M. A. FURBUSH.

Spinning Mule or Jack.

No. 168,979. Patented Oct. 19, 1875.

FIG. 1.

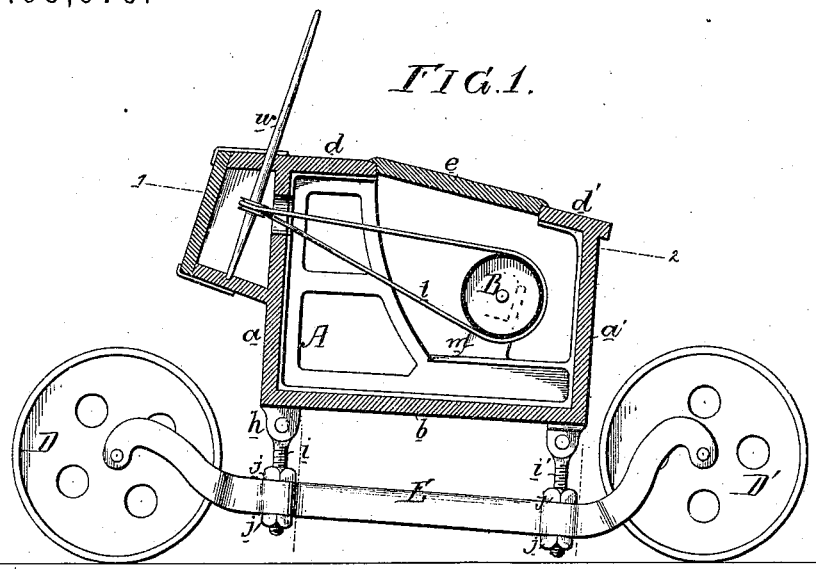


FIG. 2.

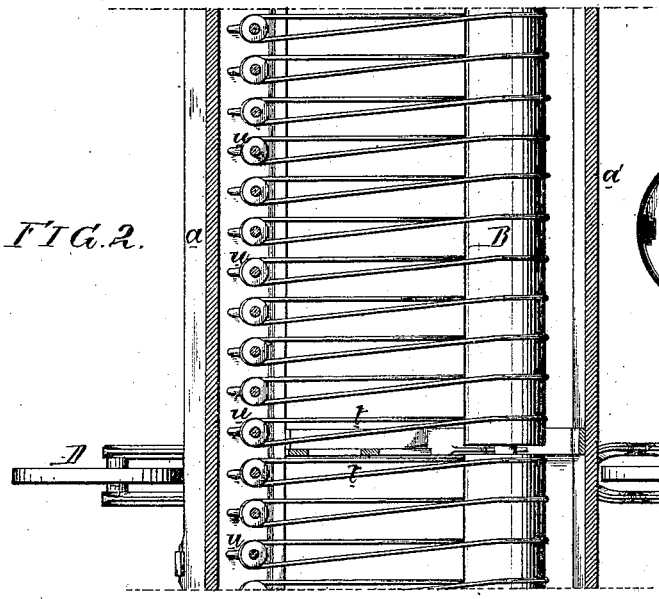


FIG. 3.

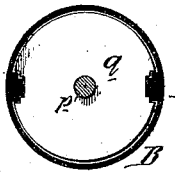


FIG. 4.

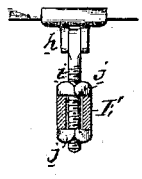


FIG. 5.

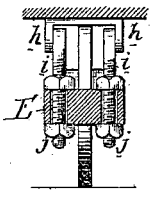


FIG. 6.

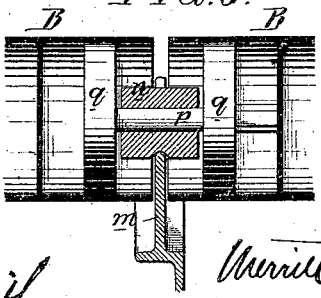
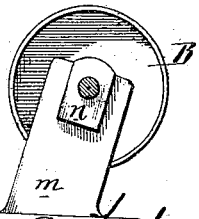


FIG. 7.



Witnesses,
Harry Smith
Thomas McElwain

Merrill A. Furbush
by his Attys.
Howson and Sons.

UNITED STATES PATENT OFFICE.

MERRILL A. FURBUSH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND C. A. FURBUSH, OF SAME PLACE.

IMPROVEMENT IN SPINNING MULES OR JACKS.

Specification forming part of Letters Patent No. **168,979**, dated October 19, 1875; application filed May 22, 1874.

To all whom it may concern:

Be it known that I, MERRILL A. FURBUSH, of Philadelphia, Pennsylvania, have invented an Improvement in Spinning Mules or Jacks, of which the following is a specification:

The object of my invention is to so construct and arrange the journal-bearings of the tin cylinder of a spinning jack or mule that the said bearings may be self-adjusting and much longer than usual, and so that the end of one section of the cylinders can be nearer to the end of the other than usual. This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a transverse section of my improved mule or jack carriage; Fig. 2, a plan view; and Figs. 3, 4, 5, 6, and 7, detached views, illustrating the detailed construction of different parts.

I make the carriage in the manner shown in the drawing, where A represents one of a series of light cast-iron frames, arranged at suitable distances apart, and to these frames are secured the wooden sides *a a'* and bottom *b* of the body of the carriage, the top consisting of the wooden portions *d d'*. To the longitudinal opening between these pieces *d* and *d'* is loosely fitted a light board, *e*, after the removal of which the tin cylinders B can be raised vertically from the interior of the body of the carriage, instead of being withdrawn endwise, as usual.

Forming part of each frame A is a thin projection, *m*, (best observed in Figs. 6 and 7,) and into a slot in this projection is fitted the bearing-block *n* for the journal *p* of the tin cylinders, the ends of two adjoining sections of which are shown in Fig. 6, the said journal forming a part of or being secured to the heads *q q*, one of which is fitted to one section, and the other to the other section, of the cylinders, in the manner shown in Fig. 3, so that the cylinders cannot turn independently of the heads, this being the usual mode of securing the heads.

When the cylinders have to be raised from the body of the carriage the bearings will be withdrawn with them from their projections, to which the said bearings may be readily readjusted when the cylinders have to be restored to their places.

It should be understood that each bearing-block *n* is so fitted to the projection *m* that it can vibrate freely therein, and thus accommodate itself to the journal, and that the said projection *m* may be adjustable on the frame A.

The thin projection *m*, while it permits the use of a long bearing-block, also permits the sections of the cylinders to be brought much nearer to each other than usual, so that the spindle-bands *t t*, Fig. 2, nearest to the opening between the sections, will remain on the cylinders without the use of the ordinary guides, which have heretofore been employed to prevent the said bands from passing into the said opening.

The body of the carriage is on trucks, each of which consists of a bar, E, supported on carrying-wheels D D', the latter being adapted to tracks on the floor, as usual.

The bar E is connected to the under side of the body of the carriage, in the manner shown in Figs. 1, 4, and 5.

To lugs *h* near the front of the carriage are jointed two screw-rods, *i i*, which pass through the bar E, and are secured thereto by nuts *j j*, one above and the other below the bar. In like manner the rear of the carriage is connected to the bar E by a screw-rod, *i'*, and nuts.

It will be evident that by manipulating the nuts of these screw-rods the carriage may be adjusted on the truck, and that the spindles *w* may be caused to assume different angles, as required by the work.

I claim as my invention—

The combination of the thin slotted projection *m* of the frame A and the long self-adjusting bearing-block *n*, adapted to the said projection and to the journal *p*, common to two sections of the tin cylinder, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

M. A. FURBUSH.

Witnesses:
WM. A. STEEL,
HARRY SMITH.