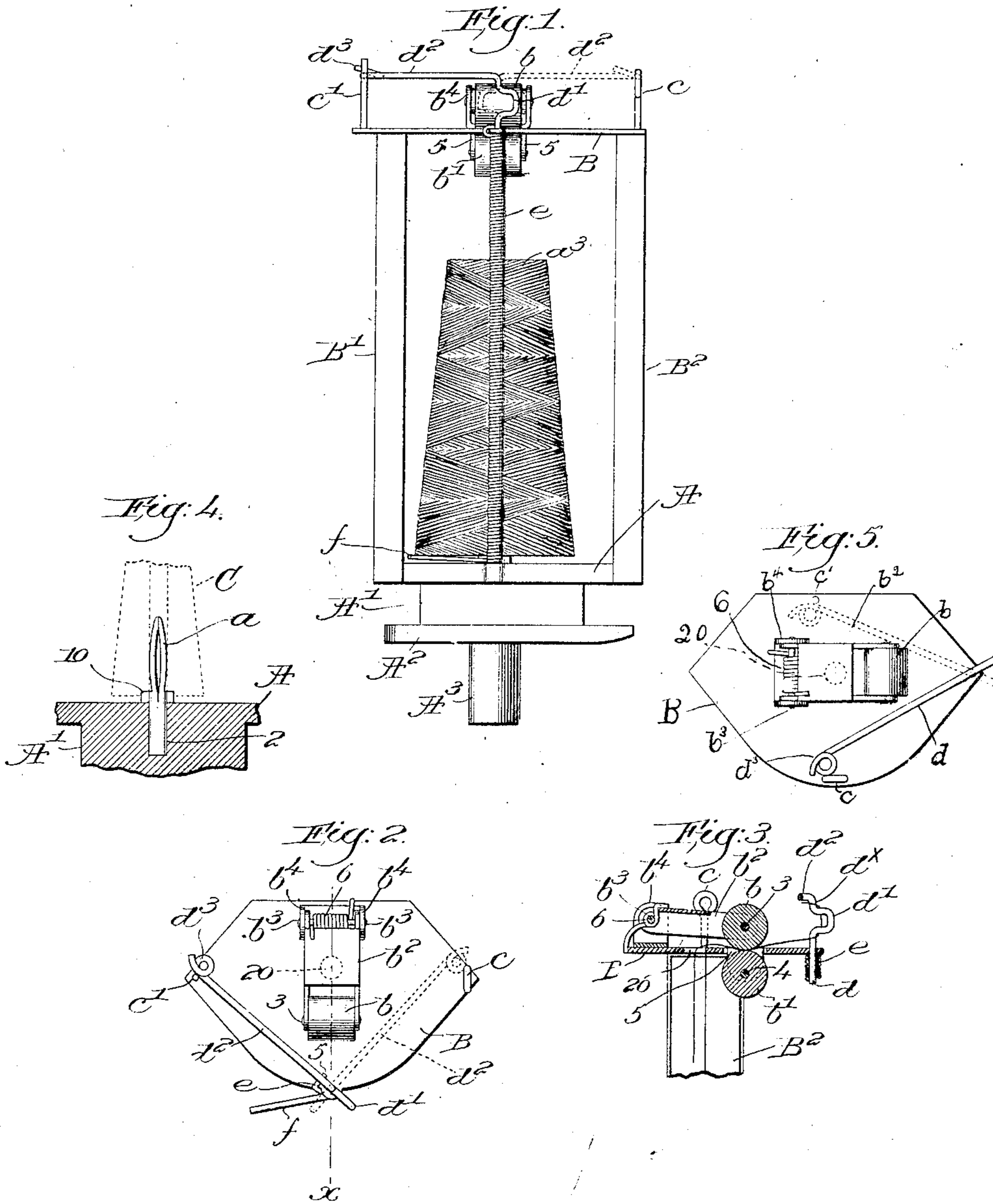


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CARRIER FOR BRAID, CORD MAKING, AND SIMILAR MACHINES.  
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931,083.

Patented Aug. 17, 1909.



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# UNITED STATES PATENT OFFICE.

ANKER PETERSEN, OF CHELSEA, MASSACHUSETTS.

CARRIER FOR BRAID, CORD MAKING, AND SIMILAR MACHINES.

No. 931,083.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed July 15, 1907. Serial No. 383,718.

*To all whom it may concern:*

Be it known that I, ANKER PETERSEN, a subject of the King of Denmark, but at present a resident of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Carriers for Braid, Cord Making, and Similar Machines, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of a novel carrier for use in braiding, cord making and like machines, for the manufacture of braids, cords and other articles from threads, whether tubular or flat. The carrier herein shown and claimed presents connected bottom and top plates between which is located a large thread mass, and the thread delivered by the carrier is acted upon by a take-up device that cares for the slack thread and insures its delivery to the fabric under uniform strain, the eye of the take-up or slack thread-controller being moved in substantially a horizontal plane or longitudinal center of the thread mass and between the delivery-eye at one end of the top plate of the carrier, and a stop at the other end thereof. The top plate is provided with a tension device herein represented as two rollers that are rotated by the pull of the thread as the latter is being delivered from the carrier. The take-up herein shown forms the subject of broad claims in application Serial No. 383,717 filed July 15, 1907.

Figure 1 in side elevation illustrates a carrier containing my present invention; Fig. 2 is a top or plan view thereof; Fig. 3 a partial section in the line *x*, Fig. 2; Fig. 4 a detail of part of the bottom plate, its quill-holding spindle and the base of a quill, and Fig. 5 a top view of a modified form of carrier.

The base of the carrier comprises a bottom plate A, a wedge or lozenge shaped neck A', a foot A<sup>2</sup> and a stud A<sup>3</sup> of usual construction. The bottom plate of the carrier is provided with suitable bars or rods B', B<sup>2</sup> that sustain a top plate B. The bottom plate, as shown, has a hole 2 that receives the lower end of a non-rotative dead spindle or quill holder, shown as split and adapted to be partially closed as the butt of the quill C of wood is crowded thereon. The quill is preferably of wood and has wound on it a mass *a*<sup>3</sup> of thread, the thread in the formation of the mass being wound on the quill diagonally or after the so-

called Leeson wind, or after the manner of winding filling, so that the thread may be delivered from the end of the thread mass without the mass revolving. This quill at its upper end will in practice be about one-quarter inch in diameter, and about three-quarters of an inch at its lower end, and the lower end may have a notch to fit a part 10 of the spindle which is of other shape than round.

The thread is led from the thread mass through a leading eye 20 in the top plate B substantially in line with the longitudinal center of the thread mass, and thence, as shown between a pair of tension rollers *b*, *b'* that may turn respectively about pins 3, 4, one carried by a lever *b*<sup>2</sup> mounted on a pin *b*<sup>3</sup> in ears *b*<sup>4</sup> erected on the top plate, the other pin being sustained by ears 5 depending from said top plate. These rollers may be made to press with more or less force on the thread being drawn between them by adjusting a spring 6 coiled about pin *b*<sup>3</sup>. As the thread is drawn between these rollers, the rollers are turned so that they act to feed the thread from the thread mass.

The leading end of the top plate B, Figs. 1 to 3, is provided with a delivering eye *c*, while its opposite or rear end, is provided with a stop *c'*.

The plates A and B have suitable bearings to sustain a rod or shaft *d* bent to form a heel *d'*, a portion of the rod beyond said heel being bent substantially horizontally to form an arm provided at its free end with a thread-guiding eye *d*<sup>3</sup>, said arm and its eye constituting the active part of the take-up or thread-controller.

The rod *d* is shown as surrounded by a spiral spring *e*, the upper end 5 of which engages the top plate B, while some of the lowermost coils of the spring surrounding the rod near the bottom plate A are soldered to the rod so that the normal tendency of said spring is to move the arm *d*<sup>2</sup> which constitutes the take-up or slack thread controller toward the stop *c'*, said take-up occupying a position against said stop when the thread breaks or the slack thread is not under control.

After leaving the rolls the thread is led across the wire *d* see Fig. 3, below the lower shoulder left by the formation of the heel *d'* and thence across said heel, contacting with a shoulder *d*<sup>x</sup> and thence alongside of or about the arm *d*<sup>2</sup> and through the eye *d*<sup>3</sup> at the end thereof.

From the eye  $d^3$  at the end of the take-up the thread is led through the delivering-eye  $c$  and thence to the fabric being made from the thread, it being understood that there are a number of said carriers moving in the machine in opposite directions, preferably, and changing their positions to effect the grouping of their threads, as usual, in the desired order, according to the fabric being made.

In use, the arm  $d^2$ , due to the strain on the thread being led from its eye  $d^3$ , may be drawn from the full line position Figs. 1 and 2, into the dotted line position, so that the thread eye  $d^3$  occupies a position close to the delivery-eye  $c$  in which position the strain on the thread leaving the delivering eye  $c$  draws thread through the eye of the take-up and between the tension rollers and from the thread mass, the take-up under the action of its spring immediately moving away from the delivering eye  $c$  more or less, according to the amount of slack thread present between said eye  $d^3$  and the delivering eye  $c$ . As the carrier is moved in its course and the thread is delivered to the work the arm  $d^2$  is moved forward toward the delivering eye  $c$ , and as the thread is delivered from the thread mass the arm  $d^2$  under the action of the spring  $e$  moves the eye  $d^3$  away from the delivering eye more or less according to the amount of slack thread. The eye  $d^3$  of the arm  $d^2$  in its movements travels in a substantially horizontal plane and transverse the longitudinal center of the large thread mass. The lower end of the spring  $e$  may be left to project, as shown at  $f$ , so that when the thread breaks and the take-up meets the stop  $c'$ , as shown in Figs. 1 and 2, said end will be left to occupy a position outside the edge of the bottom plate  $A$  where it will co-act with a suitable part of some electric stop motion.

The construction shown in Fig. 5 is similar to that shown in Fig. 2 except that the take-up arms and tension rolls are situated differently with relation to the top plate. In both the devices, however, the take-up arm and the tension rolls have the same position relative to each other, the only difference being that in Fig. 5 these parts are placed at right angles to what they are in Fig. 2.

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

1. In a braiding carrier, the combination with a carrier frame having means to sustain a thread mass, of a delivery eye sustained by said frame, a tension device to act on the thread after it leaves the thread mass, and

a spring-controlled, pivotally mounted take-up arm arranged to act on the thread between the tension device and the delivery eye said arm having thread-guiding means situated in line with its axis and a thread guiding eye at its end.

2. In a braiding carrier, the combination with a carrier frame having means to sustain a thread mass, of a delivery eye sustained by said frame, a tension device to act on the thread being delivered, and a spring-controlled take-up arm movable in a plane perpendicular to the axis of the thread mass, and situated to act on the thread between the tension device and the delivery eye.

3. In a braiding carrier, the combination with a carrier frame comprising connected top and bottom plates, of means to sustain a thread mass between the plates, a delivery eye mounted on the top plate, a spring-controlled shaft mounted in said plates and provided at one end with a take-up arm situated above the top plate, and a tension device sustained by the top plate and comprising two rolls between which the thread passes.

4. In a braiding carrier, the combination with rigidly-connected top and bottom plates, of means to sustain a thread mass on the lower plate, a pair of tension rolls carried by the top plate, one of said rolls being spring-actuated, a delivery eye also carried by the top plate, and a spring-actuated take-up movable parallel to the plate and acting on the thread between the tension rolls and the delivery eye.

5. In a braiding carrier, the combination with a carrier frame, of means to sustain a thread mass thereon, a delivery eye, a spring-controlled shaft mounted in said frame and provided at one end with a take-up arm, and a projection extending from the opposite end of said shaft.

6. In a braiding carrier, the combination with a carrier frame, comprising connected top and bottom plates, of means to sustain a thread mass between said plates, a delivery eye mounted on the top plate, a spring-controlled shaft mounted in said plates and provided at one end with a take-up arm situated above the top plate, and a projection extending from the other end of said shaft.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ANKER PETERSEN.

Witnesses:

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