

J. E. PREST.
 THREAD GUIDE FOR SPINNING OR TWISTING MACHINES.
 APPLICATION FILED NOV. 14, 1910.

995,564.

Patented June 20, 1911.

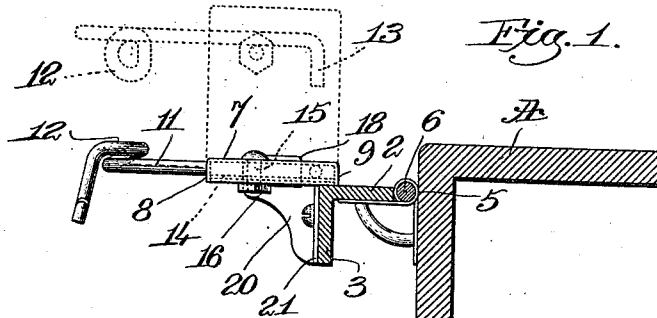


Fig. 1.

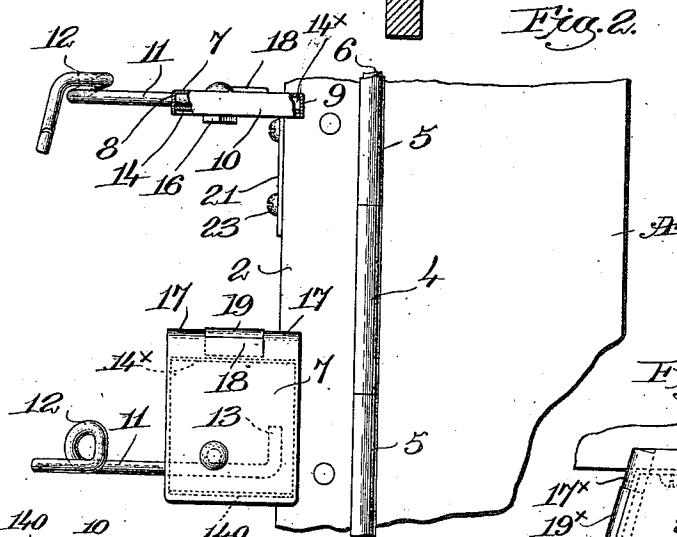


Fig. 2.

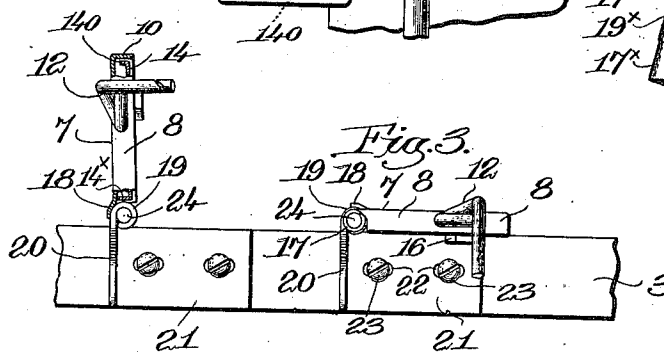


Fig. 3.

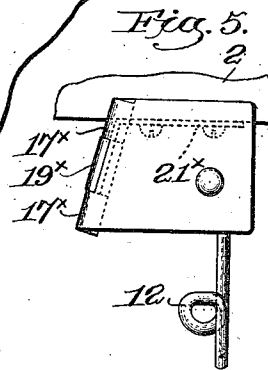


Fig. 5.

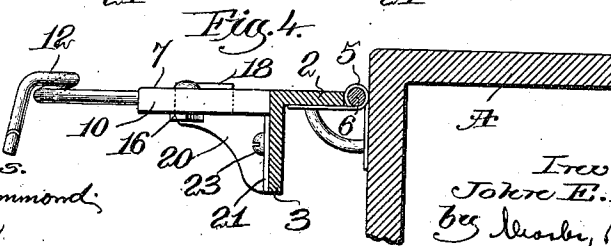


Fig. 4.

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UNITED STATES PATENT OFFICE.

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THREAD-GUIDE FOR SPINNING OR TWISTING MACHINES.

995,564.

Specification of Letters Patent. Patented June 20, 1911.

Application filed November 14, 1910. Serial No. 592,158.

To all whom it may concern:

Be it known that I, JOHN E. PREST, a citizen of the United States, and resident of Melrose, county of Middlesex, State of Massachusetts, have invented an Improvement in Thread-Guides for Spinning or Twisting 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 novel thread-guiding means for spinning or twisting machines, so constructed and arranged that when the finger-boards are swung into inoperative position there cannot be any injury to the drawing-rolls by reason of engagement with the thread-guides.

Heretofore, so far as I am aware, the finger-board or other supporting device for the thread-guide has been pivotally connected with the thread-board in parallelism with the front thereof, such supporting device being swung upward and rearward for doffing or for other purposes. It happens not infrequently that when the thread-guides are in such inoperative position they will swing back far enough to hit and injure the rolls, scoring or making grooves therein, and it is not practicable to increase the distance to the rolls because of the additional gathering place for lint thereby provided. At best the thread-board and roller-beam collect a great deal of lint from the thread or yarn, and when the finger-board is swung upward the thread is slackened between the rolls and the thread-guide, dropping down into and picking up more or less of the loose lint, which is then carried along with the yarn when spinning is resumed. These are objectionable features, manifestly, for the grooving or scoring of the rolls by the thread-guides is expensive, as the injured roll or rolls must be replaced, and when lint is picked up by the yarn and carried along to the bobbin bad places are produced when such yarn is subsequently woven into cloth. In my present invention I obviate these objectionable features present in thread-guiding means now in use by so locating the pivotal connection between the thread-board and the finger-board or other supporting device for the thread-guide that the latter is swung laterally into and out of operative position. That is, the fulcrum about which the

finger-board swings is extended frontward from the thread-board, and is at one side of the finger-board, instead of at its rear edge. By this construction it is impossible for a thread-guide to come anywhere near the rolls, at any time, and the thread or yarn between the rolls and thread-guide is kept fairly taut and out of the way of any loose lint or fluff which may have collected on the roller-beam or thread-board.

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 side elevation and part section of a thread guide embodying one practical form of my present invention, and the dotted lines show a finger-board and attached thread-guide in inoperative position; Fig. 2 is a top plan view of the device shown in Fig. 1, one of the finger-boards being shown as upturned in inoperative position; Fig. 3 is a front elevation of the parts illustrated in Fig. 2; Fig. 4 is a view similar to Fig. 1 but showing a modification, to be referred to, whereby the finger-board is maintained in its operative position by engagement with a part of the hinge-bracket; Fig. 5 is a top plan view of a finger-board and part of the thread-board, but with the pivotal connection between said parts diagonal with relation to the front of the thread-board.

In Figs. 1, 2 and 4, A denotes the usual roller-beam, to which is pivotally connected the thread-board 2, preferably made of angle-iron and having a depending flange 3 at its front edge, any suitable pivotal connection being employed, such for instance as laterally separated tubular eyes 4 attached to the roller-beam and alternating with similar eyes 5 attached to the thread-board, all connected by a pintle or rod 6, as in my United States Patent No. 929,009, dated July 27, 1909.

The finger-boards herein shown are in practice composed of two metallic members, one fitting within the downturned edges of the other, the upper member 7 having its edges downturned at the front and rear, as at 8, 9, and at one side 10, the front edge having a hole therein for the shank 11 of the thread-guide proper. Said thread-guide is made of stout wire bent to form a guide-eye or pig-tail 12 of any desired form, the inner end of the shank 11 being bent later-

ally at 13, see dotted lines Figs. 1 and 2, to prevent rotative movement of the shank when clamped between the upper member 7 and the lower or clamping member 14 of the finger-board. A headed clamping bolt 15 passes through said members 7 and 14 and at its lower end receives a nut 16, which latter when set up draws together the two members of the finger-board and tightly clamps between them the shank of the thread-guide, the latter being adjustable in and out by loosening of the nut. The upper member 7 at the side opposite the downturned part 10 is slitted and cut out to leave front and rear portions of metal which are rolled over to form separated and alined tubular eyes 17 which form a hinge member, the metal between the eyes being slightly outturned to form a limiting stop 18. The other member of the hinge is a tubular eye 19 formed on the upper edge of an arm 20 extended frontward from a metal plate or bracket 21 provided with elongated slots 22 for the reception of fastening screws 23 which secure the bracket to the front face of the flange 3 of the thread-board. This is clearly shown in Fig. 3, and by loosening the screws the bracket can be adjusted laterally upon the thread-board, as may be necessary.

A pintle 24 is extended through the alined eyes 17 and 19, whereby the finger-board is pivotally connected at one of its sides with the bracket attached to the thread-board, said pivotal connection extending frontward therefrom. The finger-board is thus swung laterally into and out of operative position, and when in its inoperative position, as shown at the left, Fig. 3, it is at one side of the yarn path and entirely clear of the same, so that complete and unobstructed access can be had for doffing, piecing-up, etc.

While ordinarily the friction of the parts constituting the pivotal connection will be sufficient to retain the finger-board in inoperative position the stop 18 provides a positive limit to the swinging movement, for said stop comes against the adjacent face of the eye 19, see Fig. 3 at the left.

In Fig. 2 the upturned finger-board is not shown as far back as in Fig. 3, in order to more clearly illustrate constructional details.

Referring now to Figs. 1 and 2 it will be seen that the eye 19 is set at such an elevation, and at such a distance in front of the thread-board that the rear portion of the finger-board will overhang the thread-board at all times, and when said finger-board is in operative position it will rest upon the top of the thread-board and will thereby be firmly supported in horizontal, operative position. Thus I utilize the thread-board to serve as a limiting stop and additional support for the finger-board when operatively positioned, giving great firmness to the lat-

ter and preventing any liability of bending or disarranging the pivotal connection. I can, however, utilize the upper edge of the bracket 21 for this purpose, as shown in Fig. 4, this being effected by so locating the eye 19 on the bracket arm 20 that the finger-board swings down in front of the flange 3 of the thread-board and upon the upper edge of the bracket.

The pivotal connection between the thread-board and finger-board is shown in Figs. 1 to 4 at right angles to the former, all of the pivotal connections of a series of finger-boards being in parallelism, as will be manifest, and the finger-boards are shown as rectangular. In Fig. 5, however, I show the finger-board with one side diagonal to the thread board 2, having alined eyes 17* to receive between them the eye 19* of the bracket 21*, and herein the latter eye is set diagonally to the bracket, so that when the finger-board is swung upward it also has a slight rearward movement. So far as my invention is concerned, however, either arrangement may be employed, for the finger-board is swung laterally into inoperative position.

It will be understood that in the finger-board herein shown the upper member 7 is stiffened by downturning its edge at 8, 9 and 10, but the side at which the tubular eye portion 17 is formed is not so stiffened, and in order to provide for such stiffening I upturn one of the sides of the lower member 14, to form a flange 14*, clearly shown in Fig. 3 at the left, this flange being deep enough to bear against the upper member 7 adjacent and parallel with the eye. When the two members are drawn together by the clamping means this flange is pressed firmly against the upper member and acts to stiffen and impart rigidity thereto at the side along which it has no downturned edge, the clamping means acting between said flange and the shank 11 of the thread-guide. To strengthen the lower member when somewhat flexed by such clamping means I provide a second upturned strengthening flange 140, Fig. 3, which is of a depth equal to the diameter of the thread-guide shank 11, so that this flange cannot engage the upper member, said flange 140 lying between the shank and the edge portion 10 of the upper member 7 and preventing any tendency of the member 14 to twist or warp when clamping pressure is applied.

The particular construction of the finger-board and the means for clamping the thread-guide thereon in adjusted position may be changed or modified in various ways without departing from my invention, and changes or modifications in different details of construction and arrangement may be made by those skilled in the art without departing from the spirit and scope of my in-

vention as set forth in the claims annexed hereto.

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

1. The combination, with a thread-board, and a finger-board provided with a thread-guide, of a pivotal connection between the finger-board and thread-board and extended frontward from the latter, to permit upward and lateral swinging movement of the finger-board into inoperative position.

2. The combination, with a thread-board, and a finger-board having a thread-guide, of a hinge member mounted on the thread-board and extended frontward therefrom, a cooperating hinge member on one side of the finger-board, and a pintle connecting said hinge members, the finger-board being movable upward and laterally with respect to the thread-board.

3. The combination, with a thread-board, and a finger-board having a thread-guide, of a pivotal connection between said thread-board and one side of the finger-board, whereby the latter may be swung laterally to one side of the yarn path, and means to limit movement of the finger-board when swung into such position.

4. The combination, with a thread-board, of a bracket laterally adjustable thereon and provided with a frontwardly extended arm, a finger-board, and a pivotal connection between one side thereof and the frontwardly extended arm of said bracket.

5. The combination, with a thread-board, and a series of thread-guiding devices, of a pivotal connection between each of said devices and the thread-board and extended frontward therefrom at an angle thereto, whereby a thread-guiding device may be moved laterally on its pivotal connection into inoperative position.

6. The combination, with a thread-board, of a plurality of laterally adjustable brackets thereon, each bracket having an arm extended frontwardly therefrom, means to maintain each bracket in adjusted position,

and a thread-guiding device pivotally connected with the arm of each bracket at one side of the path of the adjacent yarn.

7. The combination, with a thread-board, a thread-guide, a support in which it is adjustably held, of means pivotally connecting said support and the thread-board at an angle to the front of the latter, said support when in operative position resting at its rear portion upon the top of the thread-board.

8. In apparatus of the class described, a thread-board, a finger-board, and a thread-guide mounted thereon, combined with a pivotal connection between the thread-board and one side of the finger-board, the latter when operatively positioned engaging and being vertically supported by the thread-board, and a device to limit lateral swinging movement of the finger-board away from operative position.

9. A finger-board comprising a sheet-metal upper member having at one side a tubular eye and provided with a downturned edge along its other sides, and a sheet-metal lower member adapted to fit within such downturned edge and provided with upturned flanges one of which is adapted to bear against and stiffen the upper member adjacent the eye when said members are clamped together, the other flange strengthening the lower member when flexed by the clamping means, combined with a thread-guide having a shank adjustably held between said members substantially parallel to and adjacent the strengthening flange, and clamping means cooperating with the upper and lower members between the thread-guide shank and the tubular eye, said means serving to hold said members together and clamped upon the shank to maintain the thread-guide in adjusted position.

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

JOHN E. PREST.

Witnesses:

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FREDERICK S. GREENLEAF.