A. & G. Simpson.

Spinning Jack.

No. 50,044. Patented Sept. 19, 1865.

Fig. 4.

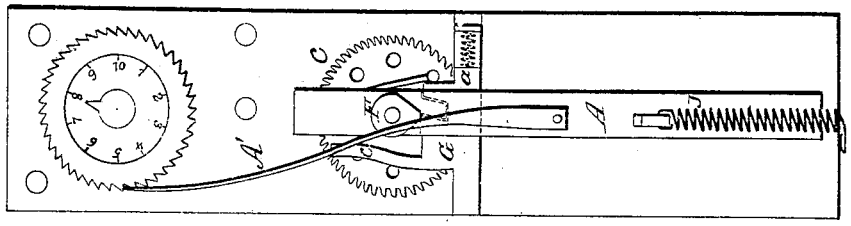


Fig. 3

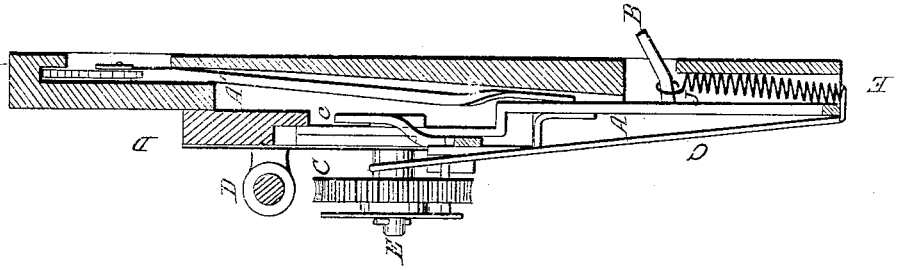


Fig. 2.

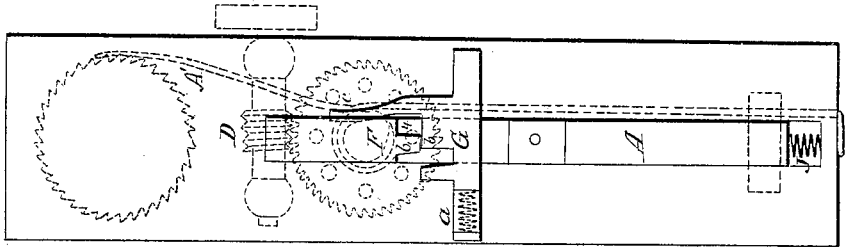
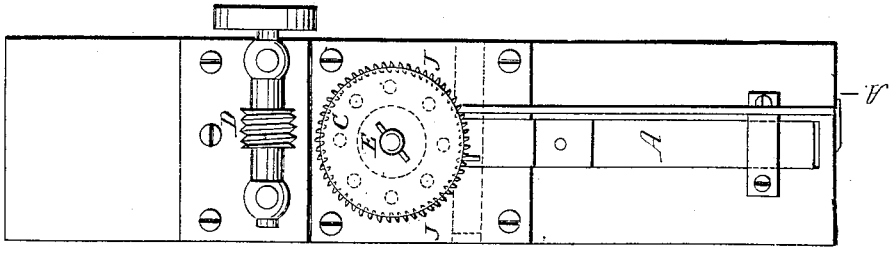


Fig. 1.



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UNITED STATES PATENT OFFICE.

AUGUSTUS SIMPSON AND GEORGE SIMPSON, OF WOONSOCKET FALLS, RHODE ISLAND.

IMPROVEMENT IN SPINNING-JACKS.

Specification forming part of Letters Patent No. **50,041**, dated September 19, 1865.

To all whom it may concern:

Be it known that we, AUGUSTUS SIMPSON and GEORGE SIMPSON, both of Woonsocket Falls, Cumberland, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Spinning-Jacks; and we do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof:

Figure 1 is a front view of the register of a spinning-jack. Fig. 2 is a section on the line C D. Fig. 3 is a section on the line A B. Fig. 4 is a section on the line E F, or back view with the cover removed.

It is customary in establishments for manufacturing woolen goods to pay the operatives employed to attend the spinning-jacks in proportion to the number of yards of yarn spun. The measure adopted is technically called a "run," and consists of sixteen hundred yards in length of yarn, which, in a jack of two hundred spindles, is accomplished in four movements back and forth of the traveling-carriage, two yards being completed by each spindle for every draw or complete operation of machine.

For the purpose of keeping the count of the number of yards spun, each jack is provided with a register consisting of a train of wheels carrying index-hands, which indicate upon a suitable dial-plate the number of complete operations the machine has made, from which the number of yards of yarn spun can be readily computed. It has been found from experience, however, that the registers which have heretofore been employed cannot be relied upon, for the reason that the operatives employed upon any two of the jacks located contiguous to each other will often collude to change the count, and each from the opportunity which his position affords will raise with his hand the rod which operates, upon the machine attended by the other, the ratchet which moves the index, and thus apparently increase the number of yards which has been spun. This deception is not the only injury which results to the employer, for in the machines as hitherto arranged the disk-wheel which regulates the amount of twist to be given to the yarn, provided the machine performs its full operation, is by this practice disconnected from the worm-gear which operates it sooner than it should be, and thus the yarn is insufficiently and irregularly twisted.

To improve the spinning-jack in these particulars is the object of our invention.

In the accompanying drawings, A, Figs. 1, 2, 4, represents the lifter, which, at each forward movement of the carriage, striking the foot-piece B, Fig. 3, is raised to bring the teeth upon the rim of the disk-plate C to engage with the worm D, and at the same time the rod A′ connected therewith moves the index of the register one space, arranged in all particulars the same as in the machines in general use.

It will be sufficient for the purpose of the description of this invention to state generally that a complete revolution of the disk-wheel C will impart the maximum amount of twist which can be given by the machine to the yarn, and to effect any less amount of twist the connection between the disk and the worm is broken at such point in the revolution of the disk as will suit the object, the rod A for this purpose being held up by a latch and catch against the tension of a spring, so that when the latch is tripped by a pin upon the face of the disk-plate, in the machines as heretofore constructed, the disk will be drawn away from the worm D and the twist stop.

Inasmuch as the latch has hitherto been tripped by a pin upon the face of the disk-plate and the plate mounted upon a fixed stud for an axle, it has been within the reach of the operative, so that, if disposed to do so, he could alternately connect and disconnect the disk with the worm, and thus alter the register at pleasure.

Our arrangement of devices to effect our improvement is as follows: The disk-wheel C is made fast to the stud-pin E, which has a journal-bearing in the lifter A. Upon the opposite end of this stud is keyed a cam or tappet, F, and which will revolve as the disk-plate is turned by the worm. G is the latch for holding the disk and worm in connection, and is operated as follows: When by the action of the machine the rod A is raised, the latch will by the tension of the spring *a* cause the shoulder *b*, Fig. 2, to be placed so as to afford a rest or stop for the projecting piece H upon the rod A. In this position the teeth of the disk-plate will engage with the threads of the worm-screw D. The disk-plate now commences to revolve, and

will continue to do so for the purpose of imparting the twist until the tappet F acts upon the arm *c* of the latch, when the support is removed, and the rod A, with the disk-plate attached, is pulled downward by the spring I, and, the connection between the disk-wheel and worm being broken, the twist is stopped.

It will be observed that the arrangement of the parts admits of the use of face-plates J J, which will effectually prevent any interference with the correctness of the register; for although the rod A may be raised by the hand, and the index moved forward one space, yet the machine must complete a full operation, and impart the full measure of twist, before the connection between the disk-plate and the worm-screw can be broken, and thus a false count, as well as the chance of an insufficient twist to the yarn, is prevented.

What we claim as our invention, and desire to secure by Letters Patent, is—

The disk-wheel C and tappet F, in combination with a spring-latch, G, or their equivalents, arranged to operate substantially as described, for the purposes as herein specified.

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