March 9, 1926. 1,576,111

J. C. GARNER

COTTON GIN

Filed June 3, 1925 3 Sheets-Sheet 1

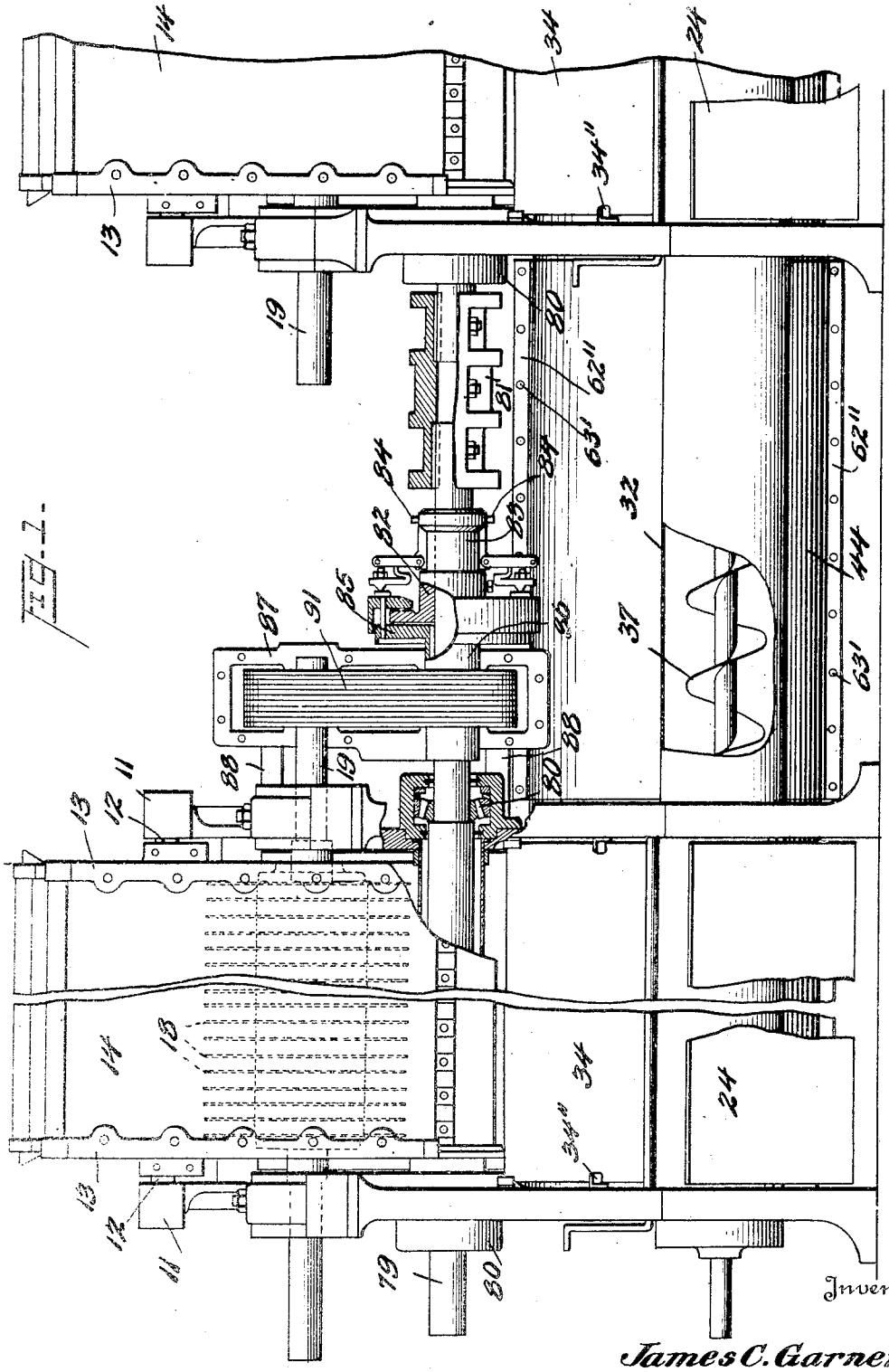


FIG. 1.

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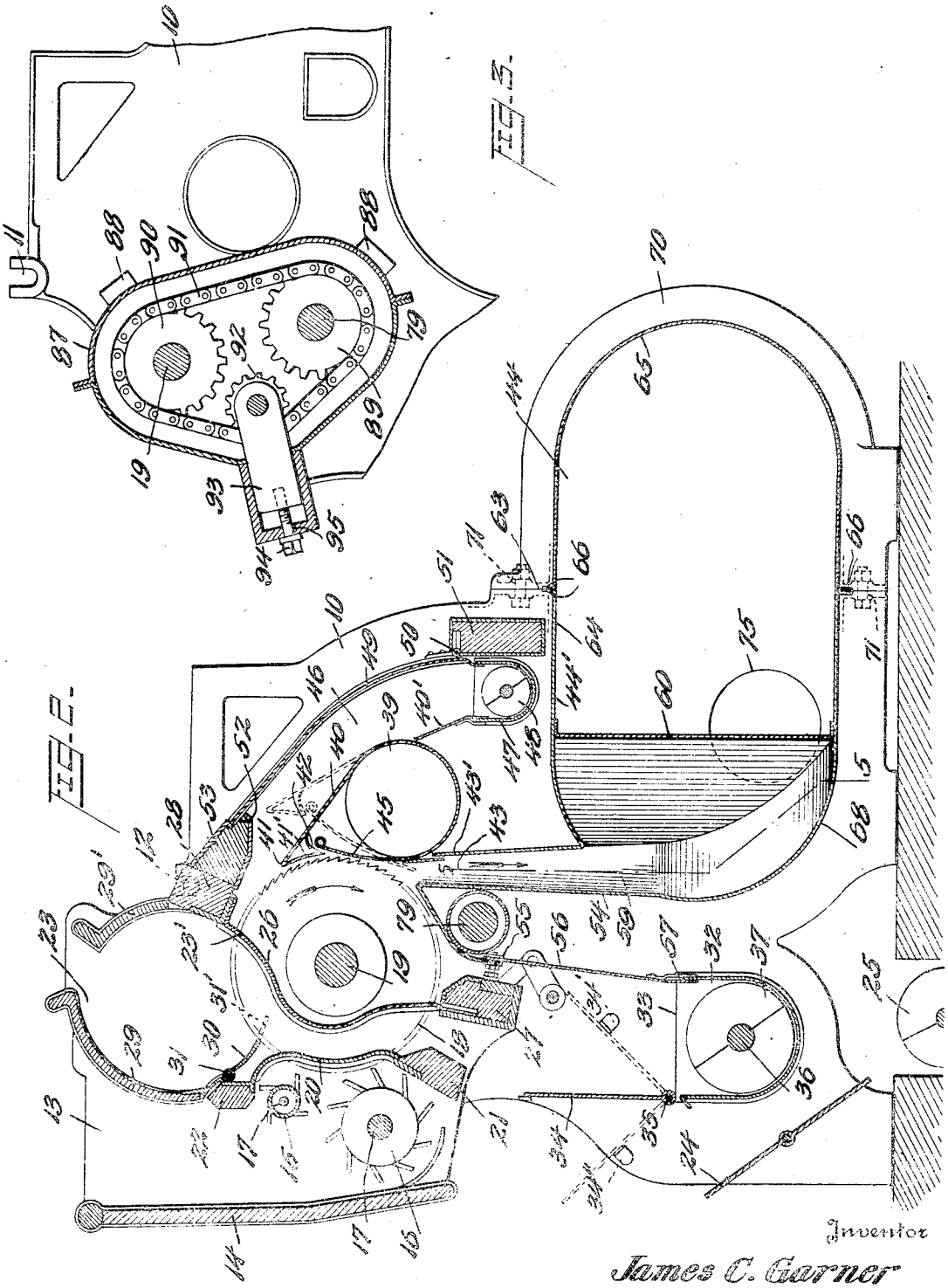
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COTTON GIN

Filed June 3, 1925 3 Sheets-Sheet 2



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COTTON GIN

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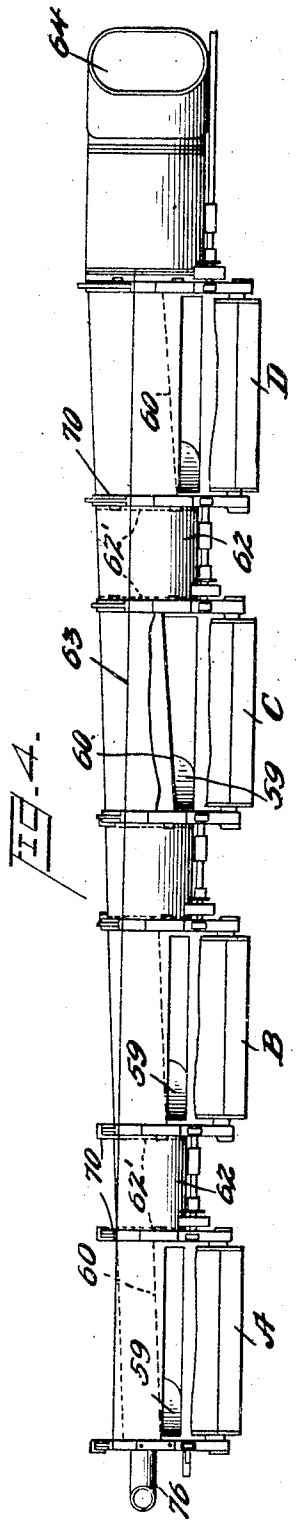


Fig. 4.

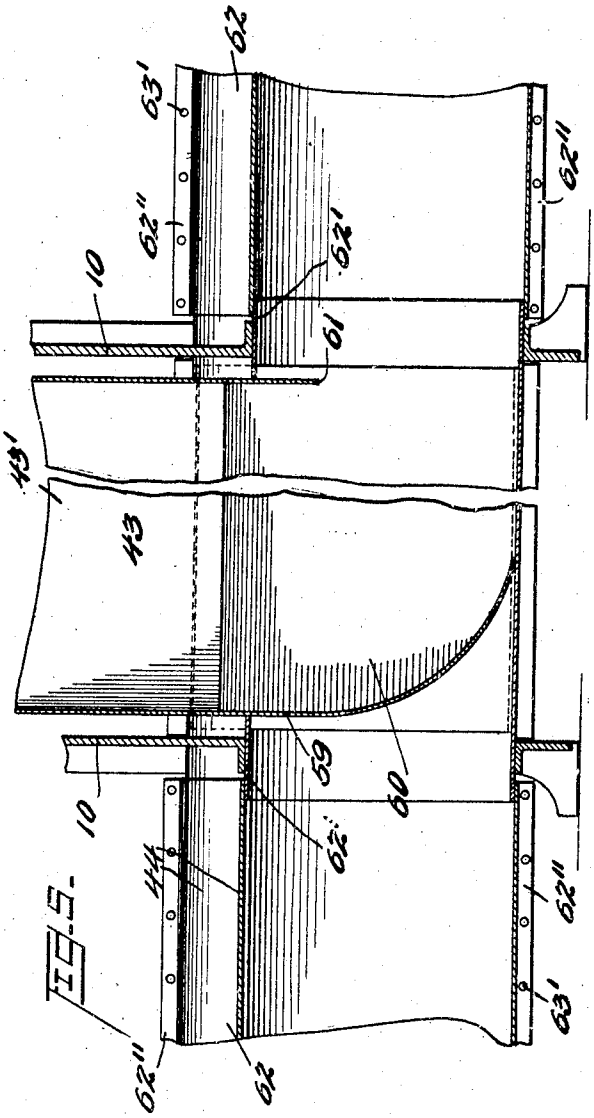


Fig. 5.

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Patented Mar. 9, 1926. 1,576,111

UNITED STATES PATENT OFFICE.

JAMES CHARLES GARNER, OF HOUSTON, TEXAS.

COTTON GIN.

Application filed June 3, 1925. Serial No. 34,667.

To all whom it may concern:

Be it known that I, JAMES CHARLES GARNER, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented new and useful Improvements in Cotton Gins, of which the following is a specification.

The present invention relates to gins, and more particularly to gins for the treatment of cotton and other fibrous material.

An object of the invention is to provide a machine which may be readily set up and installed in a battery, and is particularly useful for the purpose of separating lint cotton from the cotton seed and also for separating the bolls, stems, motes and other foreign matter from the lint; and for collecting said lint and foreign matter separately and discharging them separately from the gin.

Another object of the invention is to provide an improved form of driving mechanism which will enable the gin to be associated readily with other machines, and by means of which any machine in the battery may be thrown into and out of operation independently of the others.

A further object of the invention is to provide means whereby the air ducts and saws may be quickly cleaned; and to arrange the air nozzle so that there will be no tendency to accumulate motes adjacent the saws.

A still further object of the invention is to provide an improved main flue construction which permits each flue section to be supported by a machine frame so as to reinforce the latter, and in which the flue sections are also adjustable in size without bodily moving each section.

Other objects of the invention relate to the arrangements of the supply duct in each gin with reference to the main flue whereby the lint may be delivered into the flue in the direction paralleling the passage of material therein, thereby avoiding back pressure; to the arrangement of the main flue and seed delivery mechanism within the frame so as to reinforce the machine frame, and to the structure of the main delivery flue, which, preferably, is divided longitudinally to enable the sections of the same to be transversely adjusted in size.

The above and additional objects of the invention will become clear as the description proceeds in connection with the accompanying drawings, wherein the improvements are illustrated as embodied in any machine of the type disclosed in my Patent 1,520,412, granted December 23, 1924, although it will be understood that these improvements are of general application in the art and may be embodied in numerous types of machines.

In the drawings:

Figure 1 is a front elevational view of a gin showing the means for connecting the same with another machine for use in a battery of gins,.

Figure 2 is a vertical sectional view taken through a gin,

Figure 3 is a detail view of a portion of the driving mechanism,

Figure 4 is a top plan view of the gin battery with parts broken away, and

Figure 5 is a sectional view showing the inlet of each delivery duct to the main flue and taken on substantially the line 5—5 of Figure 2.

Referring to the drawings for a more detailed description, 10 indicates the end plates of the supporting frame which have disposed between them the operative mechanism of the gin. Pivotally mounted in bearings 11, disposed at the upper edge of these plates, are pivot pins or trunnions 12, which carry side plates 13 at the front of the gin and between and carried by the latter is positioned the wall 14 forming the gin breast. The usual picker wheels 15, 16 are mounted upon shafts 17 carried by the plates 13 and serve to present cotton introduced behind the wall 14 to the saws 18 mounted upon the saw shaft 19 carried by the frame end plates 10. These saws are spaced uniform distance apart upon the shaft 19, and are suitably serrated so as to engage with the lint and strip the same from the seed. Behind the picker rollers 15 are arranged the huller ribs 20 with their lower ends secured to the transverse bar 21 fixed to the plates 13, and their upper ends to the transverse bar 22, both of these bars serving to connect the plates 13. The huller ribs are arranged to alternate with the saws and are spaced a sufficient distance apart to permit the lint and seeds to pass between them when carried by the saws, but they arrest all bolls, stems, leaves and other foreign matter which may be in the cotton and prevent the passage of this foreign matter into the roll box 23, which will la-

ter be described. The seed cotton passes down behind the breast 14, and is engaged by the spikes of the picker rollers, which carry them into engagement with the saws; the latter carry the seed cotton through the huller ribs 20 into the roll box, but the foreign matter is arrested by the ribs and drops down upon the picker roller 16, by which it is discharged upon the deflecting plate or valve 24 and on to the conveyor 25 beneath the machine.

Spaced behind the huller ribs 20 are the stripper ribs 26, having their lower ends secured to the transverse bar 27 and their upper ends to the transverse bar 28, these two bars being secured to and serving to space the plates 13. The stripper ribs are arranged alternately with respect to the saws and are closely placed to prevent the passage of seed between them, but they permit the saws to carry between them lint cotton, motes, and other small particles. It will be noted that the upper ends of these ribs are curved to form the back or rear side 23′ of the roll box 23, which is smooth and free of lint engaging projections. The opposite side of the roll box is formed by the roll box breast 29, which is arcuate in cross section. The roll box breast 29 and the opposing ends of the stripper ribs 26 are oppositely curved so as to form between them a substantially cylindrical roll box with smooth interior walls, in which the seed cotton collects in a mass, and through which the saws 18 pass as they rotate. Opposed to the breast 29 is an imperforate rear wall 29′ to complete the substantially cylindrical structure of the roll box.

The saws pass through the cotton in the roll box and engage with the lint therein, causing the mass of cotton in the box to rotate constantly and thereby coming repeatedly into contact with the saws which strip the lint and motes from the seed, the lint being carried by the saws between the stripper ribs 26. The seed is arrested by the ribs and when free from the lint, gradually works from the roll and drops onto the retaining board 30, which is secured to the transverse shaft 31 rotatably mounted in suitable bearings in the end plates 13. The free edge of the board is slotted forming fingers 31′ which are uniformly spaced apart and project between the saws 18. When the board 30 is in the position shown in Figure 2, it will deflect the seed and other foreign matter downwardly between the huller ribs 20 and stripper ribs 26 to the trough 32, which is formed of relatively stiff metal and is positioned in openings 33 formed in the frame end plates 10.

Above the trough may be positioned a deflecting plate 34 pivoted at 35 and serving to direct seeds to the trough 32, in which is positioned a conveyor shaft 36 carrying a spiral conveyor 37, adapted to direct the seeds longitudinally of the trough to any suitable point of deposit. Ordinarily, the seed conveyor 37 is positioned beneath the gin at substantially the location of the boll and leaf conveyor 25, but by arranging the same in the position indicated, the trough 32 serves to reinforce the frame and to provide a more self-contained gin. The board 34 may be arranged in the vertical position indicated in full lines in Figure 2, which directs seed from the roll box 23 to the conveyor 37, or, when desirable, it may be carried to either of the positions indicated in dotted lines against stops 34′ or 34″, and either direct the discharged seeds and other material downwardly into the board 24 and on to the conveyor 25 beneath the machine, or all the dropping bodies into the trough 32.

The passage of the lint and motes carried by the saws from the roll box 23 between the stripper ribs 26 will now be described. It will be understood that the lint adheres to the saws and the motes are thrown outwardly by centrifugal force. For the purpose of separating the motes from the lint, an air flue 39 is positioned to the rear of the saws, and is mounted pivotally at its ends, preferably in the frame plates 10. A nozzle structure is formed by a top wall 40 extended upwardly to a relatively narrow or knife edge 41, and then downwardly and laterally to form a nozzle opening 42, which extends the entire width of the saws within the machine and serves to discharge an air blast substantially tangentially with respect to the saws in order to doff the lint from the latter and direct the same into a duct 43, which leads to the main lint flue 44, as will be later described in detail. The nozzle passage 42 is between the downward and lateral extension 41′ of the wall 40 and the upper end of an apron or air board 45, which is positioned over the saws for substantially the entire width of the same in the machine, and overlaps, at its lower edge, the wall 43′ of duct 43. The air board 45 confines the blast issuing from the nozzle 42, and thereby directs the doffed lint into the duct 43. As indicated in dotted lines, both the nozzle and air board 45 are movable with the flue 39 when the latter is swung pivotally away from the saws. It is broadly old to mount the blast nozzle and air blast duct for pivotal movement toward and from the saws, and such a structure is shown and claimed in the patent above referred to. The present construction, however, is an improvement upon the patent, in that the air board or apron, which extends from the saws, is likewise movable toward and from the saws, and movement is imparted to the same by actuation of the nozzle. In other words, the air board is movable with the nozzle, and hence may be readily cleaned, together with the

nozzle. This is highly important, since the effectiveness of the blast depends upon a clear and unobstructed passage from the nozzle 42 to the duct 43.

It should also be noted that the wall 40 of the duct forms a relatively narrow or knife edge 41 above the nozzle, instead of being rounded to provide a comparatively wide surface for the accumulation of motes, which tend to form a body above the nozzle and to obstruct the operation of the saws when a supporting surface is present. The motes are directed to the rear of the wall 40 along a rearwardly and downwardly inclined passage 46 to the trough 47 carried by the frame, and in which is positioned a mote conveyor 48. A shutter or closure 49 is pivotally connected at 50 to a transverse bar 51, and at its upper end, when closed, rests upon a shoulder 52 formed upon a transverse bar 53. This shutter, together with the wall 40 of the duct and downwardly extending wall 40', serves to form the mote passage 46 leading to the mote conveyor 48.

Referring again to the duct 43, through which the lint is led from the saws to the main flue 44, it will be observed that this duct has an inner wall 54, which is extended upwardly adjacent the saws and then forwardly and downwardly to a transverse securing strip 55. To this strip is also secured the upper end of a partition 56, which, at its lower edge 57, is joined, to the seed trough 32 to form a relatively closed passage for the seeds leading from the roll box 23 to the trough 32.

The walls 43', 54 of the duct 43 are preferably formed integral with the walls 44' of the main flue. The back wall 59 (Figures 2 and 5) of the duct projects into the main flue and curves forwardly, so as to direct the lint entering the flue in a direction paralleling the passage of material in the latter, and, preferably, the inlet duct should open into the main flue only at its forward end. For this purpose, a partition 60 (Figures 2 and 4) is positioned in the main flue and extends forwardly and also somewhat transversely within the main flue to provide an outlet portion for the duct 43 which broadens or increases in area as it extends forwardly in the main flue. At the forward end of the partition 60 there is formed an outlet opening 61, through which the lint emerges in a direction substantially paralleling the line of travel of the material in the main flue 44, and thus there is prevented the formation of eddies at the outlet opening 61 and back pressure in the duct 43.

Referring to the construction of the main flue 44, and more particularly to Figures 2 and 4, it will be observed that the various portions or sections of the same are mounted in substantially U-shaped horizontally disposed seats in the machine frame. The various sections may be joined between the machines by connecting sections 62, which overlap the ends of the main gin section, along lines 62' in the usual manner, and, preferably, the section in each machine is divided longitudinally along a line 63 for the purpose of permitting an increase or decrease in the cross sectional area of each section and to accommodate the capacity of each section to its position in a battery of gins. As will be understood, the rearmost gin A need not have associated therewith a flue section having a capacity as large as one of the forward gins B, C or D, and, preferably, the capacity of the main flue should increase in the direction of the outlet end 64, since each of the gins A, B, C and D are emptying into the main flue.

Obviously, there are various suitable mechanical expedients for making possible variation in the size of each flue section. As stated, the preferable means is to divide the section longitudinally along the line 63, thereby forming each flue section into two longitudinal sub-sections, which are an inner sub-section 64 and an outer sub-section 65. The two sub-sections may be united in any suitable manner, as by bending outwardly the meeting edges 66 and clamping the same together. The inner section 64 is carried in a horizontally disposed U-shaped seat 68, in each end plate 10, and may be formed of comparatively heavy metal and integrally with the duct 43, thereby serving in a very very substantial manner to reinforce the frame plates.

The same means which holds the flue section in position may be employed for securing together the two sub-sections. As indicated in Figure 2, this means, in the present instance, is in the form of horizontally positioned substantially U-shaped straps or bars 70, which are joined to the frame above and below the flue section, as by securing bolts 71, and clip the juxtaposed upturned edges 66 of the sub-sections in fixed position.

By referring to Figure 4, it will be observed that although the inner sub-sections of the main flue throughout its entire length are of uniform width, as indicated by the division line 63 between the sub-sections, the outer sub-sections increase in width forwardly of the flue so as to provide a main flue of gradually increasing diameter to take care of the lint which increases in volume as it travels forwardly in the flue. It will be observed that by the construction illustrated and described, the diameter of the flue section associated with any gin may be varied as desired, and it is possible to insert a gin in a battery in any preferred location and to associate with it a main flue section of the necessary capacity without removing the entire flue section.

In other words, the inner sub-section 64 which accompanies each gin and is integral with the inlet duct 59 is of the same size in each gin, and variation in the main flue capacity is obtained by varying the size of the outer sub-section 65, as described. It will be observed that the connecting sections 62 are also divided longitudinally, and the edges 62'' of the sections are turned outwardly to form flanges through which securing bolts 63' may be passed.

At the rear end of the main flue and near the last gin A of the battery is provided an air inlet opening 75, with which may be connected a draft pipe 76 (Figure 4) for the purpose of admitting the desired amount of air to the end of the flue. This is desirable, since, if the flue is closed there will be formed a dead end, causing the accumulation of lint and dust, which will finally break and cause what is commonly known as "gin fault". This lowers the value of the cotton, and, of course, should be avoided. The opening 75 enables the supply of sufficient air to the main flue to overcome back pressure when the flue is used in connection with an air blast and also serves to admit a certain amount of air when the flue is used in connection with a vacuum condenser.

A further important feature of the invention relates to the means for driving each gin and for associating the same with other gins of a battery. This mechanism will now be described.

Ordinarily, power is transmitted to machines of this type from a main drive shaft paralleling the gin or battery of gins and connected by belts with suitable pulleys upon one of the gin shafts, the latter being interconnected for driving the various conveyors and other moving parts. Not infrequently such arrangements, particularly when driving belts are employed, are the cause of fires and the complete destruction of gins and entire mills, due to the slippage of belts causing friction, overheating and ignition. The present invention contemplates the elimination of all driving belts, as well as independent power shafts, and it is proposed to house or completely enclose the driving connections which may be gears, or, preferably, silent chains. As illustrative of the invention, there is mounted in the end plates 10 of each frame a main drive shaft section 79, which is arranged between the walls 54 and 56 and below the saws so as to be completely separated from the latter. The shaft section is mounted in suitable bearings 80 (Figure 1), and at least one end of the same is extended beyond the machine so that it may be coupled, as by means of a compression coupling 81', with the main drive shaft section of an adjacent gin. Each drive shaft section is preferably connected independently with the saw shaft 19 by driving connections which may be optionally rendered operative or inoperative, whereby the saws of one or more of the gins of a battery may be stopped without disturbing the operation of the other gins. This driving means is of a character which permits the saws to be readily reversed either by reversing the main shaft, or, if desirable, the connections may be of a character which enables the saws of any gin to be reversed without reversing the main drive shaft.

A suitable driving means may consist of a clutch of an ordinary type, such as illustrated in Figure 1, comprising a drive member 82 keyed to the shaft and slidable longitudinally thereof by means of an abutting collar 83 having fork receiving pins 84 to move the collar longitudinally of the shaft and thereby force the driving member 82 into frictional engagement with the driving clutch member 85, the latter having a sleeve portion 86 extended into a housing 87. The housing 87 is supported by means of outstanding arms 88 (Figure 3) upon the end plate 10, and has positioned therein, sprockets 89, 90, upon the drive and saw shafts, respectively, and connected by means of a chain 91, which may be adjusted, as desired, by means of a tightener sprocket 92 mounted in a slidable block 93. The block 93 is adjusted by a screw 94, which extends through an opening 95 in the housing and threaded into the box. By means of the clutch, the saw shaft of any gin in a battery may be stopped and started as desired, and the chain drive being comparatively silent and entirely housed is not only positive in action, but will not tend to cause ignition of the lint. Obviously, gearing or other drive mechanism might be substituted for a chain drive and would be equally efficient. Due to the division of the main drive shaft into sections each carried by a gin, the machine may be conveniently installed in a battery and forms a complete self-contained unit. Power may be applied to the shaft at any suitable point, either at one end of the unit or between intermediate gins.

It should be understood that the foregoing description is merely explanatory of the invention and is not intended to define the same. Obviously, the structure illustrated and described may be modified without departing from the invention which is defined by the following claims.

I claim:

1. In a machine of the class described, rotatable saws, a blast nozzle having a working position adjacent the saws and movable toward and away from the same, a lint flue spaced from said nozzle and adapted to receive lint from the saws, and an air board adjacent the saws between the nozzle and the flue adapted to direct the lint and blast

to the flue, said air board being movable toward and away from the saws.

2. In a machine of the class described, rotatable saws, a blast nozzle having a working position adjacent the saws and movable toward and away from the same, a lint flue spaced from said nozzle and adapted to receive lint from the saws, and an air board adjacent the saws between the nozzle and the flue adapted to direct the lint and blast to the flue, said air board being movable toward and away from the saws with the nozzle.

3. In a machine of the class described, a series of saws, a compressed air duct having a nozzle for delivering a stream of compressed air close to the path of the saw teeth, said nozzle being mounted for movement toward and from the saw teeth, and an apron extending from the nozzle outside the path of the teeth, said apron being movable relative to the saws with the nozzle.

4. In a machine of the class described, a series of saws, a compressed air duct having a nozzle for delivering a stream of compressed air close to the path of the saw teeth, said nozzle being mounted for movement toward and from the saw teeth, and an apron extending over the teeth from the nozzle, said apron being movable relative to the saws with the nozzle without cutting the path of the teeth.

5. In a machine of the class described, rotatable saws, an air duct, a nozzle structure extending from the duct and positioned adjacent the saws, means for supplying cotton to the teeth of the saws, the top of said nozzle structure tapering upwardly to a relatively sharp edge adjacent the saws.

6. In a machine of the class described, rotatable saws, an air duct, a nozzle structure elongated in a direction paralleling the axis of the saws extending from the duct and positioned adjacent the saws, means for supplying cotton to the teeth of the saws, the top of said nozzle structure tapering upwardly to a relatively sharp edge.

7. In a machine of the class described, rotatable saws, an air duct, a nozzle structure extending from the duct and positioned adjacent the saws, means for supplying cotton to the teeth of the saws, the top of said nozzle structure tapering upwardly to a relatively sharp edge and being movable toward and from its working position relatively to the saws.

8. In a machine of the class described, a frame, and a substantially tubular main flue section carried by said frame, said main flue section being substantially longitudinally divided into sub-sections, one of which communicates with the machine and the other of which is detachable.

9. In a machine of the class described, a frame, and a substantially tubular main flue section carried by said frame, said main flue section being substantially longitudinally divided into inner and outer sub-sections, said inner section being permanently positioned in the frame and the other being detachable.

10. In a machine of the class described, a frame, and a substantially tubular main flue section carried by said frame, said flue section being substantially longitudinally divided to permit variation in its width without removing the entire flue section.

11. In a machine of the class described, a frame and a main flue section carried by said frame, said section being longitudinally divided into sub-sections, and means for detachably securing one sub-section in position, said sub-section tapering in width to provide a tapering flue section.

12. In a machine of the class described, a frame having seats thereon, a main flue section fitted into said seats, said section being divided longitudinally into sub-sections one of which tapers to provide a flue section of variable width, and means for detachably securing said sub-section in position.

13. In a machine of the class described, a frame having horizontally disposed seats thereon, a main flue section fitted into said seats, said section being divided longitudinally into sub-sections one of which tapers to provide a flue section of variable width, and means for detachably securing said sub-section in position.

14. In a machine of the class described, a frame having seats thereon, a main flue section in said seats longitudinally divided into sub-sections, and means serving both to hold said sub-sections together and to maintain the entire section in position.

15. In a machine of the class described, a frame having substantially U-shaped seats thereon, a main flue section fitted into said said seats, said section being divided longitudinally into sub-sections one of which tapers to provide a flue section of variable width, and means for detachably securing said sub-section in position.

16. In a machine of the class described, a frame having horizontally disposed U-shaped seats thereon, a main flue section fitted into said seats, said section being divided longitudinally into sub-sections one of which tapers to provide a flue section of variable width, and means for detachably securing said sub-section in position.

17. In a machine of the class described, a frame having substantially U-shaped seats thereon, a main flue section in said seats longitudinally divided into sub-sections, and means serving both to hold said sub-sections together and to maintain the entire section in position.

18. In a machine of the class described, a frame having substantially U-shaped seats

therein, a main flue section in said seats longitudinally divided into sub-sections and means closing the open ends of said seats, said means serving both to hold said sub-section together and to maintain the entire section in position.

19. In a machine of the class described, a frame having substantially U-shaped seats therein, a main flue section in said seats and means closing the open ends of said seats for maintaining the entire section in position.

20. In a machine of the class described, a frame having substantially U-shaped seats therein, a main flue section in said seats longitudinally divided into sub-sections and means closing the open ends of said seats for holding said sub-section together and maintaining the entire section in position.

21. In a machine of the class described, a frame having substantially U-shaped seats therein, a main flue section in said seats longitudinally divided into sub-sections and detachable means closing the open ends of said seats for holding said sub-sections together and maintaining the entire section in position.

22. In a machine of the class described, a frame, a substantially U-shaped seat in said frame, and a main flue sub-section built into said seat.

23. In a machine of the class described, a frame, a substantially U-shaped horizontally disposed seat in said frame, and a main flue sub-section built into said seat.

24. In combination with a machine of the class described, a support, and a substantially tubular main flue section carried by said support, said flue section being substantially longitudinally divided into sub-sections, whereby to permit variation in its width without removing the entire flue section from its support, one of said sub-sections communicating laterally with said machine.

25. In combination with a machine of the class described, a support, and a substantially tubular main flue section carried by said support, said flue section being substantially longitudinally divided into sub-sections, whereby to permit variation in its width without removing the entire flue section from its support, one of said sub-sections communicating laterally with said machine and being detachable.

26. In combination with a battery of machines of the class described, a main flue into which all of said machines deliver having an air inlet opening adjacent its rear end.

27. In a machine of the class described, a main flue section longitudinally divided into sub-sections, one of said sub-sections being removable and increasing in width longitudinally to provide a tapering flue section.

28. In a machine of the class described, a frame, a substantially U-shaped horizontally disposed seat in said frame, a main flue section built into said seat, and a substantially vertically disposed inlet flue leading downwardly into said main flue section and directed forwardly in the main flue section, whereby material is introduced into the latter in a direction substantially paralleling the direction of the main flue.

29. In a machine of the class described, a main flue section, and an inlet flue leading to said main flue section and having a portion extended therein which is directed forwardly, the portion of the inlet flue within the main flue section opening only at its end into the main flue section.

30. In a machine of the class described, a main flue section, and an inlet flue leading to said main flue section and having a portion therein which is directed forwardly, the portion of the inlet flue within the main flue section opening only at its end into the latter and increasing in width longitudinally of the main flue section.

31. In a machine of the class described, the combination of a frame, saws carried by the frame, and a seed trough carried by the frame below said saws, said trough being disposed in openings in the frame, whereby to reinforce the latter.

32. In a battery of machines of the class described, a substantially tubular main flue transversely divided into sections, and a support for said flue, a plurality of said sections being longitudinally divided into sub-sections, one of which communicates laterally with a machine, whereby variation in the width of said flue is obtainable without removing said entire flue section from its support.

33. In a battery of machines of the class described, a main flue transversely divided into sections and a support for said flue, a plurality of said sections being longitudinally divided into sub-sections, one of which is detachable and longitudinally tapers in width.

34. In a battery of machines of the class described, a substantially tubular main flue transversely divided into sections, and a support for said flue, a plurality of said sections being longitudinally divided into sub-sections, one of which communicates laterally with a machine and the other of which is detachable, whereby variation in the width of said flue is obtainable without removing said entire flue section from its support.

35. In a machine of the class described, a main flue longitudinally divided into sub-sections, one of said sub-sections being removable and tapering in width longitudinally.

36. In a machine of the class described, a

substantially tubular main flue section substantially longitudinally divided into subsections, one of which communicates laterally with the machine and the other of which is movable relatively thereto, whereby to permit variation in the cross-sectional dimensions of the flue section without replacing the entire flue section.

37. In a machine of the class described, a main flue section longitudinally divided into inner and outer sections, the outer section being removable and tapering in width longitudinally.

38. In a machine of the class described, a main flue section longitudinally divided into inner and outer sections, the outer section being removable and tapering in width longitudinally, said sections being united along a line substantially paralleling the longitudinal axis of the inner section which is of uniform width throughout.

39. In a machine of the class described, a main flue section longitudinally divided into sub-sections, one of said sub-sections being removable and tapering in width longitudinally, the other section being of substantially uniform width throughout.

40. A machine of the class described, comprising a frame, a saw shaft mounted in the frame, a main power shaft section mounted in said frame, driving connections between said sections, and clutch means for rendering said driving connections inoperative, said power shaft section being constructed with said machine as a unit thereof.

41. In a machine of the class described comprising a frame, a saw shaft mounted in the frame, a main power shaft section mounted in said frame adjacent the saw shaft, driving connections between said section, and clutch means for rendering said driving connections inoperative, said power shaft section being mounted with said machine as a unit thereof.

42. A machine of the class described comprising a frame, a saw shaft mounted in the frame, a main power shaft section mounted in said frame, driving connections between said section, clutch means for rendering said driving connections inoperative, and a housing for said driving connections on said frame, said housing and power shaft section being constructed with the machine as a unit thereof.

43. A machine of the class described comprising a frame, a saw shaft carried by the frame and extending therethrough, a main power shaft section mounted in the frame adjacent the saw shaft, driving connections between said shafts, a housing on said frame for said driving connection, and clutch means for rendering said driving connections inoperative, said power shaft section extending substantially centrally through the machine and being constructed with the machine as a unit thereof.

44. A machine of the class described comprising a frame, a saw shaft carried by the frame, a main power shaft section mounted in the frame, driving connections between said shafts disposed outside the frame, a housing for said driving connections supported by the frame, and clutch means for rendering said driving connections inoperative, said power shaft section and driving connections being constructed with said machine as a unit thereof.

45. In a battery of gins each having an independent saw shaft, a main power shaft section supported independently on each machine, means for coupling the drive shaft sections, driving connections associated with each machine for said shafts, and clutch means with each machine for rendering said driving connections inoperative, each of said machines being constructed with the power shaft section as a unit thereof.

46. In a battery of gins each having an independent saw shaft, a main power shaft section supported independently on each machine, means for coupling the drive shaft sections, driving connections associated with each machine for said shafts, clutch means with each machine for rendering said driving connections inoperative, a housing for each of said driving connections supported by the machine frames, said housing being disposed between the machines, and each of said machines being constructed with the driving connections and power shaft section as a unit thereof.

In testimony whereof I have hereunto set my hand.

JAMES CHARLES GARNER.