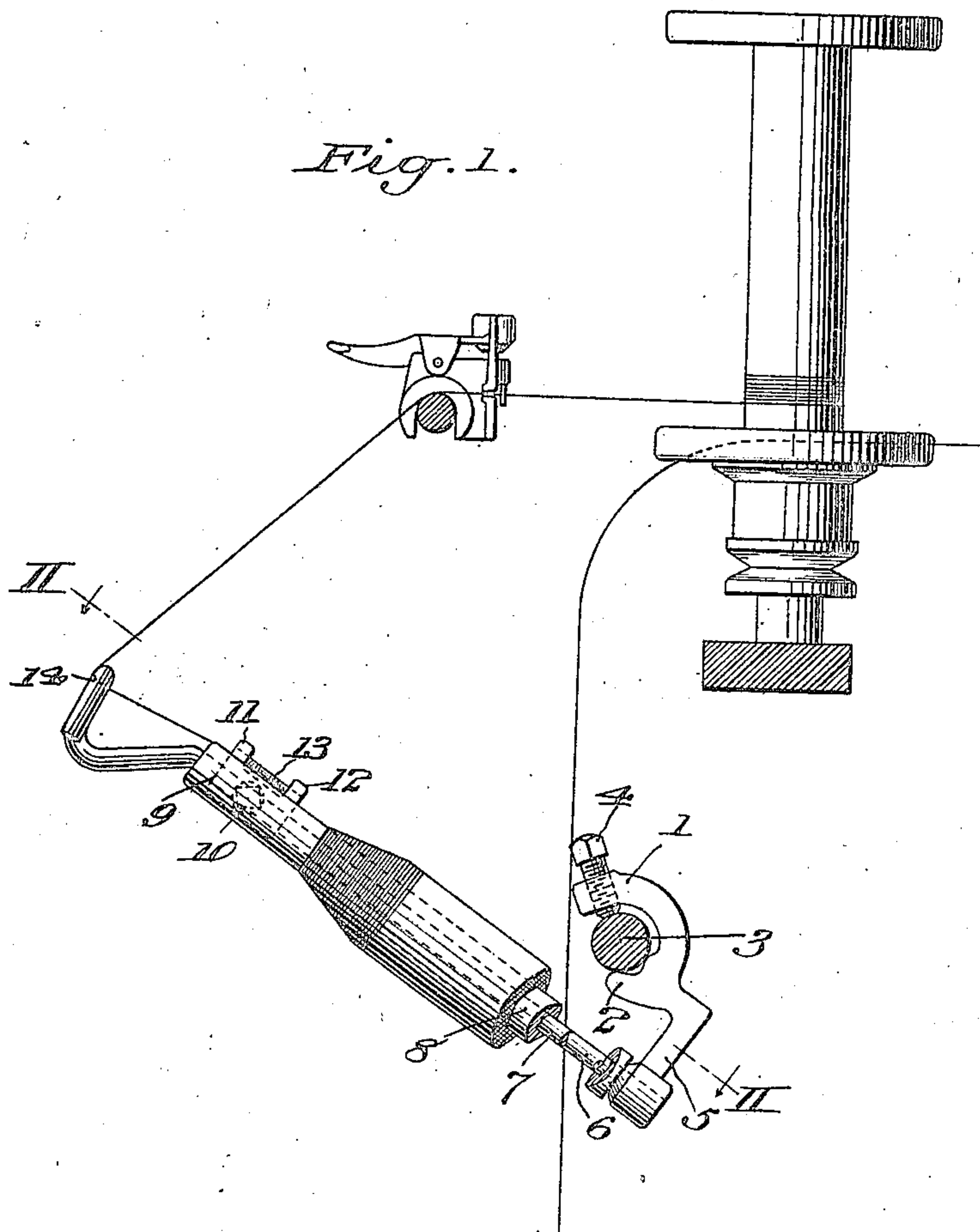


Jan. 2, 1923.

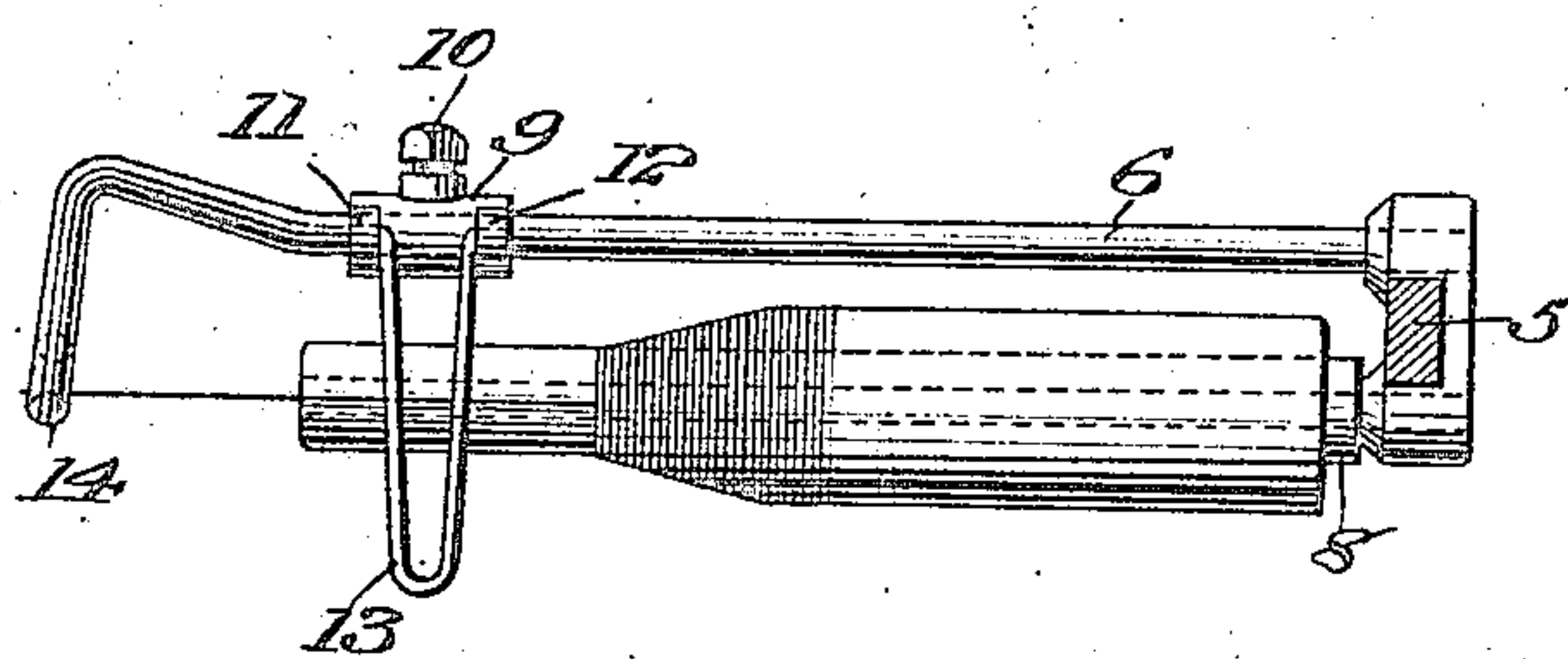
J. O. McKEAN.  
TENSION DEVICE.  
FILED FEB. 4, 1922.

1,441,011.

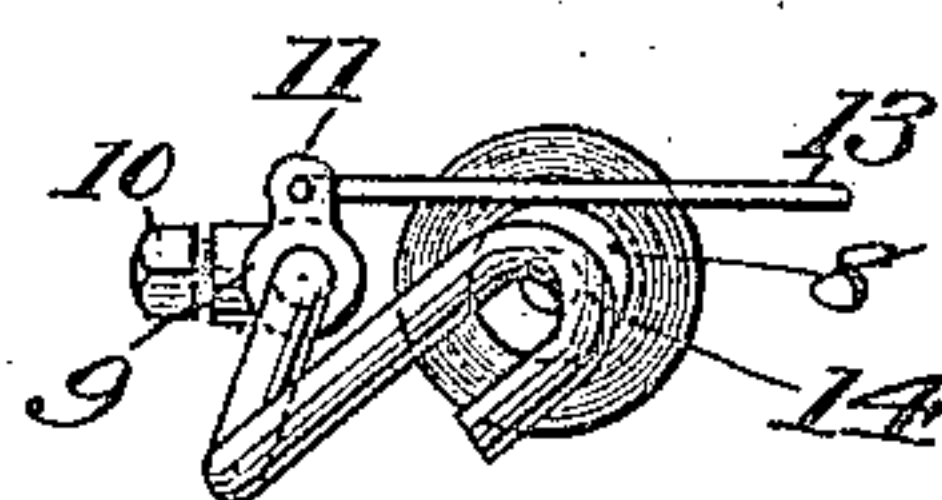
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Inventor:-  
John O. McKean  
by attorney  
Munroe & Ward



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# UNITED STATES PATENT OFFICE.

JOHN O. MCKEAN, OF WESTFIELD, MASSACHUSETTS, ASSIGNOR TO FOSTER MACHINE COMPANY, OF WESTFIELD, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## TENSION DEVICE.

Application filed February 4, 1922. Serial No. 534,145.

*To all whom it may concern:*

Be it known that I, JOHN O. MCKEAN, a citizen of the United States, and resident of Westfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Tension Devices, of which the following is a specification.

In drawing yarn from the bobbin over the head there is a tendency for the yarn to kink as it leaves the bobbin. This is especially true where the yarn has a particularly hard wind or twist.

The object of my invention is to provide a tension device which will coact with the bobbin to prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

The object of my invention more particularly is to provide a gravity operated tension device which will press against the bobbin head, between which tension device and the bobbin, the yarn will be caused to pass as it is drawn from the bobbin, it being understood that the bobbin is held stationary.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Fig. 1 represents so much of a winding machine as will illustrate my invention.

Fig. 2 represents a section taken in the plane of the line II—II of Fig. 1.

Fig. 3 represents an end view of one of the bobbins and tension device which coacts therewith.

The bobbin holder comprises a bracket, two arms 1 and 2 of which embrace a bar 3 of the machine. A set screw 4 may be used for adjustably securing the bracket to the said bar 3. This bracket is provided with a third arm 5 from which project two substantially parallel pins 6 and 7. In the present instance these pins project diagonally upward from the bracket and the stationary bobbin 8 is mounted against rotation on the pin 7.

The tension device which I have shown herein comprises a sleeve 9 which is adjustable along the pin 6 and also rotatively adjustable thereon so as to enable it to be fixed in any desired longitudinal and rotative adjustment with respect to the bobbin. A set screw 10 may be provided for clamping the sleeve 9 in its adjusted position. This sleeve 9 is provided with two ears 11 and 12 ar-

ranged to receive the free ends of a gravity operated U-shaped element 13, whereby the element is pivoted to the sleeve. This element may be removed from the sleeve by springing its free ends out of their pivotal engagement with the ears 11 and 12.

This gravity operated element 13 presses lightly against the bobbin head and the yarn as it is drawn from the bobbin over the head is caused to pass between this gravity operated element and the bobbin, thus not only preventing the tendency of the yarn to kink at this point, but also serving to exert a slight tension on the yarn.

The pin 6 may be developed into a yarn guide 14 beyond the bobbin head.

It is evident that various changes in the construction, form and arrangement of the several parts may be made without departing from the spirit and scope of my invention; hence I do not wish to limit myself to the particular embodiment herein represented, but,

What I claim is:—

1. A bobbin holder, and a gravity operated tension device arranged to coact with the bobbin to prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

2. A bobbin holder, and a gravity operated tension device arranged to press against the bobbin head, between which tension device and bobbin head the yarn passes as it is drawn from the bobbin over the head of the bobbin, to prevent the kinking of the yarn.

3. A bobbin holder, a gravity operated tension device arranged to coact with the bobbin to prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin, and a support for the tension device, carried by the bobbin holder.

4. A bobbin holder, a gravity operated tension device arranged to press against the bobbin head, between which tension device and bobbin head the yarn passes as it is drawn from the bobbin over the head of the bobbin, to prevent the kinking of the yarn, and a support for the tension device, carried by the bobbin holder.

5. A bobbin holder comprising a bracket, a pin projecting therefrom, a second pin projecting from the bracket alongside of the bobbin, and a tension device carried by the second pin and arranged to coact with



the bobbin head to prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

6. A bobbin holder comprising a bracket, 5 a pin projecting therefrom, a second pin projecting from the bracket alongside of the first named pin, and a gravity operated tension device carried by the second pin and arranged to coact with the bobbin head to 10 prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

7. A bobbin holder comprising a bracket, a pin projecting therefrom, a second pin 15 projecting from the bracket alongside of the first named pin, and a tension device carried by the second pin and arranged to press against the bobbin head, between which tension device and bobbin head the 20 yarn passes as it is drawn from the bobbin over the head of the bobbin, to prevent the kinking of the yarn.

8. A bobbin holder comprising a bracket, a pin projecting therefrom, a second pin 25 projecting from the bracket alongside of the first named pin, and a gravity operated tension device carried by the second pin and arranged to press against the bobbin head, between which tension device and bobbin 30 head the yarn passes as it is drawn from the bobbin over the head of the bobbin, to prevent the kinking of the yarn.

9. A bobbin holder, and a tension device having a gravity operated removable ele-

ment arranged to coact with the bobbin to 35 prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

10. A bobbin holder, and a tension device having a gravity operated removable ele- 40 ment arranged to press against the bobbin head, between which element and bobbin head the yarn passes as it is drawn from the bobbin over the head of the bobbin, to pre- 45 vent the kinking of the yarn.

11. A bobbin holder comprising a bracket, a pin projecting therefrom, a second pin, and a tension device carried by the second pin comprising a sleeve adjustable along the 50 pin, and a gravity operated removable element arranged to coact with the bobbin head, to prevent the kinking of the yarn as it is drawn from the bobbin over the head 55 of the bobbin.

12. A bobbin holder comprising a bracket, 55 a pin projecting therefrom, a second pin developed into a yarn guide, and a tension device carried by the second pin comprising a sleeve adjustable along the pin, and 60 a gravity operated removable element arranged to coact with the bobbin head, to prevent the kinking of the yarn as it is drawn from the bobbin over the head of the bobbin.

In testimony, that I claim the foregoing 65 as my invention, I have signed my name this second day of Feb., 1922.

JOHN O. McKEAN.