

1,028,480.

Fig. 1.

Fig. 2.

WITNESSES
E. S. Ogden
J. L. Macdonnell

INVENTOR
Leon J. Morin.

By Howard E Barlow
att'y.

UNITED STATES PATENT OFFICE.

LEON J. MORIN, OF TAUNTON, MASSACHUSETTS.

SPINNING-MACHINE.

1,028,480.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed February 11, 1911. Serial No. 608,146.

To all whom it may concern:

Be it known that I, LEON J. MORIN, a citizen of the United States, and resident of Taunton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Spinning-Machines, of which the following is a specification.

This invention relates to improvements in spinning machines and has reference more particularly to a vertically movable thread board and guide eyes to maintain a given length of thread between the guide eye and traveler.

The object of my invention is to provide simple and practical means for giving a positive vertically reciprocating motion to the thread guiding mechanism, and to provide a protecting cover therefor in the form of a thread board to prevent the cotton waste from falling onto and clogging the operating mechanism, said thread board also serving to protect the yarn and prevent the same from knotting or bunching.

A further object of the invention is to provide adjustability to the parts whereby my improved mechanism may be applied to any spinning frame now in use and quickly and accurately set to bring the parts in perfect operative relation to each other.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1— is a front elevation of a portion of a spinning machine to which my improved device is attached. Fig. 2— is a side elevation of a portion of a spinning frame and also of my device attached thereto.

Referring to the drawings 29 represents a portion of the usual roll carrying beam of a spinning frame. A bearing member 24 which for convenience will be herein termed a yoke is bolted or otherwise secured to the lower edge of this beam by means of the bracket 23. This yoke is provided with an elongated slot 42 through which the bolt 43 passes whereby a forward or backward adjustment may be secured so as to adjust the operating mechanism and especially to set the guide eyes 1, presently described, accurately in the correct position with respect to the bobbin spindles. The ends of this

yoke or bearing member are provided with bearings 38—38 in which the lift rod 7 is mounted to slide vertically. To the upper end of this rod is rigidly connected the bracket 6 whose forwardly projecting lip or flange 5 supports the thread board 4. This board is very broad and completely protects the yarn, as well as the operating mechanism below, from the falling waste. To the outer edge of this board the usual front leaves 2 are hinged at intervals along its length as at 3, said front leaves being provided with the usual thread guide eyes 1—1. In order to raise this thread board and its guide eyes by the lifting rods 7, I have connected a collar 8 to the rod by means of the set screw 9 which collar is provided with a laterally extending pin 10 passing through the slide block 19. This block is held to move endwise in the elongated aperture of the arm 11. This arm 11 is mounted on and secured to the longitudinally extending lever shaft 22 by means of a set screw 21, see Fig. 2, said arm also has a rearwardly extending portion which is provided with a counterbalance weight 37. A stop 46 is arranged to limit the downward motion of the working end of arm 11, and the shaft 22 on which the levers are hung, is supported in suitable brackets 25, the same being slotted as at 47 for the purpose of endwise adjustment. These brackets are thus bolted to the various yokes 24 which are arranged at suitable intervals along the frame.

The thread board 4 is moved vertically in time with the ring rail 36 through the lifting rods 7, levers 11, arm 12, connecting rod 13 and a rock shaft lever arm 14 which is connected and operated from the rock shaft 16 through the arm 15, this latter arm being attached to its shaft by a set screw 17 or other suitable means.

In order to vary the stroke of the thread board relative to that of the arm 15, the rod 13 may be shifted at either or both of its ends into any of the holes 27 or 28.

The rock shaft 16 is supported in a bracket 18 from the rail 31, one portion of said shaft being provided with an arm 39 which is connected in any usual or suitable way to the ring rail 36 through the lift rod 40.

The usual bobbins 32 are shown as being supported from the spindle rail 30 on the spindle 41 to which the thread 34 is led through the guide eyes 31 and traveler 33,

from the usual drawing rolls, not shown, which traveler is mounted on the usual ring 35.

The primary object of this invention is to
 5 provide simple, inexpensive and practical
 means for giving to the thread guide a ver-
 tically reciprocating motion and to maintain
 said thread guides in their proper relation
 to that of the ring rail so as to keep a uni-
 10 form tension on the thread as the same is
 wound upon all portions of the bobbin. By
 the employment of my improved mechanism
 the possibility of knotting of the thread is
 reduced to the minimum and the falling
 15 waste is also prevented from clogging or
 otherwise interfering with the positive and
 accurate working of the thread feeding
 mechanism.

By means of the slotted adjustment at 42
 20 in the yoke the whole operating mechanism
 may be moved at once and maintained in
 proper working relation and the thread
 board and guide eyes may be accurately po-
 sitioned with relation to their respective
 25 spindles and thereby may be easily made to
 fit almost any of the ordinary spinning
 frames. The stroke of the thread board
 may be readily adjusted by simply moving
 either one or both ends of the connecting
 30 rods into the desired hole in the lever arms
 12 and 14 to bring the motion in time with
 that of the ring rail, both motions being
 taken from the same rock shaft 16. Any
 number of sets of lift rods and their oper-
 35 ating mechanism may be employed and ac-
 tuated from the lever shaft 22.

I claim:

1. A spinning machine thread feeding
 40 mechanism including a vertically recipro-
 catory ring rail, the same comprising a

vertically reciprocatory protecting thread
 board, thread guides carried by said board,
 lift rods connected to said board, a yoke
 having an upper and lower bearing for
 said rods, lift rod operating levers, and a 45
 longitudinally disposed lever shaft also sup-
 ported on said yoke, means whereby said
 yoke and its said attached devices may be
 adjusted to set the guides in desired posi-
 tion, a rock shaft through which the ring 50
 rail is actuated and means connected to said
 rock shaft for oscillating said lever shaft to
 raise and lower said thread board in propor-
 tion to that of said ring rail.

2. A spinning machine thread feeding 55
 mechanism including a vertically recipro-
 catory ring rail, the same comprising a ver-
 tically reciprocatory protecting thread
 board, thread guides carried by said board,
 lift rods, a yoke having an upper and lower 60
 bearing for said rods, lift rod operating
 levers, a longitudinally disposed lever shaft
 also supported by said yoke, means whereby
 said yoke and its said attached devices may
 be adjusted to set the guides in desired po- 65
 sition, an arm on said lever shaft having a
 series of holes, a rock shaft, an arm on said
 rock shaft also provided with a series of
 holes, a rigid connection between said arms
 adapted to engage any of said holes in 70
 either of said arms whereby the stroke of
 the thread board and guide eyes may be reg-
 ulated.

In testimony whereof I affix my signature
 in presence of two witnesses.

LEON J. MORIN.

Witnesses:

H. F. HATHAWAY,
 HOWARD E. BARLOW.