Marsden & Blamires.

Carding Engine.

No. 51,333. Patented Dec. 5, 1865.

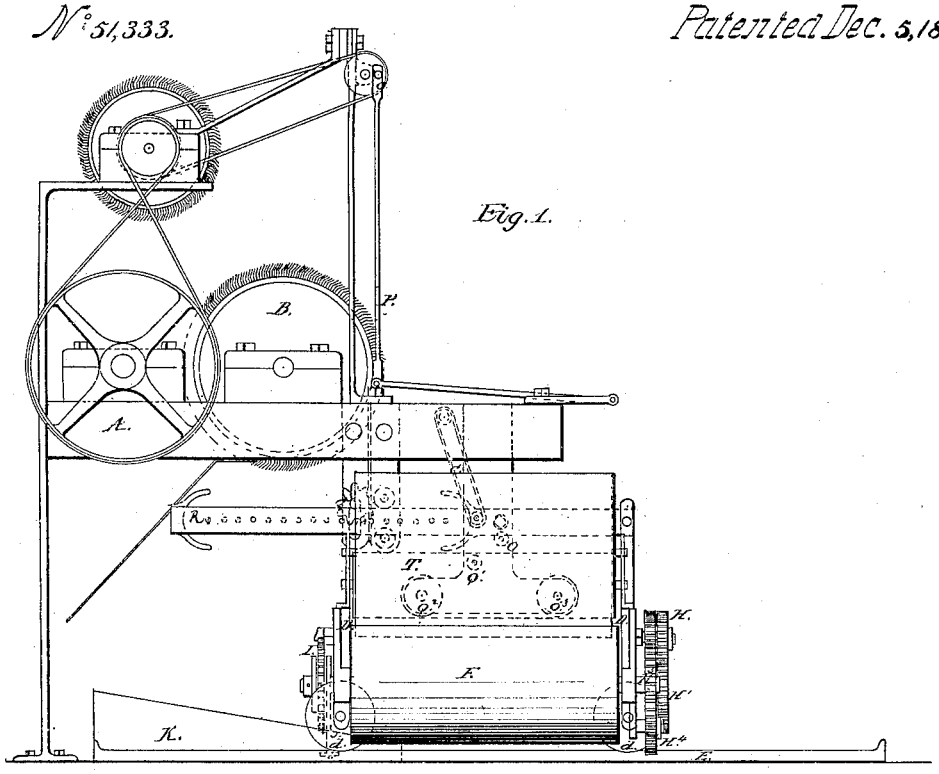
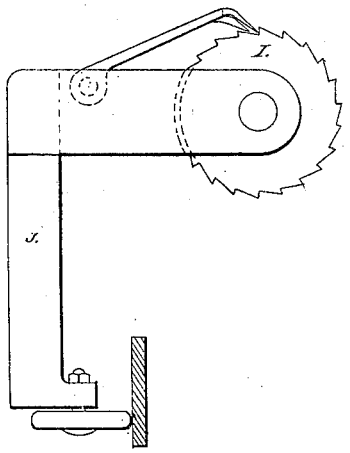


Fig. 1.

Fig. 4.

Fig. 5.



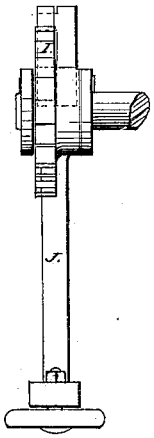


Fig. 7.

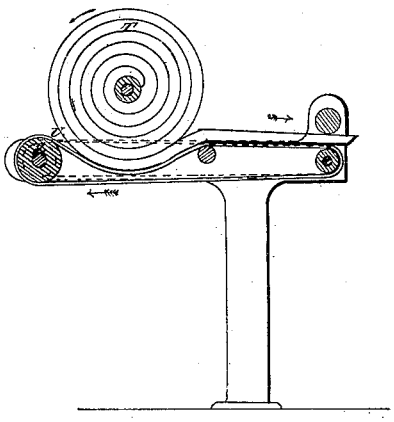
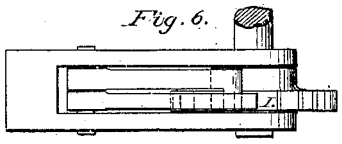


Fig. 6.



Witnesses:
William Culley
Henry Place

Inventors:
Harry Marsden
Thomas Howard Blamires

Sheet 2 - 2 Sheets.

Marsden & Blamires.

Carding Engine.

No. 51,333. Patented Dec. 5. 1865.

Fig. 2.

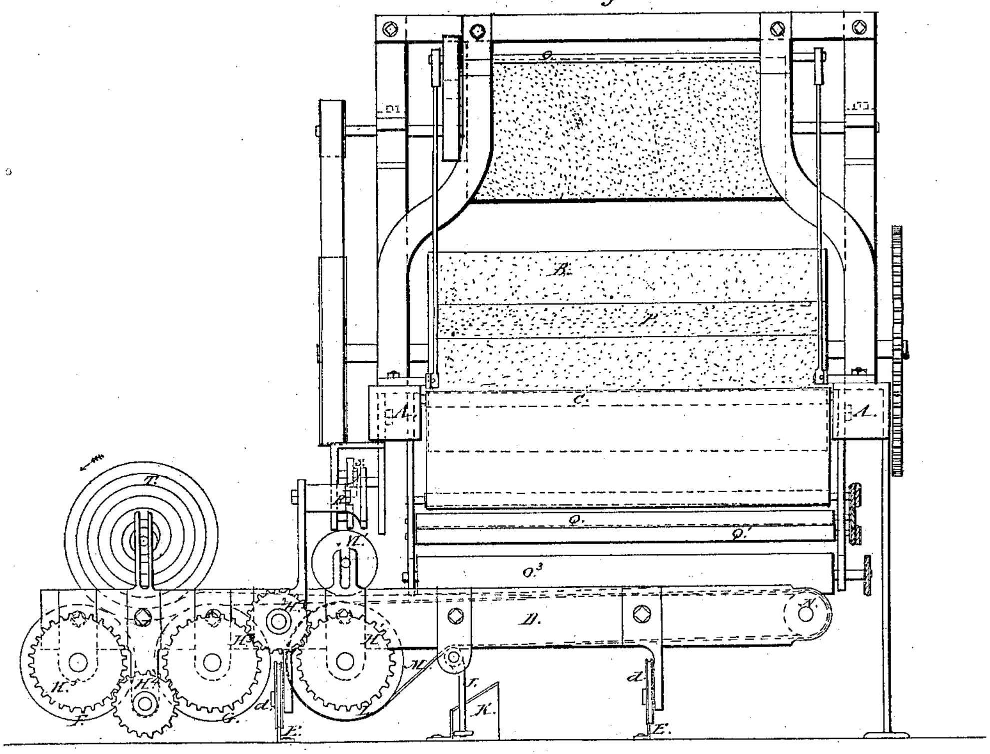
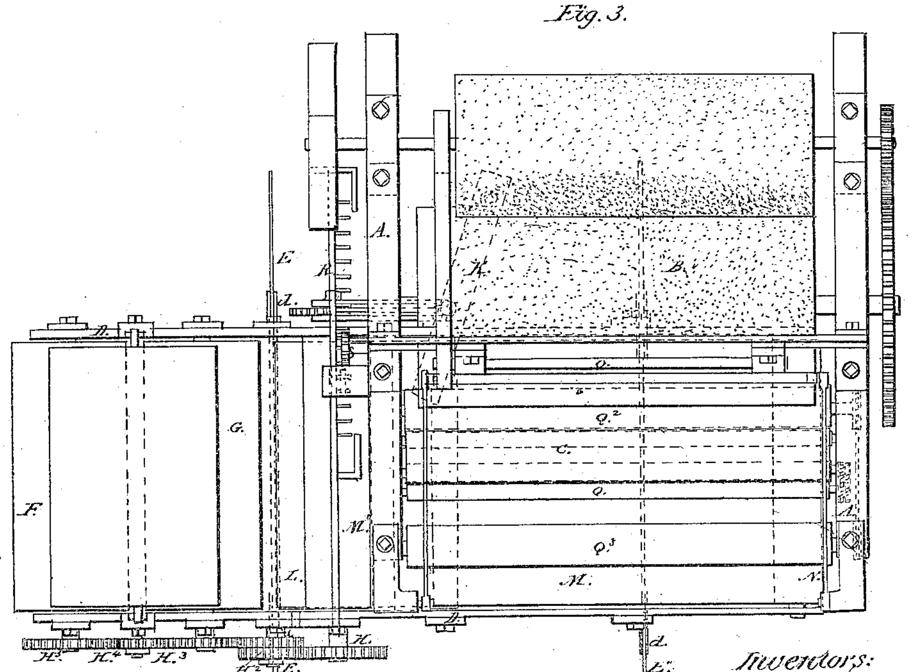


Fig. 3.



Witnesses: William Tuley, Henry Place

Inventors: Harry Marsden, Thomas Howard Blamires

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARRY MARSDEN AND THOS. HOWARD BLAMIRES, OF HUDDERSFIELD, COUNTY OF YORK, ENGLAND.

IMPROVEMENT IN CARDING-ENGINES.

Specification forming part of Letters Patent No. **51,333**, dated December 5, 1865.

To all whom it may concern:

Be it known that we, HARRY MARSDEN and THOMAS HOWARD BLAMIRES, of Huddersfield, in the county of York, and Kingdom of England, have invented new and useful Improvements in or applicable to Carding-Engines; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon—that is to say—

This invention relates to means of preparing wool or other fibers for feeding carding-engines in a regular or uniform manner, so as to obtain yarn or threads of equal thickness and strength; and the improvements consist in the application of a creeper or traveling apron to the delivery end of the scribbler or first carding-engine, to receive the wool or fiber as it is doffed therefrom, and carry it forward in a film or sheet; also, in constructing and applying a carriage capable of traversing or reciprocating underneath the aforesaid creeper to receive the sheet of wool or other fiber in layers thereon. The said carriage is provided with gearing to which intermittent rotary motion is given, so as to wind laterally the several layers of fiber onto a bobbin, thus forming a lap or roll, which is then transferred to the feeding end of the second or other carding-engine, whether clearer, carder, or condenser.

The manner in which this invention is performed will be readily understood by reference to the accompanying sheet of drawings, in which—

Figure 1 is a side elevation of a part of the delivery end of a scribbler with our improvements applied thereto. Fig. 2 is an end elevation of the same, and Fig. 3 is a plan view.

A represents a portion of the scribbler-frame; B, the doffer-cylinder, and C the creeper or traveling apron, which receives the fiber and conducts it to the traversing or reciprocating carriage D, which is mounted, by wheels *d*, on the rails E fixed to the floor.

F and G are two rollers which have intermittent rotary-motion imparted to them, through the medium of the train of gearing H' H^2 H^3 H^4 H^5, by the action of a ratchet-wheel, I, and pawl-lever J, which are actuated by an inclined rail, K, lifting the lever as the carriage moves inward, when the pawls or catches resting in the teeth of the ratchet it is thereby turned, giving motion to the train of gearing, and as the carriage moves outward the lever lowers by its own weight, the pawls following and taking into other teeth in the ratchet ready to turn it again at the next inward movement of the carriage, and so on, thus giving intermittent motion to the rollers F and G. The ratchet and pawl are shown half full size at Figs. 4, 5, and 6. The first gear-wheel, H', is fixed on one end of a roller, L, which carries one end of a creeper or traveling apron, M, which is carried at the other by a roller, N. The ratchet-wheel I is fixed on the other end of the roller L, by which intermittent motion is given to the creeper M simultaneously with the gearing H', which turns the rollers F and G intermittently. These rollers may have an increased surface-speed given to them by changing the wheels H' and H^2 for others of a different relative number of teeth, and thereby produce a draft.

O is the ordinary crank-shaft for working the doffing apparatus P, which is usually placed underneath the end of the scribbler, but which we have removed to allow the carriage to reciprocate or travel to and fro underneath to receive the fibers from the creeper C passing between the rollers Q and Q', thence under one or other of the rollers Q^2 and Q^3 to the creeper M, and by which every layer or film of fiber is pressed on the preceding layer, forming a compact sheet or web, which is drawn forward intermittently under a roller, M', and wound on a roller or bobbin forming a lap or roll, T, which is thence removed to feed a carder.

R is an endless rack or double-sided rack, which is fixed on the carriage and in which works a pinion, S, deriving continuous rotary motion from the doffer-cylinder, and which drives the carriage backward and forward, causing it to reciprocate in and out under the carder to receive the fiber. This pinion can be thrown out of gear with the doffer, so as to stop the action of the carriage when desirable.

Fig. 7 is a sectional view of the feeding end of a carder, or second carding-engine, showing the manner in which we apply the lap T, after it has been formed as previously described. The lap rests upon a creeper which is driven

by the chain U acting on the roller V in the direction of the arrows, which, independent of the weight of the lap thereon, causes a slackness or curvature on the upper part of the creeper, forming a recess or hollow in which the lap rests, thus giving a great extent of surface bearing and support to the lap, and thereby effecting or producing a regular feed of fiber to the carder.

It will be evident that an endless apron or creeper placed upon two rollers so as to allow a slackness, as described, may be used in the formation of laps, instead of the drum-surfaces, if found desirable.

This apparatus and means of preparing fiber, and mode of feeding may be applied to any kind of carding-engines, as will be readily understood by those conversant with the working of carding-engines. Also, it will be observed that little additional room is required more than in hand-feeding, and the laps thus made may be taken to feed or supply any carder or condenser of the same width, or double the width by employing two bobbins.

Having thus described the nature of our said invention, and the manner in which the same is or may be performed or put into practical effect, we claim—

1. The combination of the doffer-cylinder B, creeper or traveling apron C, and rollers Q, Q′, Q^2, and Q^3, with the reciprocating or traversing carriage, by which a web of any desired thickness and length may be made, substantially as described, for the purpose set forth.

2. The combination of the creeper or traveling apron *m*, with the rollers H^3 and H^4 so geared to an increased motion that they may be made to draw out the web while winding it, as herein set forth.

3. The combination, with the delivery end of a scribbler, of a reciprocating or traversing carriage carrying a creeper or endless traveling apron, *m*, made to extend under the lap or roll of wool or other fiber, T, and wind it by friction, substantially as described.

4. The combination, with a carding-engine, of an endless traveling apron or creeper by which a lap or roll of wool or other fiber is unrolled and fed to said engine by friction, substantially as herein described.

Done at Huddersfield, England, this 13th day of September, 1864.

HARRY MARSDEN.
THOMAS HOWARD BLAMIRES.

Witnesses:
WM. TASKER,
Patent Agent, Halifax.
JOHN BLAMIRES,
Manufacturer, Huddersfield.