

J. D. STANWOOD.
Momentum-Brake for Spinning-Mules.
No. 216,236.
Patented June 3, 1879.

Fig: 1.

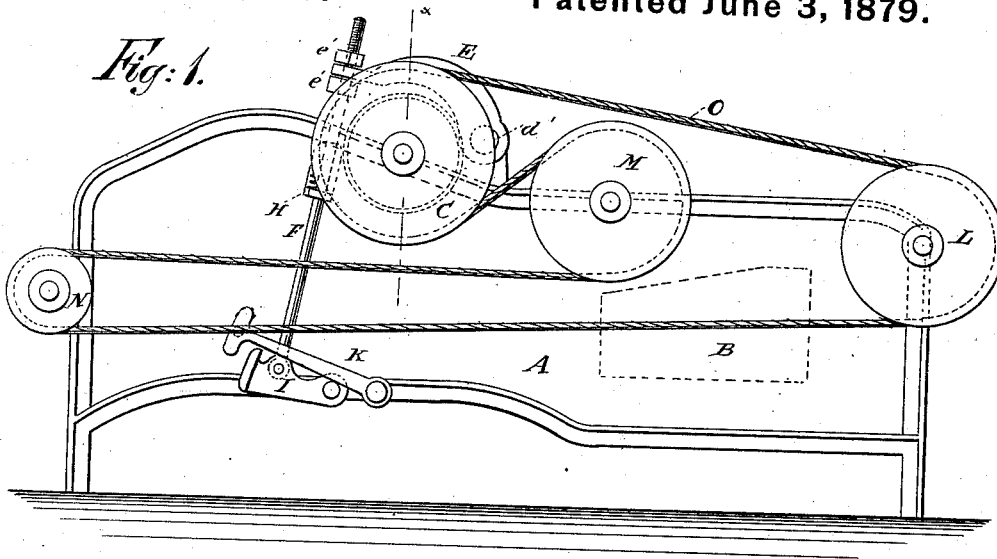


Fig: 4.

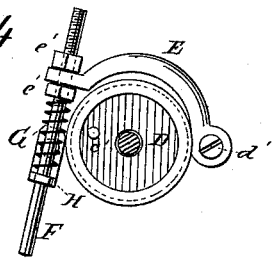


Fig: 5.

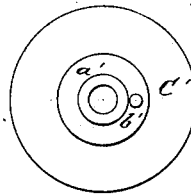


Fig: 2.

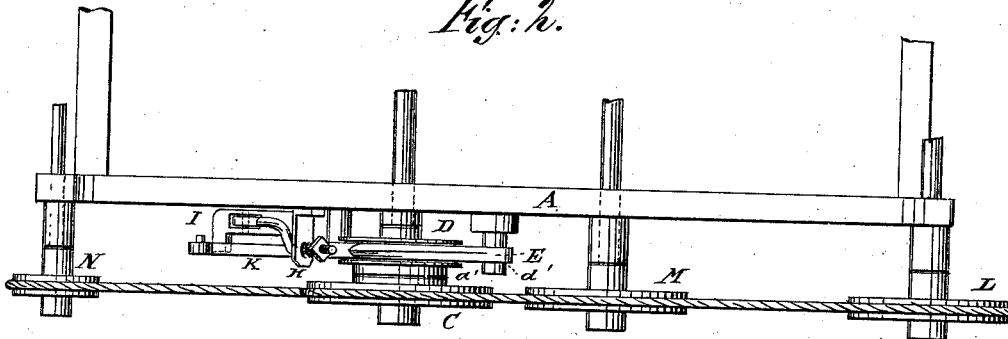
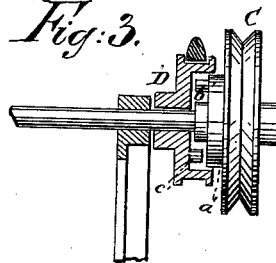


Fig: 3.



WITNESSES:

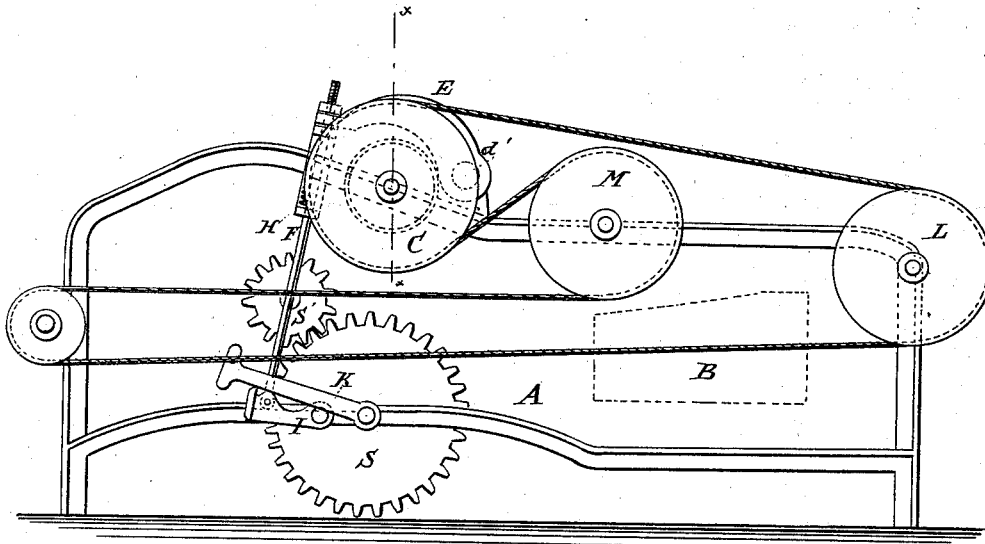
Chas. Nida.
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INVENTOR:

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ATTORNEYS.

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Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JEREMIAH D. STANWOOD, OF EAST KILLINGLY, CONNECTICUT.

IMPROVEMENT IN MOMENTUM-BRAKES FOR SPINNING-MULES.

Specification forming part of Letters Patent No. **216,236**, dated June 3, 1879; application filed January 13, 1879.

To all whom it may concern:

Be it known that I, JEREMIAH D. STANWOOD, of East Killingly, in the county of Windham and State of Connecticut, have invented a new and Improved Momentum-Brake for Mason's Mule, of which the following is a specification.

Figure 1 is a view of the left side of the mule-head frame, showing the brake in position lifted from the driving-wheel, and indicating also a position of the mule-carriage. Fig. 2 is a plan view of the same. Fig. 3 is a view, partially in section, on line *xx* of Fig. 1. Fig. 4 is a front view of loose pulley and brake. Fig. 5 is a rear view of driving or twist pulley. Fig. 6 shows in elevation the reciprocating gear for swinging back and forth the lever K.

Similar letters of reference indicate corresponding parts.

This invention consists, in combination with mechanism substantially as hereinafter described, of a momentum-brake which, when applied to the Mason mule, causes a perfect and uniform twist to be given to the yarn, and prevents the yarn from drawing out of the rolls by the standing twist, which causes fine or slender places or parts in it. This unevenness in the yarn always occurs in mule-spun yarn; but my invention entirely overcomes this difficulty, and makes the yarn in every respect equal to that spun upon spinning-frames by dispensing with all twist motion and regulators now used on the Mason mule.

In the drawings, A represents the left side of the mule-head frame. At B the mule-carriage is located. C represents the driving-pulley, with shoulder *a'* and dog *b'*, which engages with dog *c'* in the recess of the loose pulley D.

The brake E is pivoted at *d'* on the side of the mule-frame, and its opposite end is secured and adjusted in position on rod F by the nuts *e' e'*.

The rod F, provided with spiral spring G, for releasing the brake from the loose pulley, projects downward through a hole in guide

H, which is secured to the mule-head, and pivots at its lower end in lever I, which, in its turn, is pivoted on the mule-head frame.

Near the lever I is a longer lever or crank, which swings on a rod or shaft that projects from the side of the mule-head frame. This lever or arm is operated—swung back and forth—by a reciprocating gear situate between the two sides of the mule, which is a part of the Mason mule, as shown in Fig. 6 of the drawings.

The lever K and the three pulleys represented, L, M, and N, are those ordinarily in use on the Mason mule, and are shown here simply for the purpose of more clearly demonstrating the position of my brake. The cord or belt O is also shown in its usual working position on mules.

The motion of the gears causes the lever K to be alternately pressed down upon and released from the lever I.

As the lever I is pressed down it draws, through the medium of the rod F, the brake E down upon the loose pulley D, which is instantly held fast, and in turn at once stops the motion of the driving-pulley C by the engagement of the dog *c'* with the dog *b'*.

The instant that the pressure of the lever K is removed by the reverse movement of the gears the spiral spring G operates to throw off or disengage the brake from the loose pulley and permit the driving-pulley to revolve. The brake is put on when the carriage gets at the end of its outward run, and is released before it begins to return. This alternate stopping and starting is, in ordinary work—the driving-wheel revolving three hundred times per minute—repeated three or four times a minute, and consumes each time from four to six seconds of time, or, say, from fifteen to twenty-five seconds per minute; but by my invention the driving-shaft is stopped and started instantly, as it were, so that not more than from three to four seconds per minute are consumed in the operation; consequently, besides securing a more even yarn by the operation of this momentum-brake, I gain, on an average, at least seven per cent. in quan-

tity of yarn produced by the instant starting of the carriage when it reaches the end of the stretch.

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

The combination of the brake E, pivoted at *d'*, the rod F, nuts *e' e'*, spiral spring G,

guide H, levers I K, and gear-wheels S S' with the pulley D, substantially as shown and described, for the purpose specified.

JEREMIAH D. STANWOOD.

Witnesses:

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I. STORER.