

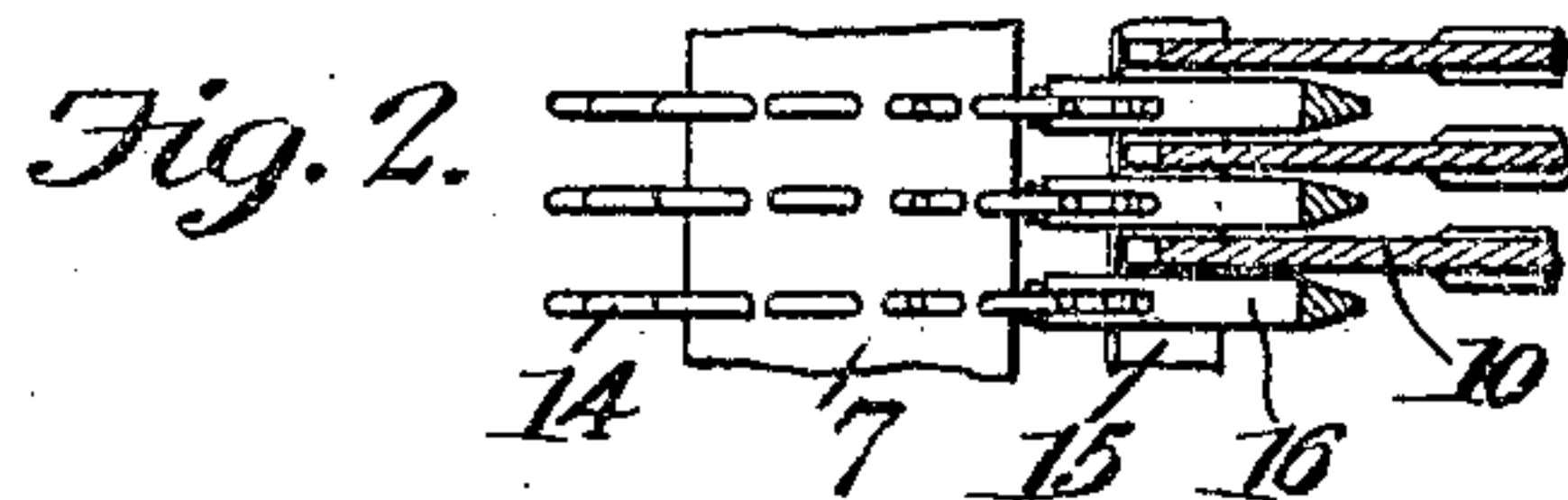
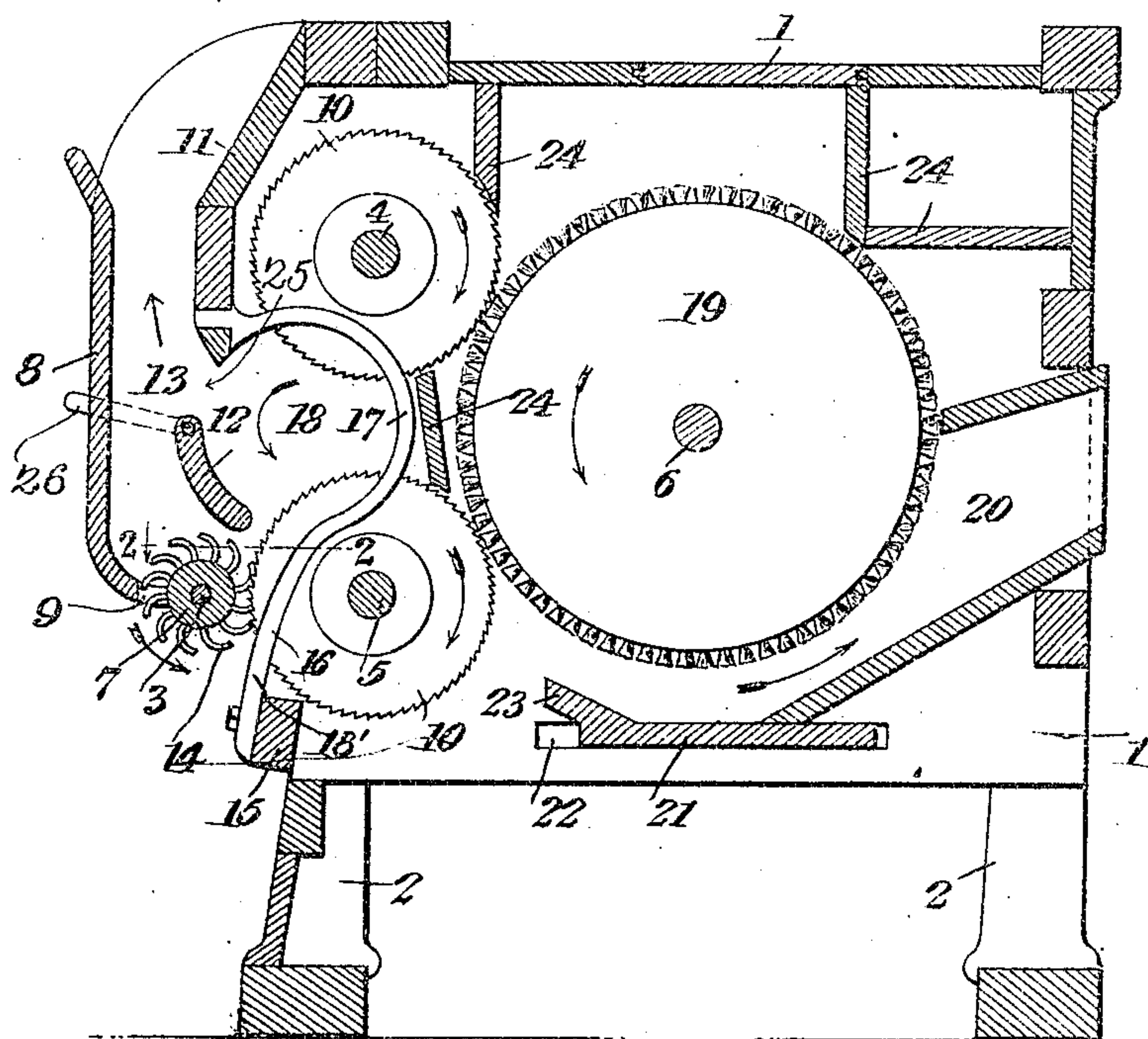
No. 825,341

PATENTED JULY 10, 1906.

W. F. OVERMYER.  
COTTON GIN.

APPLICATION FILED SEPT. 11, 1905.

Fig. 1.



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# UNITED STATES PATENT OFFICE.

WILLIAM F. OVERMYER, OF BEECHWOOD, MISSISSIPPI.

## COTTON-GIN.

No. 825,341.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed September 11, 1905. Serial No. 277,938.

*To all whom it may concern:*

Be it known that I, WILLIAM F. OVERMYER, a citizen of the United States, residing at Beechwood, in the county of Amite and State of Mississippi, have invented a new and useful Cotton-Gin, of which the following is a specification.

This invention relates to machines for ginning cotton and for delinting cotton-seed; and the objects of the invention are to simplify and improve the construction and operation of this class of devices, to increase the capacity for work, and to provide an improved construction under which two sets of saws may operate simultaneously upon a seed-cotton roll formed and supported in a space adjacent to the two sets of saws.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the said drawings, Figure 1 is a vertical sectional view taken longitudinally through a machine constructed in accordance with the principles of the invention. Fig. 2 is a sectional detail view taken on the plane indicated by the line 2 2 in Fig. 1.

Corresponding parts in both the figures are indicated throughout by similar characters of reference.

The casing 1 of the improved machine is supported upon legs or uprights 2 2, and said casing is provided with bearings for transverse shafts 3, 4, 5, and 6. The shaft 3, which carries a spiked roller 7, is located in the bottom of the cotton box or hopper 8, into which the seed-cotton or material that is to be operated upon is fed in any suitable convenient manner, the bottom of said feed-box being provided with a slot 9, in which the spiked roller is located and through which the teeth of said roller may operate. The shafts 4 and 5 are the upper and lower saw-carrying shafts, each of which is equipped with saws 10, of ordinary construction. The

saws upon the upper shaft are separated from the feed-box by a partition 11, extending downwardly and terminating at a distance from the bottom of the feed-box. In the space between the lower end of the partition 11 and the bottom of the feed-box is pivoted a curved seed-board 12, said board being pivoted upon a transverse pin or shaft 13, which is located slightly in advance of the partition 11, and the lower edge of said seed-board being extended almost within reach of the teeth 14 upon the spiked roller and in the direction of the peripheries of the saws upon the lower saw-shaft.

The casing of the machine includes a cross-brace 15, which is located in front of the lower extremities of the lower saws, and said cross-brace serves for the attachment of the lower ends of the ribs 16, constituting the breast, the upper ends of said ribs being connected with the lower end of the partition 11. The upper ends of the ribs are curved approximately semicircularly, as shown at 17, said curved portions engaging between the saws upon the shafts 4 and 5 and extending rearwardly between the axes of the shafts and beyond a plane connecting the axes, the lower portions 18' of the ribs being extended downwardly between the lower saws and made fast to the cross-piece 15. The curved portion 17 of the ribs coöperates with the curved seed-board 12 to form the roll-chamber 18.

The shaft 6 supports a brush-cylinder 19, the bristles of which operate to remove the lint from both sets of saws, the lint being blown into the lint-flue 20, adjacent to the lower end of which is the mote-board 21, which is supported for longitudinal adjustment in the sides of the casing, each of which is provided with a slot 22 for this purpose. The mote-board, which may be regarded as constituting the lower extremity or a forward extension of the lint-flue, has at its front edge an upwardly-inclined flange 23, over which the lint is guided to the flue.

The interior of the casing is provided with suitably-disposed wind-boards 24 for the purpose of preventing air from circulating with the brush-cylinder when the latter in operation is rotated at a high speed.

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection with the drawings, by those skilled in the art to which it appertains. The shafts carrying



the spiked roller, the saws, and the brush-cylinder are rotated in the direction indicated by arrows, the spiked roller being operated at moderate speed, the saws at the usual high speed, and the brush-cylinder at a speed exceeding that of the saws, from which, in the usual manner, it serves to detach the lint. When the seed-cotton fed into the feed-box reaches the lower end of said box, it is laid hold of by the spiked cylinder and carried into engagement with the lower saws, whereby it is carried upward and into the roll-chamber 18 the lower saws detaching a portion of the lint. As the feeding of material is continued a roll is formed within the chamber 18, where it is rotated by the action of the two sets of saws in the direction indicated by an arrow, the curved seed-board 12 affording a supporting means which is smooth and properly shaped to support the roll and to enable it to be freely and continuously rotated by the action of the saws of both sets, which gradually strip the lint from the seeds, being themselves denuded of the lint by the rotary brush. As long as lint adheres to the seeds they will be carried around with the roll, but when they have been entirely stripped they will slide over the lower edge of the seed-board, between the lower saws, and over the lower ends of the ribs beneath the spiked roller, the seeds being disposed of in any suitable manner.

Not necessarily all of the cotton is fed to the saws under the lower edge of the seed-board, the upper edge of which is so spaced from the breast and from the partition 11 that an opening or passage 25 remains, through which cotton may pass into the roll-chamber and thence into engagement with the saws. The pivoted seed-board may be manipulated by a handle 26, connected therewith.

The operation of this machine is continuous, and the feeding of cotton may be kept up without intermission, discretion being of course exercised as to the rapidity with which the cotton is fed. It will be observed that the upper and lower sets of saws will operate upon the cotton-roll in precisely the same manner and that the capacity of the machine will be practically double that of machines equipped with only one set of saws. This is considered of extreme importance, not only inasmuch as it effects a large saving in the cost of machinery, but also in the space required for the accommodation thereof.

Having thus described the invention, what is claimed is —

1. In a cotton-gin, a casing having a feed-hopper, a spiked roller supported for rotation in the bottom of said hopper, upper and lower saws, carrying-shafts therefor supported for rotation in rear of the hopper, a partition separating the saws upon the upper shaft from the hopper and extending downwardly in front of the said upper saws, and a seed-board

supported pivotally between the lower edge of said partition and the spiked roller and separated from the partition by a passage through which seed-cotton can feed directly to the saws.

2. In a cotton-gin, a feed-box, two sets of saws disposed one above the other in rear of said feed-box, a pivotally-supported curved seed-board constituting a portion of the rear wall of the hopper, and a breast composed of substantially semicircular ribs having their curved portions extending between the saws of both sets to a point at the rear of the plane connecting their axes and cooperating with the seed-board to form a roll-chamber between the two sets of saws.

3. In a cotton-gin, a plurality of sets of saws, a breast comprising ribs having curved portions extending between the saws of the several sets and into the space between the axes of rotation of the saws, a feed-hopper in front of the saws, a curved seed-board operating in conjunction with the ribs constituting the breast to form a substantially cylindrical roll-chamber located in front of and between the sets of saws, and a spiked roller supported for rotation in the bottom of the feed-hopper and operating to carry the contents of the latter downwardly and rearwardly into engagement with the lower set of saws.

4. In a cotton-gin, a plurality of sets of saws, a feed-hopper in front of the saws, a gin-breast and a seed-board forming a roll-chamber independent of the hopper and located between the sets of saws, means for carrying the contents of the feed-hopper in a downward and rearward direction into engagement with the lowermost set of saws and thence into the roll-chamber to be acted upon by both sets of saws, a cylindrical rotary brush engaging the several sets of saws, and a lint-flue.

5. In a cotton-gin, two sets of saws arranged in non-interlapping relation, a feed-hopper in front of them, a partition between the hopper and one of the sets, a gin-breast comprising ribs secured at their upper ends to the partition and curved therefrom rearwardly under one set and forwardly and downwardly over the other set of saws, a seed-board cooperating with the ribs to form a roll-chamber between the sets of saws and separate from the feed-hopper, and a spiked roller located at the bottom of the hopper for conveying the contents thereof to the lower set of saws at a point outside of the roll-chamber.

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

WILLIAM F. OVERMYER.

Witnesses:

J. R. LINDSAY,  
J. M. SMITH.