

J. A. CLARK.
BOBBIN SPINDLE.
APPLICATION FILED MAR. 1, 1906.

950,890.

Patented Mar. 1, 1910.

Fig. 1.

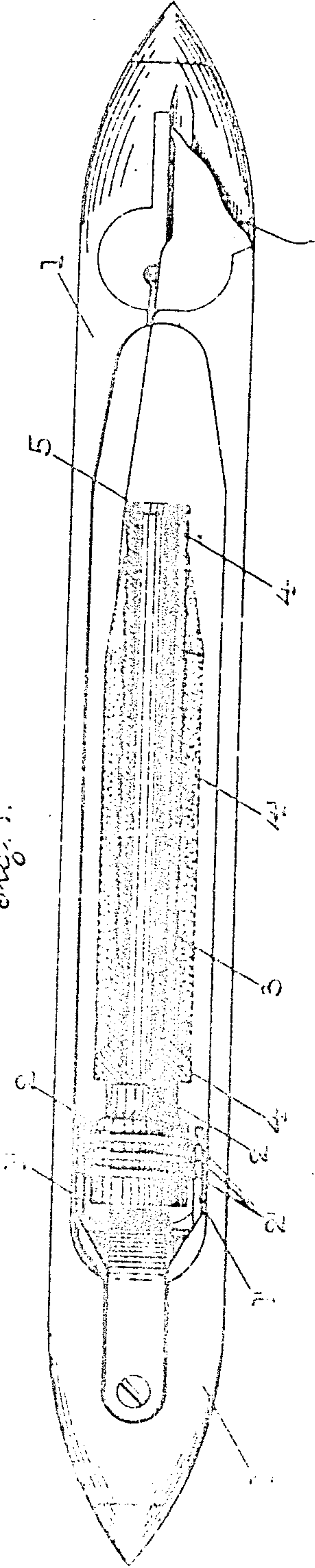


Fig. 2.

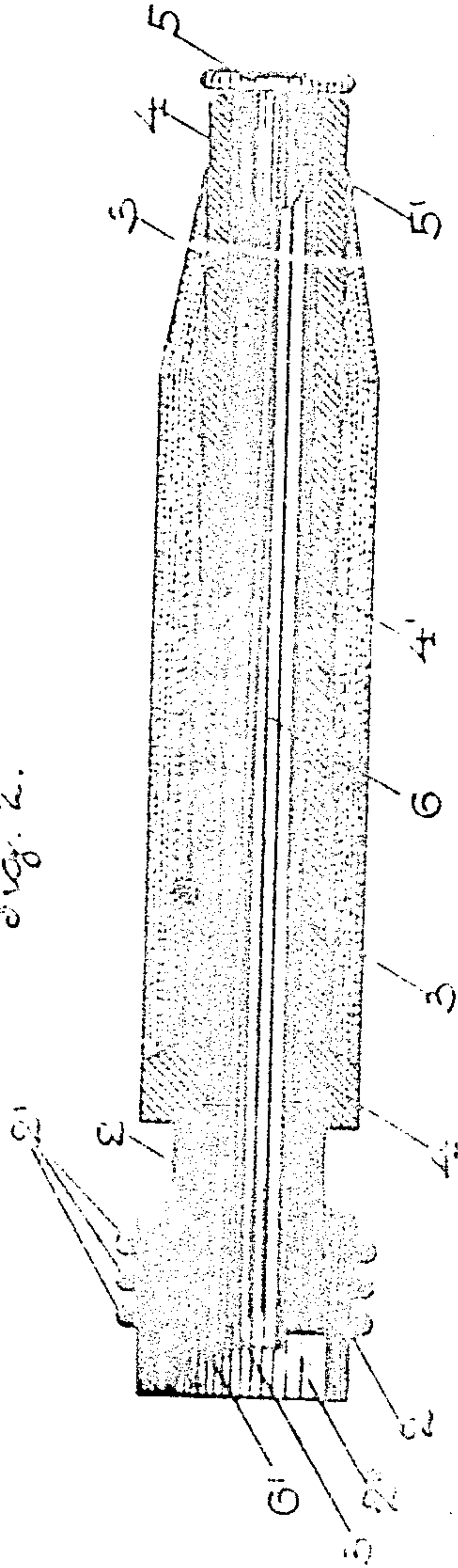
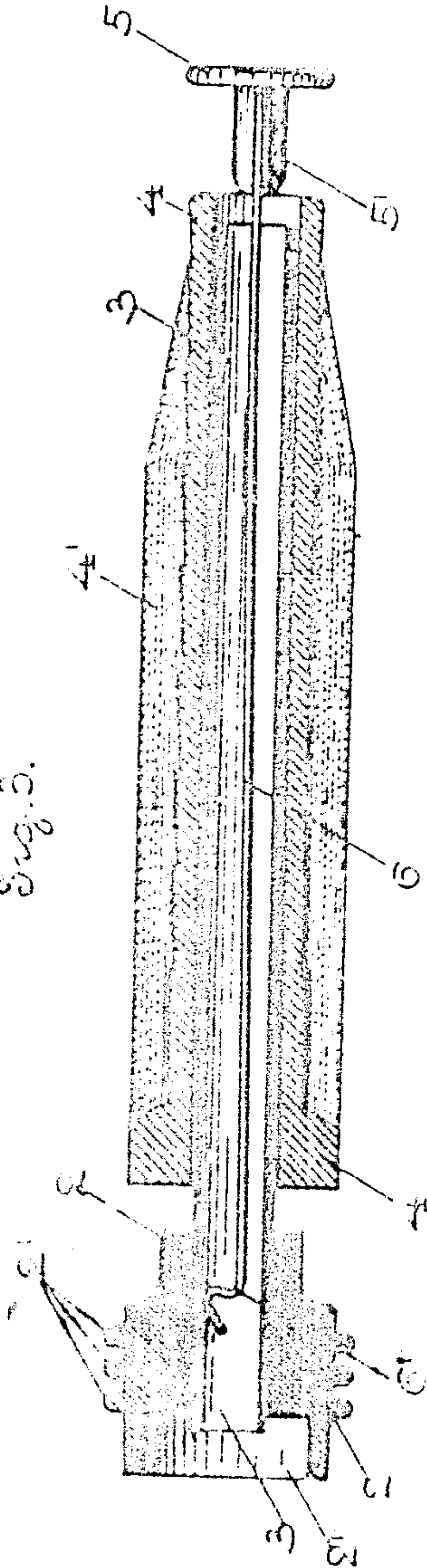


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN A. CLARK, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

BOBBIN-SPINDLE.

950,890.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, JOHN A. CLARK, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Bobbin-Spindles, of which the following is a specification.

My invention relates to improvements in bobbin spindles, and particularly to a bobbin spindle having at one end two or more annular projections to engage the holding jaws in the shuttle, which retain the spindle in the shuttle, and having at its other end an enlarged head to retain the bobbin on the spindle, and to furnish a bearing surface for the filling, as it is drawn from the bobbin.

The object of my invention is to improve upon the construction of a bobbin spindle of the description referred to, and more particularly to provide a hollow spindle, and a detachable retaining head for the end of the spindle, made separate from and adapted to be removably secured to the spindle.

My invention consists in certain novel features of construction of my improvements as will be hereinafter fully described.

Referring to the drawings:—Figure 1 is a top view of a self-threading shuttle of ordinary construction, having spindle holding jaws, and showing a spindle embodying my improvements combined therewith, and a sectional view of a filled bobbin on the spindle. Fig. 2 shows, on an enlarged scale, a central longitudinal section of the spindle and bobbin, shown in Fig. 1, detached, and, Fig. 3 corresponds to Fig. 2, but shows the removable retaining head, partially detached from the spindle, and the bobbin moved up slightly on the spindle.

In the accompanying drawing, 1 is a self-threading shuttle, which may be of any usual and well known construction, and provided with a pair of yielding holding jaws 1', in the usual way.

The spindle embodying my improvements consists of the attaching end or head 2, having thereon and in this instance made integral therewith, three annular projections or rings 2', adapted to extend between and engage with the yielding jaws 1'. The head 2 is preferably recessed or provided with a circular opening 2'' in its end.

Combined with the head 2 is a tube 3, forming a hollow spindle upon which a bob-

bin 4, having filling 4' thereon is loosely supported. The tube 3 is in this instance secured to the head 2 by extending tightly into a central opening through said head.

5 is a head, of disk or button shape, for the outer end of the spindle, and is of a diameter sufficient to act as a bearing or race for the filling 4' as it is drawn from the bobbin, to keep it away from the end of the bobbin. The head 5 has a reduced portion 5' preferably of circular shape in cross section, which is adapted to loosely enter the outer end of the tubular spindle 3.

One end of a spring blade 6 is attached to the reduced portion 5' of the head 5, and is adapted to extend loosely through the tubular spindle 3, and is provided at its inner end with the hook portion 6', which is adapted to extend over and engage the inner end of the tubular spindle 3, as shown in Fig. 2.

The head 5, through the spring blade 6, acts to hold the bobbin 4 on the spindle, as shown in Fig. 2. By disengaging the hook end 6' of the blade 6 from the inner end of the spindle 3, the head 5 is free to be removed from the spindle, and with it the blade 6, to allow of the removal of the bobbin 4.

The advantages of my improvements will be readily appreciated by those skilled in the art.

I provide a spindle of the description referred to, having at one end two or more annular projections to engage the holding jaws in the spindle, and at its other end a removable tip or head, to hold the bobbin on the spindle, and to act as a bearing for the filling.

It will be understood that the details of construction of my improvements may be varied if desired.

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

1. A bobbin spindle, comprising a tube having a longitudinal opening therethrough, of uniform diameter throughout its length, and having at one end a shuttle holding-head with a plurality of annular projections thereon, and a recessed circular opening therein, and having at its other end a removable bobbin retaining head, of disk or button shape, with a reduced portion to loosely enter the outer end of said tube, and a spring blade attached at one end to said reduced

portion, and having a hook on its other end, to engage with and be disengaged from the inner end of said tube.

2. In a bobbin spindle, the combination with a tube, having a longitudinal opening therethrough of uniform diameter throughout its length, and having at one end a shuttle holding head with a plurality of annular projections thereon, of a removable bobbin retaining head, of disk or button shape, with

a reduced portion to loosely enter the outer end of said tube, and a spring blade attached at one end to said reduced portion, and having a hook at its other end, to engage with and be disengaged from the inner end of said tube.

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