

(No Model.)

2 Sheets—Sheet 1.

T. F. MARLOW.
COTTON GIN FEEDER.

No. 586,778.

Patented July 20, 1897.

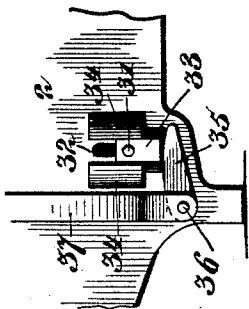


Fig. 5.

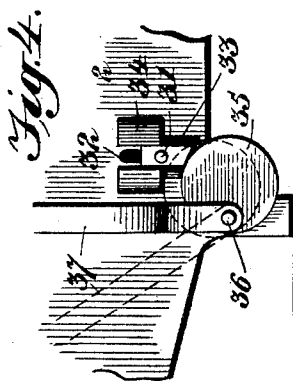


Fig. 4.

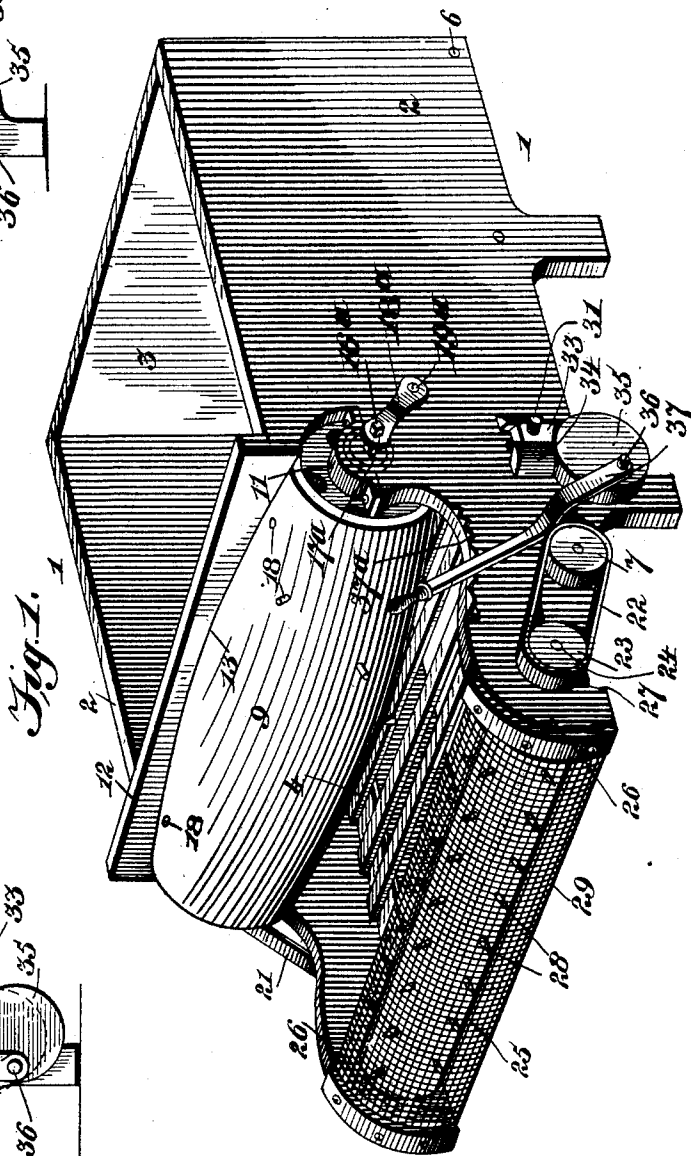


Fig. 1.

Inventor

Thomas F. Marlow

Witnesses

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By his Attorneys,

C. A. Snow & Co.

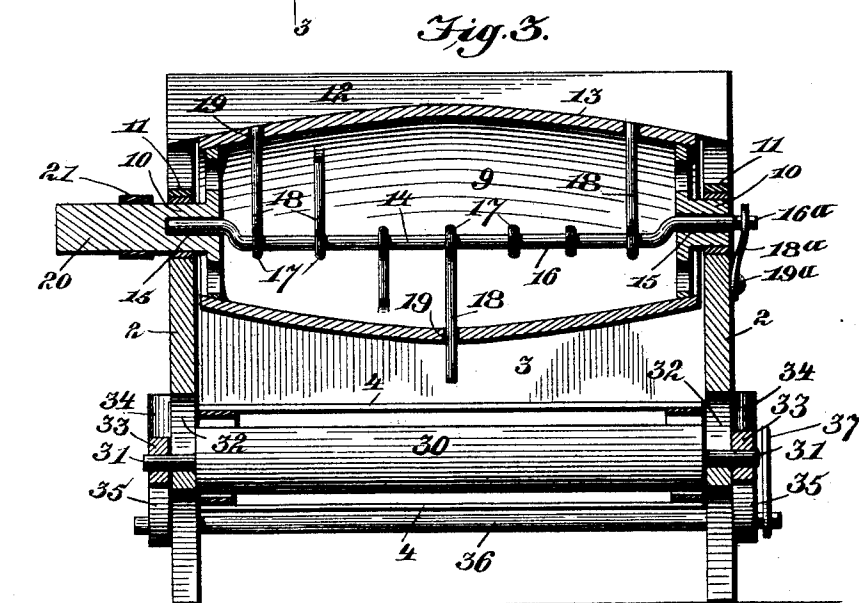
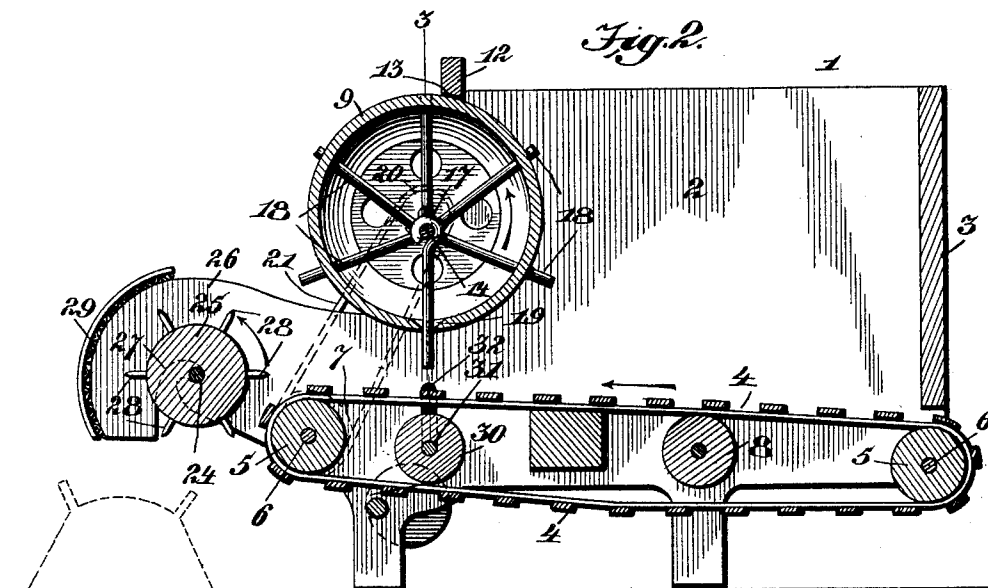
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UNITED STATES PATENT OFFICE.

THOMAS F. MARLOW, OF GADDSSEN, ALABAMA.

COTTON-GIN FEEDER.

SPECIFICATION forming part of Letters Patent No. 586,778, dated July 20, 1897.

Application filed August 24, 1896. Serial No. 603,749. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. MARLOW, a citizen of the United States, residing at Gaddsen, in the county of Etowah and State of Alabama, have invented a new and useful Cotton-Gin Feeder, of which the following is a specification.

This invention relates to cotton-gin feeders; and it has for its object to effect certain improvements in feeders of this class that are designed for evenly feeding or distributing seed-cotton to a cotton-gin.

To this end the main and primary object of the invention is to provide a construction of gin-feeder having simple and efficient means for feeding the seed-cotton to the gin in regulated quantities and so distributed as to insure a closer cleaning of the seed in the gin without the cutting of the fiber or lint.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a gin-feeder constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a vertical transverse sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail elevation at one side of the machine, showing the adjusting device for the feed-regulating roller. Fig. 5 is a similar view showing a modified form of cam for adjusting the feed-regulating roller.

Referring to the accompanying drawings, the numeral 1 designates a substantially rectangular feed-box adapted to be arranged on top of a gin in the usual manner and designed to be filled with seed-cotton to be distributed or delivered into the roll-box of the gin. The feed-box essentially comprises opposite parallel sides 2, connected together at one end by an end piece 3, forming the end wall for inclosing the hopper portion of the box that receives the seed-cotton. The box 1 accommodates for travel within the lower portion thereof an endless-slat feed-apron 4, arranged to travel in an approximately horizontal plane and mounted on the oppositely-located apron-rollers 5. The oppositely-

located apron-rollers 5 are arranged transversely between the box sides 2, respectively, at opposite ends of the box, and the spindle extremities 6 of said rollers turn in suitable bearings formed in said box sides 2. The spindle extremities 6 of the roller 5 opposite the end walls 3 of the box have mounted thereon outside of the box the belt-pulleys 7, the function of which will be presently referred to. The upper portion of the slat feed-apron 4 is prevented from undue sagging between the oppositely-located apron-rollers 5 by the employment of an idler supporting-roller 8, mounted transversely of the box 1 and arranged between the upper and lower portions of the apron to support for travel thereon the said upper portion of the apron, as clearly illustrated in Fig. 2 of the drawings.

The cotton which is introduced into the feed-box 1 onto the apron 4 is carried by the latter under a horizontal ovoidal or barrel-shaped distributing-drum 9. The ovoidal or barrel-shaped distributing-drum 9 is disposed transversely above the apron 4, and is provided at its opposite ends with the journal-hubs 10, turning in the bearing-boxes 11, arranged at opposite sides of box 1, and said transversely-arranged ovoidal or barrel-shaped distributing-drum rotates beneath a transverse guard-bar 12, connecting the opposite sides of the box at a point opposite and parallel with the end wall 3 and provided with a concave lower edge 13, which conforms to and closely follows the contour of the exterior periphery of the said drum 9. The said drum 9, by reason of its ovoidal or barrel shape, is of a greater diameter at its central portion than at its opposite ends, so therefore said central portion of the drum always maintains a closer proximity to the apron than the said end portions of the drum, as clearly shown in Fig. 3 of the drawings.

While the journal-hubs 10 of the distributing-drum provide for the bearing-support thereof, the said drum is designed to rotate on a stationary crank-shaft 14. The stationary crank-shaft 14 is arranged longitudinally within the hollow drum 9 and has its opposite spindle extremities 15 loosely fitting in the said journal-hubs 10 of the drum, and one of the spindle extremities 15 of the stationary

crank-shaft 14 is projected through one of the journal-hubs 10 and is provided at such end with a squared tip 16^a, adapted to be received in a correspondingly-shaped opening 17^a, formed in one end of a latch-plate 18^a, secured at its other end, as at 19^a, to the outer face of one of the sides of the feed-box and serving to lock the shaft 14 in a fixed position to prevent it from rotating with the distributing-drum. The shaft 14 is formed between its spindle extremities 15 with a wide crank portion 16, which loosely receives thereon the eyes 17 at the inner ends of the retracting distributing-fingers 18, the outer portions of which slide through the openings 19, formed in the shell of the drum. The bend of the crank portion 16 is below the plane of the spindle extremities 15, so that when the distributing-fingers 18 reach a position directly above the apron the same will then have their greatest projection beyond the periphery of the drum, while the said bend or crank portion 16 is sufficient to entirely retract the distributing-fingers within the drum as such fingers are carried by the drum under the guard-bar 12. The said distributing-fingers 18 are preferably arranged in regular spiral order in order to exert a uniform spreading or distributing action on the cotton from side to side of the apron 4, which carries the same.

One of the journal-hubs 10 of the distributing-drum is provided with a pulley extension 20, adapted to receive the drive-belt for operating the feeder and also the belt 21, which passes over one of the belt-pulleys 7 to provide for operating the feed-apron, while the opposite belt-pulley 7 of the forward apron-roll 5 has arranged thereover a short operating-belt 22, which passes over a belt-pulley 23, mounted on one of the shaft extremities 24 of the transverse delivery picker-roll 25. The picker-roll 25 is arranged transversely between the extensions 26 of the box sides, and said extensions 26 of the sides of the box are provided in their lower edges with the reentrant curved or C-shaped bearing-slots 27, which detachably receive for rotation therein the opposite shaft extremities 24 of the roll 25. The said roll 25 is provided with a peripheral series of spikes or teeth 28 and is disposed in a slightly higher plane than the adjacent end portion of the endless feed-apron 4, and beyond the outer side of said roll is arranged a segmental or curved screen-hood 29, which serves to deflect the cotton down into the roll-box of the gin and prevent it from being thrown beyond and outside of the gin-breast.

At a point below the drum 9 and between the upper and lower portions of the apron 4 is arranged a vertically-adjustable feed-regulating roller 30, the opposite shaft extremities 31 of which play in the vertical slots 32, formed in opposite sides of the feed-box, and said shaft extremities 31 have fitted thereon at the outer sides of the box the dovetailed slide-blocks 33, which work between the ver-

tically-disposed dovetailed guides 34, secured on the sides of the feed-box. Working below the slide-blocks 33 on the shaft ends of the roller 30 are the cam-arms 35, mounted on the opposite extremities of an adjusting-shaft 36, journaled transversely in suitable bearings below the apron 4 and having fitted to one end the lower end of a hand-lever 37, working at one side of the feed-box and adapted to engage with the teeth of a toothed catch-plate 37^a, fitted to one side of the feed-box and providing means for holding the lever in any adjusted position.

The cam-arms 35 may be of any suitable form, such as illustrated in Figs. 4 and 5 of the drawings, said arms in Fig. 4 being illustrated as having the shape of an eccentric or cam disk, while in Fig. 5 of the drawings said arms 35 are illustrated as being simply short plates having curved or cam faces to accomplish desired adjustment of the blocks 33, carrying the shaft of the roller 30.

During the operation of the feeder it will be obvious that by reason of the ovoidal or barrel shape of the distributing-drum 9 a greater quantity of cotton will pass under the end portions of said drum than under the central enlarged portion, thereby causing the roll-box of the gin to be fed heavier at the ends than at the center. By reason of having the larger portion of the cotton falling into the gin roll-box at each end the cotton is forced to cross the saws in working toward the middle of the gin and the seed is thereby cleaned very close without cutting the fiber or lint. During the rotation of the drum the distributing-fingers 18 will be carried into the cotton on the apron and distribute or scatter the same thereon, while by the retraction of the fingers within the drum and the movement of the latter directly under the guard-bar 12 the said drum and fingers will automatically relieve themselves of clinging cotton, as will be readily understood by those skilled in the art.

The delivery picker-roll 25 lifts the cotton from the adjacent end portion of the apron, and in this operation will allow hard substances, such as rocks and the like, to fall down onto the gin between the picker-roll and the apron, while the cotton will be carried over against the hood 29 and deflected thereby into the roll-box of the gin.

By manipulating the hand-lever 37 the roller 30 may be carried against the upper portion of the apron 4 to vary the distance between the apron and the rotating distributing-drum 9, so as to control the feed of the cotton to the gin.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a gin-feeder the feed-box, an endless feed-apron arranged to travel within the lower portion of the box, and a horizontal ovoidal or barrel-shaped distributing-drum arranged transversely above the apron, the greater diameter of the drum being at a point centrally between its ends to permit a greater quantity of cotton to pass under the end portions of the drum, whereby the roll-box of the gin may be fed heavier at its ends than at the center, substantially as described.

2. In a cotton-gin feeder, the combination of the feed-box having opposite side extensions at one end provided in their lower edges with upwardly-extending reëntrant curved bearing-slots, a feed-apron mounted for travel within the lower portion of the box, a hori-

zontal drum mounted for rotation over the apron and carrying distributing-fingers, a spiked delivery picker-roll having its shaft extremities detachably resting in the upper ends of said curved bearing-slots of the side extensions, and a segmental screen-hood fitted on the outer ends of said side extensions beyond and concentric with the outer side of the picker-roll, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS F. MARLOW.

Witnesses:

T. B. GWIN,

J. B. WAMPLER.