(No Model.)

T. H. CONLEY.

SPINNING MULE.

No. 382,139. Patented May 1, 1888.

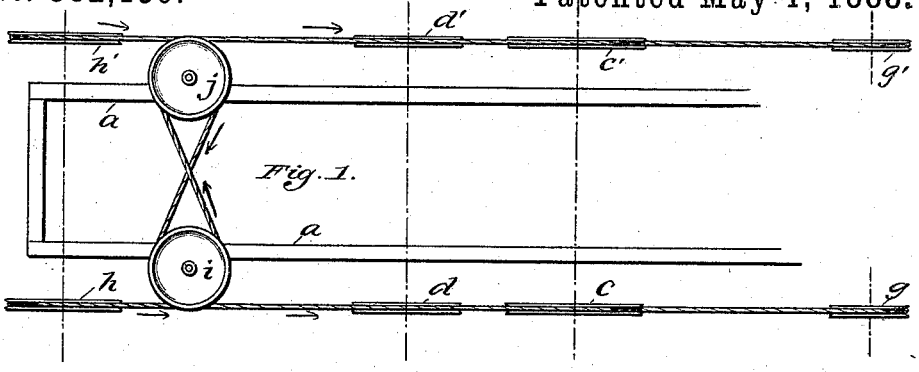

Fig. 1.

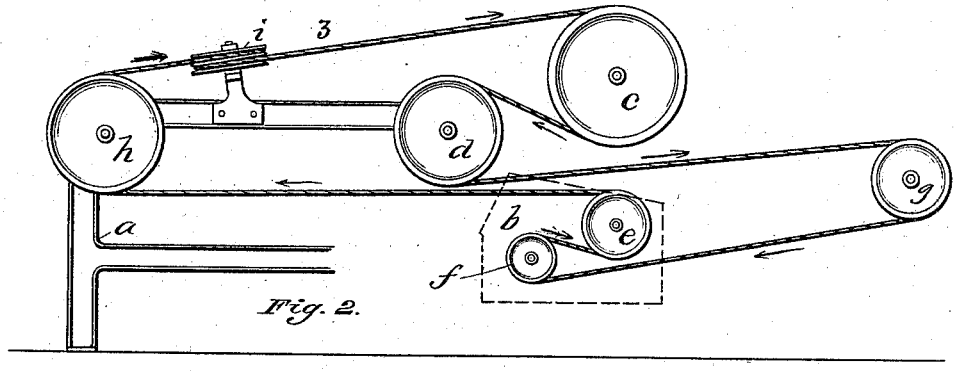

Fig. 2.

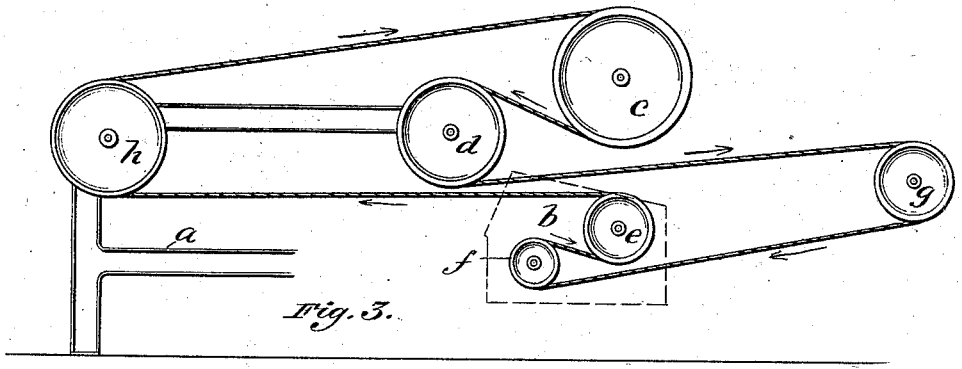

Fig. 3.

Witnesses:
A. D. Harrison.
W. C. Ramsay.

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Thomas H. Conley
per: Wright, Brown & Crosley,
" Attorney.

UNITED STATES PATENT OFFICE.

THOMAS H. CONLEY, OF WARE, MASSACHUSETTS.

SPINNING-MULE.

SPECIFICATION forming part of Letters Patent No. 382,139, dated May 1, 1888.

Application filed January 30, 1888. Serial No. 262,353. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. CONLEY, of Ware, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Spinning-Mules, of which the following is a specification.

It is the object of my invention to provide improved means of banding the operative parts of a spinning-mule, particularly that class of mules commonly known to spinning artisans as the "Mason mule," as exemplified in United States Letters Patent No. 4,779, dated October 3, 1846.

My invention consists in the improved means, hereinafter described and claimed, whereby that portion of the copping mechanism embraced in the backing off and winding devices on both sides of the mule-head may be driven by a single band.

As is well known to mule operatives, the backing off and winding devices of the copping mechanism on the opposite sides of the head of a Mason mule are driven by independent bands, while the two driving-pulleys, which give motion to such independent bands, are operated by a common motor at a uniform rate of speed, so that any variation in the banding results in a variation in the character of the yarn spun on the two sides of the head, as also in waste of material, loss of time, and other difficulties and objections. It is also well known that it is exceedingly difficult, and, in some instances, next to impossible, to avoid variation in banding—as, for example, where a new or comparatively new band is used on one side and an older band on the other, or where the two bands are put on with different degrees of tightness. These variations, though they may be slight in themselves, result in serious variations and defects in the manufacture of yarn by the mule, among which are frequent breaking and consequent waste of yarn in backing off and winding up, lack of uniformity in the character of the cops, those on one side being comparatively soft, while those on the other side are much harder, and lack in uniformity of twist put into the yarn. These objections and disadvantages are overcome by my improvement, and I am, besides, enabled to operate the mule with steadier motion, and effect a substantial saving in rim and spindle banding, and in the power required to operate the mule, since a single band can be run much slacker in the production of good work than can two independent bands; and, besides this, it requires less skill to adjust one band than two, and requires less labor to properly care for one band than two, since a single band does not have to be kept so tight on the pulleys as two independent bands, and is therefore not so liable to slip or be subjected to the same extent of wear.

My invention will first be described in connection with the accompanying drawings and the letters of reference marked thereon, forming a part of this specification, and subsequently pointed out in the claim hereto appended.

Of the drawings, Figure 1 is a top plan view of my improvements. Fig. 2 is a side view of the same. Fig. 3 is a side view of the old and common means of banding.

The same letters of reference designate the same parts in all of the views.

I have not shown any of the mechanism of the mule-head, or of that connected with the carriage, save the pulleys or rims around which the rim-band passes, as this is all of said mechanism that it is necessary to illustrate in order to give a full and complete understanding of my improvement, and information sufficient to enable others skilled in the art of mule-spinning to make and use the same.

In the drawings, *a* designates the frame of the mule, which may be supposed to embrace a head of the Mason type or class.

b designates the carriage, which is represented in dotted lines in Figs. 2 and 3.

c c' designate the driving-pulleys; *d d'*, the pulleys for effecting the winding of the copping mechanism; *e*, the pulley for operating the tin cylinder which drives the spindle-bands; *f*, an idle-pulley; *g*, a band-tightening pulley, and *h h'* the pulleys for effecting "backing off," so called. These several pulleys, it will be seen, are not only employed in connection with my improvements, illustrated in Figs. 1 and 2, but are common to the old and well-known banding devices, as shown in Fig. 3.

Though there is no representation in Fig. 1 of carriage *b* or its pulleys *e f*, it will be understood of course that there are such devices on both sides of the head which may be supposed to be comprised within the frame *a*.

i j designate band-guiding pulleys supported on the frame *a*, though it would answer as well if they were independently supported, which band-guiding pulleys are so arranged as that a single band, B, passing over the pulleys *c*, *d*, *e*, *f*, *g*, and *h* on one side of the head may be directed or guided to proper position on the other side, to be passed over like pulleys thereat, and returned to the first-mentioned side, whereby said single band B may be made to drive the operating mechanism on both sides of the head.

The arrows marked on the drawings in close proximity to the band B indicate its course of travel in the machine. Starting from the point 3, for example, said band passes around pulley *c*, thence around winding-pulley *d*, thence around band-tightening pulley *g*, thence around pulleys *e f* on the carriage, thence around pulley *h*, to and around horizontally-arranged guide-pulley *i*, crossing to and passing around guide-pulley *j*, and around pulleys on the opposite side of the head, corresponding to the pulleys *c*, *d*, *e*, *f*, *g*, and *h*, before described, back to pulley *j*, and around the same, crossing to and passing around pulley *i*, and leading back to the point 3, at which it was presumed the start was made. In this way I am enabled to operate the portion of the copping mechanism mentioned on both sides of the head, with a single band and in unison, accomplishing the objects and attaining the ends set forth at the outset of this specification.

Having thus explained the nature and objects of my invention, what I claim is—

The combination, with a dual set of rims or pulleys in a spinning-mule, each set consisting of a driving-pulley, pulleys for operating the backing off and winding on of the copping mechanism and for driving the spindles, of a single band passed or banded about said pulleys, and guide-pulleys *i j* for guiding said band from one set of rims or pulleys to the other, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of January, A. D. 1888.

THOMAS H. CONLEY.

Witnesses:
AMOS D. GIRARD,
WILLIAM CONLEY.