

No. 609,106.

Patented Aug. 16, 1898.

J. LAURITSEN.
TENSION DEVICE FOR TWINE BINDERS.

(Application filed Oct. 25, 1897.)

(No Model.)

Fig. 1.

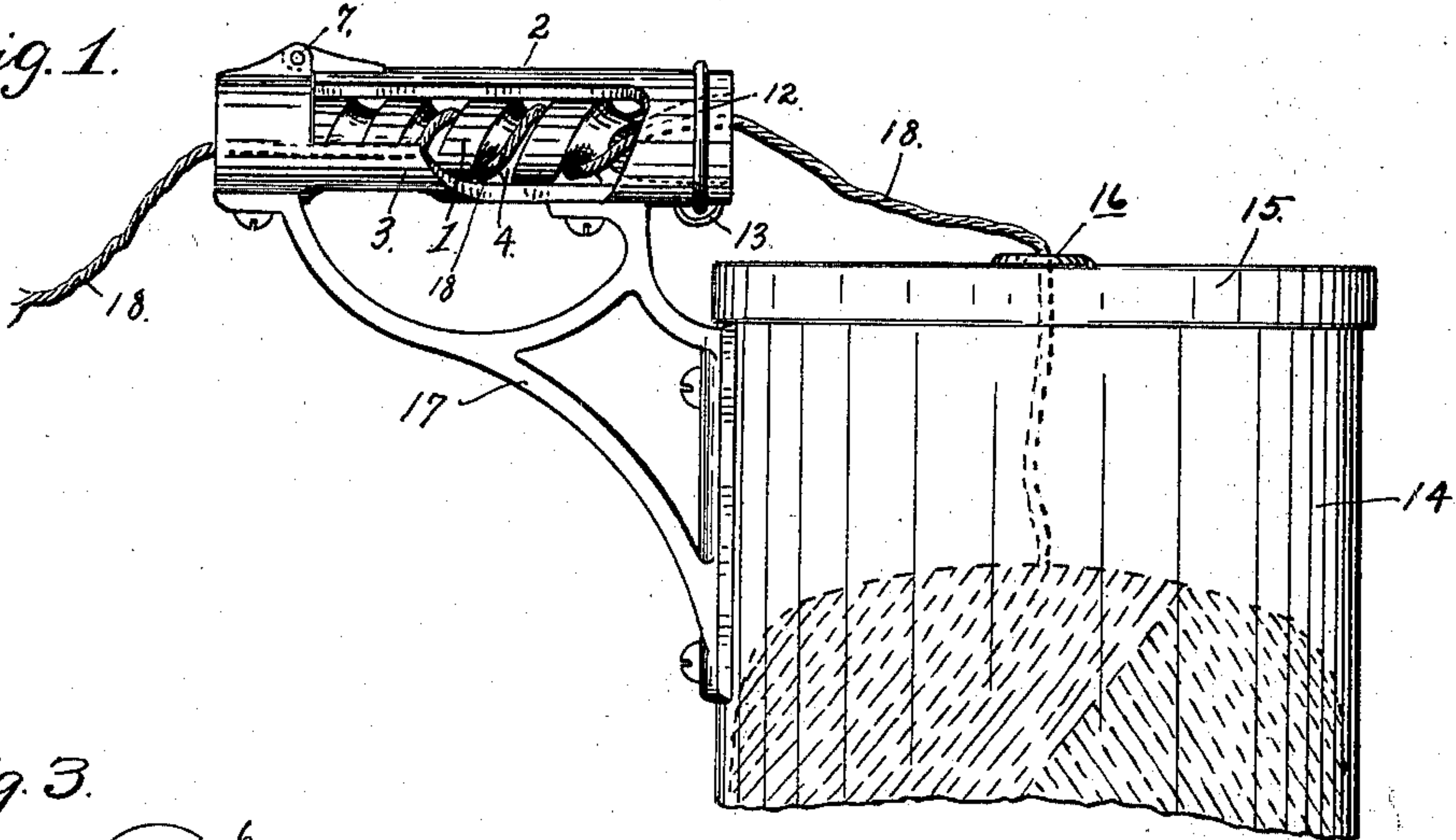


Fig. 3.

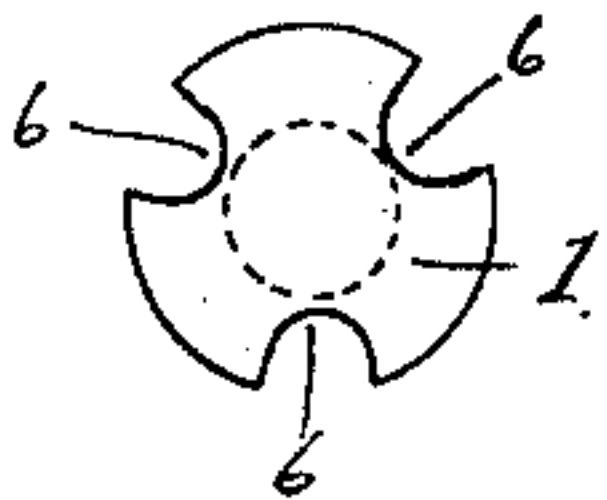


Fig. 2.

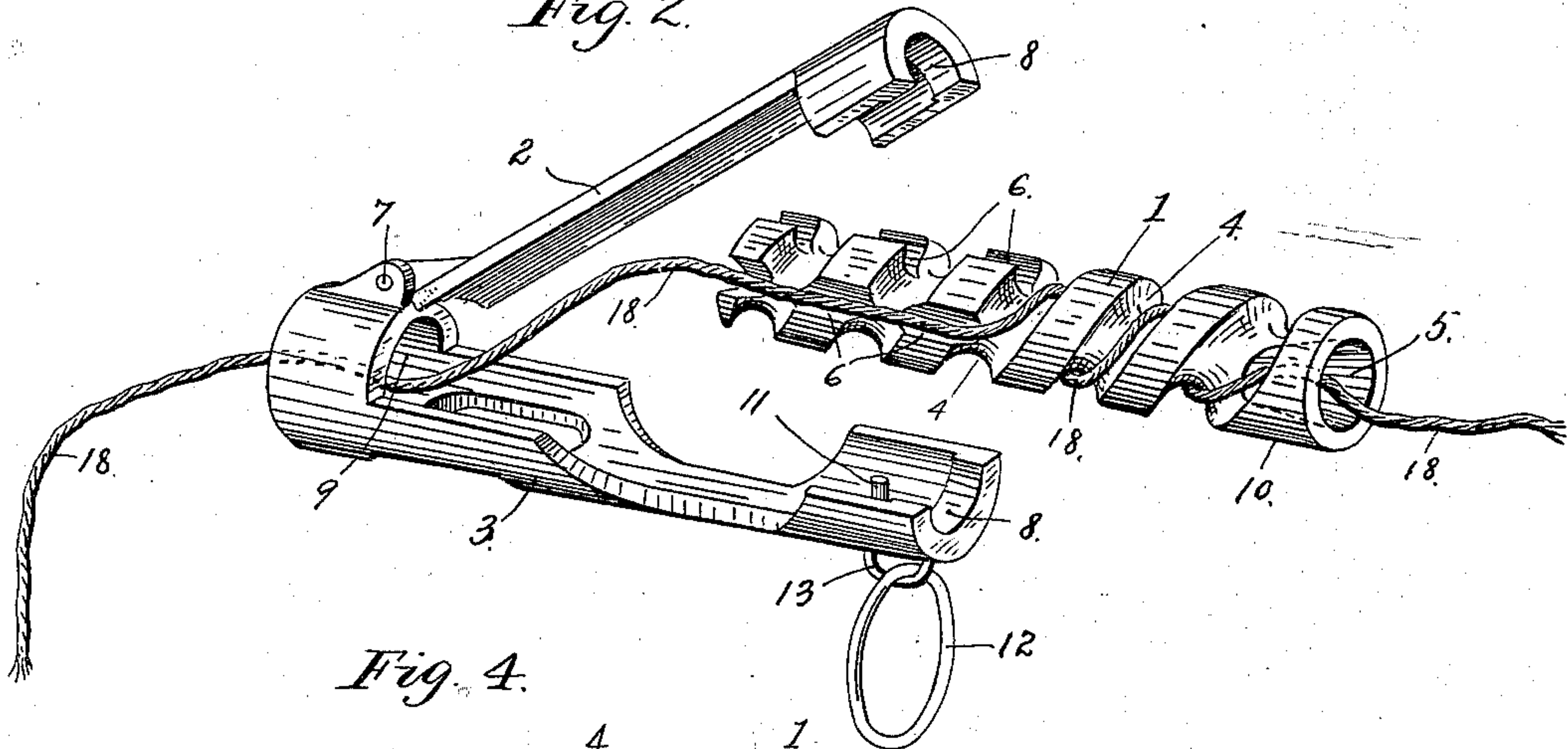
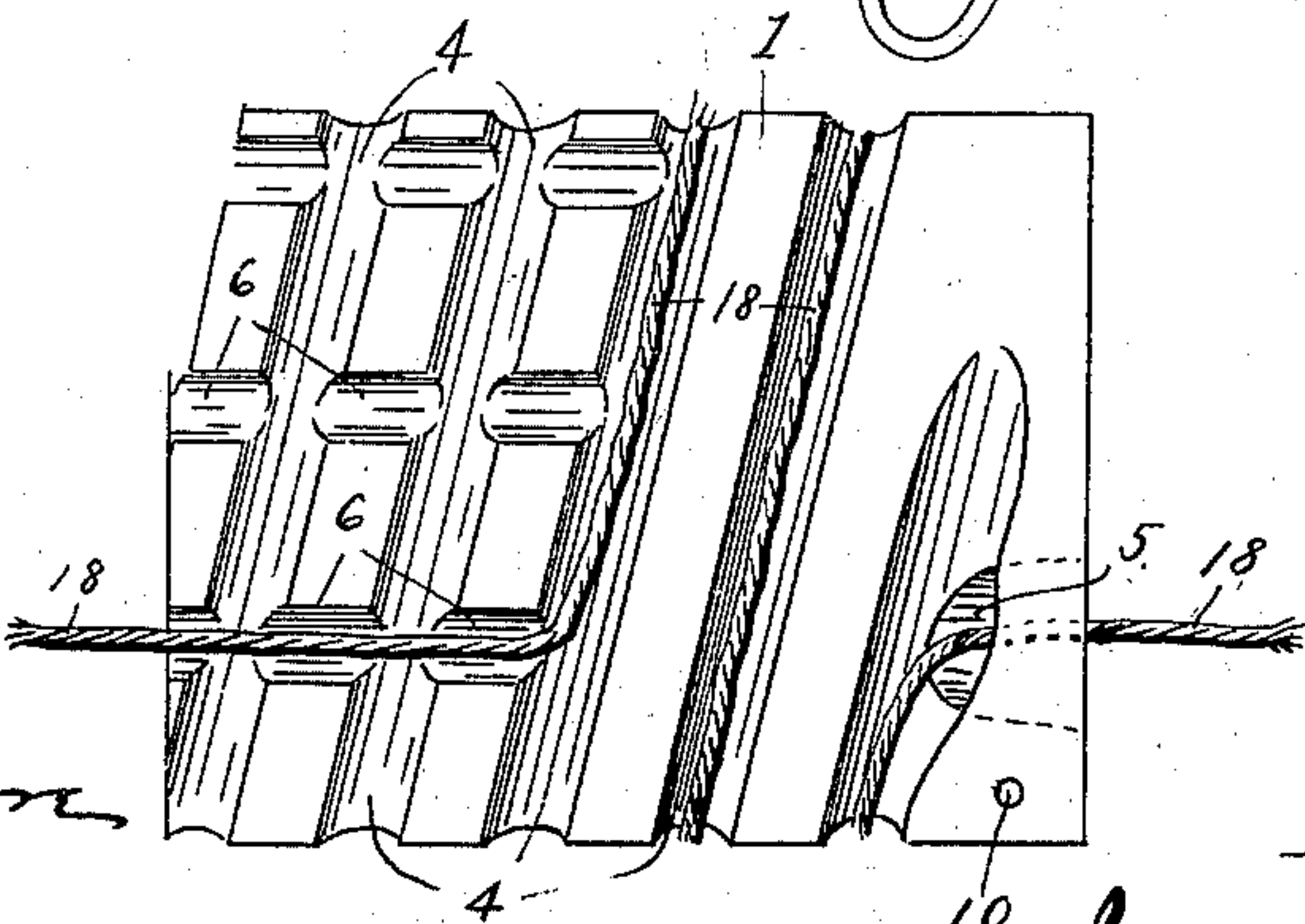


Fig. 4.



Witnesses
C. F. Kilgore
S. D. Merchant.

Inventor
John Lauritsen
By his Attorney

Jas. F. Williamson

UNITED STATES PATENT OFFICE.

JOHN LAURITSEN, OF TYLER, MINNESOTA.

TENSION DEVICE FOR TWINE-BINDERS.

SPECIFICATION forming part of Letters Patent No. 609,106, dated August 16, 1898.

Application filed October 25, 1897. Serial No. 656,278. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAURITSEN, a citizen of the United States, residing at Tyler, in the county of Lincoln and State of Minnesota, have invented certain new and useful Improvements in Tension Devices for Twine-Binders; 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.

My invention has for its object to provide an improved twine or thread tension device, and is especially directed to the provision of such a device for use in connection with twine-binding harvesters.

To the ends above noted my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The preferred form of my said invention shown as applied to a twine-box is illustrated in the accompanying drawings, wherein, like numerals indicating like parts throughout the several views—

Figure 1 is a view in side elevation, showing my improved tension device applied in working position to a twine-box, a portion of said twine-box being broken away. Fig. 2 is a perspective view showing the parts of the twine holder or tension device separated and removed from their support. Fig. 3 is an end view of the so-called "spiral" core removed from the shuttle or case, and Fig. 4 is a plan view illustrating the said spiral core as it would look if spread out flat.

In this preferred construction, 1 indicates what I term the "core," and 2 3 indicate the sections of a case or shuttle which is adapted to receive and hold said core 1. The said core 1 is preferably cylindrical in form and is provided with a spiral twine-guiding channel 4, one terminal of which runs spirally out at the end of the core and the other terminal of which runs into an axial perforation 5 in one end of said core 1. The periphery of said core 1 is also formed with a series of longitudinally-extended branch channels 6, which intersect the spiral channel 4 at different circumferential points and cut through several of the threads formed thereby.

The sections 2 and 3 of the case or shuttle

are hinged together, as shown at 7. These two sections 2 and 3 are adapted to receive and tightly fit around the spiral core 1 and at their free ends are provided with semicircular notches 8, which when brought together form a passage which is coincident with the passage 5 in the end of the said core 1. At the other end of the case the section 3 is provided with a large cylindrical perforation or passage 9. In order to prevent the core 1 from turning within the case 2 3, it is provided with a pin-seat 10, which is adapted to fit and receive a dowel-pin 11, with which the case-section 3 is provided. The case-sections 2 3 are adapted to be locked together and clamped onto the core 1 by means of a clamping-ring 12, which is pressed onto or over the free ends of said case-sections. As shown, the ring 12 is loosely secured to the case-section 3 by means of a staple 13, which prevents the same from being displaced or lost.

14 indicates a twine-box which is provided with a removable cover 15, having the ordinary central twine-passage 16. The case-section 3 is rigidly secured to the twine-box 14 by means of a bracket 17.

18 indicates the twine.

The manner in which the twine is wound on or passed through the guide-channels 4 and 6 is clearly illustrated in Fig. 2. It is preferably first passed through the perforation or eye 5, then wound in the spiral groove 4, and then passed through one of the longitudinal branch channels 6. This should of course be done while the core 1 is removed from its case or shuttle. The twine-wound core should then be placed within its seat in the case 2 3, and the twine will be passed outward through the passage 9 in the outer end of the case-section 3.

It is of course evident that the tension or frictional resistance to the drawing of the twine may be increased by giving the same a large number of coils within the spiral channel 4 before passing the same through one of the longitudinal branch channels 6, while, on the other hand, by passing the twine through one of the longitudinal channels 6 before it has been given as many coils in the channel 4 the tension on the twine will be lessened.

My improved tension device has this great advantage over the ordinary spring-pressed

jaws which are commonly used as twine tension devices in that knots or enlargements in the twine will not materially increase the tension of the twine in passing through the tension device. This feature of construction is of very great importance, as it permits very cheap and poor grades of twine to be used and does not cause the frequent breakages of the same which would occur if the ordinary tension device were to be employed. Furthermore, cheap and hard-spun twine may be used with my improved tension device, inasmuch as the act of passing the twine through the same loosens up and takes out the hard twisted spots, and thus makes the twine pliable, so that it will not snarl up in the band forming and knotting action. Another advantage is found in that straw, chaff, or other foreign matter which may cling to the twine cannot pass through the tension device, for even if it should enter the same, which it could not easily do, it would be quickly thrown outward again through the slotted sides of the case or shuttle. Many other advantages which will result from the use of the tension device above described will become obvious to all persons familiar with twine-binding harvesters, and hence need not be enumerated.

It will of course be understood that various alterations in the specific details of construction above described in connection with my preferred form may be made within the scope of my invention.

It is of course obvious that the tension device shown might be turned end for end, or, in other words, the twine might be drawn through the same in a reverse direction. It is also evident that this tension device might be used on a sewing-machine as well as in numerous other places where it is necessary to put a twine, cord, or thread under a slipping tension.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A tension device provided with a spiral twine or thread guiding channel and with a longitudinally-extended branch channel cutting through several of the coils or threads of said spiral channel, substantially as described.

2. A tension device provided with a spiral twine or thread guiding channel and with two or more longitudinally-extended branch channels cutting through said spiral channel at different circumferential points, substantially as described.

3. A tension device, comprising a removable core having a spiral twine or thread guiding channel, and a case or shuttle adapted to receive said core and hold the same, substantially as described.

4. A tension device, comprising the core 1 with spiral channel 4, end perforation 5 and one or more longitudinally-extended branch channels 6 cutting the said spiral 4, and a case or shuttle adapted to receive and hold said core 1, substantially as described.

5. A tension device, comprising the removable core 1 with spiral channel 4, end perforation 5 and one or more longitudinally-extended branch channels 6, and the case or shuttle formed in two parts 2 and 3 hinged together at 7 and provided with the semicircular notches 8 and cylindrical passage 9, substantially as described.

6. A tension device, comprising the removable core 1 with spiral channel 4, end perforation 5 and longitudinally-extended branch channels 6, and the case or shuttle formed by sections 2 and 3 hinged at 7, provided with the notches 8 and passage 9, and adapted to be locked together by the ring 12, substantially as described.

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

JOHN LAURITSEN.

Witnesses:

MANUS LAURITSEN,
H. SYKES.