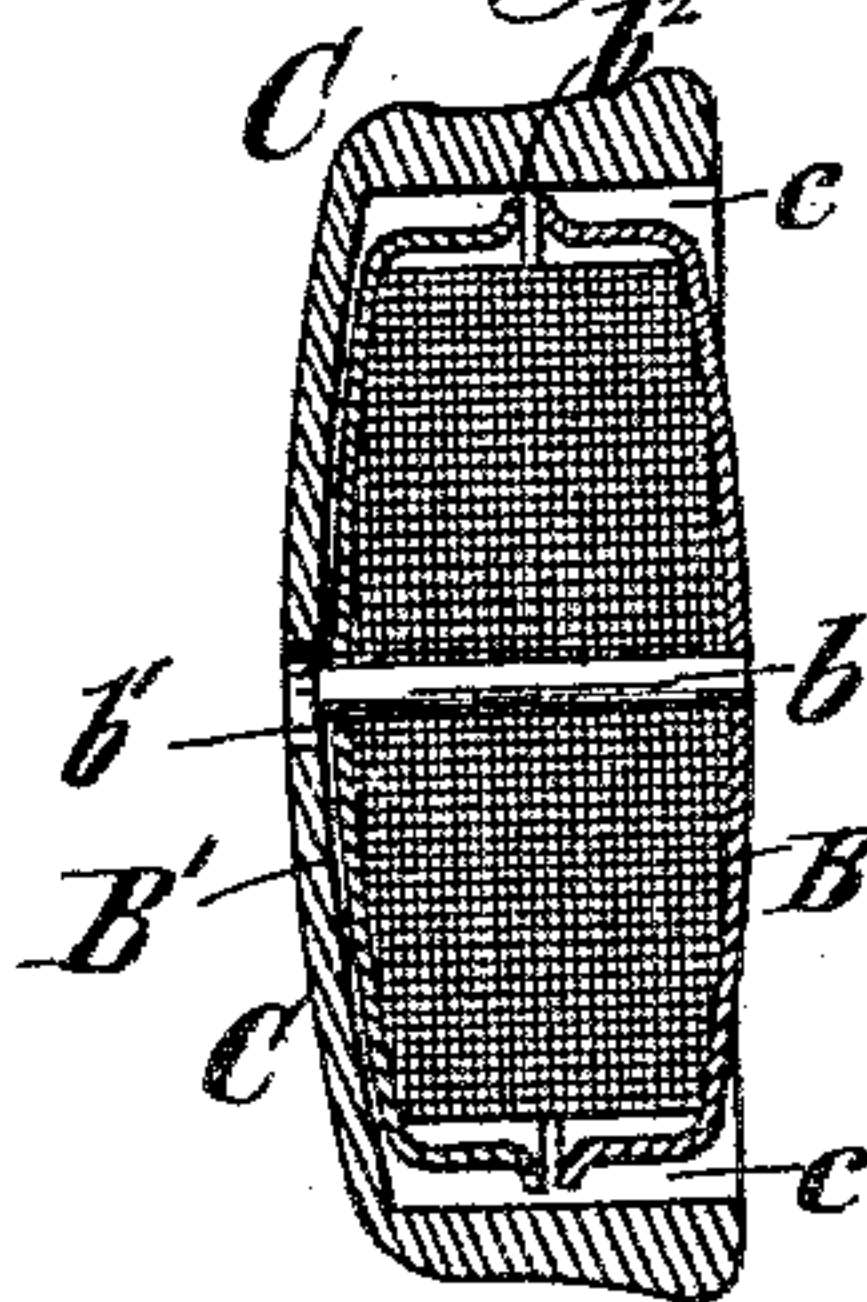


Fig. 5.

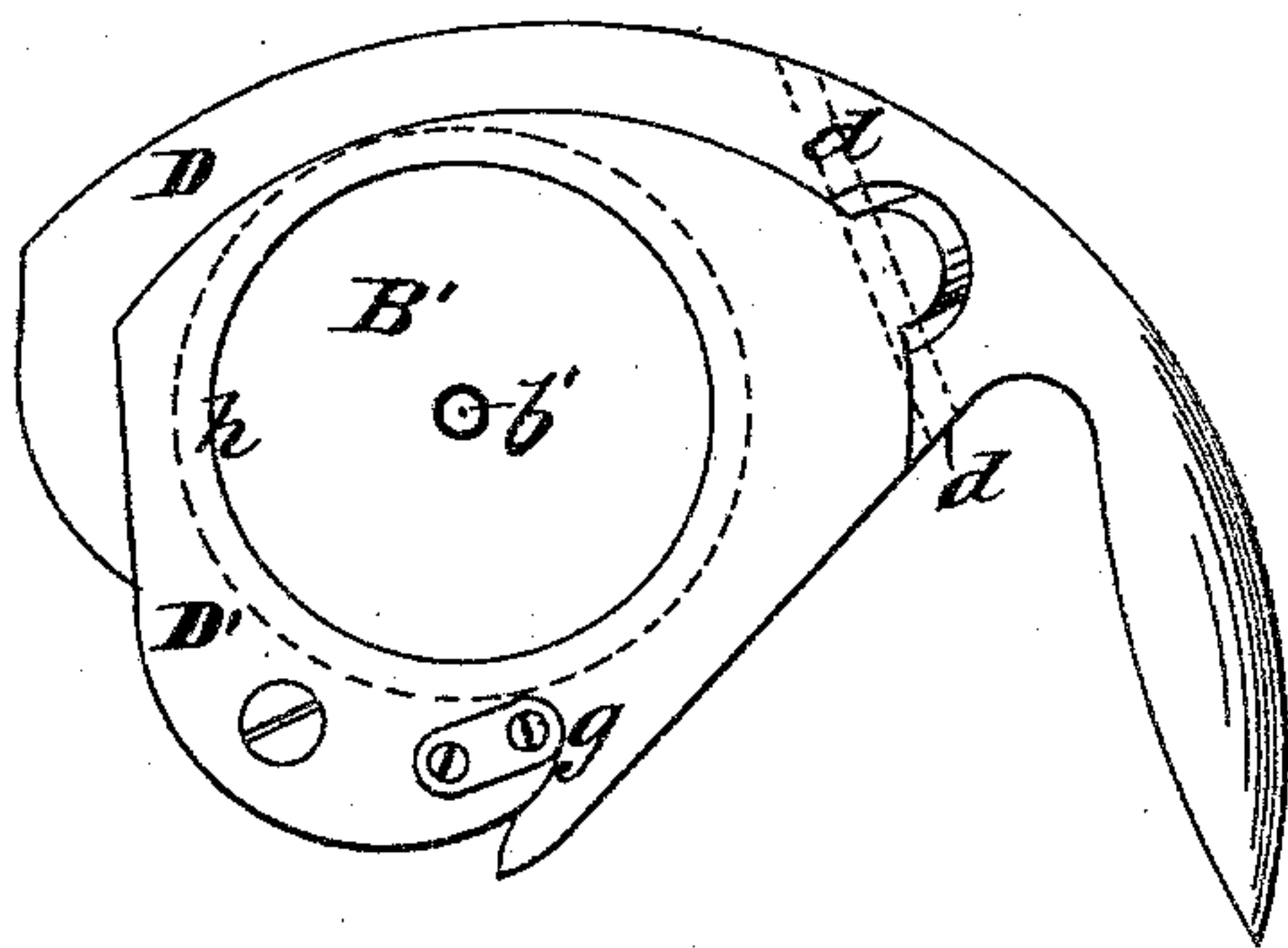
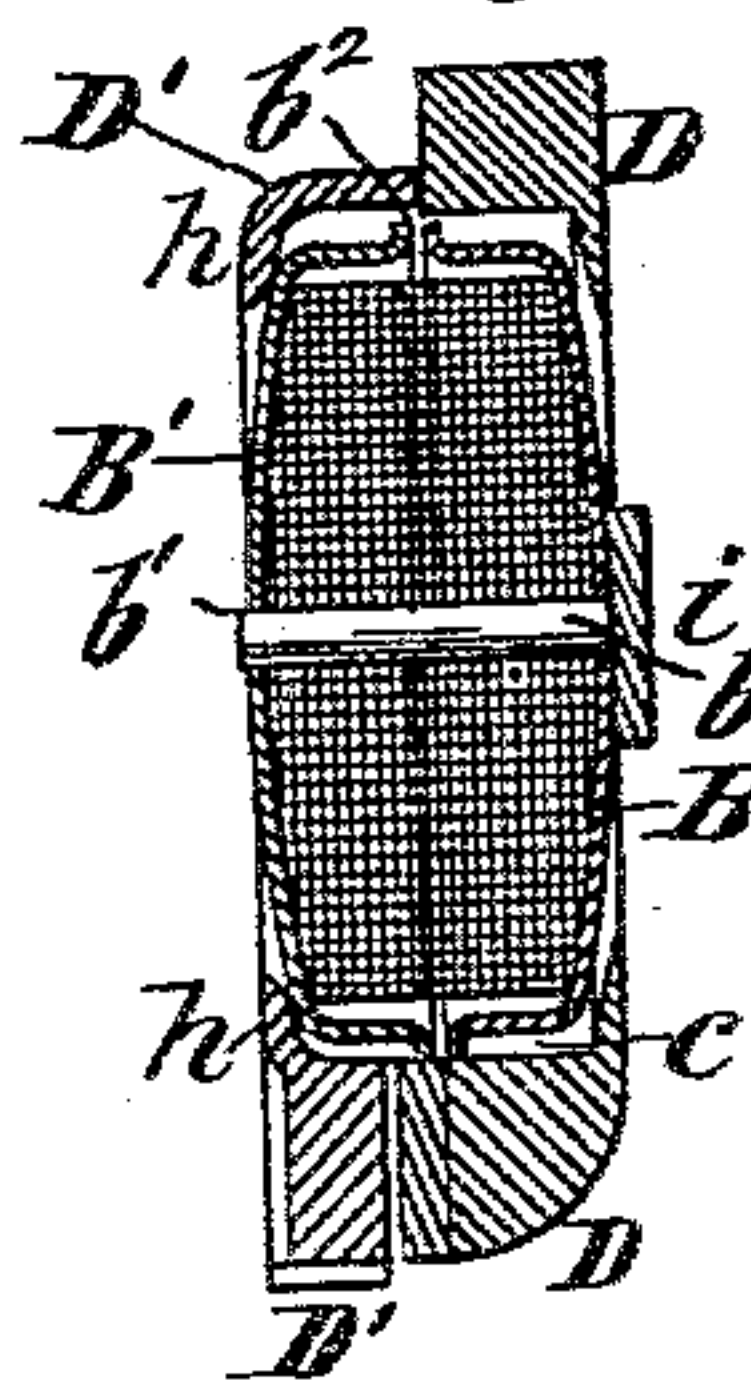


Fig. 6.



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# UNITED STATES PATENT OFFICE.

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## COP-HOLDER FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 414,354, dated November 5, 1889.

Application filed March 8, 1888. Serial No. 266,578. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. WILKINSON, of Matteawan, in the county of Dutchess 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 specification.

My invention relates to cop-holders which are designed to receive cops of thread to serve as the under thread of a sewing-machine and to be placed, with the cop of thread within said cop-holder, within the shuttle, so that the thread may be used from the cop as from a bobbin. The advantages of thus using a cop of thread instead of a bobbin are that in such form more thread can be got in a shuttle of given size, and the thread may be all wound in cops and thus sold to the consumer, so that the machine-operator will have only to insert a fresh cop within the cop-holder after the thread of a previous cop has been used up, and thus the operator will be saved the annoyance which is necessarily incurred by having to frequently wind bobbins for use in the shuttles. Such cops of thread cannot be placed loosely in the ordinary sewing-machine shuttle and thus operate, because the usual sewing-machine shuttle is open upon one or each side, and especially in rapidly-operating machines the thread of the cop would be liable to be tangled.

My invention relates to a cop-holder which is adapted to be placed within the open cavity in a shuttle, and which will properly protect the thread of the cop contained within it even with rapid-running machines.

The invention will be hereinafter particularly described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a sectional view of the two parts of my cop-holder separated slightly from each other. Fig. 2 is a similar view of the cop-holder closed and containing within it a cop of thread. Fig. 3 is a side view, and Fig. 4 an axial section, of a bobbin-case or shuttle for a Wheeler & Wilson sewing-machine containing a cop-holder embodying my invention and a cop of thread within said cop-holder. Fig. 5 is a side view of the hooked shuttle of the Singer sewing-machine, and Fig. 6 is an axial section through the shuttle-cavity and including

my improved cop-holder and the cop of thread contained therein.

Similar letters of reference designate corresponding parts in all the figures.

A designates a cop of thread, which is wound similarly to a spool, save that it has no wood or metal center or core on which it is wound, and the thread of this cop is adapted to unwind from the outside in the same manner that the thread unwinds from a spool.

The cop-holder consists of two parts B B'. These parts or members B B' consist of metal shells, which may be of tin or sheet-brass, and which are struck up by suitable dies, so that each member consists of a disk or plate and a surrounding rim portion. One of the members or parts of the cop-holder—the shell B, for instance—has fixed to the center of its inner side a small wire spindle or stem *b*, and the other part or member B' has a central hole *b'*, through which the spindle or stem *b* may project slightly when the two parts of the cop-holder are placed opposite each other upon the cop A.

In the machines for winding the cops A the thread is wound upon very small spindles or wires, and as the cop of thread is slipped off from the spindle or wire it may be slipped onto the spindle or stem *b* of the cop-holder, so that it may turn freely upon the spindle or stem. One member B having thus been applied to the cop of thread, the other member B' may be placed over the opposite side of the cop, the two coming near together at the center, as shown in Fig. 2, and as the spindle or stem *b* passes through the hole *b'* its free end is steadied and it is held with sufficient stiffness while the cop of thread A turns freely upon it as the thread is drawn off the cop.

In Figs. 3 and 4 I have illustrated what is ordinarily known as the "bobbin-case" of the Wheeler & Wilson sewing-machine, and which serves the purpose of a shuttle, inasmuch as it carries the lower thread of the machine.

The shuttle C has in it a circular and unobstructed opening or cavity *c*, into which the cop-holder B B' may be placed, as shown in Fig. 4, and the thread which is conducted from the periphery of the cop A passes outward under the ordinary tension device, which



is arbitrarily represented at *f*. By the draft of thread the cop A is rotated freely upon the spindle or stem *b* when the machine is operated, and draws smoothly from the cop-holder, and the cop-holder serves to amply protect the thread of the cop A, even though the shuttle-cavity *c* be practically open at one side.

In Figs. 5 and 6 I have represented the hooked shuttle of the Singer sewing-machine. This consists of the usual shuttle-body D and a cap D', which is hinged to the shuttle-body D by a hinge-pin *d*, extending parallel with the face of the parts and at right angles to the axis of the shuttle-cavity *c*. The two parts open readily upon the hinge-pin *d* as a center, and between the two parts D D' of the shuttle is formed the circular shuttle-cavity *c*, and within this circular cavity is placed the cop-holder B B', with the cop of thread A contained within it. The thread is drawn off from the outside periphery of the cop A and passes freely between the edges of the two shells B B', and thence through the tension device *g*.

The shuttle-cavity *c* is not closed upon either side. On the one side it has an inwardly-projecting rim or flange *h*, which overlaps the edge portion of the cop-holder B B', and upon the other side the shuttle has the cross-spring *i*, which serves to hold the cap D' closed against the body, and which offers a yielding resistance to the opening of said cap to open the shuttle-cavity. By this construction the cop-holder B B' is held in place within the shuttle-cavity *c*, and the thread of the cop A is amply protected, although the shuttle is open on each side, because of the

cop-holder B B', which covers and protects the cop of thread, and which only allows sufficient space for the drawing off of thread between the rim portions of the two shells.

In order to ease and direct the thread outward between the two shells B B', I have represented the inner edges of the rim portions of these shells as slightly turned or flared outward, as shown at *b*<sup>2</sup>, and, although this bending or flaring outward of the edges of the rims is not a necessity, it is advantageous, because by such turned-outward or flared edges the thread is better directed between the shells and prevented from catching upon the edges of said shells.

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

The herein-described cop-holder for a shuttle, consisting of two cup-shaped disks adapted to embrace the opposite sides of the cop, and having their adjacent edges turned to form a smooth bearing for the thread; one of the said disks having an axial wire or stud adapted to replace the wire or stud upon which cops are commonly wound, fixed centrally thereto, and the other disk being provided with an opening centrally located therein to receive the end of the axial wire or stud, the disks, when in position on the cop, having an engagement with the cop, forming a free opening for the passage of the thread between their adjacent edges, substantially as set forth.

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