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FEED PLATE

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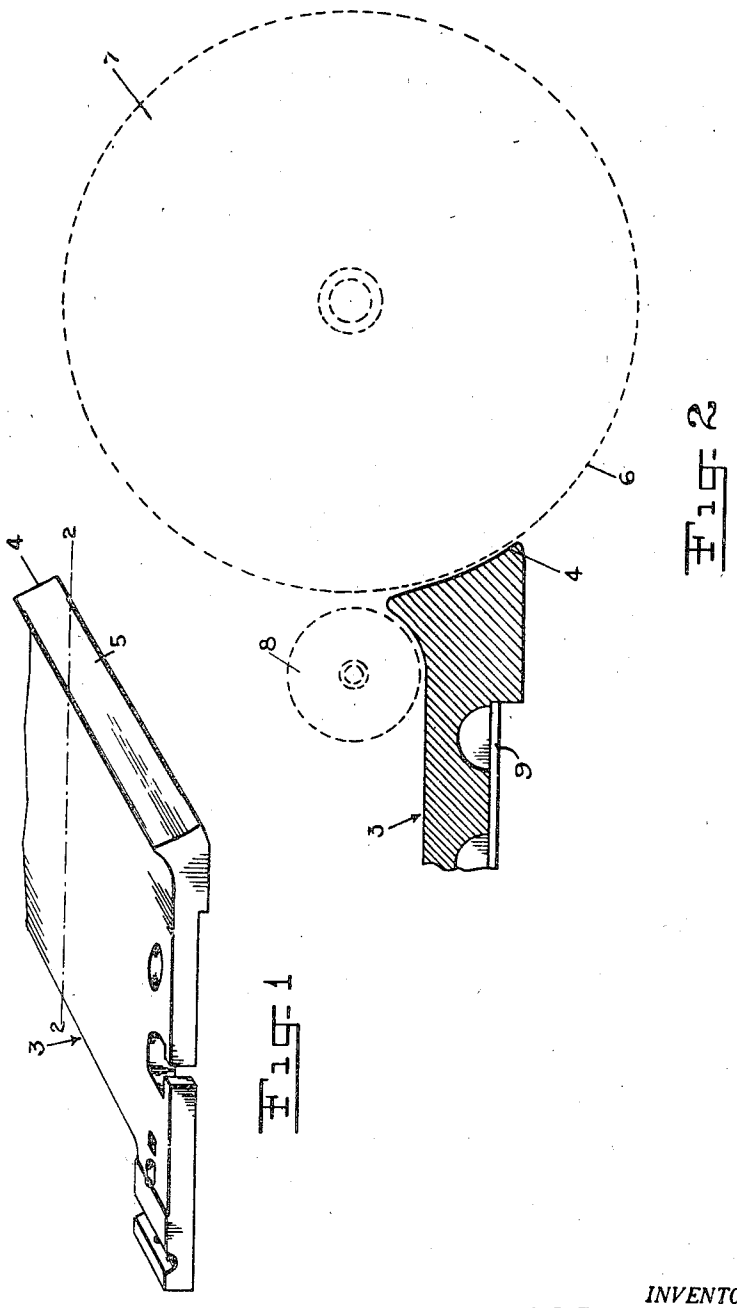


FIG. 2

FIG. 1

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FEED PLATE

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1 Claim. (Cl. 19—105)

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This invention relates to carding machines, and relates more particularly to a feed plate for use with the lickerin of the carding machine.

When carding machines heretofore employed in the carding of natural staple fibers such as cotton, wool, etc. were used in the carding of synthetic staple fibers, particularly synthetic staple fibers two inches or more in length and having a basis of cellulose derivatives, regenerated cellulose, linear polyamide condensation products, etc., it was found that certain difficulties arose. This was due to the fact that the design of the feed plate at the lickerin was not suitable for use with the longer synthetic staple fiber. In using the prior feed plate in the carding of the longer synthetic staple fiber the web delivered by the card had a cloudy spot, i. e. a local accumulation of fibers in the web, therein. The longer synthetic staple fiber would hang from the bottom of the feed plate until there would be built up an accumulation of staple fiber which the lickerin would pluck en masse into the web. This condition frequently resulted in the breaking of the web when the cloudy spot was too dense to pass through the trumpet. It is, accordingly, an important object of this invention to provide an improved feed plate at the lickerin which will be free from the foregoing and other disadvantages and which will be especially simple in construction and efficient in operation.

Another object of this invention is the provision of an improved feed plate having a novel nose construction.

Other objects of this invention, together with certain details of construction and combinations of parts, will appear from the following detailed description.

In accordance with this invention, the nose of the feed plate is provided with a concavity substantially concentric with the surface of the lickerin. This construction of the nose of the feed plate will permit the same setting to be made between the nose of the feed plate and the lickerin at both the top and the bottom. Thus, the desired setting of the nose of the feed plate with respect to the surface of the lickerin may be made substantially near the top of the nose, with the same setting between the nose and the lickerin being obtained at the bottom thereof. The concave construction of the nose of the feed plate apparently controls the air current generated by the rotation of the lickerin and permits the teeth of the lickerin to comb the stock into the lickerin instead of blowing the same away from it, and resulting in the elimination of the cloudy condition of the web due to the

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bunching of the staple fibers at the feed plate.

Referring now to the drawing for a more detailed description of the novel feed plate of this invention,

Figure 1 is a perspective view of a portion of the feed plate, and

Figure 2 is a vertical cross sectional view, taken on line 2—2 of Figure 1 and on an enlarged scale, of the nose of the feed plate, showing it in relation to the lickerin.

Like reference numerals indicate like parts throughout both views of the drawing.

The feed plate, generally indicated by reference numeral 3, covers the entire back portion of the carding machine and in this respect the feed plate is identical with the feed plate heretofore employed in carding machines. In the feed plate of the instant invention, the nose 4 which extends the full width of the feed plate is provided with a concave surface 5 concentric with the surface 6 of the lickerin 7. A feed roller 8 which may be fluted or wire-covered is positioned as usual just before the nose of the feed plate and above the top surface of the latter.

The feed plate 3 is adapted to be mounted on a support 9 on the carding machine.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

Having described our invention, what we desire to secure by Letters Patent is:

A feed plate for a carding machine having a lickerin, said feed plate having an upper plane surface and a bottom surface adapted to be supported on the carding machine, and a nose on said feed plate extending above the upper plane surface thereof and below the bottom surface thereof, said nose having its entire surface adjacent to said lickerin substantially concentric with the latter, whereby accumulation of fibers between the nose and the lickerin is prevented.

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ALEXANDER EDWARD BARNEYCASTLE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 16,463	Thoma	Nov. 9, 1926
620,089	Threlfall	Feb. 21, 1899
1,676,577	Schmitt	July 10, 1928
1,758,428	Campbell	May 13, 1930