Aug. 4, 1931. H. JANSSEN 1,817,626

BRAIDING CARRIER

Filed March 8, 1930

FIG. 1.

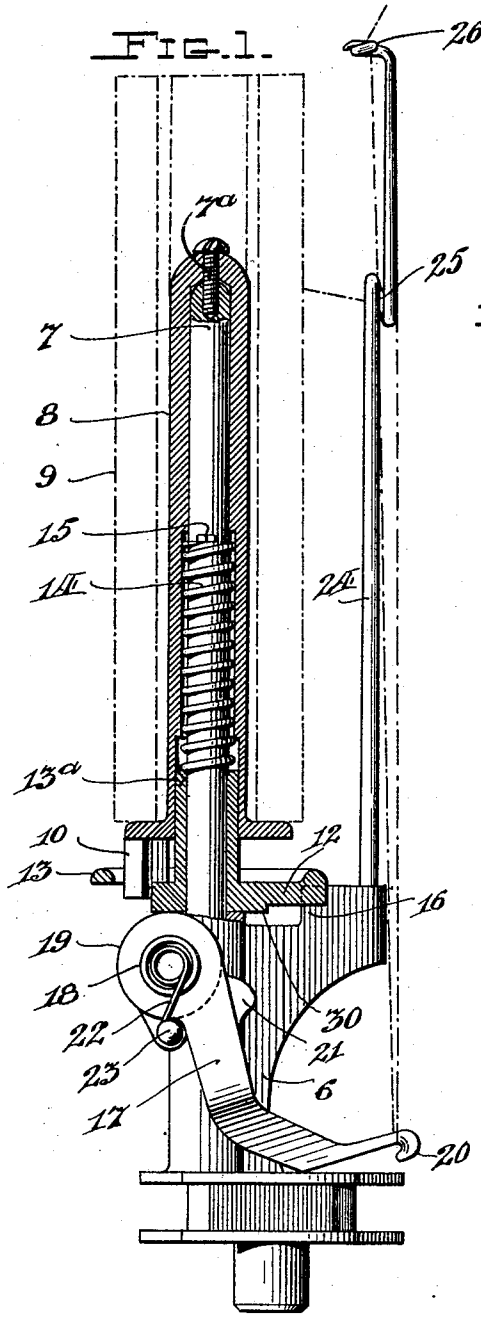


FIG. 3.

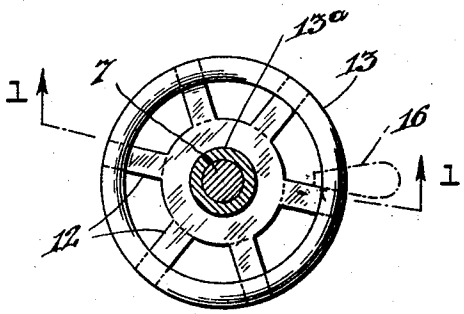
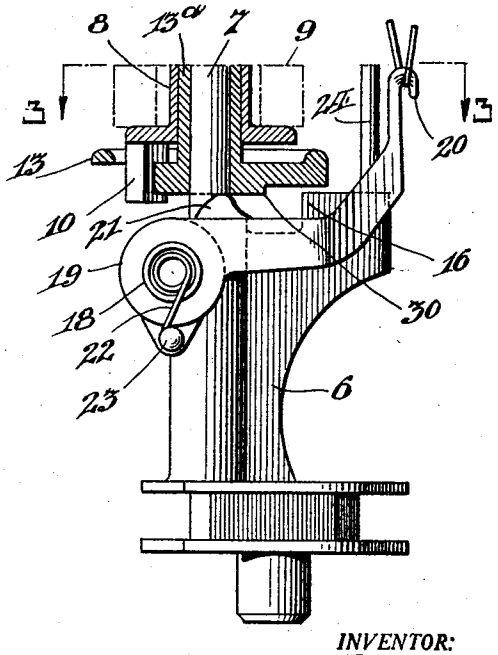


FIG. 2.



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Patented Aug. 4, 1931 1,817,626

UNITED STATES PATENT OFFICE

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BRAIDING CARRIER

Application filed March 8, 1930. Serial No. 434,320.

My invention relates to yarn carriers such as are particularly employed in braiding machines; and it consists in the improved construction hereinafter fully described in connection with the accompanying drawings illustrating a preferred embodiment thereof, the novel features being clearly defined in the subjoined claims.

As will more fully appear from the following detailed description, the novel features relate particularly to the improved thread-feeding means employed, whereby yarn-feeding rotation of the bobbin is very simply and advantageously controlled without involving any axial movement of the variably-loaded bobbin.

Fig. 1 is a side elevation of a carrier embodying the invention; the bobbin spool and its axially movable detent-engaging member being shown in vertical section; and the thread-tensioning lever being indicated in inoperative midway position.

Fig. 2 is a similar view of Fig. 1 showing the detent-engaging member raised out of engagement with the fixed detent; the seating spring employed being accordingly compressed without change in the axial position of the released bobbin.

Fig. 3 is a plan view of the separately movable detent-engaging member, the fixed bobbin detent being indicated in dotted lines.

Referring to the drawings, 6 indicates a suitably shaped and constructed base member, 7 a standard rigidly secured thereto on which the bobbin spool 8 is rotatably mounted in determined position,—with a yarn package 9 carried thereby in well known manner. The top of this rotatable hollow spool 8 normally rests upon the top of the rigid standard 7 at all times, and may be positively retained against unintended longitudinal movement on the latter by a screw 7^a passing loosely through a hole in the top of the spool.

The lower end of the spool 8 is shown as provided with one or more depending studs 10. These are adapted to project into engaging apertures formed between the teeth 12 of a locking-member or wheel 13; which member is thus maintained in rotating engagement with the spool, but is freely revoluble and axially slidable on the standard 8; it being normally depressed against the base 6 by a spring 14 bearing against its hub 13^a. with the upper end of the coiled spring secured by a cotter pin 15 to the standard. In this manner the bobbin spool 8 with its yarn package 9, and the locking member 13, are connected for united rotative movement at all times, while at the same time the member 13 is shiftable axially relatively to the spool and its yarn package.

A detent or stop 16 for controlling rotation of the spool 8 through the movable locking member 13, is a fixed part of the base 6, and is adapted to engage the teeth 12 of the member 13 when the latter is in normal lowered position, so as to cooperate therewith in properly limiting the rotative movement of the yarn package spool; axial shifting of the locking member 13 being provided for to disengage its teeth 12 from the detent 16 and allow the yarn package spool to rotate so as to let off more yarn. Such axial movement is effected as shown by a yarn-tensioning take-up lever 17, which has the rear ends of its two arms united by a tubular shaft 18 journalled in a bearing 19 on the base 6, and its front end formed with a hook-shaped yarn guide 20. Each of its arms is provided with an intermediate projection 21 adapted to lift and support the locking member 13 clear of the detent 16 when the lever is raised to yarn releasing position by increased tensioning of the yarn as clearly shown in Fig. 2. This tensioning is regulated by a coil spring 22, conveniently mounted within the hollow shaft 18 with its ends respectively hooked over an arm of lever 17 and a stud 23 on the base 6, so that it can be easily regulated or dismounted by merely unhooking one of its ends and either winding or unwinding it, or withdrawing it entirely from the shaft 18, as may be desired.

A thread guide upright 24 is fixed to the base 6 and has one or more suitable yarn guide eyes thereon, such as indicated at 25 and 26;—the yarn from the package 9 passing through guide 25, then under hook-

guide 20 and upwardly through guide 26 to the point to which the yarn is to be fed, as indicated in Fig. 1.

The yarn is under tension by the lever 17, its slack being taken up and the lever raised against increasing tension of spring 22 until its projections 21 contact with the movable locking element 13 and raise the latter clear of detent 16; after which the yarn package 9 with spool 8, and ratchet member 13, will rotate together, letting off yarn until the reduced tension on the feeding thread causes the lever to drop and the locking member 13 to again engage with the detent 16.

When in raised detent-disengaging position the locking member 13 is rotatable upon the supporting lever projections 21, a circular track 30 on the bottom of the member riding upon said projections during its yarn-feeding rotation with the spool. The spool itself, with its yarn package, is maintained at all times in determined axial position upon the standard, it being unaffected by the lifting action of the thread-tensioning and releasing lever and its variable weight at no time affecting the tension.

It will be noted that the locking member 13 functions as a movable connecting member between the yarn package spool 8 and the fixed detent 16, and is lifted independently to release the spool for joint rotation to let off more yarn. The spring 14 acts to positively seat the locking member, either in detent-engaging position, or upon the disengaging lever 17 during its rotating movement with the spool; the main tensioning of the feeding thread, as shown, being effected by the lever spring 22, and any strain upon the coil spring 14 being taken directly by the standard. It will be readily seen that the preferred construction specifically set forth, may be readily modified within the scope of the invention as defined in the claims.

What I claim is:

1. A braiding carrier comprising a base portion having fixed thereto a bobbin standard and a bobbin detent; a bobbin spool rotatively supported in determined axial position on said standard; an axially movable locking member in rotating engagement with said spool and normally positioned to engage said detent; and a thread-tensioning lever operative upon said member to disengagingly move it relative to the spool and permit rotation thereof with the latter.

2. In a braiding carrier having a fixed bobbin standard and a fixed detent, a rotatable bobbin spool mounted in determined axial position on said standard, and a locking member arranged in constant rotating engagement with said spool but axially movable relative thereto to engage or disengage the detent.

3. In a braiding carrier having a bobbin standard and a fixed detent, a bobbin spool carried in determined axial position on said standard, a locking member rotatable with said spool in axially-slidable relation thereto and normally positioned to engage said detent, and thread-operated means for releasing said member from the detent.

4. In a braiding carrier having a bobbin standard and a fixed detent, a bobbin spool carried in determined axial position on said standard, a locking member rotatable with said spool in axially-slidable relation thereto and normally positioned to engage said detent, and a thread-tensioning lever operative upon said locking member to disengagingly move it relative to the spool; said member being rotatively supported upon the lever when it is moved to detent-disengaging position.

In testimony whereof I affix my signature.

HENRY JANSSEN.