

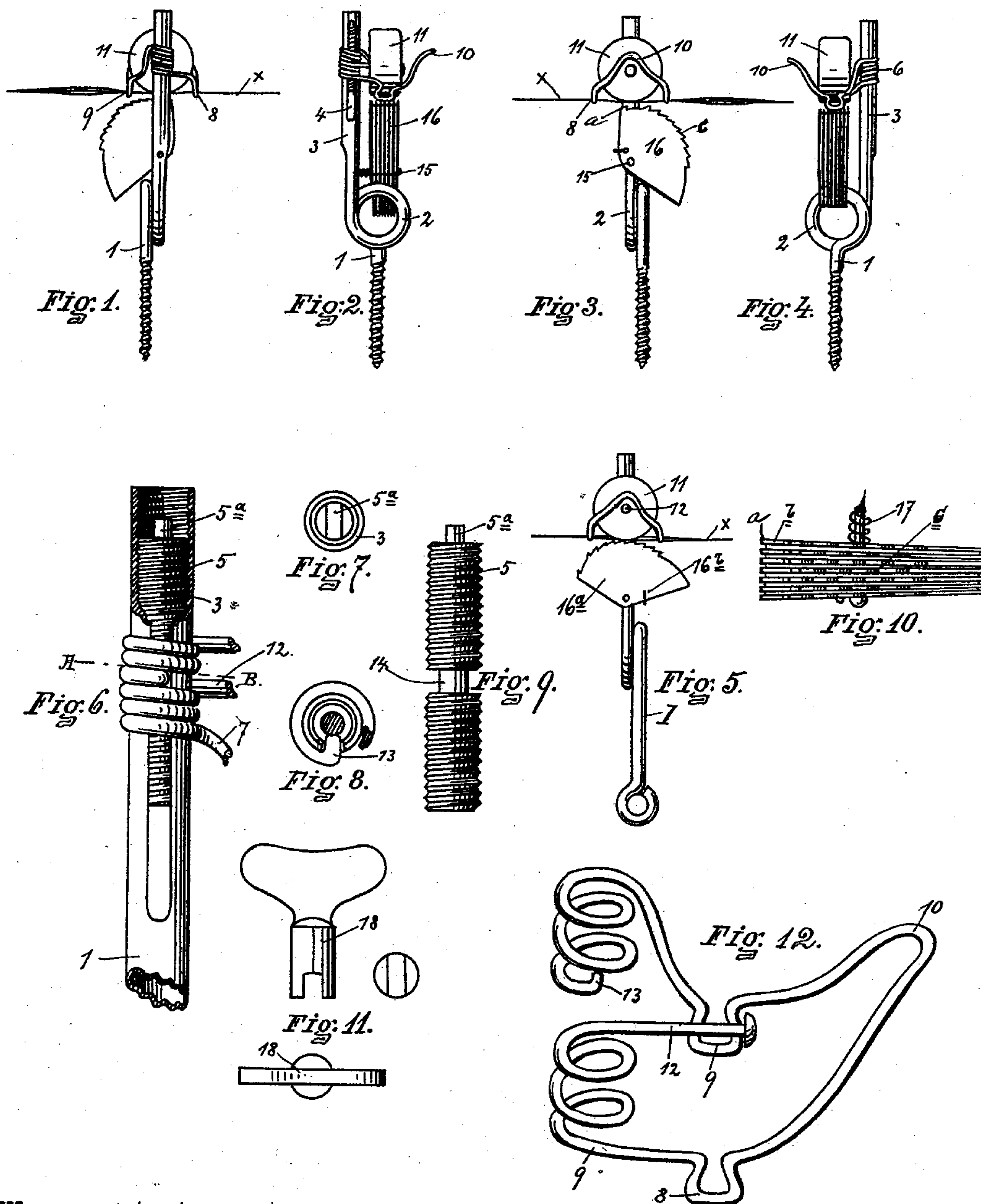
(No Model.)

T. J. SANDS.

DEVICE FOR CATCHING AND REMOVING BUNCHES FROM YARN.

No. 500,243.

Patented June 27, 1893.



WITNESSES.

Rich. A. George

James Perry

INVENTOR.

Thomas J. Sands

By Asa L. Robinson

Atty

UNITED STATES PATENT OFFICE.

THOMAS J. SANDS, OF UTICA, NEW YORK.

DEVICE FOR CATCHING AND REMOVING BUNCHES FROM YARN.

SPECIFICATION forming part of Letters Patent No. 500,243, dated June 27, 1893.

Application filed April 11, 1892. Serial No. 428,572. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. SANDS, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Devices for Catching and Removing Bunches from Yarn; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 the letters and numerals of reference marked thereon, which form part of this specification.

My invention relates to a combined yarn guide and device for removing bunches from yarn. These bunches are usually a fuzzy enlargement defect in the yarn and are usually termed "slugs," and it is more especially for the purpose of catching and removing these slugs that my invention is intended.

In the drawings which accompany and form part of this specification and in which similar letters and numerals of reference refer to corresponding parts throughout the several views, Figure 1 shows a rear view of the device. Fig. 2 shows an edge view. Fig. 3 shows a front view. Fig. 4 shows the other edge from that shown in Fig. 2. Fig. 5 shows the same parts shown in Fig. 3 with a "slug" caught by the device. The stem or support of the device in this figure is modified having an eye instead of a screw-threaded end. Fig. 6 shows, in enlarged details, the internal screw-threaded barrel and adjusting screw, together with the sleeves formed of wire which carry the yarn guide portion of the device. Fig. 7 shows the upper end of the barrel and adjusting screw. Fig. 8 shows a section through the barrel and adjusting screw. Fig. 9 shows the adjusting screw. Fig. 10 shows a top or face view of the bunch or "slug" catcher. Fig. 11 shows, in side and end views, a key for operating the adjusting screw. Fig. 12 is a figure intended to show the general form of the wire forming the yarn guide and guide sleeves, together with the roller bearing and the portion engaging the adjusting screw.

Referring more specifically to the reference letters and numerals marked on the drawings

in a more particular description of the device, 1 indicates a support by means of which the device may be mounted on any machine or place where it is desirable to use it and this support may be formed with a screw as shown in Figs. 1, 2, 3 and 4, adapting it to be screwed into a wooden block or rail, or may be provided with an eye, as shown in Fig. 5, by means of which it may be secured in a desired position for use. The support 1, in continuing upward, is formed into a convolution 2 and continued upward from there into the barrel 3 having a slot 4 in its side and being screw threaded internally to receive adjusting screw 5.

Running on the outside of the barrel 4 is provided a sleeve 6 preferably formed of several convolutions of the wire 7 around the barrel. The wire 7 is then projected outward and bent to form guide eyes 8 and 9, between which is provided an upwardly extending loop or arm 10 which facilitates the introduction of the yarn into the guide eyes and around the guide wheel 11. The guide wheel 11 is mounted on a bearing 12 which is also preferably a portion of the same wire 7. The wire 7 is also provided with a projection 13, which passes through the slot 4 in the barrel and engages the screw 5 within the annular groove 14.

Mounted on a bearing pin 15 below the yarn guide and roller 11 thereof is provided the bunch or slug catcher 16. This slug catcher 16 is preferably cam-shaped having the distance on the side 16^a shorter than the distance on the side 16^b. This also throws the surplus of weight in the side 16^b which acts as a counter-weight and tends to maintain the catcher 16 vertically in the position shown in Figs. 1 and 3. The bunch or slug catcher 16 is provided with a serrated or toothed face *c*, and the teeth are preferably arranged in a single row *a* on the short side of the catcher with a little clear space, as shown at *b*, across the face of the catcher, after which the remaining teeth are arranged to substantially cover the working face of the catcher.

To throw or assist in throwing the catcher to the normal position shown in Figs. 1 and 3, there is provided a spring 17 at the pivotal pin secured at one end to the catcher and at

the other end to the pivotal pin or support of the device. The screw 5 is provided with a head 5^a adapted to receive a key 18 having an end with a notch or groove adapted to engage the projecting head 5^a. The screw 5 and its head 5^a are normally contained entirely within the screw threaded barrel 3.

The operation of the device is substantially as follows: A thread as x , as it is drawn into a twisting or spinning machine or any other machine is caused to pass through the guide eyes 8 and 9 and under the guide wheel 11. In introducing the thread, it is only necessary to catch it over the prong 10 of the guide and as it is drawn it will draw against and run under the wheel 11. The wheel 11 is adjusted to the catcher by means of the screw 5 and the several connections between it and the wheel as heretofore described, so that the thread x passing through the guide, runs in close proximity to the face of the catcher 16. Should a knot attempt to pass through the guide it will become engaged with the row of teeth a on its face and give the catcher a slight turn when it will resume its normal position as the knot slips off from the tooth a , chiefly on account of the absence of teeth from section b of the catcher face. Should a fuzzy bunch or "slug" attempt to pass the guide, the face will become engaged not only with the row of teeth a , but with all or many of the teeth of the face, which will rock the catcher upward into or toward the position shown in Fig. 5, where it will cam against the face of the roller 11 and catch the bunch and perhaps break the thread in which it is found, and the machine attendant will then remove the bunch and knot the thread and again introduce it into the guide, the catcher falling back again into its normal position. It is evident that the roller 11 may be dispensed with, and the stationary surface against which the catcher would act, substituted in place thereof, but I prefer the roller as the thread is more readily drawn into the guide. The other features of the construction may also be varied in any particulars, without departing from the equivalents of my construction.

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

1. The combination in a device for removing bunches from yarn, of a surface across which the yarn is drawn, and a cam-shaped pivoted bunch catcher having a row of teeth as a and a clear space as b adjacent to the teeth a , substantially as set forth.

2. The combination in a device for removing bunches from yarn of a surface across which the yarn is drawn, a cam-shaped pivoted bunch catcher adapted to act against the surface and having a row of teeth as a and a

clear space as b and a surface covered with serrations or teeth, substantially as set forth.

3. The combination of a cam-shaped serrated faced pivoted bunch catcher, a yarn guide having yarn eyes, and a roller and a screw for adjusting the roller to and from the face of the catcher, substantially as set forth.

4. The combination of a serrated-faced cam-shaped pivoted bunch catcher, a yarn guide having eyes and a roller with its face substantially in line between the eyes mounted upon an adjustable sleeve and a screw for moving the sleeve in adjusting the roller to the face of the catcher, substantially as set forth.

5. The combination of a surface across which the yarn is drawn, a cam-shaped serrated-faced bunch catcher pivoted opposite the face and adapted to cam against and swing partially by the face and held normally out of engagement with the face, substantially as set forth.

6. The combination in a device for removing bunches from yarn of a cam-shaped serrated-faced bunch catcher and a surface against which the catcher acts, a yarn guide adjustable to and from the face of the catcher, and means for adjusting the yarn guide to and from the face of the catcher, substantially as set forth.

7. The combination of guide eyes and a pivoted roller having its face substantially in line with the guide eyes, a prong or projection extending from the eyes to the end of the roller and terminating above the lower line of the periphery thereof, whereby a thread introduced behind the prong will run into the guide eyes and under the roller, substantially as set forth.

8. The combination in a device for removing bunches from yarn, of a surface across which the yarn is drawn, and an opposing cam bunch catcher pivoted to cam against the surface and adapted to bind the yarn on the surface, and means for adjusting the opposing surface and catcher with reference to each other, substantially as set forth.

9. The combination in a device for removing bunches from yarn, of a surface across which the yarn is drawn, an opposing cam-shaped serrated-faced bunch catcher pivoted below the face and adapted to swing upwardly against the face and bind the yarn thereon, and guide eyes for guiding the yarn across the surface, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

THOS. J. SANDS.

Witnesses:

GEORGE C. CARTER,
RICH. A. GEORGE.