(No Model.)

E. WALKER & D. WILLIAMS.

METHOD OF MAKING COTTON BATTING.

No. 382,916. Patented May 15, 1888.

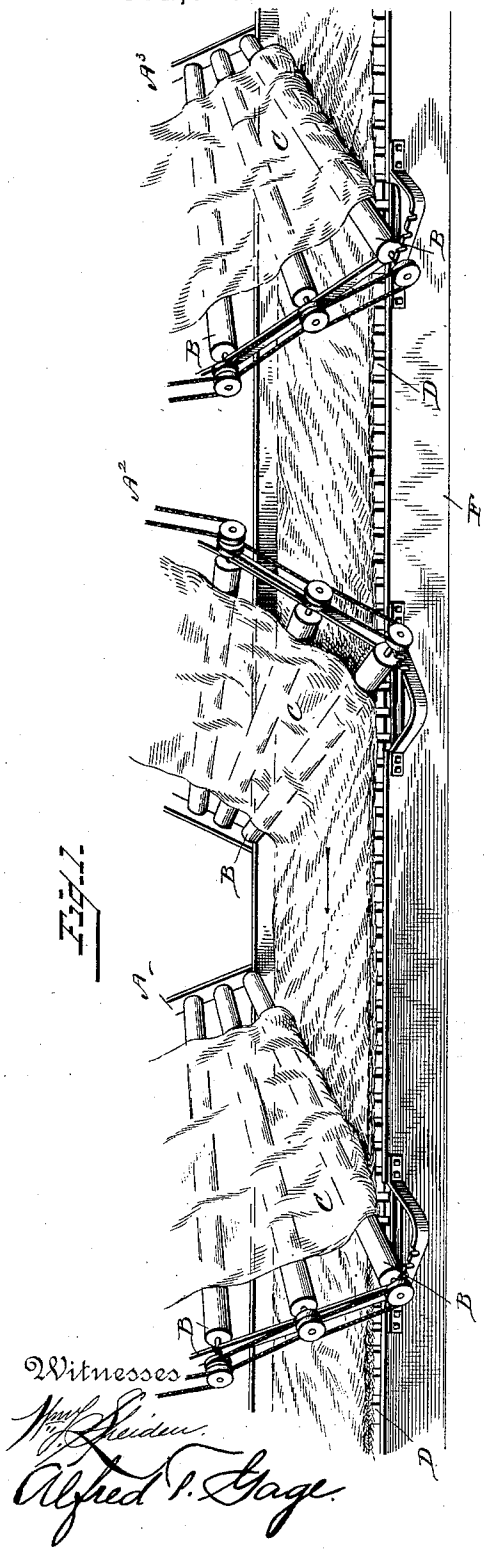


Fig. 1.

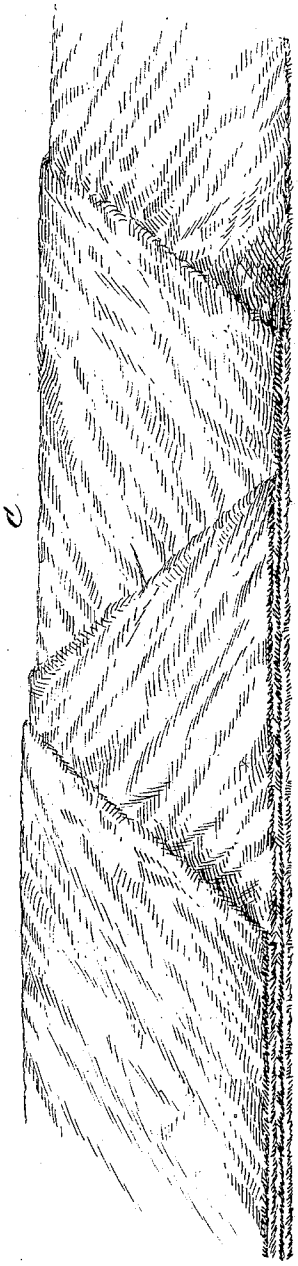


Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD WALKER AND DAVID WILLIAMS, OF COHOES, NEW YORK.

METHOD OF MAKING COTTON-BATTING.

SPECIFICATION forming part of Letters Patent No. 382,916, dated May 15, 1888.

Original application filed March 24, 1887, Serial No. 232,293. Divided and this application filed November 29, 1887. Serial No. 256,459. (No model.)

To all whom it may concern:

Be it known that we, EDWARD WALKER and DAVID WILLIAMS, citizens of the United States, residing at Cohoes, in the county of Albany and State of New York, have invented certain new and useful Improvements in Methods of Making Cotton-Batting; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to cotton-batting, and has for its object to produce a bat of increased strength and durability composed of a series of layers the fibers of which lie obliquely to the length of the web, the web having a continuous unbroken surface; secondly, to produce such a bat in which the fibers, besides lying obliquely to the length of the web, will also have the fibers of each layer lying obliquely across the fibers of the layer upon which it rests; also, to form such a bat folded upon itself lengthwise thereof.

To the formation of such a bat, the invention consists in the method hereinafter particularly described and claimed, reference being had to the accompanying drawings as an illustration of the best means for carrying out the invention, in which—

Figure 1 is a perspective view of the delivery-rolls of three cards and a part of the trough for the traveling apron. Fig. 2 is a perspective view of a fragment of the batting with a portion of the layers broken away.

In the drawings, the letters A, A^2, and A^3 designate parts of a series of carding-machines of any approved general construction and operating in the ordinary well-known way, a more particular description thereof being unnecessary. We have shown parts of three carding-machines; but the number may be varied. These cards have the delivering-rolls B arranged so that instead of discharging the cotton directly to the front of the card in the line of travel of the cards they deliver at an oblique angle or other angle thereto, so that when a series of machines is arranged to deliver and lay the cotton in layers the fibers of the layers will lie across each other instead of parallel with the length of the web or bat. To illustrate, it will be seen on reference to the drawings that the card A^3 delivers the cotton C onto the traveling apron D at an oblique angle to the line of travel of the apron, with the line of inclination or obliquity extending from the inner to the outer edge of the apron in the direction of the line of travel of the apron, which causes the length of the fiber to lie obliquely across the apron. The card A^2 delivers upon the apron D with the line of obliquity extending from the outer to the inner edge of the apron in the direction of the line of travel of the apron, which causes the fiber to lie across the apron in the opposite direction to the fibers of the first layer. The card A^2 delivers in the same direction as card A^3, which causes the fibers of its layers to lie across the apron in the same line of obliquity as those of the first layer and across the middle layer in the opposite direction to the line of delivery of said layer. The consequence is that the bat is formed of layers of fibers which cross each other with the effect of making a smooth and stronger web.

It will be observed, too, that the endless apron D travels in the trough F at an angle—say a right angle—to the front of the cards, which permits the cotton to be formed in layers, the cotton from card A^3 being the first laid upon the apron, then the cotton from A^2 being laid upon it, and afterward cotton from card A laid upon that from A^2. This arrangement permits the bat to be formed in layers in a simple and expeditious manner, and by moving the apron faster or slower, as desired, the bat will be formed thinner or thicker, as wanted.

Another advantage in having the apron travel in front of the cards, as described, and of forming the bat or web in layers, is that the finest or best cotton can be used for the outside of the bat or web and not so good a grade of stock for the inner layers, so that the appearance and advantage of having a bat with the best stock on the outside, or side exposed to wear, is obtained at a saving of stock and expense. This best stock will be on both sides of the web, because the web will be folded by

mechanism or by hand, and assuming that the best stock from card A^3 is laid upon the apron with a width of thirty-four inches and the other layers upon that, the web can be folded lengthwise from the bottom from both edges toward the middle, so as to form a bat of the width of fifteen inches, with a lap at the meeting edges of four inches, and thus bring the best stock to cover both the top and bottom and edges of the web.

It will be observed that by delivering the sliver or layer from the card onto a traveling layer obliquely to the line of travel of the layer onto which it is fed one layer is made to overlie the other in a practically continuous unbroken surface, with the fibers of the layer lying obliquely to the length of the web.

It will also be observed that by feeding several layers one upon the other, with one layer fed in an opposite direction to another and the several layers obliquely to their line of travel, the fibers of the layers not only extend obliquely to the length of the web, but that also the fibers of one layer lie obliquely across the fibers of another layer, so that still greater strength is obtained. By folding the web, formed as above described, upon itself lengthwise of the web, as described, there is obtained not only a better-finished surface, but still further strength is added thereto.

We have illustrated and described parts of certain mechanism for carrying out the method; but no claim is made herein to mechanism, as the same forms the subject of another pending application of ours for the mechanism, filed March 24, 1887, Serial No. 232,293, of which application this is a division and a continuation; and while we have referred to mechanism suitable for carrying out the method, still the invention is not dependent thereon, as the layers can be moved and fed as described by hand.

Having described our invention and set forth its merits, what we claim is—

1. The method of forming cotton-batting which consists in placing a fleece or layer of cotton upon a traveling surface, and then applying to said first layer as it moves with the traveling surface, in a single continuous unbroken layer extending lengthwise of the first layer, a second layer or fleece fed obliquely to the line of travel of the moving surface, and also obliquely to its own width, substantially as described.

2. The method of forming cotton-batting which consists in placing a fleece or layer of cotton upon a traveling surface, then applying to said first layer as it moves with the traveling surface, in a single continuous unbroken layer extending lengthwise of the first layer, a second layer or fleece fed obliquely to the line of travel of the moving surface, and also obliquely to its own width, and afterward folding the web so formed upon itself lengthwise thereof, substantially as described.

3. The method of forming cotton batting which consists in placing a fleece or layer of cotton upon a traveling apron, and then applying to said first layer as it moves with the traveling surface, in continuous unbroken layers extending lengthwise of the first layer, a series of other layers fed in opposite directions to each other, and one upon the other, and each obliquely to the line of travel of the moving surface, and also obliquely to its own width, substantially as and for the purposes described.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD WALKER.
DAVID WILLIAMS.

Witnesses:
JOSEPH PAGE,
LEES WRIGLEY.