May 3, 1955 F. M. WAGNON 2,707,364

COTTON HARVESTING AND CLEANING MACHINE

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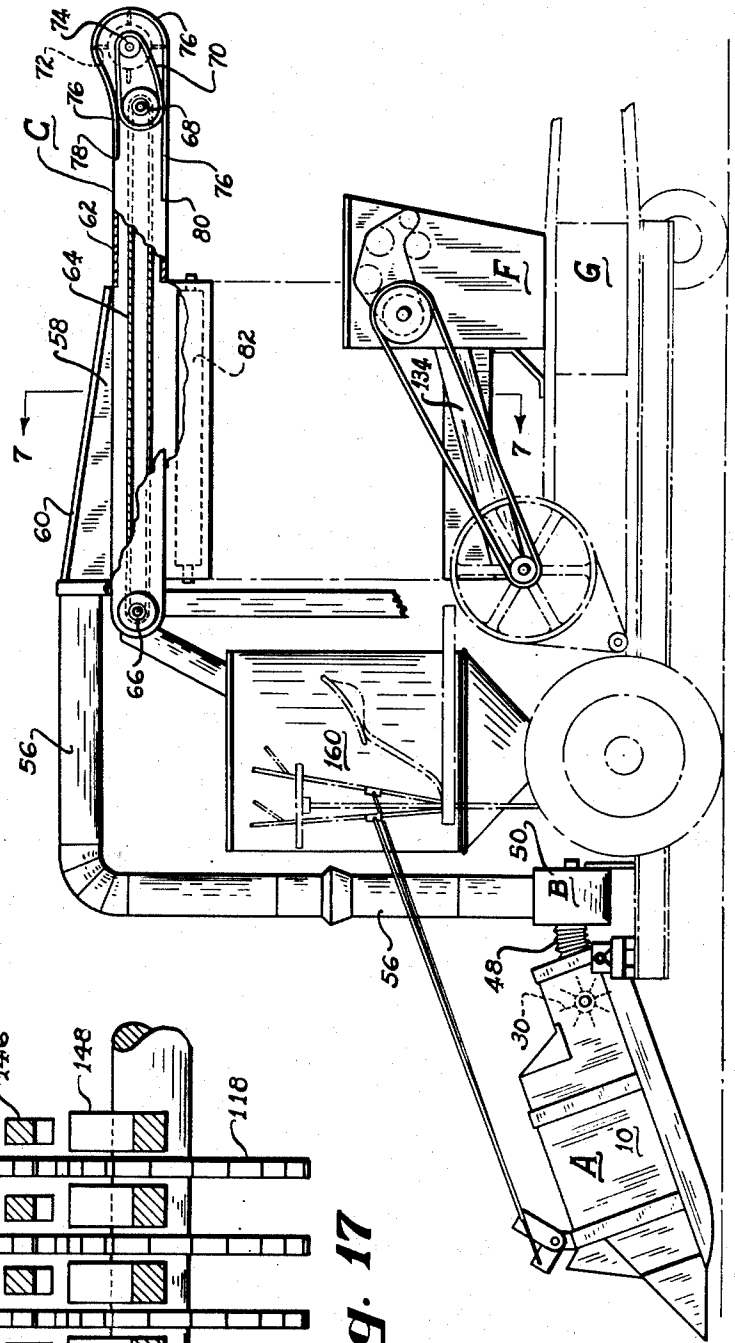


Fig. 1

Fig. 17

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COTTON HARVESTING AND CLEANING MACHINE

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Fig 2

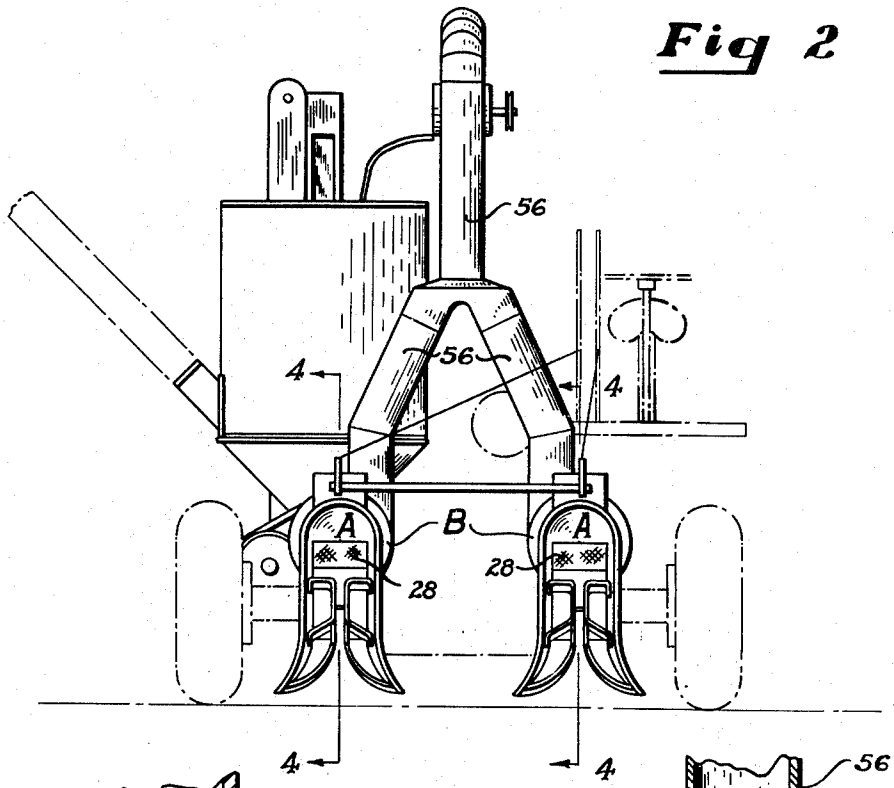
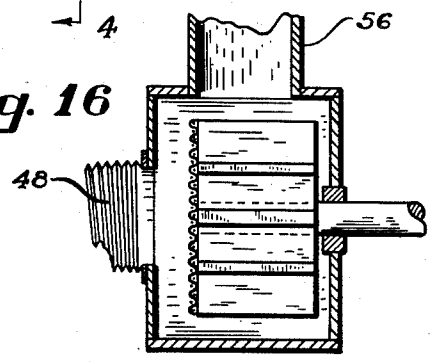


Fig. 16



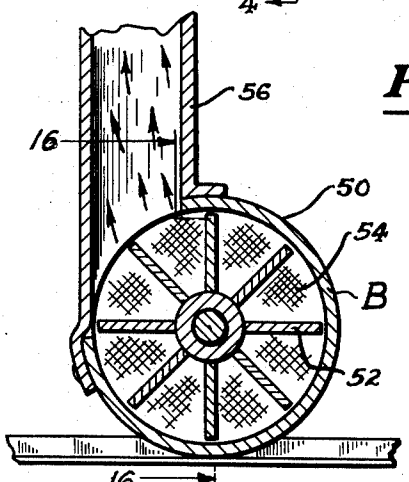


Fig. 15

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COTTON HARVESTING AND CLEANING MACHINE

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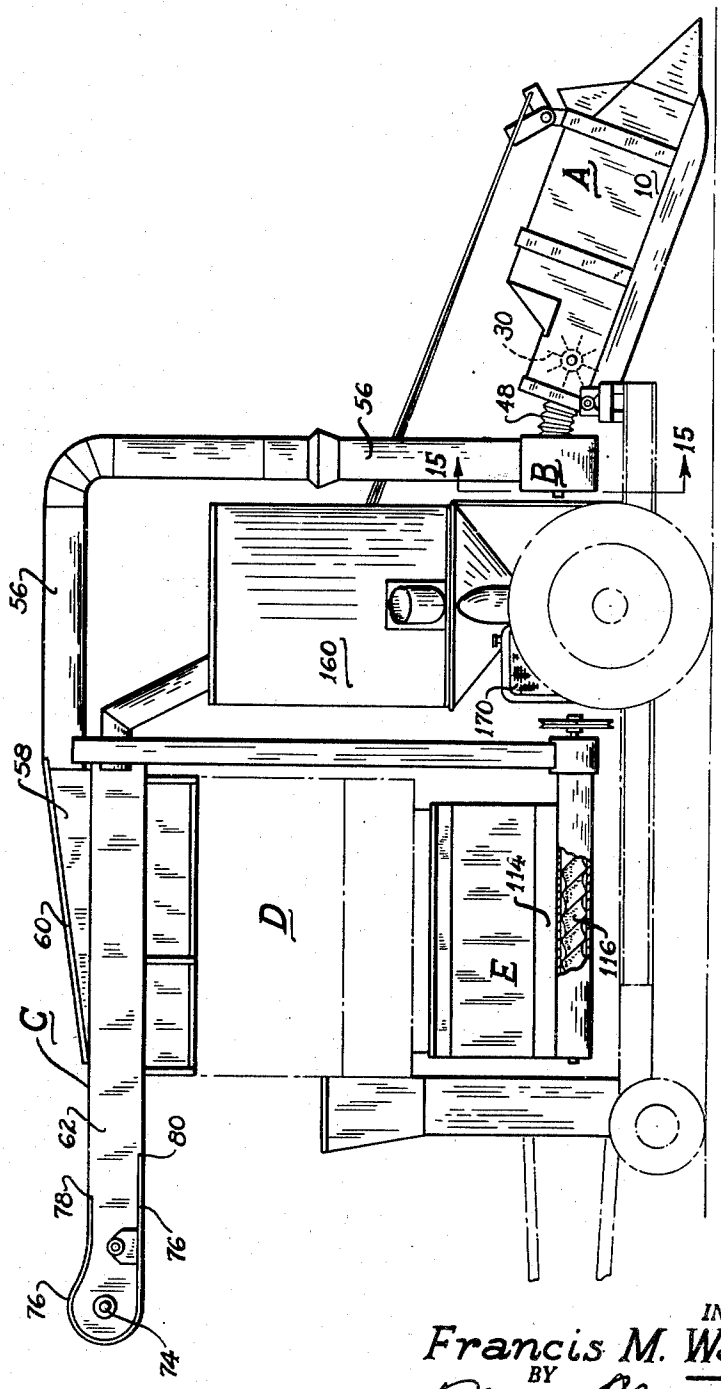


Fig. 3

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COTTON HARVESTING AND CLEANING MACHINE

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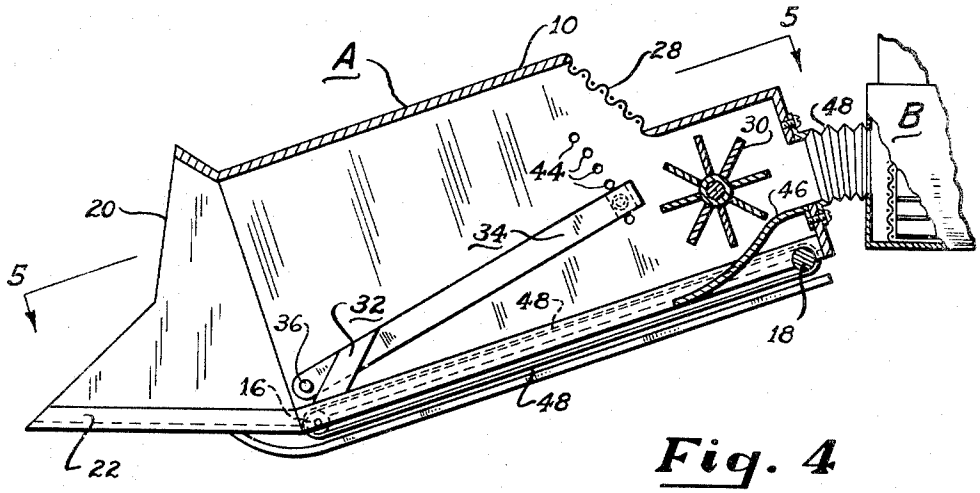


Fig. 4

Fig. 5

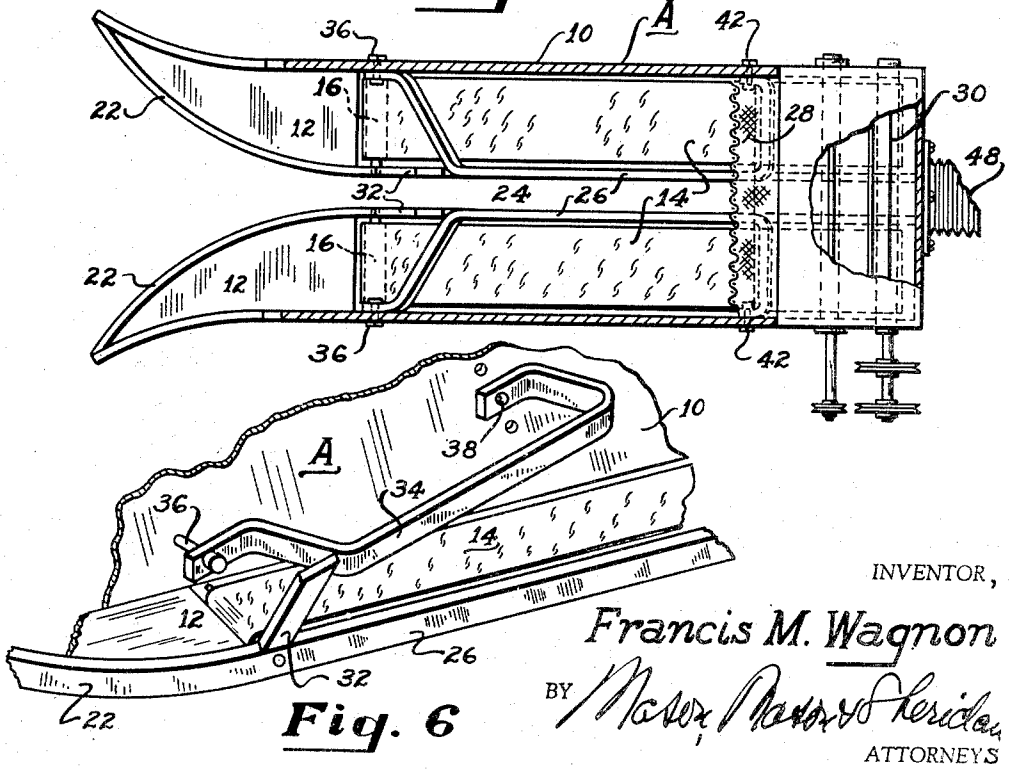


Fig. 6

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COTTON HARVESTING AND CLEANING MACHINE

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Fig. 7

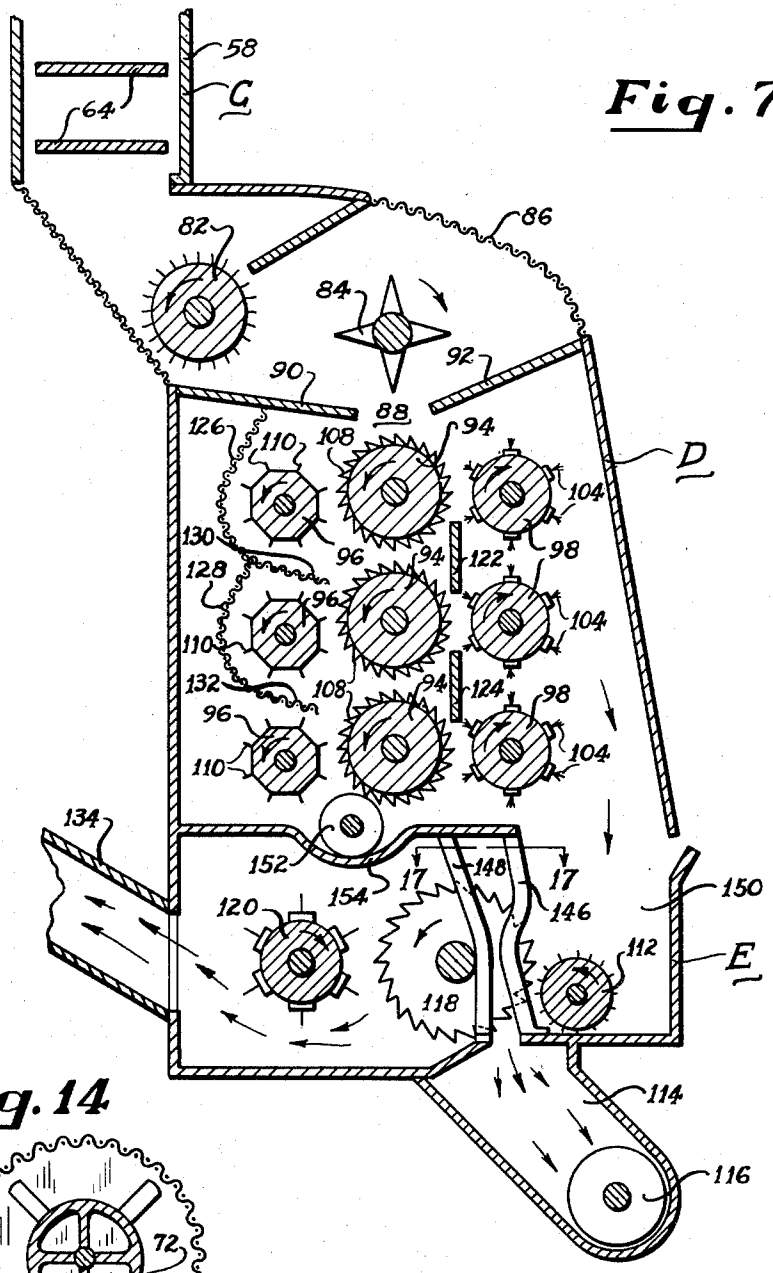
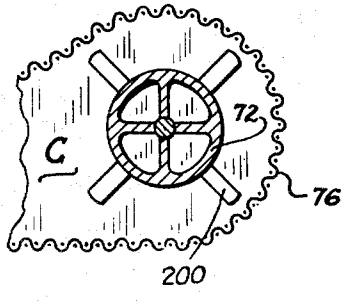


Fig. 14



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COTTON HARVESTING AND CLEANING MACHINE

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Fig. 8

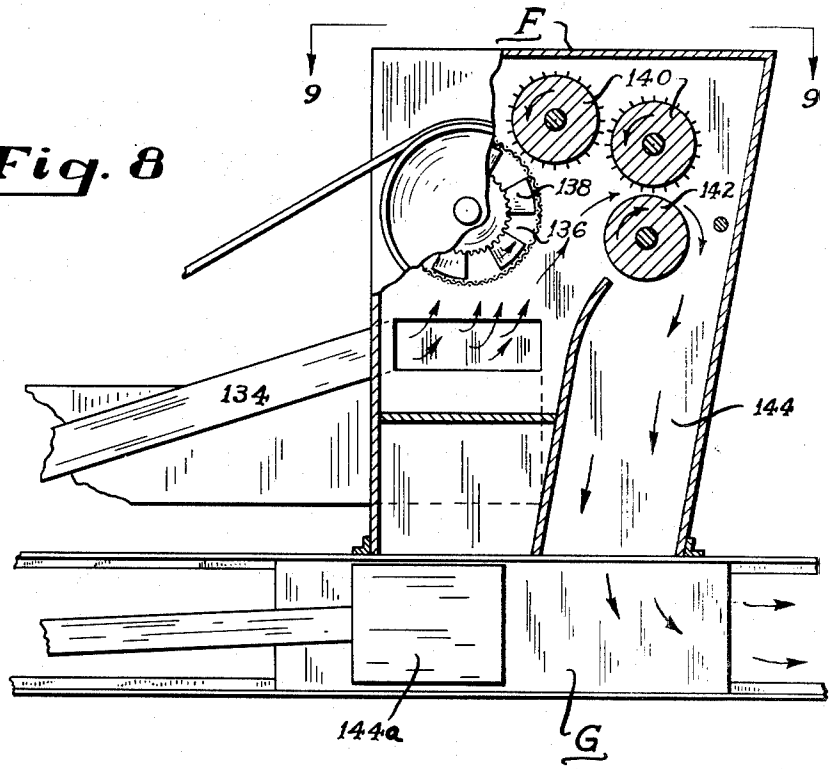
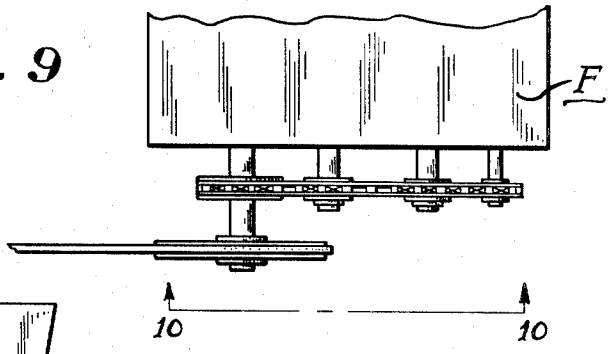


Fig. 9



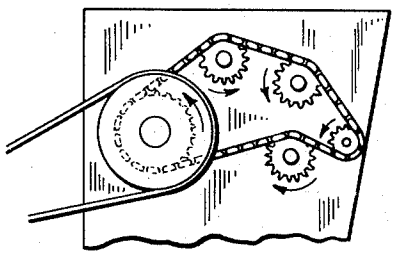


Fig. 10

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COTTON HARVESTING AND CLEANING MACHINE

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Fig 11

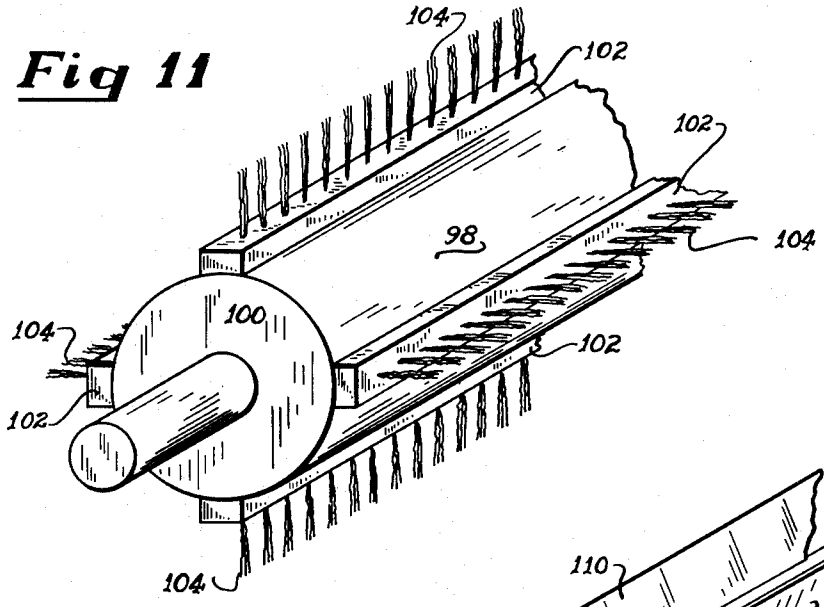


Fig. 12

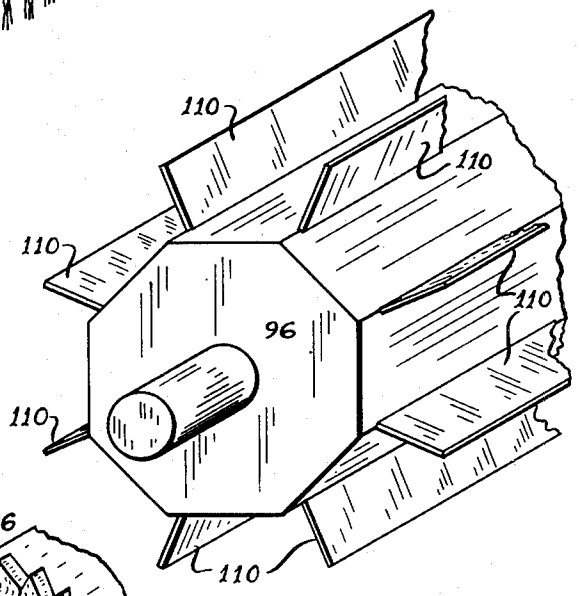
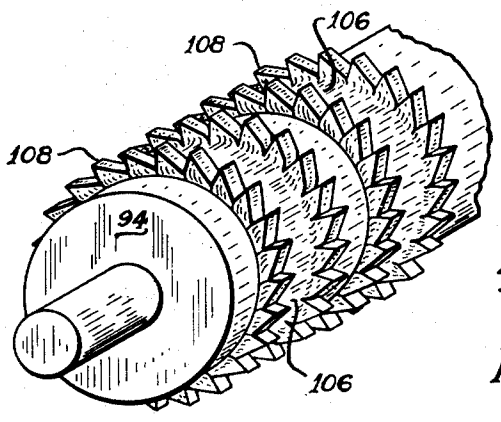


Fig. 13



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United States Patent Office

2,707,364

Patented May 3, 1955

2,707,364

COTTON HARVESTING AND CLEANING MACHINE

Francis M. Wagnon, Childress, Tex.

Application February 12, 1954, Serial No. 409,927

16 Claims. (Cl. 56—30)

The present invention relates to improvements in a cotton harvester.

Broadly speaking, the principal object of the present invention is to improve and enlarge upon the structural features disclosed in my Patent No. 2,672,719, granted March 23, 1954, as well as to provide additional features of construction.

A further object of the invention is to provide an improved cotton stripper mechanism.

An additional object is to provide means in combination with stalk stripper means for conveying the cotton and extraneous material, and to separate the cotton from said material during transit of the same from the stalk stripper means to a cotton boll separating and cleaning mechanism.

Another object is to provide in combination with a cotton stalk stripping mechanism and conveying mechanism a cotton boll separating mechanism.

A further object is to provide an improved conveyor belt mechanism in combination with blower mechanism whereby the cotton is caused to roll along, in combination with a boll breaker.

Yet another object is to provide in combination with one or more of the foregoing mechanisms, a gin stand.

An additional object is to provide a cotton baler in combination with the cotton stalk stripper mechanism and one or more other mechanisms.

A further object is to provide a method of harvesting cotton in a continuous operation including the steps of removing the cotton from the stalks, conveying the cotton, breaking the bolls, separating the cotton from debris and bolls, ginning the cotton, and compressing the same into bales.

Other objects will appear hereinafter throughout the specification.

In the drawings:

Figure 1 is a side elevation of one side of the machine with parts broken away and shown in section;

Figure 2 is a front elevation of the structure shown in Figure 1;

Figure 3 is a side elevation of the machine shown in Figure 1, but from the opposite side thereof with parts broken away and shown in section;

Figure 4 is an enlarged vertical sectional view taken on the line 4—4 of Figure 2, of the cotton stripping mechanism and parts associated therewith;

Figure 5 is a horizontal sectional view taken on the line 5—5 of Figure 4;

Figure 6 is an enlarged detail view of parts of the stripper mechanism and one of the conveyor belts forming a part of said stripper mechanism;

Figure 7 is a vertical sectional view taken on the line 7—7 of Figure 1 of the cotton boll separating and cotton cleaning mechanism;

Figure 8 is a side elevational view with parts broken away and shown in section of the cotton condenser and cotton press box or baling mechanism;

Figure 9 is a top plan view partly broken away of the drive means for the condenser shown in Figure 8;

Figure 10 is a side elevational view of the drive mechanism of the structure shown in Figure 9;

Figure 11 is an enlarged perspective view partly broken away of one of the brushes shown in Figure 7;

Figure 12 is an enlarged perspective view partly broken away of one of the strippers or burr extractors shown in Figure 7;

Figure 13 is an enlarged perspective view partly broken away of one of the saws shown in Figure 7;

Figure 14 is an enlarged side elevational view partly in section and partly broken away, of the boll breaker shown in Figures 1 and 3;

Figure 15 is an enlarged vertical section of a blower unit taken on the line 15—15 of Figure 3; and

Figure 16 is a section of the device taken on the line 16—16 of Figure 15.

Figure 17 is an enlarged detail of the ginning mechanism shown adjacent the lower end of Figure 7 and looking from right to left, with parts shown in section.

This cotton harvester is constructed to strip the cotton from the stalks, convey it along with any debris and the cotton bolls, and separate the cotton therefrom in transit. Means is provided for breaking the cotton bolls and further separating and cleaning the cotton, subjecting the cotton to the action of a gin stand, and finally after the cotton has been carded, subjecting the cleaned cotton to a press plunger within a cotton press box which latter mechanism densifies and forms the cotton into a bale.

While I do not desire to be limited to the combination of all of the elements from part of the following description, such elements may be set forth as follows:

The cotton harvester is preferably a self-propelled vehicle. As the cotton harvester moves over the ground, one or a plurality of stripping mechanisms, preferably two of such mechanisms, strip the cotton from the row or rows of cotton stalks. The stripped cotton falls upon conveyor belts where it is conveyed to a combined fan and separator that causes the cotton to by-pass the blades but permits trash to go through the screen into the blades. The cotton and trash, after being acted upon by the fan, come together and are forced up a pipe, the air traveling faster than the cotton and taking small portions of the trash from the cotton in transit, thus cleaning each cotton lock. The cotton locks, while still in transit, are moved onto a conveyor belt within a housing, the cotton being blown along the upper flight of the conveyor belt. At the end of the conveyor belt, the cotton moves into the boll breaker. This boll breaker is almost completely surrounded by a perforated screen which is U-shaped in cross section, and it causes the cotton to roll along the screen as the air moves through the screen and produces a vacuum action on each lock of cotton as it is rolled over the screen. The boll breaker will break all unopened bolls. The cotton is then picked up by the lower run of the said conveyor belt which drags the cotton back in the general direction from which it started at the beginning of its conveyance by the said conveyor belt. The cotton and the remaining trash then falls towards a second screen which is of large mesh that will permit the larger pieces of trash to fall to the ground through the screen. From this point, the cotton moves to the cotton fluffer or beater, after which it falls between a pair of plates onto a series of rotary saws having on one side thereof, the rotary strippers and on the opposite sides thereof the cleaning brushes. The topmost saw picks up the cotton and carries it around the same where it goes to the stripper. The saws grasp the cotton, and pick some of the cotton while the remaining cotton and burrs are stripped from the saws by the strippers. The

remaining burrs and cotton are carried around, away from the first saws, and allowed to move downwardly to the next set of saws and strippers, and so on, as described in detail hereinafter. The brush takes the cotton off the saw and permits it to fall to the gin stand, but the operation of the saws, strippers, and brushes is such that the cotton is acted on a plurality of times as it moves downwardly. The separation is such that comparatively clean cotton moves to the gin stand, whilst the burrs and other debris are moving through a second exit. The burrs, therefore, are taken off in a separate direction by a conveyor that carries all the removed burrs and trash away and empties them to the ground.

The gin saws then pick up the cotton from the feeder that is located beneath the strippers and carry it over to a roll. Saws then catch the tiny fibers of lint and separate the seed therefrom, permitting the seed to fall into the seed auger which carries the cotton seed to a seed bin. There is an additional auger that carries the seed from the seed bin into a truck, trailer, or the like.

Within the gin stand, the seeds fall due to the space between each saw and a series of rows of spaced ribs, with the saws carrying the lint cotton to the opposite side of the saw series, where it is picked up by a brush which causes a slight vacuum, which latter assists in taking the cotton off the saws. The cleaned cotton is then blown to a condenser which bleeds the air out of the condenser through an opening. The cotton is then acted upon by rollers which card the cotton, and the carded cotton falls down in front of the press plunger, which latter forces the cotton into the cotton press box where it is pressed to the required high density.

Referring to the drawings, and particularly Figures 1 to 6 thereof, A indicates the stripper mechanism, Figure 2 of the drawings showing a pair of stripper units. The elevating conveyor fan unit is shown at B, while the combined conveyor and cotton boll breaker unit is shown at C. Figure 7 shows the cotton boll separating and cotton cleaning mechanism D. The gin stand is indicated at E, and there is a condenser F leading from the gin stand. Located below the condenser is a cotton press box G having a press plunger for pressing the cotton into bales.

Stripper mechanism

Each unit of the stripper mechanism for stripping cotton from the stalks shown in Figures 1 to 6 comprises a casing **10** having a pair of troughs **12** in which are located the conveyors **14** mounted on front and rear rollers **16** and **18** respectively.

The front of each unit has an opening **20** shown in Figure 4, and a pair of curved lower inwardly extending guides **22** that form a bottom slot **24**, the boundaries of which are defined by the upwardly extending flanges **26** forming part of the guides **22**, particularly as seen in Figure 6.

It will be understood that each unit of the stripper mechanism may be adjusted toward and from a companion unit, that is, laterally thereof, and each of them may be adjusted in a vertical plane. These adjustments are the same as or similar to the adjustments provided for the stripper mechanism in my Patent No. 2,672,719, supra referred to above, the purpose being to adjust for the width of cotton rows, as well as for the height of the cotton on the rows. Each casing is provided with a screen **28**, and with a booster fan **30**, the purpose of which is to convey the cotton rearwardly off from the conveyors **14** and to break up any long twigs or limbs which are carried along with the cotton by the conveyor belts **14**.

The cotton is stripped or detached from the growing stalks by the forward strippers **32** and by the rearward strippers **34** shown in Figures 4 to 6. Said forward strippers are preferably mounted in fixed position, but said rearward strippers each has its forward end pivotally mounted on the pin **36** that is fixed to the casing **10**.

The back end of each stripper **34** is provided with adjustable means that may consist of an aperture **38**, and there are a series of spaced apertures **44** in the casing. The height of the rear end of each stripper may be adjusted by means of the screw threaded bolts **42** as seen in Figure 5 whereby each stripper may be adjusted about its pivot **36** and held in such adjusted position by means of one of the apertures **44**.

It will be noted that each of the conveyors **14** moves upwardly in a front to rear direction as shown in Figure 4.

The deflector plate **46** as shown in Figure 4 serves to flatten the stalks as the machine moves over the ground, and to form a support for the stripped cotton as it moves from booster fan **30** into passageway **48** and into the elevating conveyor fan unit B. Passageway **48** is preferably of bellows-like material to permit adjustment of the units, both horizontally and vertically. This unit comprises a fan casing **50** in which is located a fan **52**. Mounted on the blades of the fan **52** so as to rotate therewith, at one end of the same but spaced from the end of the casing, is a screen **54**.

It will be understood by reference to the mechanism thus far described, that the cotton falls off the strippers onto one or the other of the conveyor belts **14** on each side of the stalks of the row being worked upon. Previous to this operation, the short strippers **32** prevent the cotton from getting up to such a height that it will cause congestion. The short stripper separates some of the cotton from the stalks where it falls off onto the conveyor belts and before it has an opportunity to be acted upon by the longer strippers **34**. In this manner, the shorter strippers partially strip the cotton from the stalks, thus relieving the longer strippers and preventing congestion of the cotton on the longer strippers. The cotton falls off both strippers onto the conveyor belts and is partially sucked backwardly by the fan **30** which latter acts on the cotton and sticks carried along by the conveyor belts in order to break the sticks and at least partially burst the cotton bolls.

Elevating conveyor fan unit

This fan throws the cotton directly toward the eye of the suction fan unit B shown in Figure 15 where it contacts the screen **54**. The cotton by-passes the blades of fan **52** and trash passes through the screen into the blades. The cotton and trash come together again in the conduit **56**, and as they move upwardly and horizontally within this conduit, the faster moving air takes small portions of the trash from the cotton, thus cleaning each cotton lock.

Combined conveyor and cotton boll breaker unit

Connected to the exit end of the conduit **56** is a conveyor casing **58** forming part of the combined conveyor and boll breaker C. This casing is provided with a downwardly extending top **60**.

As shown in Figure 1, the unit C includes an extended casing portion **62**. The parts **58** and **62** house the conveyor **64** having rollers **66** and **68** at opposite ends thereof. Roller **68** is provided with a belt **70** which drives the rotating boll breaker **72** mounted on shaft **74** and having breaker members **200**, as shown in Figure 14. The upper and lower portions of the extended casing portion **62**, as well as the curved end thereof, is provided with a screen **76** whose ends **78** and **80** are shown in Figures 1 and 3.

It will be appreciated that the cotton which is rolled along by the air from blower unit B and which is carried along by the upper run of conveyor **64**, as this upper run moves to the right as shown in Figure 1, finally reaches the boll breaker **72**. The air passes out through the screen **76**. Cotton falls to the bottom of the casing **62** as the unopened bolls are broken, and is moved to the left in casing **62** by the conveyor belt **64**. The under portion of the screen **76** is of large mesh to thereby allow the larger pieces of trash to fall out of the casing **62** to

the ground, as the cotton is carried by the belt to the cotton separating mechanism.

Cotton boll separating and cotton cleaning mechanism

The cotton is dropped onto a feeder drum **82** which is located in the upper portion of the cotton boll separating and cleaning mechanism or cotton extractor D, as shown in Figure 7. This drum feeds the cotton onto the rotating fan beater or fluffer **84**, the cotton being beaten and thrown against the curved screen **86**. The action of the beater or fluffer **84** which is rotated clockwise as shown in Figure 7, causes movement of air toward the curved screen **86**, thus blowing out additional trash through the screen, the cotton being carried to the opening **88** between downwardly inclined baffle plates **90** and **92** which form a hopper within the unit D.

There are a series of substantially centrally located rotating saws **94**. To one side of these saws are located a correspondingly positioned series of rotating strippers **96**. On the opposite side of the saws from the strippers are located the correspondingly placed rotating brushes **98**. Detailed view of these elements will be found in Figures 11, 12, and 13.

As shown in Figure 11, each brush consists of a plurality of rollers **100** on which are mounted spaced longitudinally extending supports **102**, and each of the latter supports a row of hairs **104**, similar in size to the hairs of a hairbrush, but shown enlarged for the purpose of clarity.

Each saw is preferably composed of a plurality of strips **106** having spaced sets of teeth **108**. There are a plurality of such strips **106** each having a row of teeth on each side thereof. These teeth are shaped similar to the teeth of a cross-cut saw as will be appreciated by reference to Figure 13. Any number of rows of brushes or bars that may be suitable will be used on parts **96** and **98**.

The topmost saw picks up the cotton deposited on it through passageway **88** and carries it around until it is engaged by the stripper **96**. The topmost saw carries the cotton on around to the topmost brush **98**, and this brush takes the cotton off the saw while some of the trash and some of the cotton is stripped away by the topmost strippers and carried around and down to the next below set. The cotton that is left with the burrs goes over to the second saw, and the operation is repeated until finally the cotton which is left with burrs on the second saw is picked up by the third saw. After the lowermost saw, stripper, and brush have operated on the cotton, the cotton is dropped into the cotton box **150** of the gin stand E.

The burrs which fall off the peripheries of the strippers are picked up by the auger **152** rotating in trough **154** and are carried to an exit opening in the back of the gin stand (not shown).

The cotton locks and the seed fall into the box **150** and both are moved to the left in Figure 7 by the feed roller **112** onto the saw **118** which is similar to saws **94**. The saw brings the cotton locks between the two rows of ribs **146** and **148**. The cotton locks roll around between the two rows of bars with the saws taking the lint off of the seed. The second row of spaced ribs **148** have ribs which are closer to each other than the ribs of the row **146** and the ribs of row **148** prevent further movement to the left of the seeds, which latter fall into seed conduit **114** and are carried out of the gin stand E and are elevated into the bin **160** by another auger (not shown). The rotating saw **118** engages the cotton and moves it to the left in the gin stand as shown in Figure 7, where it is moved on its way by the final brush **120**. This brush causes a slight vacuum adjacent the periphery of the saw **118** and the brush also engages the lint cotton on the saw, that results in taking cotton off this saw; and it is then forced or blown through passageway **134** as shown by the arrows in Figure 7.

Numerals **122** and **124** indicate baffle plates, each of which is located between a pair of saws and a pair of brushes. To the left of the topmost strippers are curved screens **126** and **128**. Screen **126** has an extension **130** that is located halfway between the axes of these strippers, and it is slightly inclined as shown in Figure 7. Screen **128** also has an extension **132** that is located substantially midway between the axes of the middle and lowermost strippers.

The cleaned cotton passes up the cotton outlet means **134** and enters the condenser F as shown in Figure 8.

Cotton condenser

Surplus air in the condenser F is separated from the cotton by passing out the opening **136**, but it first passes through the perforated rotating drum **138**. The cotton is engaged by carding rollers **140** which card the cotton. The lowermost roller **142** removes the cotton from the carding rollers where it falls down the condenser outlet means **144** to the cotton press box G.

Cotton press box

The press plunger **144***a* of the cotton press box G is reciprocated by a conventional press plunger reciprocating means.

This press plunger is operated [as well as all of the rotating rollers and other moving parts by offtake power drives from the power source of the self-propelled cotton gin harvester or by a separate source of power (not shown) on the machine].

The cotton is compacted into bales or other packages in the press box.

Referring to Figure 3, **170** indicates a power source for driving simultaneously all of the above-described mechanisms and means.

The above description and drawings disclose a single embodiment of the invention, and specific language has been employed in describing the several figures. It will, nevertheless, be understood that no limitations of the scope of the invention are thereby contemplated, and that various alterations and modifications may be made such as would occur to one skilled in the art to which the invention relates.

I claim:

1. A portable cotton harvesting machine comprising stripping means for removing the cotton from the standing stalks, a cotton boll separating and cotton cleaning mechanism, means for conveying the cotton which has been removed from the stalks to said cotton boll separating and cotton cleaning mechanism, said cotton boll separating and cotton cleaning mechanism comprising: a plurality of rotary vertically arranged sawing means, a plurality of rotary vertically arranged brushes located on one side of said sawing means, a plurality of rotary vertically arranged strippers located on the opposite side of said sawing means from said brushes, said sawing means, brushes and strippers having parallel axes, a casing inclosing said sawing means, brushes and strippers, a combined rotary beater and fluffer means located between said conveyor means and said sawing means whereby said cotton is beaten and fluffed before being acted upon by said sawing means, brushes and strippers, means for simultaneously rotating said beater and fluffer means, sawing means, brushes and strippers, screen means located adjacent to said strippers within said casing, whereby burrs and trash may pass through said screen means, said casing having an outlet for said burrs and trash, and a separate outlet means for said cleaned cotton, and cotton ginning means operatively connected to said casing outlet means.

2. A portable cotton harvesting machine comprising stripping means for removing the cotton from the standing stalks, a cotton boll separating and cotton cleaning mechanism, means for conveying the cotton which has been removed from the stalks to said cotton boll separating and cotton cleaning mechanism, said cotton boll

separating and cotton cleaning mechanism comprising: a plurality of rotary vertically arranged sawing means, a plurality of rotary vertically arranged brushes located on one side of said sawing means, a plurality of rotary vertically arranged strippers located on the opposite side of said sawing means from said brushes, said sawing means, brushes and strippers having parallel axes, a casing inclosing said sawing means, brushes and strippers, a combined rotary beater and fluffer means located between said conveyor means and said sawing means whereby said cotton is beaten and fluffed before being acted upon by said sawing means, brushes and strippers, means for simultaneously rotating said beater and fluffer means, sawing means, brushes and strippers, screen means located adjacent to said strippers within said casing, whereby burrs and trash may pass through said screen means, said casing having an outlet for said burrs and trash, a separate outlet means for said cleaned cotton, cotton ginning means operatively connected to said casing outlet means, and a cotton outlet means operatively connected to said cotton ginning means.

3. A portable cotton harvesting machine comprising stripping means for removing the cotton from the standing stalks, a cotton boll separating and cotton cleaning mechanism, means for conveying the cotton which has been removed from the stalks to said cotton boll separating and cotton cleaning mechanism, said cotton boll separating and cotton cleaning mechanism comprising: a plurality of rotary vertically arranged sawing means, a plurality of rotary vertically arranged brushes located on one side of said sawing means, a plurality of rotary vertically arranged strippers located on the opposite side of said sawing means from said brushes, said sawing means, brushes and strippers having parallel axes, a casing inclosing said sawing means, brushes and strippers, a combined rotary beater and fluffer means located between said conveyor means and said sawing means whereby said cotton is beaten and fluffed before being acted upon by said sawing means, brushes and strippers, means for simultaneously rotating said beater and fluffer means, sawing means, brushes and strippers, screen means located adjacent to said strippers within said casing, whereby burrs and trash may pass through said screen means, said casing having an outlet for said burrs and trash, a separate outlet means for said cleaned cotton, cotton ginning means operatively connected to said casing outlet means, a cotton outlet means operatively connected to said cotton ginning means, press box means for baling the ginned cotton, and carder means located between the ginning means and said press box means.

4. A portable cotton harvesting machine comprising stripping means for removing the cotton from the standing stalks, a cotton boll separating and cotton cleaning mechanism, means for conveying the cotton which has been removed from the stalks to said cotton boll separating and cotton cleaning mechanism, said cotton boll separating and cotton cleaning mechanism comprising: a plurality of rotary vertically arranged sawing means, a plurality of rotary vertically arranged brushes located on one side of said sawing means, a plurality of rotary vertically arranged strippers located on the opposite side of said sawing means from said brushes, said sawing means, brushes and strippers having parallel axes, a casing inclosing said sawing means, brushes and strippers, a combined rotary beater and fluffer means located between said conveyor means and said sawing means whereby said cotton is beaten and fluffed before being acted upon by said sawing means, brushes and strippers, means for simultaneously rotating said beater and fluffer means, sawing means, brushes and strippers, screen means located adjacent to said strippers within said casing, whereby burrs and trash may pass through said screen means, said casing having an outlet for said burrs and trash, a separate outlet means for said cleaned cotton, cotton ginning means operatively connected to said casing outlet means, a cotton outlet means operatively connected to said cotton ginning means, press box means for baling the ginned cotton, and carder means located between the ginning means and said press box means.

5. In a cotton harvesting machine having a cotton picking means and a cotton extractor means, conveying means interconnecting said picking means and said extractor means including a cotton fluffing means, said cotton extractor means having a cotton outlet means, a cotton ginning means operatively associated with said cotton extractor means and having a cotton outlet means, whereby cotton may be picked in the field, cleaned, and then ginned in a continuous operation.

6. In a cotton harvesting machine having a cotton picking means and a cotton extractor means, conveying means interconnecting said picking means and said extractor means including a cotton fluffing means, said cotton extractor means having a cotton outlet means, a cotton ginning means operatively associated with said cotton extractor means and having a cotton outlet means, a cotton condenser operatively connected to said cotton ginning outlet means, whereby cotton may be picked in the field, cleaned, ginned, and then condensed in a continuous operation.

7. In a cotton harvesting machine having a cotton picking means and a cotton extractor means, conveying means interconnecting said picking means and said extractor means including a cotton fluffing means, said cotton extractor means having a cotton outlet means, a cotton ginning means operatively associated with said cotton extractor means and having a cotton outlet means, a cotton condenser means operatively connected to said cotton ginning outlet means, said cotton condenser means having an outlet means for cotton and press means operatively connected to said last named outlet means, whereby cotton may be picked in the field, cleaned, ginned, condensed, and then pressed in a continuous operation.

8. The structure of claim 7, wherein a cotton boll breaking means is located between said cotton picking means and said cotton fluffing means, whereby said cotton boll breaking means breaks up the cotton bolls before the cotton reaches said extractor means.

9. The structure of claim 8, wherein said cotton boll breaking means includes a casing, a rotary shaft and a plurality of boll breaking members thereon mounted in said casing.

10. The structure of claim 8, wherein said cotton boll breaking means includes a casing, a rotary shaft and a plurality of boll breaking members thereon mounted in said casing, and a screen forming part of said casing and located closely adjacent to said boll breaking members, whereby to permit air egress from said casing during the boll breaking operation.

11. The structure of claim 8, wherein said cotton boll breaking means includes a casing, a rotary shaft and a plurality of boll breaking members thereon mounted in said casing, and a curved screen forming part of said casing and located closely adjacent to said boll breaking members, whereby to permit air egress from said casing during the boll breaking operation.

12. The structure of claim 5, wherein the cotton ginning means includes a cotton box located in position for receiving cotton locks and cotton seed from said cotton extractor outlet means, a rotary saw means and rib means operatively associated with said saw means whereby to separate the lint from the seed, and outlet means for said seed.

13. The structure of claim 5, wherein the cotton ginning means includes a cotton box located in position for receiving cotton locks and cotton seed from said cotton extractor outlet means, a rotary saw means and rib means operatively associated with said saw means whereby to separate the lint from the seed, outlet means for said seed, and a rotating brush means for removing lint cotton from said saw means, said brush means being located adjacent to said ginning outlet means.

14. The structure of claim 7, wherein the cotton condenser means further includes a casing having an air outlet opening and carding roller means for carding the cotton.

15. The structure of claim 7, wherein the cotton press means includes a press plunger, a press box in which said plunger is adapted to reciprocate to thereby compress the cotton therein to bale form.

16. The structure of claim 7, wherein said conveying means includes at least one travelling belt, a casing for said conveyor, a cotton boll breaking means operatively associated with said belt and located in said casing adjacent to said belt, whereby the cotton bolls are broken before the cotton on said conveyor means reaches said cotton fluffing means.

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