F. C. Werner.

Spinning Jack.

No. 45,547. Patented Dec. 20, 1864.

Fig: 1.

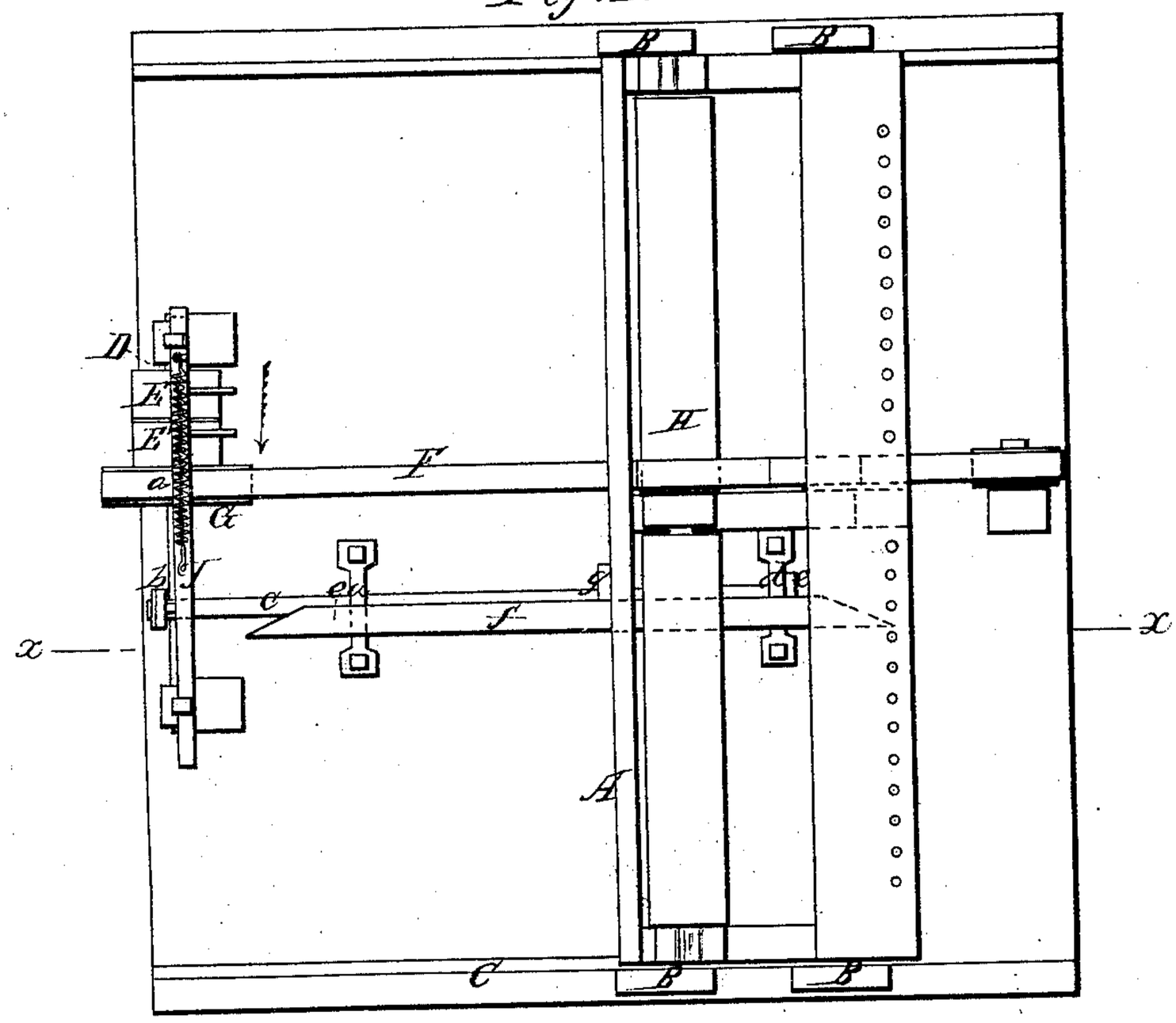
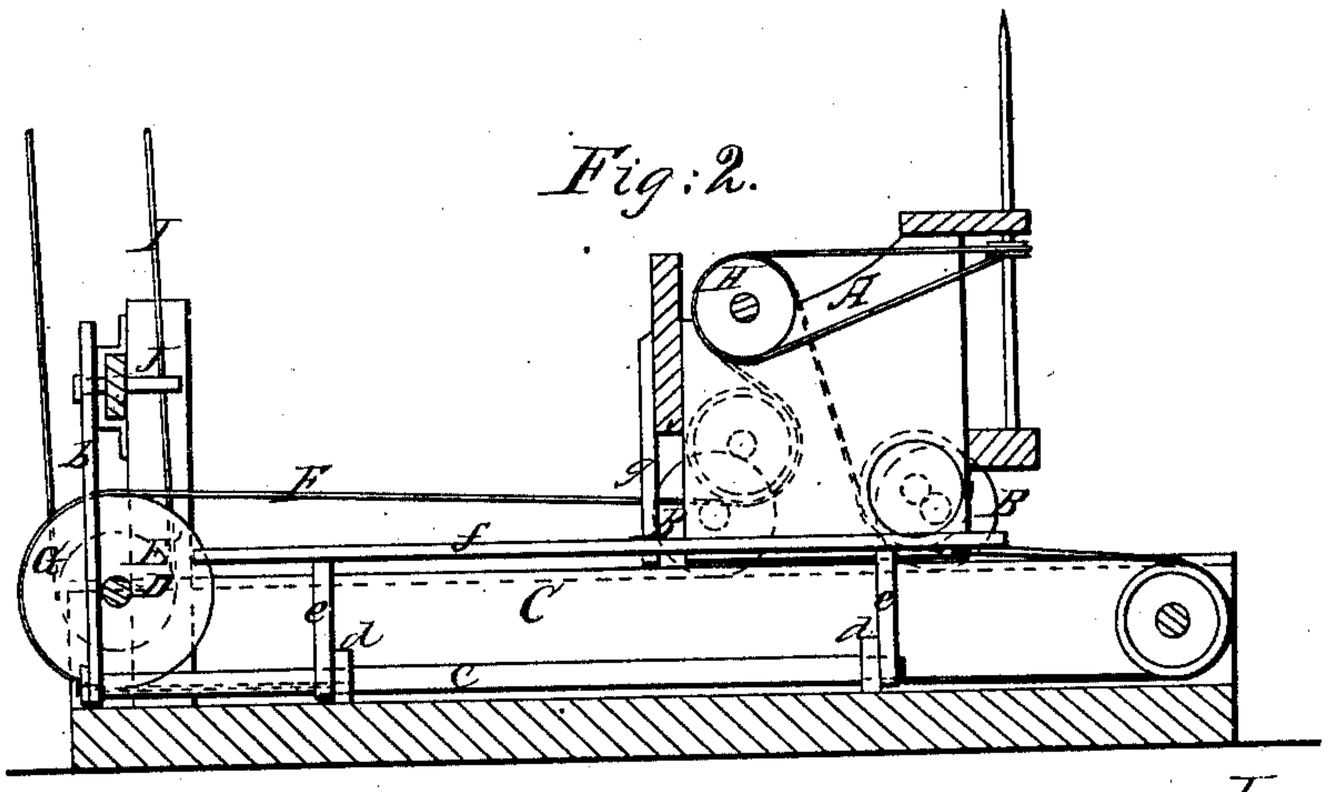


Fig: 2.



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UNITED STATES PATENT OFFICE.

FREDERICK C. WERNER, OF BEACON FALLS, CONNECTICUT.

IMPROVEMENT IN SPINNING-JACKS.

Specification forming part of Letters Patent No. **45,547**, dated December 20, 1864.

To all whom it may concern:

Be it known that I, FREDERICK C. WERNER, of Beacon Falls, in the county of New Haven and State of Connecticut, have invented a new and Improved Friction-Regulator for Spinning Jacks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of this invention. Fig. 2 is a longitudinal vertical section of the same, the line *x x*, Fig. 1, indicating the plane of section.

Similar letters of reference indicate corresponding parts.

This invention consists in the combination, with the carriage of a spinning-jack, which is provided with a suitable tappet, and with the belt-shipper which throws the driving-belt of the spinning-jack from the fast to the loose pulley, and vice versa, of a movable bar with inclined or chamfered ends in such a manner that whenever a stretch of yarn is made the driving-belt is made to shift entirely on the loose pulley, and the spinner is enabled to break the speed of the spindles and turn them backward much easier and quicker than with an ordinary spinning-jack; but just as soon as he begins to wind up, the tappet projecting from the carriage will touch the movable bar, thereby causing the belt to move from the loose onto the fast pulley just far enough to do the winding, and keeping it in this position until the tappet passes the movable bar, when the belt passes again to the loose pulley, allowing the machine to be stopped, if wanted.

In an ordinary spinning-jack the spinner pushes the carriage in gear and simultaneously therewith the belt is thrown from the loose on the fast pulley, and the roving and the spindles are set in motion. The spinner, in drawing the carriage to the outer end of its stretch, makes yarn from the roving, and as soon as sufficient twist is in the yarn the belt is pushed back on the loose pulley, but is not allowed to clear the fast pulley entirely. It is partly left on to help the spinner turn the spindles while winding the stretch of yarn onto the bobbins or cops; but before he can begin to wind up he must stop the spindles, which he does by laying his hand on the crank-wheel and holding back on it till it stops; then he turns the crank-wheel about half-way backward, in order to bring the threads from the top of the spindles to the part where he desires to wind the yarn. The breaking of the speed of the spindles and the backward turning he has to do against a portion of the driving-belt acting in the opposite direction, and thereby the operation of spinning is rendered tiresome and laborious. These disadvantages are obviated by my invention, which will be readily understood from the following description.

A represents the carriage, which is constructed in the ordinary manner, and which is supported by wheels B, and moves backward and forward on the track C. D is the driving-shaft, which carries the fast and loose pulleys E E′, and from which motion is imparted to the spindles by a belt, F, extending over a pulley, G, on said driving-shaft, and thence over suitable pulleys and tightening-rollers to the drum H in the carriage.

The position of the belt I, which imparts motion to the shaft D, is governed by a belt-shipper, J, which is subjected to the action of the spring *a*, so that when left to follow that action, said belt-shipper throws the belt on the loose pulley E. Whenever this takes place, the motion of the shaft D and that of the spindles stops.

In order to obtain the assistance of the belt I in winding up, the belt-shipper J connects by a forked arm, *b*, with a rock-shaft, *c*, which extends parallel to the track, and has its bearings in lugs *d*, between said track, or in any other convenient locality in close proximity to it. From this rock-shaft rise two or more arms, *e*, which support a long flat bar, *f*, the ends of which are chamfered off, as clearly shown in Fig. 1 of the drawings. This bar extends under the carriage, while the latter is in motion, and a tappet, *g*, attached to or projecting from some convenient part of said carriage, is so arranged in relation to the bar *f* that when the carriage is at either end of its stretch said tappet is not in contact with the bar, and the belt-shipper is free to follow the action of the spring *a*, and to throw the belt

I on the loose pulley E; but when the carriage moves along on its track the tappet strikes the edge of the bar and turns it back to the position shown in Fig. 1. The belt-shipper is thereby moved in the direction of the arrow marked on it in said figure, and the belt I is thrown partially on the fast pulley E′. In this position the belt assists the spinner in giving motion to the spindles for the purpose of winding up, and after the tappet on the carriage has passed the bar *f* the belt-shipper is free to follow the spring *a* and to throw the belt on the loose pulley E, so as to stop the machine, if it is desired. The labor of the spinner is thereby considerably reduced. When the carriage arrives at the outer end of its stretch, the belt I passes automatically on the loose pulley E, and the motion of the spindles stops, and so soon as the carriage begins to move toward the inner end of its stretch for the purpose of winding up, the belt I passes partially on the fast pulley, and the spinner obtains the assistance of the same in winding up.

This device is very simple in its construction and easily understood. It can be readily attached to spinning-jacks of any desired construction, and when once properly adjusted it is not liable to get out of order.

In order to make the tappet adjustable for more or less friction, it may be made with slots for the reception of its attaching-screws.

I claim as new and desire to secure by Letters Patent—

The movable bar *f*, applied in combination with the belt-shipper J, carriage A, and tappet *g*, in the manner and for the purpose substantially as set forth.

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