H. N. RANGE.

WOOL AND COTTON LAPPING MACHINES.

No. 180,063. Patented July 18, 1876.

Fig. 1

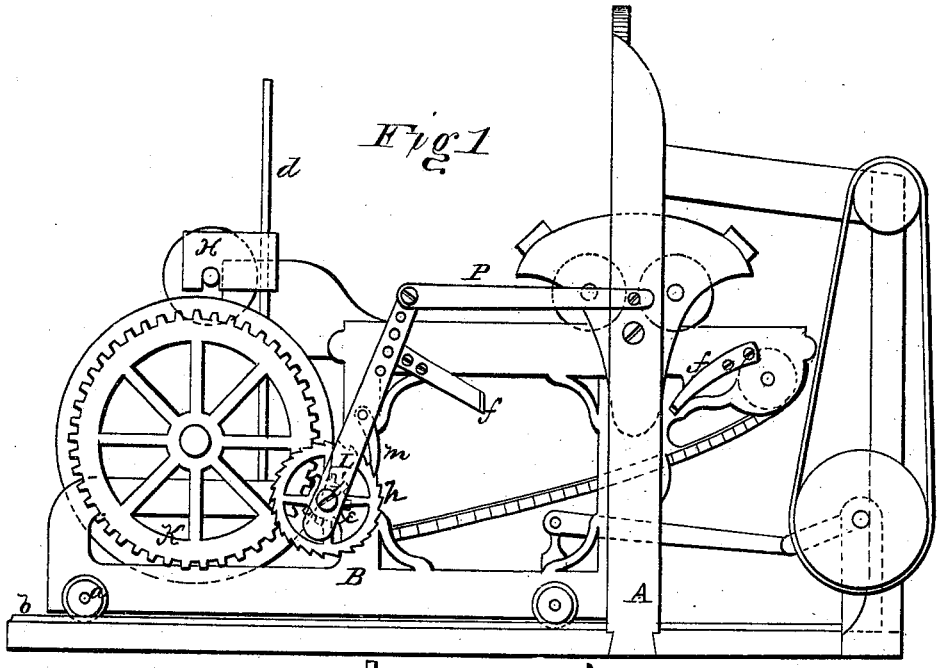
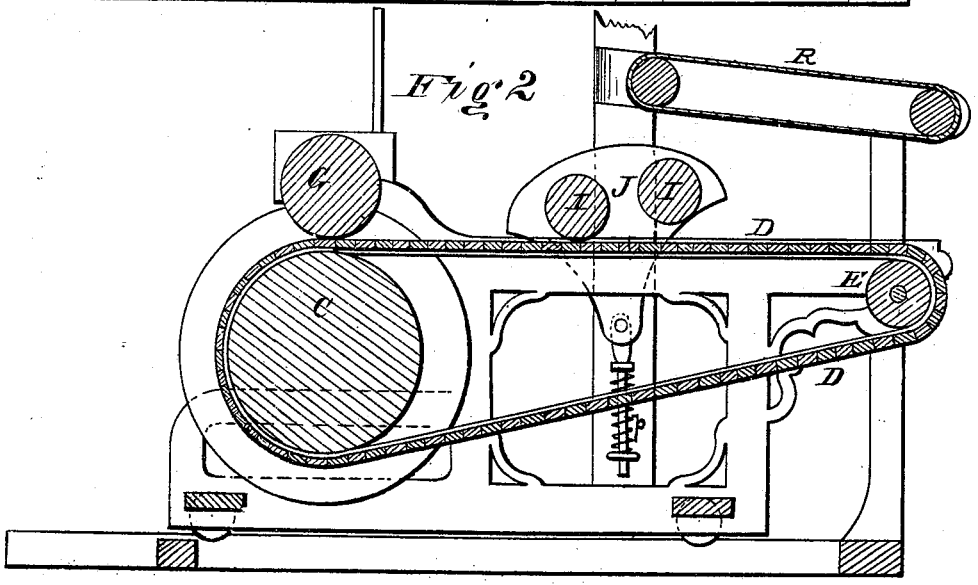


Fig. 2



WITNESSES

Frank L. Durand

C. L. Ewert.

INVENTOR

Hercule N. Range

By Alexander Mason

Attorneys.

UNITED STATES PATENT OFFICE.

HERCULE N. RANGE, OF BATTLE CREEK, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO JESSE W. CORDER AND AARON E. KOCHER, OF SAME PLACE.

IMPROVEMENT IN WOOL AND COTTON LAPPING MACHINES.

Specification forming part of Letters Patent No. **180,063**, dated July 18, 1876; application filed April 7, 1876.

To all whom it may concern:

Be it known that I, HERCULE N. RANGE, of the city of Battle Creek, in the county of Calhoun, and in the State of Michigan, have invented certain new and useful Improvements in Wool and Cotton Lapping Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of my invention is to take the wool or cotton in the form of a "roving," as it falls from the doffer-card of the "breaker," and forming it directly into a very perfect lap, suitable for use in the finisher-card, without first passing it through the intermediate process of a "drawing," and the machinery necessary to that process; and to this end the nature of my invention consists in the construction and arrangement of a lapping-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a longitudinal vertical section of the same.

A represents the frame-work of my machine, constructed in any suitable manner to receive the working parts thereof. B is a movable truck, provided with suitable rollers or wheels *a*, for the purpose of running backward and forward on a track, *b*, formed on or attached to the bottom bed-pieces of the frame A. C is a drum, mounted in the outer end of the truck B, around which passes an endless slat-apron, D, said apron also passing around a roller, E, at the other end of the truck.

Upon the apron D rests a roller, G, above the drum C, the journals of said roller being pressed upon by means of weights H, that slide on upright rods *d d*, secured on the truck. Upon this roller the product is formed into a lap ready for the finisher-card.

I I represent two rollers, having their bearings in an oscillating frame, J, pivoted to the main frame, said rollers resting alternately on the apron D, and they are rocked backward and forward by means of arms *f f*, attached to the truck B, and striking the lower end of the oscillating frame J.

On one of the journals of the drum C is secured a cog-wheel, K, into which meshes a pinion, *e*, upon a stud, *i*, in the side of the truck B. On this stud is further secured a ratchet-wheel, *h*, into which takes a pawl, *m*, pivoted to a lever, L. The lower end of this lever is pivoted on the stud *i*, while the upper end thereof is adjustably pivoted to an arm, P, attached to the main frame.

R is an elevated endless apron, which receives the roving in its full widths as it is delivered from the doffer-card, and carries it forward, passing it over and downward between the rollers I I, where it falls on the apron D. The back and forward movement of the truck B, with its apron D, causes the roving to be folded over and lapped upon itself, the rollers I I serving to securely press the same firmly into place, while the steady movement of the lap-roller and apron D slowly and evenly forms the complete lap on the weighted roller G, the thickness thereof being governed by the rapidity of the motion given the apron D, through the ratchet and pawl regulating the same by the adjustment of the upper end of the lever L.

The rollers I are held down on the apron D by means of springs *p* operating on the lower end of the frame J, the holes for the pivots of said frame being elongated for that purpose.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the apron D, lap-roller G, and the rollers I I, arranged in an oscillating frame, J, substantially as and for the purposes herein set forth.

2. The combination of aprons R and D, rollers I I, and lap-roller G, all substantially as and for the purposes herein set forth.

3. The combination of the oscillating frame J, provided with rollers I I, apron D, the lap-roller G, and the reciprocating truck B, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of February, A. D. 1876.

HERCULE N. RANGE.

Witnesses:

MARTIN METCALF,

TOLMAN W. HALL.