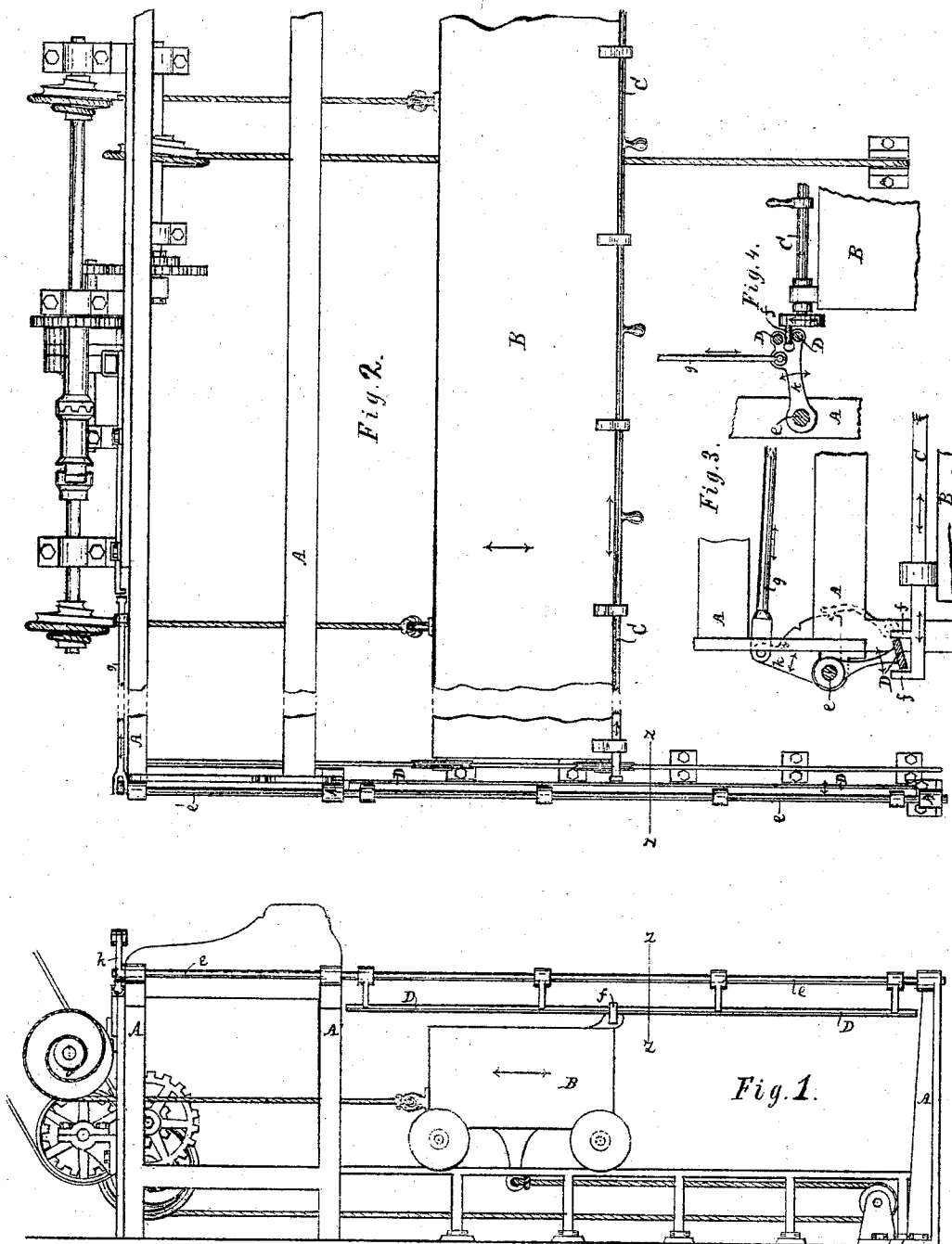


A. PAUL.
Self-Acting Spinning Mules.

No. 135,008.

Patented Jan. 21, 1873.



Witnesses:
Harvey Clute
Austin F. Park

Inventor:
Archibald Paul

UNITED STATES PATENT OFFICE.

ARCHIBALD PAUL, OF COHOES, NEW YORK, ASSIGNOR OF ONE-HALF HIS
RIGHT TO CAMPBELL & CLUTE, OF SAME PLACE.

IMPROVEMENT IN SELF-ACTING SPINNING-MULES.

Specification forming part of Letters Patent No. 135,008, dated January 21, 1873.

To all whom it may concern:

Be it known that I, ARCHIBALD PAUL, of Cohoes, in the county of Albany and State of New York, have invented a certain new and useful Improvement in Jacks and Mules for Spinning, of which the following is a specification, reference being had to the accompanying drawing.

The principal object of my invention is to enable a person to stop the mule or jack and to start it when the person shall be at widely separate points along the spindle-carriage, and when the carriage shall be at any point in its to-and-fro movements or at either end thereof.

The principal distinguishing feature of my invention is a movable rod or cord, or any equivalent therefor, extended lengthwise along and upon the spindle-carriage of a mule or jack for spinning, and furnished with a device which traverses to and fro with the carriage along a movable rod or any equivalent therefor, which is detached from the carriage and arranged parallel or nearly so to the direction of the to-and-fro movements of the latter, and which, by its movements, controls the action of a belt-shipper or other device by which the jack or mule is stopped and started, all in such manner that by moving the said rod or its equivalent, that is extended on the carriage, the said rod or its equivalent that is arranged parallel or nearly so to the movements of the carriage will be moved so as to cause the stopping and the starting of the whole machine when the carriage is at any point in its to-and-fro movements.

In the drawing, Figure 1 is an end elevation, and Fig. 2 is a broken plan of some parts of a self-acting spinning-jack which embodies my invention; and Fig. 3 is a front elevation on a larger scale, and section, at or about the line *z z* in Figs. 1 and 2, of a part of the same machine. Fig. 4 is a front elevation and section of a modified part of my invention.

Like parts are marked by like letters in the different figures, and the arrows therein indicate the directions in which the adjacent parts move.

A indicates part of the stationary framework of the machine. B is the spindle-carriage. C is a movable rod extended lengthwise upon and along a large part or the whole of the

length of the carriage. D represents a rod or rods arranged parallel or nearly so to the course of the to-and-fro movements of the carriage, and mounted so as to be movable to and fro sidewise on a rod, *e*, as a center or axis. The rod C is furnished with a pin, fork, or device, *f*, which traverses with the carriage to and fro along the rod or rods D. In Figs. 1, 2, and 3 the rod C is movable to and fro endwise on the carriage B, and such endwise movement of the rod C will, by means of the fork *f*, move the rod D to and fro sidewise, whatever may be the position of the carriage in its to-and-fro movements. In Fig. 4 the rod C is not movable endwise on the carriage; but can be rocked or turned back and forth on its own axis, and in that case the crank-pin *f*, Fig. 4, is fast on the rod C, and is between the parallel rods D so that the turning of the rod C back and forth will move the rods D to and fro sidewise whatever shall be the position of the carriage. The mule or jack is to be furnished with the ordinary or any suitable belt-shipper or device for stopping and starting the machine, and such stopping and starting device is to be so connected with the rod or rods D by a rod, *g*, and lever *h*, or by any suitable means, that the to-and-fro movements of the rod or rods D shall control the action of the said stopping and starting device.

In Figs. 1, 2, and 3 the construction is such that the attendant can at once stop the operation of the machine with the carriage at any point whatever in its to-and-fro movement, or at either end thereof, by simply moving the rod C endwise, so as to thereby move the rod D sufficiently sidewise to cause it to make the belt-shipper or its equivalent throw off the driving power; and in that case the attendant can start the machine into operation whenever the carriage may be by simply moving the rod C endwise in the opposite direction so as to thereby move back the rod D sidewise far enough to cause it to make the belt-shipper, or its equivalent, shift the driving power onto the machine. With the construction shown in Fig. 4 the attendant stops and starts the machine when the carriage is at any part of its to-and-fro movement by simply turning the rod C back and forth on its own axis.

In carrying out my invention an endless or

tightly-drawn wire or cord movable to and fro endwise may be arranged lengthwise on the carriage and made to operate in the place of the endwise movable rod C in Figs. 1, 2, and 3, and the traversed rod or rods D, or any equivalent therefor, can be variously mounted and constructed in one piece or in two or more separately movable parts, and may be arranged at either end of, or under or over, the carriage, and may be connected with the extended movable rod or its equivalent on the carriage, and with the belt-shipper, or its equivalent, by means of any suitable device or devices.

I believe that in some spinning-mules a movable rod has been extended lengthwise along and upon the carriage, and so combined with other devices that by the movement of the said rod on the carriage the whole machine would be stopped, but only at the end of the running-in movement of the carriage. Such a construction is essentially different from my invention, in which the movement of the rod or its equivalent on the carriage will imme-

diately cause the machine to stop, as above described, whatever may be the position of the carriage in respect to its to-and-fro movements.

What I claim as my invention is—

In a mule or jack for spinning, the movable rod, or its equivalent, arranged lengthwise on the carriage and furnished with a device which traverses to and fro with the carriage along the movable rod or rods, or any equivalent therefor, which control the action of the belt-shipper or device by which the machine is stopped and started, when the whole is so constructed that the movements of the said rod, or its equivalent, on the carriage shall cause the stopping and the starting of the mule or jack when the carriage is at any point whatever in its to-and-fro movements, substantially as described.

ARCHIBALD PAUL.

Witnesses:

HARVEY CLUTE,
AUSTIN F. PARK.