

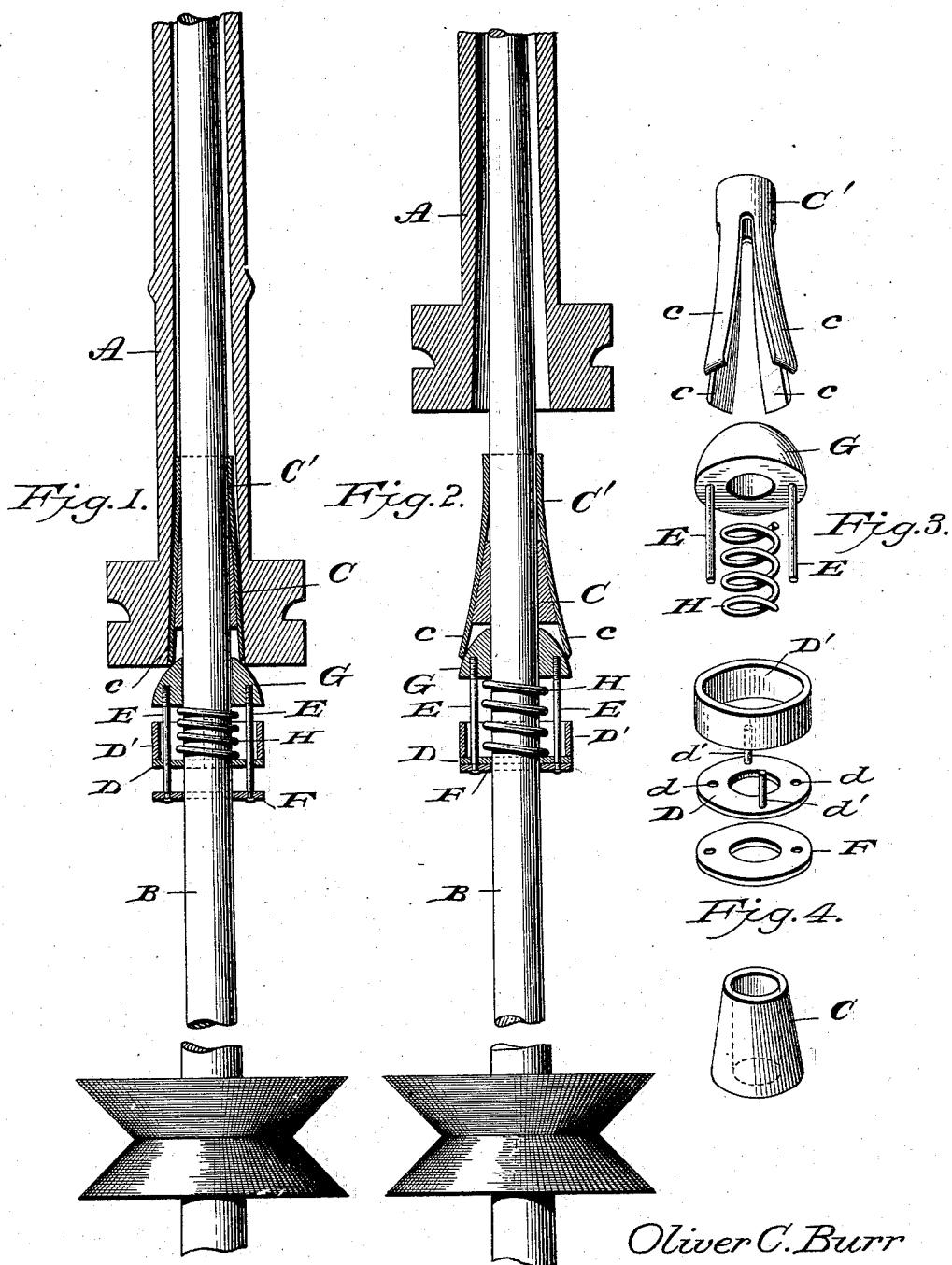
(No Model.)

O. C. BURR.

COMBINED BOBBIN HOLDER AND THREAD CATCHER.

No. 578,811.

Patented Mar. 16, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

OLIVER C. BURR, OF WINSTED, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO WALDO L. CURTISS, OF SAME PLACE.

COMBINED BOBBIN-HOLDER AND THREAD-CATCHER.

SPECIFICATION forming part of Letters Patent No. 578,811, dated March 16, 1897.

Application filed November 4, 1896. Serial No. 610,997. (No model.)

To all whom it may concern:

Be it known that I, OLIVER C. BURR, a citizen of the United States of America, residing at Winsted, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in a Combined Bobbin-Holder and Thread-Catcher; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in bobbin-holders and thread-catchers for spindles, and has for its object to provide a spindle with a bobbin-holder and thread-catching device the parts of which are so constructed as to coöperate, so that when the bobbin is placed on the spindle and engages with the bobbin-holder the thread-catcher will be operated upon to open the grasping portions or jaws thereof, said jaws closing automatically when the bobbin is lifted out of engagement with its holder. By such a device the loss and inconvenience caused by the waste ends of the yarn are obviated, and the several functions of holding the bobbin on the spindle, opening the thread-catcher, and permitting said thread-catcher to close are practically automatic.

The devices, though designed primarily as a combined bobbin-holder and thread-catcher for spindles, are so constructed that the two may be used independently. Thus the present invention embodies a novel construction of bobbin-holder, as well as a thread-catcher, which may be operated by the bobbin independently of the bobbin-holder, yet the several parts when attached to the spindle are so organized that they coöperate.

With the above ends in view my invention consists of an improved bobbin-holder comprising a furcated sleeve which is adapted to be secured on the spindle, the arms of said sleeve bearing upon a packing, preferably a conical frustum of pliable material carried by the spindle to engage with the arms and force them outward.

My invention further consists in an improved thread-catcher comprising a disk which is rigidly secured to the spindle and having a flange which partially incloses a spring that bears upon a sliding member located above the flange and is actuated upon by said spring, the sliding member being connected to a washer located below the disk and adapted to clamp the end of the thread between said washer and the disk, such device being susceptible of operation by contacting with the base of the bobbin as it is placed on the spindle.

My invention further consists in making one of the sliding members of the thread-catcher conical and combining with such construction a bobbin-holder having arms which when forced inward will contact with the conical member of the thread-catcher and move the lower sliding member away from the stationary disk.

The invention further consists in the particular construction and combination of the parts, as will be hereinafter set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view through the bobbin and thread-holder, the bobbin being shown in operative position and the jaws of the thread-catcher separated. Fig. 2 is a vertical section showing the spindle, bobbin-holder, and thread-catcher with the bobbin partially removed. Fig. 3 is a view showing the parts of the thread-catcher separated. Fig. 4 is a detail view of the conical frustum with which the furcated member or arms of the bobbin-holder engage.

Referring to the drawings, the letter A designates the bobbin, and B the spindle, both of which are of the usual type.

To the spindle is secured a conical frustum C, of cork, though other elastic material may be used. Cork is, however, preferred, as it is not affected by grease or heat.

C' designates the bobbin-holder, which is made up from a tube of metal, not necessarily spring metal, said sleeve or tube being slit to present arms c. The function of the conical frustum C, of elastic material, is to give a spring action to the arms c. This de-

vice, comprising the conical frustum of elastic material and the collar with depending arms, provides an effective bobbin-holder when placed upon the spindle, and though
 5 prior to my invention it has been proposed to provide bobbin-holders made up of collars with spring-arms I do not claim such as my invention, for the simple inherent spring-
 10 pressure of the arms or members of such bobbin-holders is not to all intents and purposes as effective as one in which the spring-pressure is given to the arms through the inter-
 15 vention of another medium that can be adjusted to vary the outward flare of the arms. This adjustment can be accomplished in the present instance by either adjusting the bobbin-holder C' upon the spindle toward or away
 20 from the conical frustum or by moving said conical frustum, and any inherent spring-pressure of the arms as constructed by me will be toward the spindle and will assist in holding the frustum upon the spindle. The
 25 frustum is of less length than the arms, so that the lower ends of the latter will be free to move toward the spindle, being bent slightly inward, so that the ends will not contact with the bore of the bobbin.

I consider it an essential feature of my invention that the lower ends of the arms should
 30 turn inward, so that the frictional contact with the bobbin will be above their ends, instead of a construction in which the points project outward to enter the wood or material of which the bobbin is made. It is also essen-
 35 tial that the ends of the arms should be free to move in and out. This feature of my invention, with the elastic frustum, clearly distinguishes my said invention from the bobbin-holders known as the "Golding" bobbin-
 40 holder or the "Salisbury" bobbin-holder, patented January 25, 1870.

The thread-catcher consists of a disk D, which is rigidly attached to the spindle, and this disk is preferably provided with aper-
 45 tures *d d* and carries a ring or band D', said ring or band being secured to the disk by solder, or may be held in frictional engagement therewith by pins, as *d'*, which project up-
 50 ward from said disk and engage the inner face of the ring or band. Through the apertures *d* pass pins E, which are headed at one end and are preferably rigidly attached to a
 55 washer F, said washer being free to move on the spindle. The upper ends of the pins E engage a conical member G, which is also free to move on the spindle and is normally held
 60 away from the ring or band D' by means of a spring H, which encircles the spindle, one end thereof bearing upon the disk D, while the other end bears upon the flattened por-
 tion of the conical member G.

It will be noted that the band or ring serves two important functions. It prevents the
 65 thread or yarn becoming entangled with the spring and limits the downward movement of the conical member, the upward movement

of said member being limited by the rods or pins E.

The improved thread-catcher may be used with a bobbin of ordinary construction. When
 70 such a bobbin is placed on the spindle and forced downward, the lower end thereof will contact with the member G of the thread-holder and depress said member, which will
 75 move the lower disk or washer F away from the fixed disk D. The end of the thread is then placed between the disk D and the disk or washer F, and when the bobbin is raised the spring will force the disk or washer F to-
 80 ward the disk D, so as to hold the thread, thus obviating winding the same on the spindle, as is commonly practiced.

When my improved bobbin-holder is used, the bobbin A is forced downward upon the
 85 spindle and holder, and the arms *c*, being forced inward, will ride upon the conical member G of the thread-catcher to force said member downward, carrying the lower disk or
 washer with it.

This invention is simple in construction and
 90 can be readily applied to spindles and bobbins of the usual construction.

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

1. In a thread-holder for spindles, the combination with the revoluble spindle having a
 100 fixed member thereon, two members movable in unison and held in sliding engagement with the fixed member, means for moving one of the movable members toward the fixed member, and a band or ring carried by the fixed member to partially inclose the means for actuating the movable members, substantially
 105 as shown.

2. In a thread-holder for spindles, the combination with a spindle having a fixed member thereon, two movable members connected to each other so that they will move in unison,
 110 one being spring-actuated toward the fixed member and the other spring-actuated away from the same, a spring encircling the spindle, and a ring to partially inclose the spring, substantially as shown.

3. In a thread-holder for spindles, the combination with the revoluble spindle having a
 115 fixed member thereon, a disk or washer below the same connected to another member having an inclined face; together with a bobbin-holder having arms which are moved inward by placing the bobbin thereon, said
 120 movement automatically actuating the movable member of the thread-catcher away from the fixed member, substantially as shown and for the purpose set forth.

4. In a bobbin and thread holder for spindles, the combination, of the bobbin-holder adapted when engaged by the bobbin to actuate the thread-catcher to separate the thread-grasping members thereof, and means for actuating one of the movable members of the
 130 thread-holder so that it will move toward the

fixed member thereof when the bobbin is raised, substantially as shown.

5 5. A bobbin-holder for spindles, consisting of a collar having arms and a conical frustum of elastic material secured to the spindle to engage the arms and provide means for forcing said arms outward.

10 6. A bobbin-holder for spindles, consisting of a collar rigidly attached to the spindle and provided with arms the free ends of which are bent inward; together with means carried by the spindle for engaging the arms to force the same outward.

15 7. A bobbin-holder for spindles, consisting of a collar having arms and a section of cork carried by the spindle to engage the arms at a point above their lower ends, substantially as shown.

20 8. In combination with the spindle and bobbin, of the bobbin-holder and thread-catcher devices, consisting of a sleeve having arms, means for forcing said arms outward carried by the spindle and located above the ends of said arms; the thread-catcher comprising a fixed member and movable members F and G, the upper movable member

having an inclined face with which the ends of the arms of the bobbin-holder engage, so that when the arms of the bobbin-holder are forced inward said conical section will be 30 moved upon the spindle, substantially as shown and for the purpose set forth.

9. In combination with a bobbin-holder having arms which are moved toward the spindle when engaged by the bobbin, of a 35 thread-catcher comprising a member fixedly attached to the spindle, movable members above and below the fixed member and connected to each other, a spring for engagement with the fixed member and one of the movable members, the face of the movable member 40 adjacent to the bobbin-holder being inclined, substantially as shown, whereby the inward movement of the arms of the bobbin-holder will actuate the movable members of 45 the thread-catcher, for the purpose set forth.

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

OLIVER C. BURR.

Witnesses:

GEORGE M. CARRINGTON,
CARL E. MOFFATT.