CREEL SPOOL SUPPORT LOCK

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Fig. 1.

Fig. 2.

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This invention relates to a creel such as is employed in connection with warpers and similar machines. Such a creel carries a large number of spools or yarn carriers from each of which the yarn is drawn and passes to a warper or similar machine. In such a creel each spool must be held in a definite fixed position while the creel is in operation so that the yarn may readily be drawn under uniform conditions. Furthermore, the support carrying the spindle upon which the spool is mounted desirably is movable to a second position to enable the spool to be dopped and replaced.

The object of this invention is to provide a construction in which the support carrying the spool supporting spindle shall be locked in each of these positions so that in the first position the spool will be positively held in operative position and in the second position the support will be positively held in the position required for dopping.

The object of the invention is further to provide such a construction adapted for each of the large number of spool supporting spindles with which a creel is provided.

The object of the invention is further to provide such a construction which acts not only to hold the spool supporting spindle in operative position positively and accurately but which also acts to prevent any breakage or damage to the creel during the dopping operation by holding the spindle positively in dopping position.

These and other objects and features of the invention will appear more fully from the accompanying description and drawings and will be particularly pointed out in the claims.

The invention is illustrated in a preferred form as applied to a creel of that type in which the yarn is drawn off over the end of the spool or yarn carrier through a guide eye or other device located in axial alignment with the spool supporting spindle and from there passes to the warper or other machine. The term “spool” is used herein as a generic description of any form of yarn carrier adaptable for use on a creel.

As the invention is not concerned with details of construction of a creel and as such a construction may vary, there is only illustrated in the drawings a portion of one member of a creel with which a preferred form of the invention is associated.

In the drawings:

Fig. 1 is a top plan view of a construction embodying a preferred form of the invention with a small portion of the creel shown chiefly in horizontal cross section and with the spool support shown in dotted lines in dopping position.

Fig. 2 is a view in side elevation of a portion of the construction shown in Fig. 1 with the spool support shown in dopping position.

In the ordinary type of creel, the frame usually comprises two converging side members, each of which supports a large number of spools so that the runs of yarn extend from the outside of the creel to the warper or other machine located at the front or converging end of the frame.

In the construction illustrated, the creel comprises a plurality of vertical members shown as channel beams 1. But one of these members is illustrated at one side of the frame. These members are assumed to stand in parallelism throughout the length of each side and a plurality of supports are mounted one above the other on each of these members. As each support is preferably the same as every other, it is sufficient to illustrate and describe but one. Furthermore, in the preferred form of the present invention there is an individual bracket for each spool removable secured to one of these vertical members.

In the preferred embodiment illustrated, the individual spool supporting bracket has a vertical flange or socket 2 fitting against two faces of the vertical member 1 and removable secured thereto by the bolt 3. From this socket or flange there projects laterally and preferably horizontally a base 4. From this base rises a projection 5 presenting a plate 6 overhanging and parallel with the base 4. This bracket is preferably a single casting.

The spool support is shown as a generally L-shape device presenting the arm 7 and integral therewith and at right angles thereto the base 8. The spool supporting spindle 9 is mounted in the end of the base 8 of the support and is adapted to carry any suitable form of spool such as the spool 10. The spool support is pivotally mounted on the
base and for that purpose the end of the arm 7 is shown extending between the base 4 and the plate 6 of the bracket, while a cotter pin 11 forms the pivot securing the support and bracket together.

In the type of creel illustrated, the yarn 12 is drawn off over the end of the spool and passes through a guide eye 13 supported from the creel frame, by means necessary here to illustrate, in the spindle 9. From this guide eye the yarn passes forwardly to the warper or other machine. It is difficult and usually impossible to doff the spool when in this position by reason of the tension devices, guide eye and other devices on the creel frame and by reason of the yarns running from other spools past or near the spool to be doffed. Accordingly the spool and its support must be moved to a doffing position where the supporting spindle will be in such a position that the spool may readily be doffed and replaced without interference. It is important that the spool support shall be held locked in each of these positions; in the first position to insure that the spool shall be held positively in operative position to deliver the yarn as required in the operation of the creel and in the second position to insure that no breakage, injury or damage be done to the creel or its parts when the spool is removed and replaced from the spindle.

In the present invention a latch is mounted on the spool support and this latch has locking engagement with the bracket at either of the two required positions. Such a latch is shown as a lever 14 fulcrumed on one side of the arm 7 of the spool support on a stud 15 projecting therefrom the latch being held in place by a cotter pin 16. This latch is limited in its movement in either direction by lugs 17 projecting laterally from the arm 7. Between one of these lugs 17 and the free end of the latch is mounted a spring 18 which acts normally to swing the nose 19 of the latch towards the base 4 of the bracket. The bracket is provided in each of the two required positions with a recess 20 and 21, respectively. In Fig. 1 the support and the spool are shown in full lines in operative position with the latch engaging the recess 20, while in Fig. 2 the support is shown in doffing position with the latch engaging the recess 21. In this construction the support and the latch move through a horizontal path with the nose of the latch riding over the horizontal upper surface of the base 4 of the bracket between the two positions.

Thus the operative has no difficulty in placing the support and the spool in either of the required positions. All he has to do is to raise the latch against the spring 18 and push the support one way or the other as required when the nose of the latch will automatically drop into the proper recess. In each position the support with the spindle and the spool are firmly and positively held.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is:

1. In a creel for warpers and similar machines, a bracket on the creel frame, a support pivotally mounted on the bracket and carrying a spool supporting spindle, and a latch mounted on the support and having locking engagement with the bracket at either of two positions, in one of which the support is locked with the spindle in operative position to deliver the yarn from a spool thereon as required in the operation of the creel and in the other of which the support is locked with the spindle in doffing position.

2. In a creel for warpers and similar machines, the construction defined in claim 1 in which the latch is pivotally mounted on the support to permit its nose to swing toward and from the bracket, in which a spring between the latch and support acts normally to swing the nose of the latch toward the bracket and in which the bracket is provided in each of said two positions with a recess to receive and hold the nose of the latch in locking engagement.

3. In a creel for warpers and similar machines, the construction defined in claim 1 in which that portion of the bracket over which the latch moves between the two locking positions extends horizontally and in which the support is pivotally mounted on the bracket on a vertical axis and carries the latch through a horizontal path.

4. In a creel for warpers and similar machines, an individual bracket for each spool, means for removable securing each bracket to a vertical member of the creel frame, a support pivotally mounted on each bracket and carrying a spool supporting spindle, a latch mounted on each support having locking engagement with the corresponding bracket at either of two positions in one of which the support is locked with the spindle in operative position to deliver the yarn from a spool thereon as required in the operation of the creel and in the other of which the support is locked with the spindle in doffing position.

In testimony whereof, I have signed my name to this specification.

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