

(No Model.)

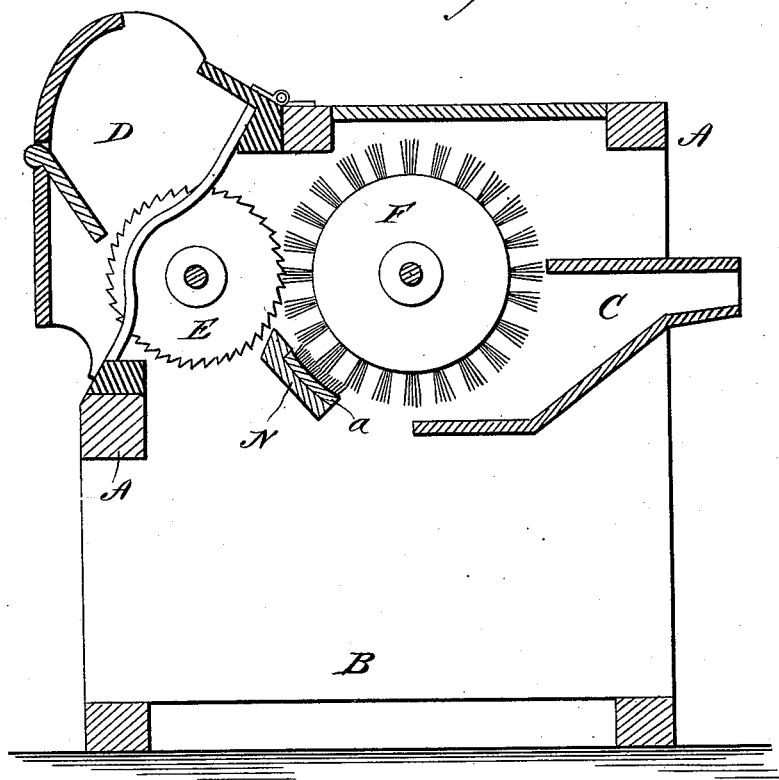
F. H. LUMMUS.

COTTON GIN.

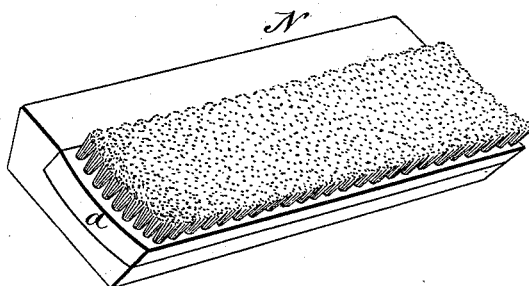
No. 343,380.

Patented June 8, 1886.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*Donn Twitchell*  
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# UNITED STATES PATENT OFFICE.

FRANKLIN H. LUMMUS, OF BROOKLYN, NEW YORK.

## COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 343,380, dated June 8, 1886.

Application filed March 30, 1886. Serial No. 197,133. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN H. LUMMUS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Cotton-Gins, of which the following is a full, clear, and exact description.

My invention will first be described, and then specifically pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a central vertical sectional elevation of a cotton-gin provided with my improved carding and fire-extinguishing brush, and Fig. 2 is a perspective view illustrating the construction of said brush.

The main frame of the machine, the ginning-saws, and the brush-cylinder, the hopper, the lint-flue, and in fact all of the main portions of the gin, may be constructed and arranged in any of the well-known ways, and such construction and arrangement does not constitute any part of my invention; but in order that the description of my invention may be made perfectly clear, I will designate the several parts illustrated in the drawings by reference-letters.

The letters A A represent the frame-work of the gin; B, the mote-chamber; C, the lint-flue; D, the hopper; E, the ginning-saws, and F the brush-cylinder. Just beneath the point of contact of the ginning-saws and brush-cylinder I mount my improved combined carder and fire-extinguisher, which, as a whole, I will designate by the letter N. The brush is formed of tufts of bristles that are drawn into the back, *a*, in close proximity to each other, so that the face of the brush presents a close appearance, as best shown in Fig. 2, this face of the brush being curved to correspond with the curve formed by the tufts of bristles projecting from the brush-cylinder F.

Although not absolutely necessary, I greatly prefer to place the brush or carder N at a point as close as possible to the point of contact of the ginning-saws and brush-cylinder, and by so placing the carder I have found that with the ordinary form of gin—such as illustrated in the accompanying drawings—I have been able to obtain a staple of exceedingly high grade. Not only am I able to produce a high grade staple, but the carder described acts as an effectual fire-extinguisher, smothering any spark or flame that may be in the fiber

delivered thereto. It is well known that there are frequent fires occurring through the carelessness of hands in dropping matches among the bolls as they are picked in the field, said matches being ignited when they come in contact with the ginning-saws.

I am aware of the patents to Reid, No. 222,366, December 9, 1879; Campbell, No. 1,163, reissued April 2, 1861; Gullett, No. 19,417, February 23, 1858, and Von Schmidt, No. 4,817, October 17, 1846, and I do not claim anything therein shown or described as of my invention.

After repeated experiments, I have found that in the carding-brushes of cotton-gins constructed like those in the patents above referred to, a current of air is generated between the rows of bristles forming said brushes, by reason of the carding-surfaces of the brushes being disconnected. I have found that ignited fibers of cotton or a spark, when brought into contact with the ordinary carding-brush, whether fixed or rotary, would ignite the lint contained between the rows of brushes, as the draft of air through or between the rows of bristles would draw the flame or spark through the broken or disconnected surface of said brushes into the spaces containing the lint and other fine combustible matter.

I have discovered that by forming the carding-brush with an unbroken or continuous carding-surface an efficient extinguisher is formed by reason of its compactness, and at the same time a very superior carding-brush is also obtained. When ignited cotton fiber or a spark is thrown against the surface of my brush, it is instantly extinguished, as there is no draft from the surface of the brush down through and between the rows of bristles to fan the flame.

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

In combination with the saws and brush-cylinder of a cotton-gin, a combined carding-brush and fire-extinguisher having a continuous unbroken surface of bristles arranged substantially as described, whereby draft through or between the bristles is prevented and a fire-extinguishing surface is produced, substantially as set forth.

FRANKLIN H. LUMMUS.

Witnesses:

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