

L. W. Boynton.
Flocking Machz.

N^o 8,068.

Patented Apr. 29, 1851.

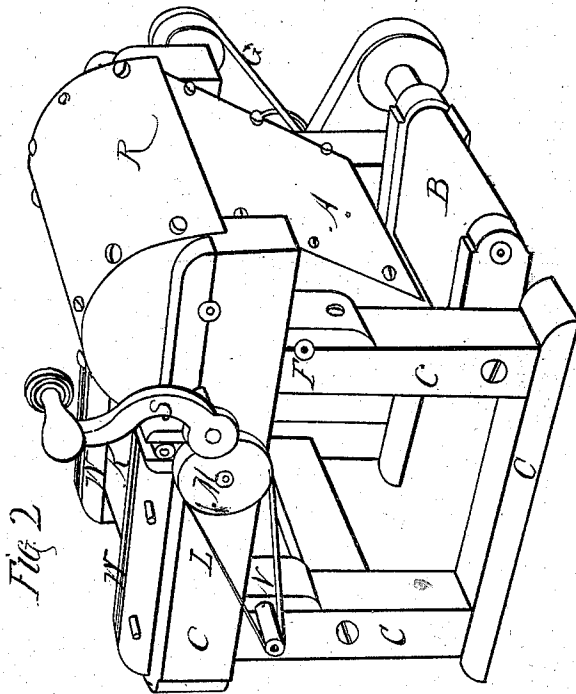


Fig. 2

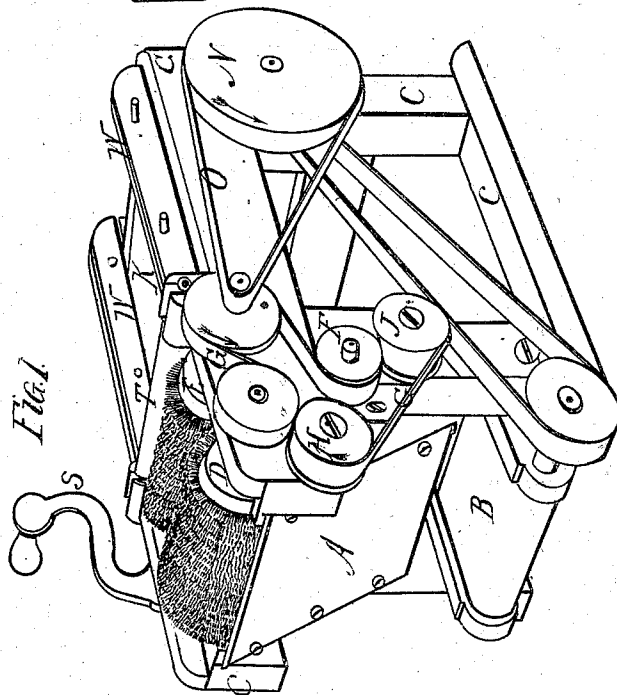


Fig. 1

UNITED STATES PATENT OFFICE.

L. W. BOYNTON, OF SOUTH COVENTRY, CONNECTICUT.

MAKING BATS FOR FELTING.

Specification of Letters Patent No. 8,068, dated April 29, 1851.

To all whom it may concern:

Be it known that I, LEANDER W. BOYNTON, of South Coventry, in the county of Tolland and State of Connecticut, have invented a new and useful Improvement in the Method of Inserting Flock into the Woolen Web for the Manufacturing of Felt Cloth, Hat-Bodies, &c.; and I do hereby declare that the following is a full, clear, and exact description of the character, construction, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1 is a perspective view of the machine for preparing the flock to be inserted, or incorporated, showing two of the three cylindrical brushes, the bands, pulleys, endless apron, &c. Fig. 2 is a perspective view of the opposite side of the same, complete, and ready for use, showing the crank, or power by which it is worked, the pulley and band by which the endless apron is moved, the case in which the brushes are inclosed, &c.

My improvement consists in preparing and introducing the flock onto the web of wool after it comes from the carding machine, (as while it is on an endless apron,) without passing the flock through the carding machine, by which means I am able to introduce any desired quantity of flock into any desired portion of the texture of the felting, as all in the central portion, between the two surfaces, or all on one side, or surface, or equally, or unequally, throughout the whole texture, as convenience, usefulness, &c., may direct, and to use the very shortest flock with equal facility and advantage with the longest that is ever found, and in the construction and operation of the machine for preparing the flock for insertion, and depositing it on the web of wool after the web comes from the doffer and is passing along on the endless apron or otherwise, in such quantity, and on such portion of the texture, as is desired.

I use the common carding machine in the usual way, for hat felting, except that I use an endless apron, attached to the machine, on which the web of wool is received, as it falls from the doffer, and conveyed under the open end, or mouth, of the spout or conductor of the machine for preparing the flock, as seen at A, and B, Figs. 1, and 2, (A, being the spout and B, the apron.)

This endless apron, B, is represented in the drawings as attached to the preparing machine, (hereafter to be described,) merely to show its proper position in relation to that machine, but when used it must be attached to the carding machine, under, and extending from, the doffer, and the preparing machine, represented in the drawings, must be placed above it in a convenient position, which may be in an upper room, if found more convenient, in any case, having a spout, or conductor, (A,) extending down nearly to the endless apron, (B,) or the web as it is passing from the carding machine.

I make the machine for preparing the flock of a suitable frame, C, C, &c., of a convenient size and shape, suited to the quantity, and kind, of work intended to be performed by it. In, or near, one end of this frame I fit two, three, (or more,) cylindrical brushes, D, and E, on, or nearly the same elevation, and the other below them, as shown by the pulley F, Fig. 1, and the end of the arbor, at F, Fig. 2. These cylindrical brushes are caused to revolve in the directions indicated by the darts, by means of the band, G, G, Fig. 1, or by any other convenient means or appropriately arranged gearing. H, and I, Fig. 1, are live pulleys merely for the purpose of directing the band. In the other part of the frame, C, C, &c., I fit an endless apron, K, Figs. 1 and 2, on which I feed the flock to the brushes, to be prepared.

This endless apron works on rollers, in the usual way, and is propelled by the band L, Fig. 2, passing around the pulley, M, (which is on the end of one of the rollers,) and the small pulley, or extension of the arbor N, Fig. 2, which arbor is revolved by the band, O, working on the pulley, N, Fig. 1. T, Fig. 1, is a loose roller which merely holds down the flock on the endless apron as it is passing to the brush, E, Fig. 1.

The cylindrical brushes, D, E, and F, Fig. 1, are completely inclosed, to prevent wasting the flock, by the sides of the spout, or conductor, A, and the cap, R, Fig. 2. And the whole machine is put in operation by means of the crank, S, or any other power may be used when more convenient.

The machine being thus complete, as seen in Fig. 2, I spread the flock on the endless apron, K, and put the machine in motion, when the brush, E, revolving in the direction indicated by the dart on its pulley,

takes up the flock from the inner extremity of the endless apron, K, and carries it over to the brush, D, which runs with about one-third greater velocity, and strips the flock from the brush, E, and carries it down to the third brush, (indicated by the pulley, F, Fig. 1,) which, (having a still greater velocity, and running against the brush, D, as indicated by the darts,) strips the flock from it and throws it down through the spout, or conductor, A, onto the endless apron B, or the web of wool as it is passing from the carding machine, as before described.

Should it be found that the cylindrical brushes do not fully prepare the flock in every case, any greater number of brushes may be inserted by enlarging the space which they occupy in the frame.

All the brushes, except E, may be made of wire, or any other suitable material if it should be thought more convenient or useful, but the brush, E, which takes the flock from the inner extremity of the endless apron K, must be made of bristles, or some other soft and yielding substance, so that it will not injure the apron. I would recommend that this endless apron, (K,) be made of leather, though any other suitable material may be used with comparative advantage, when it can be kept sufficiently smooth.

Should it be necessary to use a narrower course of flock than the whole breadth of the apron, (K,) would convey, guides, made movable by sliding dowels, or by screws, may be used on each side, as seen at W, and W, Figs. 1, and 2. And similar guides may be used in the spout, or conductor, for the same purpose.

The advantages of my improvement over all methods heretofore practised for making felting, consist in introducing the flock onto the web of wool in its passage from the carding machine, (as while on the endless apron, B,) so that, not only, the cards will not be clogged by passing the flock through them, but, also, the carding machine will card more than twice the quantity of wool, in the same time, that it could if the flock passed through the machine with the wool. And the flock will be more thoroughly prepared by the additional machine, (before described,) than it would be by passing it through the carding machine with the wool, and none of the shorter part of the flock will be wasted, as it always is when carded

with the wool, both by sticking in the cards, and by being thrown out by the operation of the machine. And in having the preparing machine, (before described,) wholly independent of the carding machine, so that it may be worked only when needed. So that the flock may be incorporated with that portion of the web of wool where it is desired, as extending throughout the whole texture, on one surface only, in the central part, so that both surfaces may be wholly of the web of wool, or in any other desired proportion either equal, or unequal. And as the carding machine will card more than twice the quantity of wool without the flock, and as the preparing machine is of small expense, the work can be done at much less expense than by any method heretofore practised, as well as doing the work better, and of any desired proportion of texture.

I am aware that flock has been incorporated with wool in the manufacture of felting by passing it through the carding machine with the wool; and, also, that it has been pulled onto the surface of cloth during the process of finishing. I therefore do not claim either of these, as such, as my invention, but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Preparing the web for felt fabrics by the introduction of layers of flocks between or upon the layers of wool without passing the flock through the carding machine, but by preparing it in a separate machine, and introducing it immediately from that machine onto the web of wool while it is passing from the carding machine, in the manner, substantially, as herein described.

2. And I also claim as my invention the combination of the endless apron, (K,) which feeds the flock to the cylindrical brushes, with the series of cylindrical brushes, by which the flock is taken up from the inner extremity of the endless apron and, (passing through the series,) is prepared and sent down through the spout, or conductor, (A,) and deposited on the web of wool, (as before described,) when the same is constructed, and combined, substantially as herein described.

LEANDER W. BOYNTON.

Witnesses:

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JAS. D. WILLARD.