

(No Model.)

L. BRIGGS.
TWISTING MACHINE.

No. 559,565.

Patented May 5, 1896.

Fig. 1.

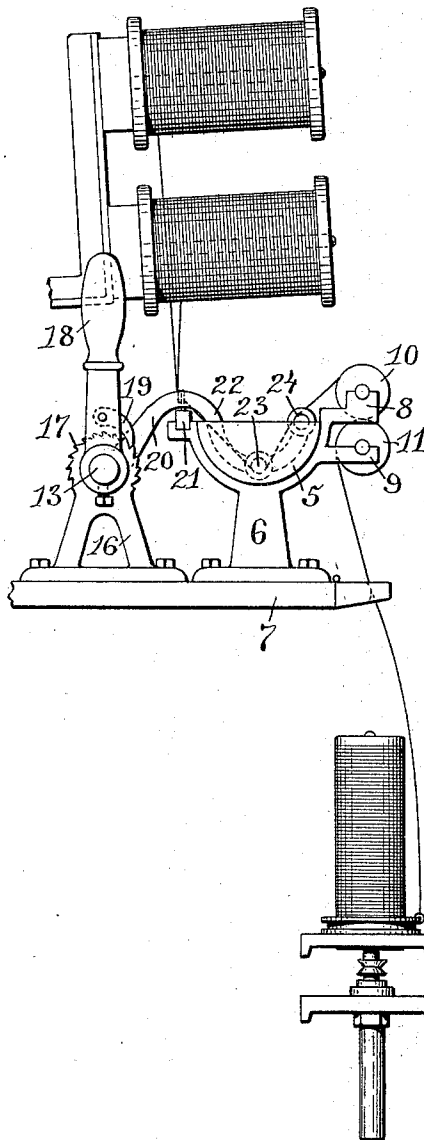


Fig. 2.

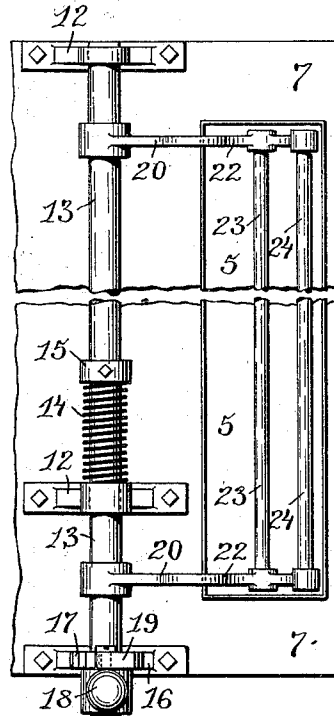
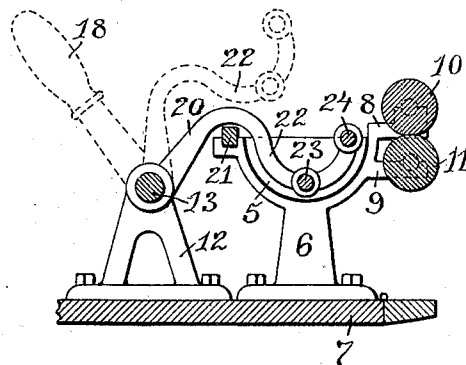


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LUCIUS BRIGGS, OF GLASGO, CONNECTICUT.

TWISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 559,565, dated May 5, 1896.

Application filed July 5, 1893. Serial No. 479,598. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS BRIGGS, of Glasgo, in the county of New London and State of Connecticut, have invented certain
5 new and useful Improvements in Twisting-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this
10 specification.

This invention has reference to improvements in machines for twisting thread and yarn.

The object of the invention is to improve
15 the construction of the moistening-trough of a thread-twisting machine.

Another object of the invention is to so construct and support the guide-rods for directing the thread through the moistening-
20 trough that these guide-rods may be elevated from the trough to lift the thread out of the water, when desirable, or to leave the trough unobstructed when it becomes necessary to clean the same.

The invention consists in the combination,
25 in a twisting-machine with a trough, of guide-rods and supports for the same removably secured in the trough.

The invention also consists in the combination, with the moistening-trough of a twisting-machine, of guide-rods mounted on supports which are adapted to lift the guide-rods and support them at various heights above
30 the trough or to remove them entirely from the trough.

The invention likewise consists in the manner in which the guide-rod-supporting arms are mounted and in the combination therewith of mechanism for operating the same.

Figure 1 represents an end elevation of part
40 of a twisting-machine, showing the trough with the guide-rod-operating device and indicating their relation to the other parts of the mechanism. Fig. 2 represents a plan
45 view of the trough, the guide-rods, and the mechanism for supporting and operating the guide-rods. Fig. 3 represents a vertical cross-sectional view of the same, the operation of the guide-rods and supporting-arms being indicated in broken lines.

Similar numbers of reference designate corresponding parts throughout.

Troughs for thread-twisting machines are generally mounted on the table-top of the machines immediately below the spool-rack. 55 These troughs are partially filled with water, through which the thread is passed on its way to the rolls and bobbins. In order to guide the thread through the troughs and beneath the surface of the water, two longitudinal bars are used, these being mounted
60 in yokes which are curved to correspond to the cross-sectional shape of the trough, the yokes being permanently fixed in the trough by soldering or riveting. The guide-rods
65 are thus supported slightly away from the inner surface of the trough, one extending through the longitudinal center of the trough and the other near the outer edge of the same. The thread is passed under the first rod, over
70 the second, and then to the rolls. The water-level being above the first rod, the thread passes through the same and is moistened before reaching the rolls.

In twisting some classes of thread it often
75 becomes desirable to lift the thread away from the water and to twist a portion of it without moistening. This is impractical without breaking the thread. Again when the trough becomes soiled from the sediment
80 carried in the water, as well as from dust settling therein and the lint scraped from the thread as it passes over the guide-rods, it becomes necessary to clean the troughs. The water is readily drawn off through a perfora-
85 tion in the bottom, ordinarily closed by a stopper; but the guide-rods and thin yokes being permanently fixed in the troughs greatly obstruct the cleaning process. Lint and foreign matter will lodge between the
90 bars and the inner surface of the trough, as well as about the yokes, from which position it is nearly impossible to dislodge the same. Much time and labor is required in the operation, which necessitates the stopping of at
95 least one side of the twister-frame and generally the whole machine.

In carrying my invention into practical use I construct a trough 5 of the usual size and shape, but having an inner surface entirely
100 unobstructed from end to end. I support this trough in brackets 6 6, which are mounted in the ordinary way on the table-top 7 of the machine. From the brackets 6 6 may extend

arms 8 and 9, having bearings in which the shaft ends of the rolls 10 and 11 are journaled. The rolls may, however, be journaled in arms extending directly from the table-top, or in any other manner, the supporting of these rolls forming no part of my invention.

Behind the trough 5, and also secured to the table-top 7, are brackets 12 12, having bearings formed in their upper portions, and journaled in these bearings is a shaft 13, parallel to the trough. Adjacent to one of the brackets 12 a coiled spring 14 encircles the shaft, one end bearing against the bracket-face and the other end against the stop-collar 15, clamped on the shaft, thus exerting a pressure on the shaft in a direction to draw the clamping-collar of the operating-handle against the adjacent bracket. This spring may, however, be omitted. Either or both of the shaft end portions are journaled in bearings in the bracket 16, secured to the table-top and having ratchet-teeth 17 formed around its upper circular part, and on the shaft, adjacent to the bracket 16, is clamped a lever-handle 18, provided with a pawl 19, pivoted to the handle and engaging the ratchet-teeth 17 when the handle is turned backward until the pawl is released.

Extending from the shaft 13, to which they are firmly secured at suitable distances apart, are the arms 20 20, curving over the pig-tail bar 21, supported near the trough, and having their ends bent to form the semicircular yokes 22 22, in perforations in which the parallel guide-rods 23 and 24 are secured, these yokes fitting the interior of the trough more or less closely.

Fig. 1 represents two threads passing through the ordinary pig-tail, then under the

guide-rod 23, over that marked 24, and then over the top roll 10. It is evident that when it is desired to lift the threads out of the water with which the trough is supposed to be partially filled a slight backward movement of the lever-handle will partially rotate the shaft 13, the arms 20, having the yoke 22, will be raised thereby, if necessary, to the position indicated in broken lines in Fig. 3, and the thread will be lifted without breaking the same or interfering with the operation of the machine. The pawl 19, when the shaft is rotated, will engage the ratchet-teeth 17 of the bracket 16 and will sustain the shaft against the weight of the arms 20 and the guide-rods.

When the trough becomes soiled, the throwing back of the handle 18 will raise the yokes 22 and the guide-rods entirely out of the trough, leaving the same unobstructed and in condition to be cleaned in the shortest possible time.

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

The combination, in a twisting-machine, with the trough 5, of the guide-bars 23 and 24, the yokes 22 22, formed in part with the arms 20, for supporting the rods, the shaft 13, mounted in bearings in the brackets 12, to which the arms 20 are secured, the bracket 16 having the ratchet-teeth 17, the handle 18 fastened on the shaft, and the pawl 19 pivoted to the handle and adapted to engage the ratchet-teeth 17, as and for the purpose described.

LUCIUS BRIGGS.

Witnesses:

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