No. 650,221. Patented May 22, 1900.

E. V. BATES.

FEEDING MECHANISM FOR CARDING MACHINES.

(Application filed Sept. 12, 1899.)

(No Model.) 2 Sheets—Sheet 1.

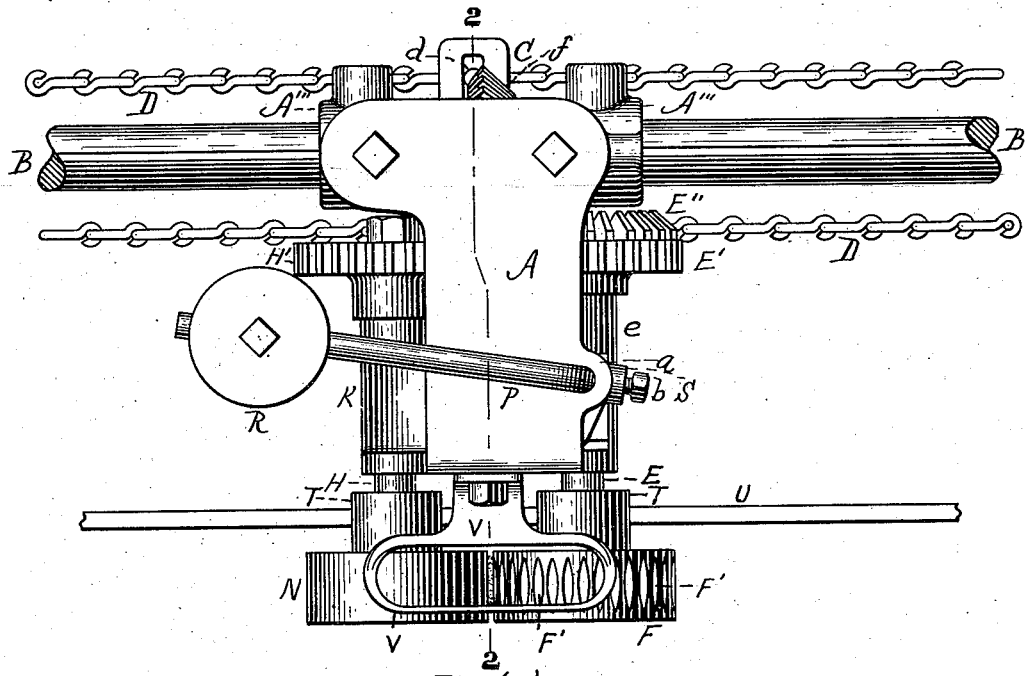

Fig. 1

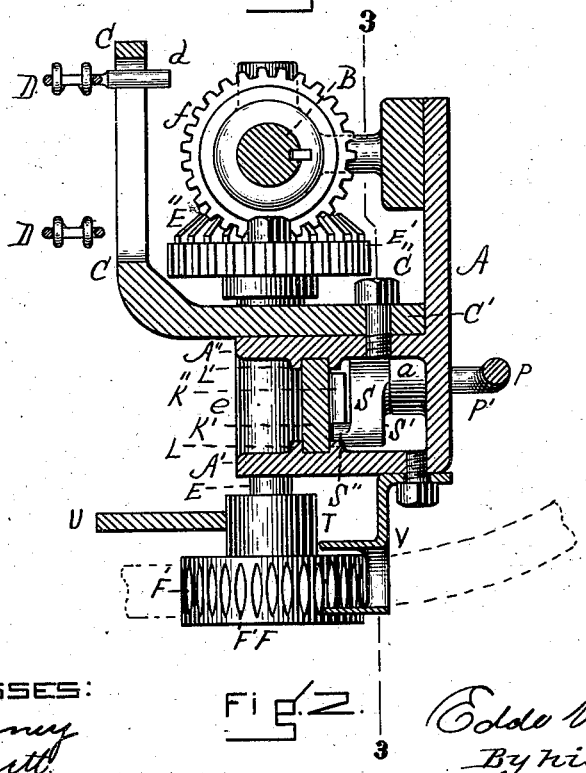

Fig. 2

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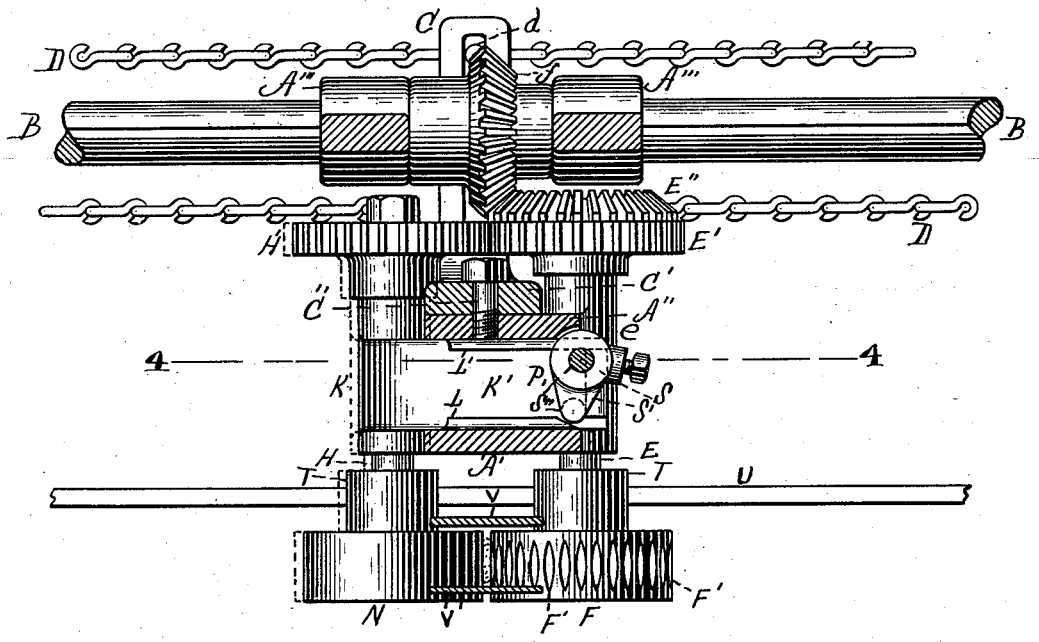

Fig. 3.

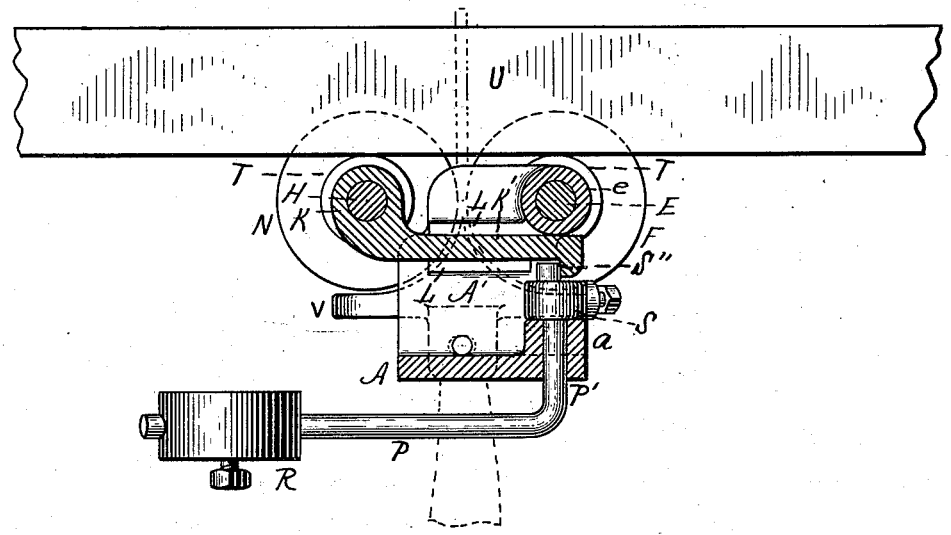

Fig. 4.

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FEEDING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 650,221, dated May 22, 1900.

Application filed September 12, 1899. Serial No. 730,205. (No model.)

To all whom it may concern:

Be it known that I, EDDO V. BATES, a citizen of the United States, residing at Dracut, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Feeding Mechanism for Carding-Machines, of which the following is a specification.

This invention is an improvement on feeding mechanisms of the class described and illustrated in Letters Patent of the United States granted February 19, 1895, and numbered 534,418; and it consists in the novel construction and arrangement of parts described, and illustrated in the accompanying drawings, whereby the spring described in the said Letters Patent is done away with and a weight and lever employed and utilized with the effect of producing a uniformity of tension on all sizes of sliver impossible in practical operation when a spring is employed, preventing "pinching" the sliver, and thus obviating danger of kinking, and the edge of the stock is prevented from catching on one of the feed-rolls.

In the accompanying drawings, in which similar letters of reference indicate corresponding parts, Figure 1 represents a front elevation of a feeding mechanism illustrating the invention. Fig. 2 is a vertical section taken on line 2, Fig. 1. Fig. 3 is a vertical section taken on line 3, Fig. 2. Fig. 4 is a horizontal section taken on line 4, Fig. 3.

Similar letters of reference indicate corresponding parts.

The distributing-carriage comprises the vertical plate or web A and the rearwardly-extending horizontal shelves A′ A″ integral therewith, said carriage being guided and supported by the shaft B, which has a sliding fit in a pair of brackets A‴, bolted to the web A of the carriage and surrounding said guide-shaft B. The carriage is furthermore provided with a vertically-slotted upright bar C, whose foot C′ is bolted at C″ to the bracket A″, such slot being engaged by the chain D by means of a pin *d*, as in the Letters Patent above referred to.

E is a vertical shaft journaled in the vertical post or bracket *e* integral with the shelves A′ A″, carrying at its lower end the feed-roll F and rotated by the gear-wheel E′ on its upper end, the beveled surface E″ of said gear-wheel being engaged by the driving bevel-gear *f* on the shaft B in the usual manner.

H is a vertical shaft journaled in a bracket K, having a horizontal extension or base K′, sliding in tracks or ways L L′, formed on the upper surface of the shelf A′ and the under side of the shelf A″ and being parallel with the web A. The lower end of this shaft H carries the plain feed-roll N, and the shaft is carried by a gear-wheel H′, fast on its upper end and engaged by the gear E′, the teeth in these two gears being long enough to make engagement without regard to the horizontal sliding of the shaft H and bracket K.

P P′ represent a bent lever whose portion P′ extends horizontally through and has its bearings in a horizontal extension *a* integral with the carriage, and also through a collar S, into which it is secured by a set-screw *b*. This collar is provided with a wing S′, from which a lug S″ extends and bears normally against a projection K″, extending rearward from the outer end of the part K′. A weight R is adjustably placed on the part P of the lever. This lug S″ holds the sliding base K′ normally in and the gear H′ in closest engagement with the gear E′ by means of the weighted lever P P′, and also acts as a stop when the lever is swung up, preventing the sliding base from disengagement therewith and the gear-wheels from becoming disengaged from each other. Guide-rolls T bear against the rail U.

When the sliver is conducted between the rolls F N by the guide V, the roll N is pressed back horizontally against the power of the weight R, the base K′ sliding in the ways L L′, pushed by the lug S″. The weight is adjusted on the lever with relation to the size of the sliver. Thus the tension or pressure on the sliver is practically uniform and kinking is prevented.

When the feed-rolls, or either of them, are formed with ordinary spur-gear, the stock is very liable to catch on the edge of the rolls. In this improvement I preferably make one roll plain, and the roll F has plain peripheral edges, while centrally on its surface on lines with its axis are parallel elliptical depressions F′, whose ends are at appreciable distances from the edges of the wheel. This leaves the

edges of the wheel perfectly smooth and at the same time provides means for engaging and feeding in the sliver without catching and holding it.

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

1. In a feeding mechanism for carding-machines, a traveling distributing-carriage; a feed-roll mounted on a shaft having bearings in a stationary bracket supported by the carriage; a bracket adapted to slide horizontally with relation to the first-named bracket; a feed-roll mounted on a shaft having bearings in the said sliding bracket, whereby the feed-roll mounted therein is adapted to move horizontally toward and from the first-named feed-roll as the sliver passes between the rolls; and a weighted lever pivoted to the carriage and engaging with the said sliding bracket and thereby holding the feed-roll sustained by said bracket normally against the feed-roll sustained by the stationary bracket, substantially as set forth.

2. In a feeding mechanism for carding-machines, a traveling distributing-carriage; a feed-roll mounted on a shaft having bearings in a stationary bracket supported by said carriage; a bracket provided with a horizontal extension adapted to slide horizontally in ways in said carriage; a feed-roll mounted on a shaft having bearings in said sliding bracket; a weighted lever pivoted to the carriage; a projection extending from the inner end of said horizontal extension; a lug extending from the inner end of the lever and engaging with said projection; and mechanism for actuating the shaft upon which the feed-rolls are mounted, substantially as and for the purpose specified.

EDDO V. BATES.

Witnesses:
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