J. C. Dodge.

Spinning Mach.

No. 7,364. Patented May 14, 1850.

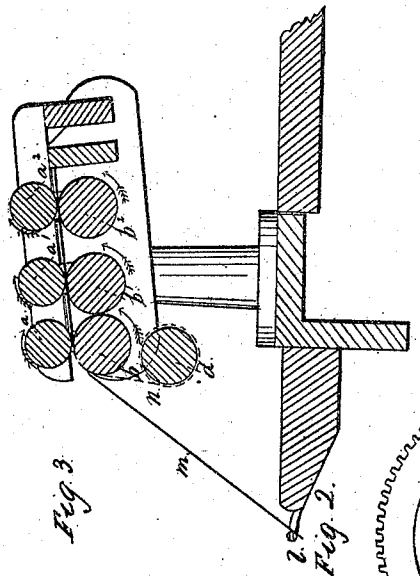

Fig. 3.

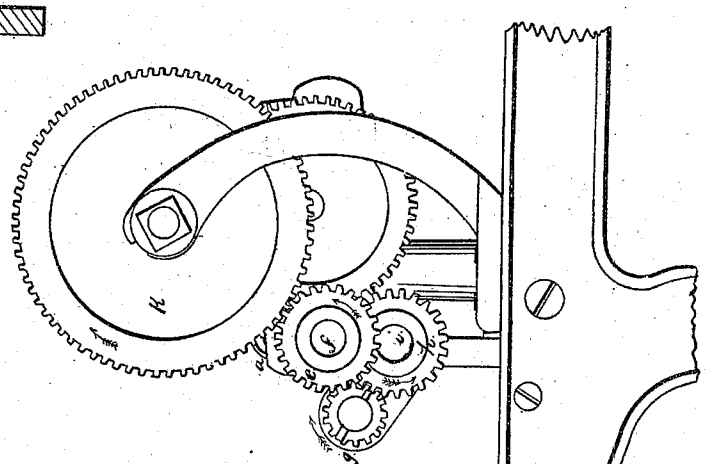

Fig. 2.

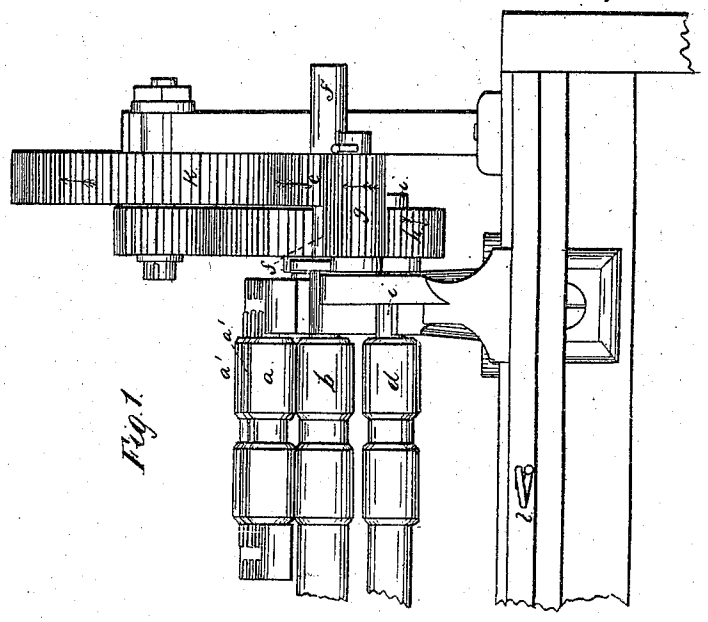

Fig. 1.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN C. DODGE, OF DODGEVILLE, MASSACHUSETTS.

PREVENTING FIBERS FROM WINDING OR DRAWING ROLLERS IN SPINNING-MACHINES.

Specification of Letters Patent No. 7,364, dated May 14, 1850.

To all whom it may concern:

Be it known that I, JOHN C. DODGE, of Dodgeville, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in the Throstle Spinning-Frame; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, figures, letters, and references thereof.

Of the said drawings Figure 1, denotes a front elevation. Fig. 2, an end elevation, and Fig. 3, a vertical and central section of my improvements, and the drawing rollers of a throstle frame.

It is well known that during the process of spinning cotton on the throstle frame, the thread or sliver in its passage from the front drawing rollers to the spindle, often gets broken, and falls upon, and so attaches itself to the lower roller, as to be wound thereon, and so as not only to clog the lower roller, but at the same time require the consumption of much time and labor to remove it, It has been attempted to remedy this by a wooden roller, placed directly underneath the lower front fluted drawing roller, and made to bear against and be revolved by it, or by friction against it while the drawing roller is in operation. This wooden roller, so applied, revolves in a direction opposite to that in which the lower roller moves. Its tendency is to condense or compact the thread or sliver upon the lower roller, and rather increases the evil than otherwise.

In my improvement I make use of a roller, which I generally make of iron, but which may be constructed of any other suitable material. This roller I place or arrange underneath the lower front drawing roller, and generally with its axis a little in advance of that of the said drawing roller. I also place or arrange it in such manner with respect to the lower drawing roller, that it shall not touch it, but shall be at a little distance from it, which distance I prefer to have about one eighth, or one quarter of an inch, meaning that it shall be sufficient to prevent any action of the lower roller against the upper one, such as will create any undue condensation or compacting of thread or sliver, by means of pressure of one roller, against the thread or sliver, which may happen to be wound on the other. The supplementary roller so applied, I cause by proper mechanism, to move in the same direction with that of the lower front drawing roller over it, and also to move at the same velocity with it.

It will be recollected that it was hereinbefore stated that the wooden roller, as used in connection with the lower front drawing roller, was moved by that roller, and in an opposite direction to that of the front drawing roller. Such movement tended to roll the thread or sliver, against and often around the front lower drawing roller, while an opposite movement rolls it away from it, so that the thread or sliver is caught by the supplementary roller, and wound thereon. The sliver, extending down from the front drawing roller, to the supplementary roller, becomes tangential to both rollers, and as the latter or supplementary roller moves with the same velocity as the drawing roller, there is no strain on such part of the sliver, which would tend to break it.

In "piecing up,' the operative seizes the tangential part of the thread, breaks it from that which may have been wound on the supplementary roller, and joins it to the part extending to the cop on the spindle. He afterward can readily remove the surplus or waste, which may have accumulated on the supplementary roller.

In the drawings, or in such thereof as the same is seen, a, and b, are the front drawing rollers of the set, a, a', a^2 and b, b', b^2, &c., d, is the supplementary roller, e, the driving gear of the lower front drawing roller, f, the shaft thereof. This gear is made to engage with a gear g, which also engages with a gear h, fixed on the shaft i, of the supplementary roller. The large gear for carrying or conveying motion to the gear of the lower back drawing roller b^2, is seen at k. On each roller an arrow is placed in order to exhibit the direction of its motion. The course of the thread from the drawing rollers toward the eye or guide l, is seen at m, its course to and about the supplementary roller on being broken, being shown by the colored line n (see Fig. 3).

I do not claim as my invention, the mere use of a roller under the front drawing roller, and turned by it in an opposite direction, as the same has heretofore been applied, and operates; but

What I do claim, is—

The improved manner of applying and using the roller, the same consisting in placing it not exactly in contact with the lower front drawing roller, but at a distance therefrom, and by means of separate, or additional machinery, giving to it a rotary motion at the same velocity, and in the same direction, with those of the said lower front drawing roller, the whole being substantially, in the manner, and for the purpose, as hereinbefore specified.

In testimony whereof I have hereto set my signature, this sixteenth day of March, A. D. 1850.

JOHN C. DODGE.

Witnesses:
R. H. EDDY,
FRANCIS GOULD.