

W. A. PARKHURST.
Momentum-Brake for Spinning-Mules.
No. 219,508. Patented Sept. 9, 1879.

Fig. 1 .

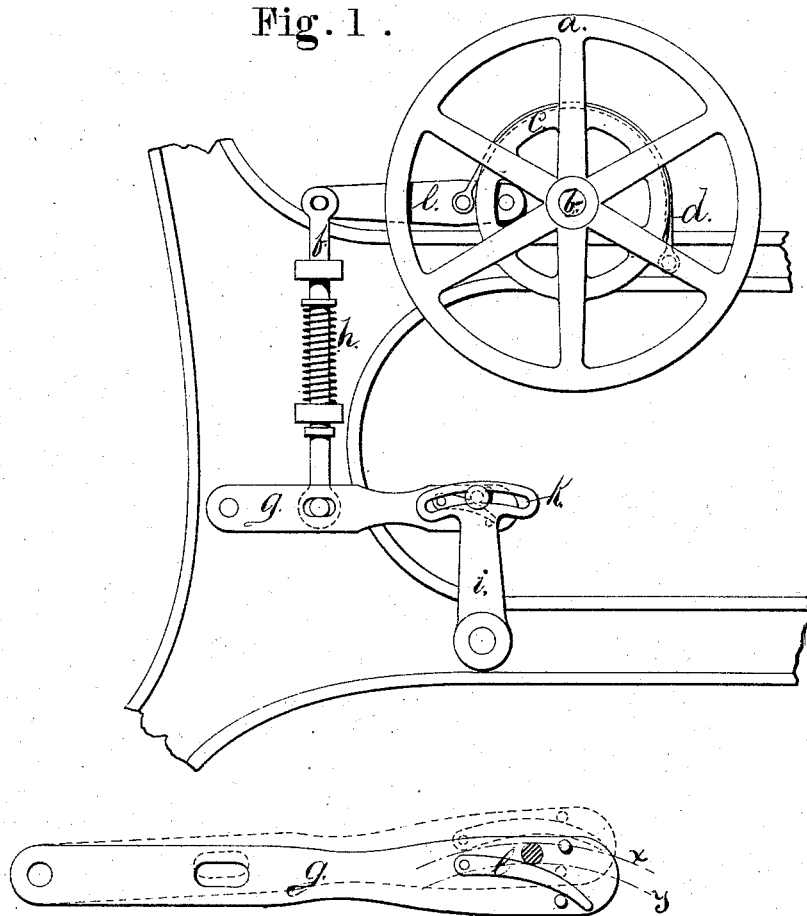
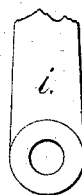


Fig. 2 .



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. PARKHURST, OF VALLEY FALLS, RHODE ISLAND.

IMPROVEMENT IN MOMENTUM-BRAKES FOR SPINNING-MULES.

Specification forming part of Letters Patent No. **219,508**, dated September 9, 1879; application filed March 8, 1879.

To all whom it may concern:

Be it known that I, WM. A. PARKHURST, of Valley Falls, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Momentum-Brakes for Spinning-Mules; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in that kind of mule-spinning machines known as the "Mason mule."

The object of the invention is to save the time now lost at the end of the outward traverse of the carriage and to arrest the momentum of the driving mechanism, so that the motion of the carriage may be reversed.

The invention consists in the peculiar and novel arrangement of parts hereinafter described, and pointed out in the claims, by which a brake-band is put on a brake-pulley by the roller-clutch arm and the momentum of the driving mechanism arrested, as will be more fully set forth hereinafter.

Figure 1 is a view of a portion of a mule-spinning machine, showing the band-pulley and a brake-pulley connected with the driving-shaft and a brake-band operated by roller-clutch arm. Fig. 2 is a view of the lever provided with a switch, on which a pin secured in the curved slot of the roller-clutch arm operates, the view in solid lines representing the arm partly depressed and the pin on the roller-clutch arm in contact with the switch, and in broken lines is represented the position of the lever when the roller-clutch arm returns and raises the switch; the path of the pin being shown by dots and lines *x y*.

In a Mason mule, when the carriage reaches the limit of its outward traverse the roller-clutch arm swings on its shaft and disconnects the rollers from the driving-gear. At that moment the carriage with the spindle is stopped, and in the older style of spinning a standing twist is put into the yarn. When such standing twist is not desired the time that the carriage stops is so much time lost,

and this usually amounts to about one-eighth of the running time.

To quickly reverse the motion of all the driving-gear I apply a brake.

Referring to the drawings, *a* is the usual band-pulley, secured to the driving-shaft *b*, on which the driving-pulleys are secured. *c* is the friction-pulley, also secured to the shaft *b*. *d* is a band-brake, one end of which is secured to the frame of the machine, and the other end to the hinged lever *e*, to the long end of which the rod *f* is hinged, the other end of this rod being hinged in the lever *g*.

h is a coiled spring, which holds the rod *f* and levers *g* and *e* in their elevated positions when the brake-band is to be off from the brake-pulley.

i is the roller-clutch arm, in the curved slot of which a pin is secured, which comes in contact with the switch *l* on the lever, and in passing over the switch depresses the lever, and consequently brings the brake on the brake-pulley, bearing on the same until the pin on the roller-clutch arm *i* passes beyond the switch, when the spring *h* and the spring-power of the band-pulley raise the levers, release the brake, and allow the driving-shaft to be instantly reversed.

When the carriage has run in and the rollers are to be again connected, the roller-clutch arm reverses the motion and the pin in the arm raises the switch, as is shown in Fig. 2, and thus passes by the lever without disturbing the same.

The free end of the switch falls by its gravity to its lowest position after the pin on the arm passes beneath the switch, and is then in position for again automatically actuating the brake.

By this arrangement about ten per cent. more yarn can be spun on a mule-spinning machine per day without any increase in the cost of attendance, and by thus increasing the production the profit is materially increased.

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

1. In a spinning-mule, the combination,

with a brake-wheel secured to the driving-shaft, of a brake-band, lever *g*, intervening mechanism connecting one end of the brake-band and lever *g*, a switch, *l*, pivoted to the free end of lever *g*, and a roller-clutch arm provided with a pin, which latter engages with the switch *l*, substantially as set forth.

2. In a spinning-mule, the combination, with a brake-wheel secured to the driving-

shaft, a brake-band, lever *e*, rod *f*, and spring *h*, of the lever *g*, switch *l*, and roller-clutch arm provided with a curved slot, *k*, and a pin secured in said slot, substantially as set forth.

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