

No. 764,363.

PATENTED JULY 5, 1904.

H. LAWRENCE.
SPOOLER GUIDE.

APPLICATION FILED MAR. 14, 1904.

NO MODEL.

Fig. 1.

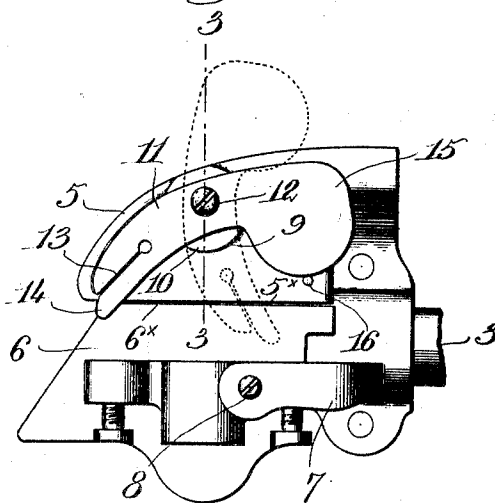


Fig. 2.

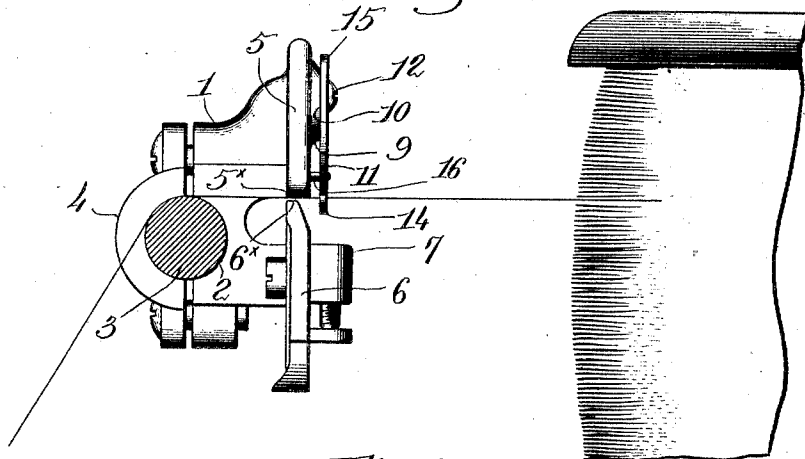


Fig. 3.

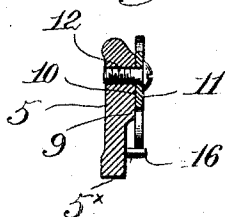


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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SPOOLER-GUIDE.

SPECIFICATION forming part of Letters Patent No. 764,363, dated July 5, 1904.

Application filed March 14, 1904. Serial No. 197,973. (No model.)

To all whom it may concern:

Be it known that I, HENRY LAWRENCE, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Spooler-Guides, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a novel spooler guide or clearer to act in an effective manner upon the thread or yarn passing from a bobbin to a spool and more efficiently clear bunches or motes from the yarn.

Spooler-guides usually are so constructed as to present an elongated horizontal guideway formed by the opposed faces of two jaws, the thread or yarn passing therethrough and traversing along the guideway. It often happens that a bunch will flatten out when it reaches such a guideway and will spread or become thin enough to pass through.

In the present invention I have provided a laterally-movable supplementary guide or clearer located behind the fixed or main guideway and through which the thread or yarn passes after it has been first acted upon by the fixed guideway, so that if a bunch flattens and passes through the same it will be caught and stopped by the supplementary guide. The construction embodies fixed and movable guideways crossing each other, the movable guideway being located behind and separated from the fixed guideway, so that the thread or yarn can traverse in well-known manner.

The novel features of my invention will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is a rear elevation of a spooler-guide embodying one form of my present invention. Fig. 2 is a left-handed edge view thereof, showing the separation of the main and supplementary guideways or clearers. Fig. 3 is a vertical sectional detail on the line 3 3,

Fig. 1; and Fig. 4 is a rear elevation of a modified form of movable guideway, to be described.

The bracket 1, having a seat 2 to receive the usual supporting-rod 3 of a spooler, the detachable cap 4, the laterally-extended upper jaw 5, forming an integral part of the bracket 1, said jaw having an elongated horizontal face 5^x, and the adjustable lower jaw 6, provided with an elongated face 6^x, opposed to the upper jaw-face, may be and are substantially all of well-known or usual construction, the jaw-faces forming an elongated main guideway. The lower jaw is mounted on an extension 7 of the bracket and is held in adjusted position by a set-screw 8 in the form of guide herein illustrated; the jaw-faces 5^x and 6^x constituting the main fixed horizontal guideway for the thread or yarn as it passes from the bobbin to the spool; said guideway being open at one end to receive the yarn, as usual.

Referring to Figs. 2 and 3, the upper jaw 5 has been formed upon its rear face a rearwardly-projecting boss 9 at the upper part of said jaw and having a flattened end or face 10 to form a bearing-surface for a flat swinging or tilting arm 11, fulcrumed on the boss by a screw-stud 12. The outer end of the arm is downturned and provided with an elongated open-ended guideway or slot 13, Fig. 1, the portion of the arm forming the lower side of the slot being elongated, as at 14. The arm swings in a vertical plane or path behind and separated from the jaw-faces 5^x and 6^x, as clearly shown in Fig. 2, the guideway 13 crossing the fixed or main guideway, so that when the arm is swung on its fulcrum the supplementary guideway 13 will move lengthwise of the fixed guideway. On the opposite side of its fulcrum the arm 11 is extended and enlarged, as at 15, to form a counterbalance, its weight tending to swing the arm and move the guideway 13 into the position shown in full lines, Fig. 1. The dotted-line position of the arm in Fig. 1 shows the supplementary

guideway when the thread or yarn is near the inner end of the main or fixed guideway, its complete movement in that direction being stopped by engagement of the free end of the arm with a stop 16, shown as a pin projecting rearwardly from the jaw 5. The counterbalance 15 is so arranged that when the arm is swung into dotted-line position it will tend to return the arm to full-line position, the stop preventing the arm from being thrown over dead-center. When the counterbalance 15 engages the stop 16, the elongation 14 will be in the position shown in full lines, Fig. 1, ready to permit the insertion or withdrawal of the thread or yarn into or out of the guideways.

By the construction shown and described the main or fixed guideway will perform the greater portion of the work of clearing the yarn or thread. It is very desirable that this should be so, because the main guideway has an extended wearing-surface. It is adjustable for width according to the fineness of the yarn or thread to be cleared, and it can be readily cleaned by separating the jaw-faces 5^x and 6^x. The main guide knocks off all the leaf or dirt, and it will catch any ordinary bunch; but if a bunch should flatten and pass through the main guideway the supplementary guideway 13 will catch and stop such bunch. By mounting the arm 11 above the fixed guideway the supplementary guideway is arranged with its open end downturned, so that lint and dust can drop therefrom, and this self-removal of the lint is greatly assisted by separating the guideway 13 from the main guideway. Such separation is effected by the projecting boss 9 on the upper jaw, as it causes the arm 11 to move in a plane behind and some little distance away from the back edges of the jaw-faces 5^x and 6^x, the arm turning freely without any binding or cramping. The yarn or thread is given more freedom in its movement through the guideways by separating them, as herein shown, and there is less tendency to breakage or to clogging up the guideways by accumulations of lint or dirt. The supplementary guideway moves laterally as the yarn or thread builds up on the spool, such movement of the guideway enabling it to remain in control of the thread throughout the winding operation without interfering with its freedom of movement. When an end breaks or runs out, the counterbalance 15 returns the movable guideway to the position shown in full lines, Fig. 1, so that the said guideway is in position ready for the insertion of yarn.

In the modification shown in Fig. 4 the enlarged end 15 of the arm 11 has an elongated slot 50 to receive a screw-stud 51, threaded into a movable weight 52, so that by loosening

the stud the weight can be moved toward or away from the fulcrum of the arm, thereby regulating the tension exerted by the movable guideway upon the yarn.

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

1. In a spooler-guide, two stationary jaws having opposed and slightly-separated faces to constitute an elongated fixed, horizontal guideway, and a swinging arm movable in a plane parallel thereto and mounted behind and above said fixed guideway and having an open-ended guideway behind and crossing the fixed guideway, the said guideways forming main and supplementary clearers for and to act successively upon the thread or yarn.

2. In a spooler-guide, two stationary jaws having horizontal opposed and slightly-separated faces to constitute a fixed guideway, a boss on the rear face of the upper one of said jaws, and a swinging arm fulcrumed on the rear end of the boss and having an open-ended guideway crossing said fixed guideway behind it and separated from it, to form a laterally-traversing supplementary guide and clearer for and to act upon the thread or yarn after the same has passed through the fixed guideway.

3. In a spooler-guide, two stationary jaws having horizontal opposed and slightly-separated faces to constitute a fixed guideway, a boss on the rear face of the upper jaw having a flattened end, and an arm fulcrumed on the said boss and having its depending end provided with an open-ended guideway crossing and laterally movable behind the fixed guideway and separated therefrom, the portion of the arm forming the lower side of the movable guideway being elongated to always extend across the fixed guideway.

4. In a spooler-guide, two stationary jaws having horizontal, opposite faces to constitute a fixed and elongated guideway, an arm fulcrumed above said guideway on the upper one of said jaws and having its downturned end provided with an open-ended guideway crossing and movable in a vertical plane behind and separated from the fixed guideway, a counterbalance on said arm at the end thereof opposite the open-ended guideway, and a single stop-pin on the upper jaw to prevent improper movement of the lower end of said arm in either direction.

5. In a spooler-guide, two jaws adjustable toward and from each other and having horizontal, opposite faces to constitute a fixed and elongated guideway, an arm fulcrumed above said guideway on the upper one of said jaws and having its downturned end provided with an open-ended guideway crossing and movable in a vertical plane behind and separated

from the fixed guideway, a counterbalance on
said arm at the end thereof opposite the open-
ended guideway, and a weight adjustable on
the counterbalance toward and from the ful-
5 crum of the arm, to vary the tension exerted
by said arm on the yarn passing through the
guideway.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

HENRY LAWRENCE.

Witnesses:

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FRANK E. DODGE, Jr.