F. E. SMITH.

COTTON-GIN FEEDERS.

No. 194,738. Patented Aug. 28, 1877.

Fig. 1.

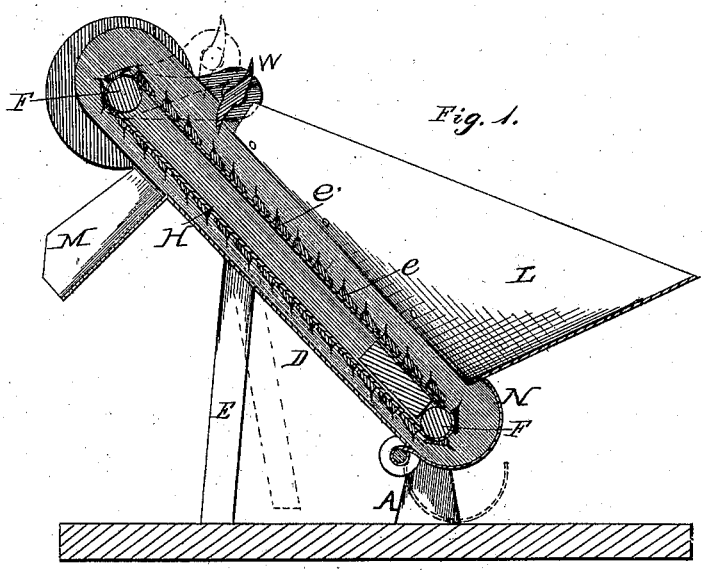

Fig. 2.

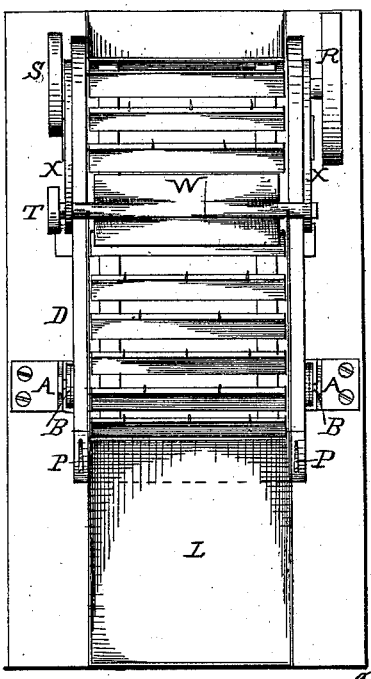

Fig. 3.

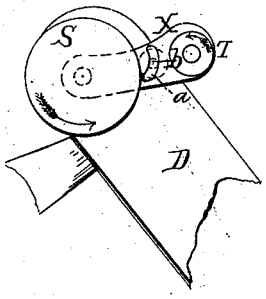

Fig. 4.

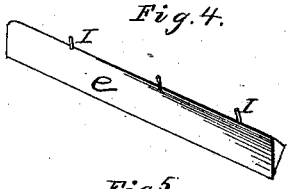

Fig. 5.

WITNESSES;

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Chas. G. Gill

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By his Att'ys,

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UNITED STATES PATENT OFFICE.

FERDINAND E. SMITH, OF PRATTVILLE, ALABAMA.

IMPROVEMENT IN COTTON-GIN FEEDERS.

Specification forming part of Letters Patent No. **194,738**, dated August 28, 1877; application filed July 6, 1877.

To all whom it may concern:

Be it known that I, FERDINAND E. SMITH, of Prattville, in the county of Autauga and State of Alabama, have invented a new and useful Improvement in Cotton-Gin Feeders, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improvement in cotton-gin feeders; and consists in the mechanism hereinafter described, the object being to supply a suitable means for feeding cotton to the gin.

Figure 1 is a central vertical longitudinal section of a device embodying the elements of the invention. Fig. 2 is a top view of same. Fig. 3 is a side detached view of the upper part of the elevator-frame. Fig. 4 is a perspective view of one of the endless elevator-slats; and Fig. 5 is a transverse section of same.

In the accompanying drawings, A represents the standards, between the upper ends of which, on the trunnions B, is mounted the forward portion of the elevator-frame D, so as to have a free oscillatory motion, the rear end being provided with the standards E, which are pivoted to the said frame and rise and fall with it, oscillating on their bearings and assuming the inclination of the frame. Thus when the elevator is brought forward on the trunnions B, they will swing down against the sides of the said frame, and be out of the way when the operator has to open or clean the gin, or pass between the gin and feeder.

At each end of the frame D is mounted a roller, F, upon and over which revolves the endless elevator-belt H, the transverse slats of which carry the teeth I at such an inclination that, when the belt is in proper position in front of the gin, they will stand perpendicularly, and can thereby readily elevate the cotton.

The upper front end of the frame D is furnished with a hopper, L, into which the cotton is placed preparatory to being conveyed to the gin.

The under surface of the elevator is covered by a piece of zinc, or other suitable material, as shown, which terminates at its upper end with a chute, M, down which the cotton passes as it is discharged.

At the lower end of the frame D is hinged the door N, which, when closed, forms a box for the reception of sand, or any other trash that may be in the cotton in the hopper. The door N may be opened or closed at will by the insertion or removal of the pins P.

The ends of the axle of the rear roller F are provided with band-wheels R S, the wheel R to receive the motive power, and the wheel S to communicate motion through a suitable belt to the wheel T, and thence to the revolving winged roller W, which is loosely mounted in the front ends of the adjustable bearings X, the other ends being secured on the axle of the rear roller F. At proper points on their sides the bearings X are provided with enlarged apertures or elongated slots *a*, in which are inserted the pins or screws *b*, of lesser dimensions, and furnished with washers to prevent the bearings slipping over the pins. Thus the front ends of said bearings can be raised or lowered at will, thereby regulating the thickness of the bat of cotton passing beneath the winged roller W.

The transverse slats *e* of the endless elevator-belt are made narrow on their front edges, and broad on their rear portions, and are supplied on the apex of the inclination at their upper rear edges with the teeth I, hereinbefore mentioned. It is obvious that while the said slats and teeth answer admirably to elevate cotton, they could not retain trash, and would cause all such foreign matter to be precipitated to the box at the lower end of frame D, whence it can be removed through door N.

It is also obvious that the gearing or driving mechanism could be changed or altered, without materially affecting the object of the invention.

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

1. The frame D, provided with hopper L, chute M, and door N, as set forth.

2. The winged roller W, mounted upon the adjustable bearings X, in combination with an elevator-belt having inclined spiked slats, as set forth.

In testimony that I claim the foregoing improvement in cotton-gin feeders, as above described, I have hereunto set my hand.

FERDINAND E. SMITH.

Witnesses:

J. W. MATHEWS,

J. A. SMILEY.