J. Nelson.

Spinning.

No. 1.954. Patented Jan. 27, 1841.

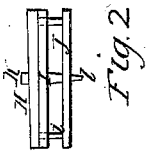

Fig. 2

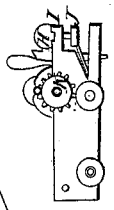

Fig. 3

Fig. 1

UNITED STATES PATENT OFFICE.

JOHN NELSON, OF JEEFERSON, OHIO.

DOMESTIC SPINNER FOR SPINNING WOOL.

Specification of Letters Patent No. 1,954, dated January 27, 1841.

To all whom it may concern:

Be it known that I, JOHN NELSON, of Jefferson, in the county of Logan and State of Ohio, have invented certain improvements in that kind of Machine for Spinning Wool which is Usually Known Under the Name of the "Domestic Spinner," which improved machine I denominate the "Alert Spinner"; and I do hereby declare that the following is a full and exact description thereof.

The number of spindles in my machine may be varied, but, after repeated trials, I think that six may be most conveniently employed; and the sizes of the respective parts which are herein given are taken from a machine having that number; three inches in the clear being allowed for each spindle.

In the accompanying drawing, A, A, Figure 1, are the legs of the machine, which may be two feet three inches high.

The machine is two feet wide from out to out.

B, B, are two side pieces, or cheeks, which are seven feet long, four inches wide, and an inch thick. These cheek pieces I notch into the insides of the legs so as to be flush with their upper ends and inner sides.

a, *a*, are ways on the lower edges of the cheek pieces, for the carriage to run upon.

b, *b*, *b*, are the spindles, which I make eleven inches long, and allow them to extend seven inches above the board in which they have their top bearings; they have an inclination of one inch and a half from the perpendicular, toward the carriage. The boards *c*, *d*, on which they have their steps and upper bearings, are made to slide in notches between the legs A, A, allowing them to be forced out by wedges for the purpose of tightening the bands.

C, is a band, or main driving wheel, twenty inches in diameter, having grooves on its edge to receive a band for driving the spindles. This wheel has a crank *e*, upon its shaft, which has a throw of two inches and a half.

D, is a treadle which is connected to the crank *e*, by a cord, or pitman, by which the band wheel is to be turned.

E, is the band shaft, or cylinder, which is an inch and three-quarters in diameter, and by bands around which and the whirls of the spindles, the latter are driven.

f, is a wheel on the end of this cylinder, which receives the band of the wheel C. There may be several grooves in each of these, and they should be sloped in reversed directions, so that the band may be shifted to give different velocities to the spindles, without altering its tension.

The carriage F, F′, runs on the ways *a*, *a*, and slides freely between the cheeks B, B; it has friction rollers on its lower edge, where it rests upon the ways. Its main parts are an endless apron F′, upon which the carded rolls of wool are to be laid; a clamp by which the rolls are to be held, while the wool is being drawn out and spun, and a ratchet wheel, or pinion, on the shaft of one of the rollers of the endless apron, which, by the operation of a rack upon the main frame is to cause the endless apron to make a partial revolution when a fresh portion of the carded rolls are to be fed up to the spindles.

The sides F, of the carriage I make of inch boards, two feet two inches long, and four inches wide; these are framed together by means of a piece of board extending from side to side between the rollers and serving as a support to the endless apron. *g*, is a handle rising from the fore part of the carriage, by which it may be moved back and forth, and *h*, is another handle, fastened to the side, and extending out in front, one foot ten inches. This latter handle enables the operator to guide the carriage to the extreme end of the machine, without leaving the treadle. G, is a pressing roller, which bears upon the carded rolls, and aids in guiding them to the clamp.

In the front of the carriage, H, is the upper bar of the clamp, between which piece and the part I, the rolls of wool are held during the operation of spinning; that is to say, during the time that the carriage is being moved back from the spindles.

J, J, is the under bar of the clamp, which is connected to the upper bar H, by two pins which slide through the stationary part I, of the carriage. Fig. 2, is a front view of this clamp, *i*, *i*, being the pins which connect H, and J, and slide through I. The piece J, is pressed down by straight, or spiral springs, causing the bar G, always to press upon I, excepting when the force of the springs is counteracted.

Fig. 3, is the side of the carriage next to the driving wheel C. The two bars H, and J, and the part I, of the carriage upon which H, rests, are here shown. K, is a

ratchet wheel on the axis of one of the rollers of the endless apron; this wheel slips around on its axle as it advances under the rack by which it is to be turned, but is held by a pawl, or click, as it recedes, so as to give motion to the endless apron. L, Fig. 1, is a rack affixed above one of the cheeks of the machine, in such position as to operate on the ratchet wheel K, when it is near to the spindles.

M, M, are wedge pieces attached to the cheeks for the purpose of raising the clamp. As the carriage advances, these wedges are received into the notches *j*, on the sides of the carriage, Fig. 3; and in entering these notches the wedges force up the piece J, and, consequently, the piece H; and this is held up by a latch *k*, operated on by a spring, for that purpose. As the carriage is pushed back, the clamp being raised, and the pinion and roller of the endless apron, acted on by the rack L, the carded rolls will be fed in under the clamp; but when the carriage has receded to the proper distance, the lower end *l*, of the latch *k*, strikes against a trigger *m*, affixed to the frame for that purpose, under the carriage and the clamp is left free to descend, and hold the rolls. The trigger *m*, works upon a pin, and is forced down by the end *l*, of the latch in its advancing motion. The trigger *m*, may be adjusted, by the ordinary means of effecting that object. The yarn is guided on to the spindles, in forming the cops, by means of the guide wire *n*, *n*, attached to the shaft *o*, *o*.

Having thus fully described the nature of my machine, and shown how the same operates, what I claim therein as constituting my invention, and desire to secure by Letters Patent, is—

The manner in which I have constructed the clamp and its appendages, making a part of the carriage, and arranged the respective parts thereof, as described, so as to be operated upon by means of the rack L, the wedge pieces M, M, and the trigger *m*, in the manner, and for the purpose, herein set forth. I do not claim the manner of constructing the clamp, the pinion or ratchet wheel, or either of the parts taken alone, but only in their combination with each other, in the manner set forth.

JOHN NELSON.

Witnesses:
WILLIAM STANFIELD,
JOHN MARQUIS.