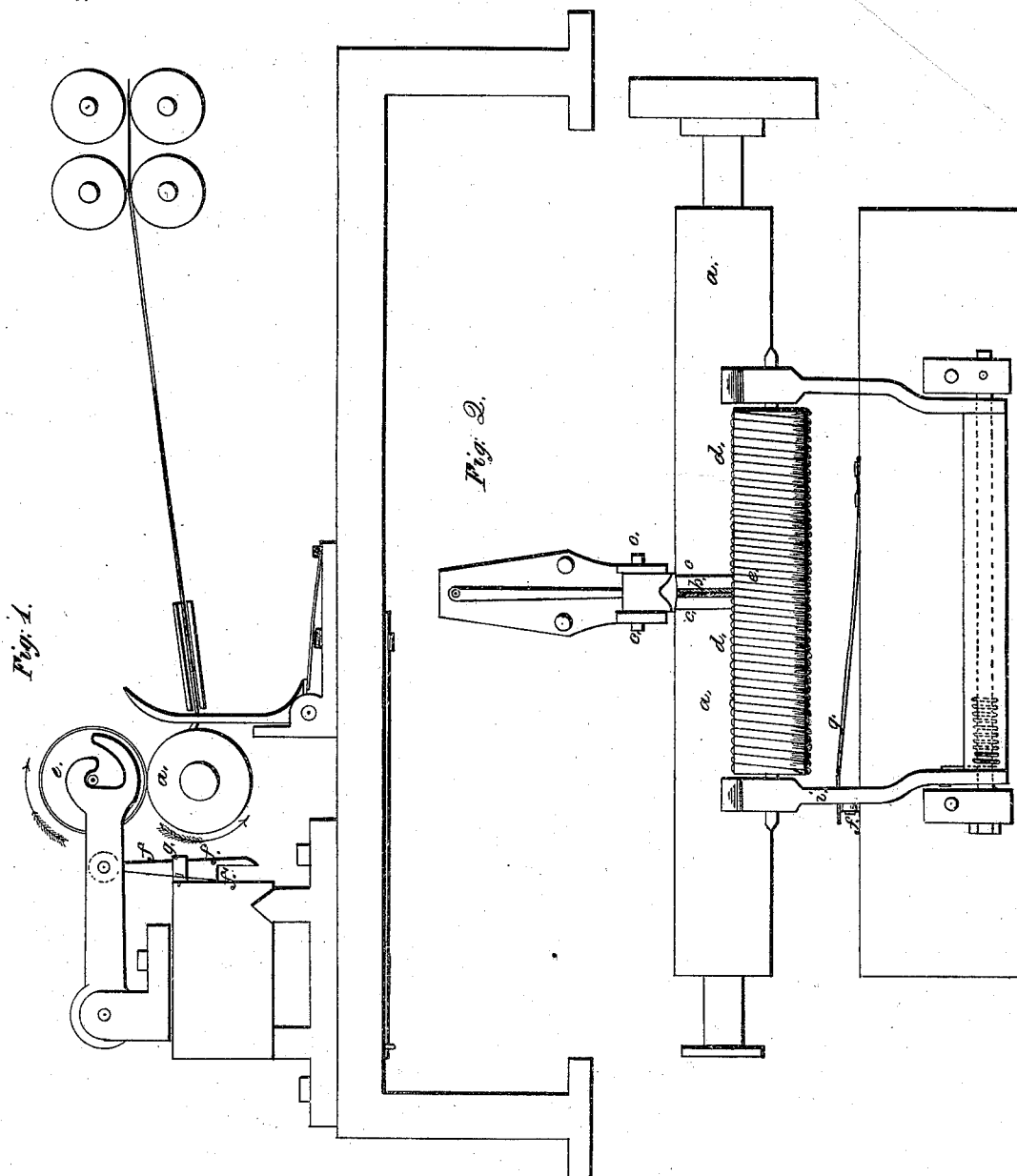


J. Whitehead.
Carding Engine.

N^o 7,540.

Patented Jul. 30, 1850.



UNITED STATES PATENT OFFICE.

JESSE WHITEHEAD, OF MANCHESTER, VIRGINIA.

COUNTERTWIST SPEEDER.

Specification of Letters Patent No. 7,540, dated July 30, 1850.

To all whom it may concern:

Be it known that I, JESSE WHITEHEAD, of Manchester, in the county of Chesterfield and State of Virginia, have invented a new and useful Improvement in the Countertwist-Speeder, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is an end elevation, showing the common fluted drawing rollers, the usual endless band for giving the counter twist—jointed upright guide and spring for guiding the roving to the serrated groove in the revolving grooved shaft—the bobbin which receives the roving—one of the pivoted bobbin-arms—pendant arm and its bearing spring, traversing carriage, and ways upon which the carriage moves and part of the frame. Fig. 2, is a top view, showing the grooved shaft, bobbin and arms, pendent arm and spring and carriage.

Similar letters in the several figures refer to corresponding parts.

My improvement relates especially to serrating the sides of the groove in the revolving shaft so that the roving may be drawn from the twisting band by said shaft instead of having to rely upon the draft of the bobbin, in combination with the effect produced by the increased diameter of the portions of the shaft from which the bobbin receives its motion thereby winding the roving upon the bobbin without producing an undue draft on the roving between the shaft and the twisting band—the serrated groove holding the roving and preventing it from slipping whilst the requisite draft is imparted to it in the space between the groove and the bobbin, which will cause the roving to be wound upon the bobbin in a compact state and diminishing the danger of breaking. Also in the employment of certain pendent arm and spring; the former attaches to one of the arms that hold the bobbin, and the latter to the carriage for the purpose of preventing the dancing, or rapid vibration, of the bobbin upon the shaft as the bobbin fills, by which the roving is made uneven and frequently broken.

a is the grooved shaft, arranged and revolved in the usual manner. The groove *b* around the cylinder is nearly of a semi-oval shape in the cross section and is serrated in the manner of a float cut file for the purpose

of taking a hold of the roving to prevent slipping.

The shaft at *c, c*, next the groove *b* and on either side thereof is reduced in diameter, about an eighth of an inch in width, for the purpose of giving that portion of the cylinder at *d, d*, upon which the bobbin revolves and by which it is driven by friction an increased motion over the portion that delivers the roving on to the bobbin *e* in order to compensate for the loss of motion in the bobbin caused by being driven by friction, thus producing a uniform draft on the roving and keeping it close in the groove *b* during the operation of winding it on to the bobbin.

f is a pendent arm attached by a joint pin to one of the parallel bobbin arms for the purpose (in connection with the spring (*g*) bearing against it) of preventing the dancing or vibrating motion of the bobbin upon the shaft during the operation of winding the roving, when the bobbin is uneven. The pendent arm is made with a shoulder *f'* to rest upon the top of the carriage in order to hold the bobbin above the shaft whilst mending the roving when broken. It is also made tapering from its lower toward its upper end for producing the effect hereinafter described by the action of the spring against it. The spring *g* for pressing the pendent arm against the side of the carriage to impart the requisite degree of friction to the pendent arm to prevent the dancing, or vibration, or rebounding of the bobbin, is composed of a plate of steel *g* or other suitable material fastened to the side of the carriage in any convenient position, so that its smaller or loose end shall bear against the pendent arm *f*. This spring and tapered hanging arm thus arranged cause the bobbin arm to rise steadily as the bobbin increases in size by the gradual winding of the roving thereon and thus prevents the bobbin from dancing or bouncing up and down upon the shaft as is the case when only springs or weights are used; and enables the manufacturer likewise to use small shafts instead of large ones, by which the point of contact of the bobbin and cylinder is brought closer to the guide plate than has heretofore been effected where large shafts are used.

Having thus described the nature and operation of my invention what I claim as

new and desire to have secured to me by Letters Patent is—

1. Making the shaft with a serrated groove *b* in combination with the reduced portions *c c* of the shaft adjacent to said groove wherein the roving runs from the twisting band to the bobbin in the manner and for the purpose herein fully set forth.

2. I also claim the combination of the spring *g* and pendent tapered arm *f* with the vibrating bobbin arm *i* arranged and operated in the manner and for the purpose herein set forth, or in any other way which may be considered substantially the same and by which analogous results shall be produced—that is to say, any arrangement wherein a rubbing pressure is imparted to the arms, or their equivalents, containing the journals of the bobbin, for producing

the effect herein stated, said arrangement preventing the sudden rebounding of the bobbin on the shaft when it becomes uneven from any cause which the mere spring and weight applied to the bobbin axle or its arms will not prevent, as I have fully tested by experiment; the spring when used alone being too elastic and the weight too dead, whereas the combination of the two causes the bobbin to rise and fall gradually, as herein fully set forth.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JESSE WHITEHEAD.

Witnesses:

WM. P. ELLIOT,
A. E. H. JOHNSON.