C. K. TISDALE & J. & T. KEANE.

SPINNING MACHINE.

No. 6,590. PATENTED JULY 17, 1849.

Fig. 1.

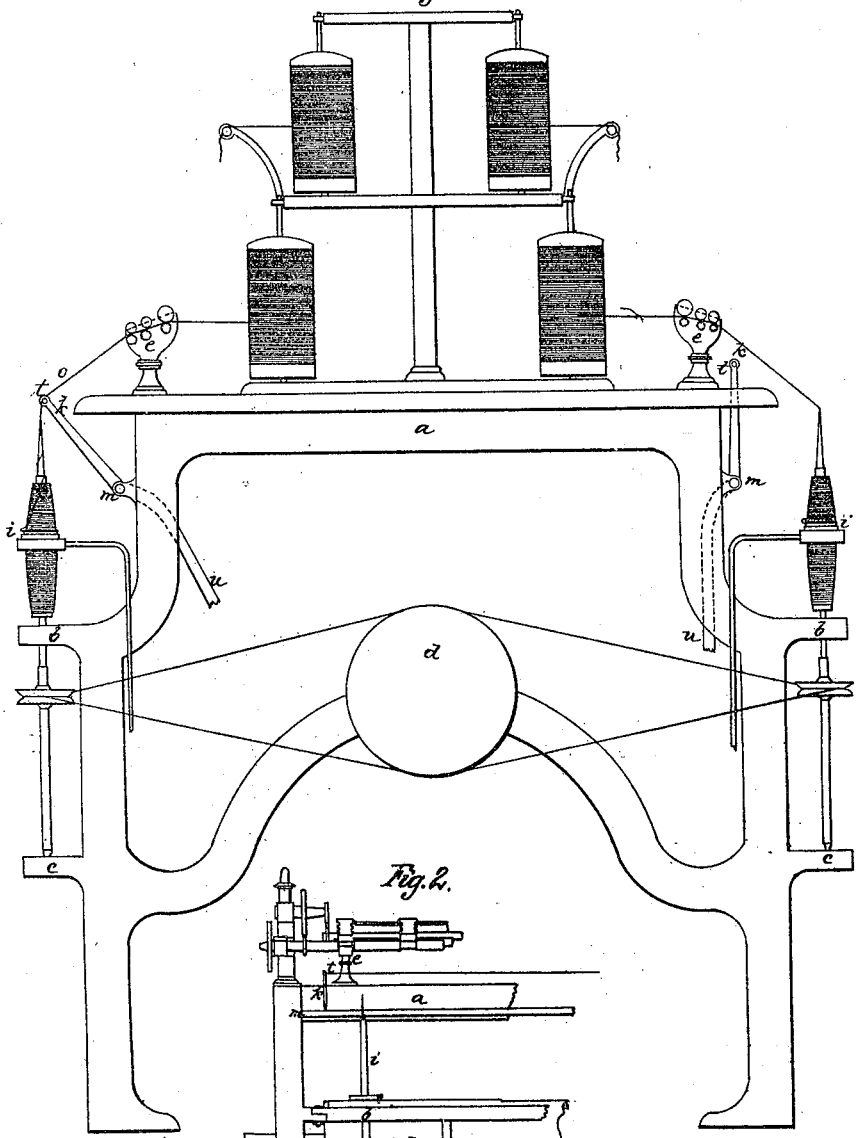
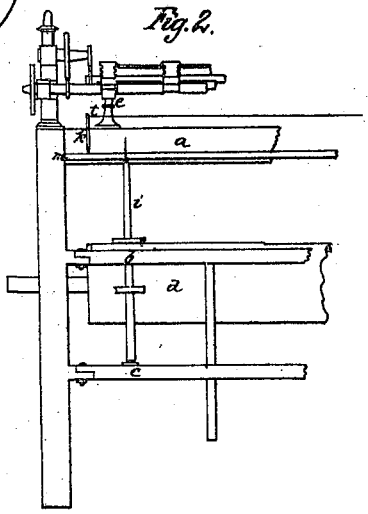


Fig. 2.



UNITED STATES PATENT OFFICE.

CHAS. K. TISDALE, JAS. KEANE, AND THOS. KEANE, OF CORNWALL, NEW YORK, ASSIGNORS TO CHAS. K. TISDALE.

MACHINERY FOR SPINNING COTTON.

Specification of Letters Patent No. 6,590, dated July 17, 1849.

To all whom it may concern:

Be it known that we, CHAS. K. TISDALE, JAMES KEANE, and THOS. KEANE, of Cornwall, in the county of Orange and State of New York, have invented a new and useful Improvement in Spinning Machinery; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an end elevation of the spinning frame. Fig. 2 is a front elevation of the same on a reduced scale and shown for a short distance from the end.

The nature of our invention consists in improvements in the stationary spinning frame, whereby we are enabled to spin the peculiar kind of yarn now only obtained from the machine known as the mule or modifications of that machine. From this we derive, first, the quality of yarn belonging to mule spinning, with the speed, expenditure of power, and other attendant advantages characteristic of throstle spinning. The yarn spun upon the mule and all machines of that character is of a peculiar kind, having qualities which adapt it to certain manufactures, to the exclusion of all others. The yarn is also more expensive than that kind spun upon throstle frames, and spinners of that construction. The cause of this expensiveness arises first from the nature of the machine itself, requiring greater cost in its construction; secondly, the power required to spin by it, and third, the small amount produced as compared with other modes of spinning. The peculiarity of the yarn is caused by the fact that the spinning is effected directly upon the point of the spindle. The yarn coming directly from the rollers upon it. In all kinds of spinning upon stationary frames as in the throstle the yarn comes from the rollers and is thence guided upon the spindle, first passing through the eye of the "flier" or other guide, previous to its passage upon bobbins and this gives a different character to the yarn—making it inferior to that produced by mule spinning. Our spinner is distinguished from the mule jack and billys by the point of the spindle remaining at all times at the same distance from the front roller, from which it receives the yarn directly to the point without any intervening guide. While the mule's spindle is constantly receding from the roller while spinning, and ceases to spin while it is returning and taking up the yarn spun. It is also different from all descriptions of the throstle in that it receives the yarn, and spins upon the point of the spindle without any intervening guide as in the mule. At (*a*) is seen the end of the spinning frame; (*b* and *c*) are the rails for holding the spindles, (*c*) being the step rail. The spindles are arranged on each side of the frame in parallel rows, and driven by belts from the main drum in the center as at (*d*). The spindle in shape is substantially like those of the mule. At (*e*) are the rollers for delivering off the yarn to be spun, the rollers are such as are in common use and are propelled as usual. The spindle is set perpendicular and so that the top or point will stand in such a position with regard to the front roller as to receive the material to be spun upon its point at about the angle represented. In spinning the "cope" is formed directly upon the spindle, the yarn passing through the device known as the "ring and traveler", as seen at (*i*) by which the traverse and drag is effected, the rings and travelers are arranged upon a separate rail which plays up and down along the spindle the proper distance, and is propelled by a cam and connections from the main shaft as is usual for performing the traverse motion.

In order that the yarn may be always on the point of the spindles, at the moment of starting them, we have introduced the contrivance seen at (*k*, *k'*,). This is a frame which vibrates upon a center shaft fixed in front of the spindles at (*m*) from which several arms project, the top terminating at (*k*, *k'*,); from these a rod (*t*) extends along the whole front of the frame. The length of the arms (K) must be such that when they are projected forward as seen at (*k'*) the rod (*t*), just mentioned, will be suspended directly over the points of all the spindles in the row, so that the yarn (*o*) will pass and be guided down directly on the points as shown. The rod (*t*) is brought over the spindles only when stopping and starting, but the moment the spindles are fairly started the rod is thrown out of the way as seen at (*k*), and again drops over the points at the moment of stopping. Any suitable connection may be employed for

this purpose. An arm as (*u*) may extend from the center shaft (*m*) and terminate in an angled lever or crank which being attached to the stop and start motion, may be made to vibrate at the time the driving belt is played from the fast to the loose pulley on the shaft (*d*) or worked separately by hand as may be. All the other operations are in common vogue.

To start the machine the yarn is brought from the bobbins and adjusted under the rollers (*e*) as usual thence passed over the rod (*t*) and down through the ring traveler (*i*) and stuck to the spindle. Motion is now imparted to the spindles and as soon as the twist has taken effect so that the yarn plays freely on their points, the rod (*t*) is thrown back and the spinning goes on until the "cope" is formed sufficiently large to be removed, when it is taken off, and a new one formed and so on.

Our improvement therefore lies in combining the instrument known as the "ring and traveler" with the pointed spindle similar to that used on the mule and operated so that the points of the spindles will always remain at one fixed distance from the rollers whereby we are enabled to spin continuously that kind of yarn hitherto only obtained from the "Mule" "Jack's & Billy's."

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

The continuous and unintermitted spinning of "slack twisted yarns," similar to, and of the kind heretofore only spun upon mules and like machines, upon the stationary spinning frame, by passing the said yarn directly from the front roller upon the point of the spindle without any intervening "guide wire" or "guide" and without changing the relative positions of the rollers and spindles as set forth and described herein.

CHAS. K. TISDALE.
JAMES KEANE.
THOMAS KEANE.

Witnesses:
JOHN MCVEBBIN,
J. MORISON.