

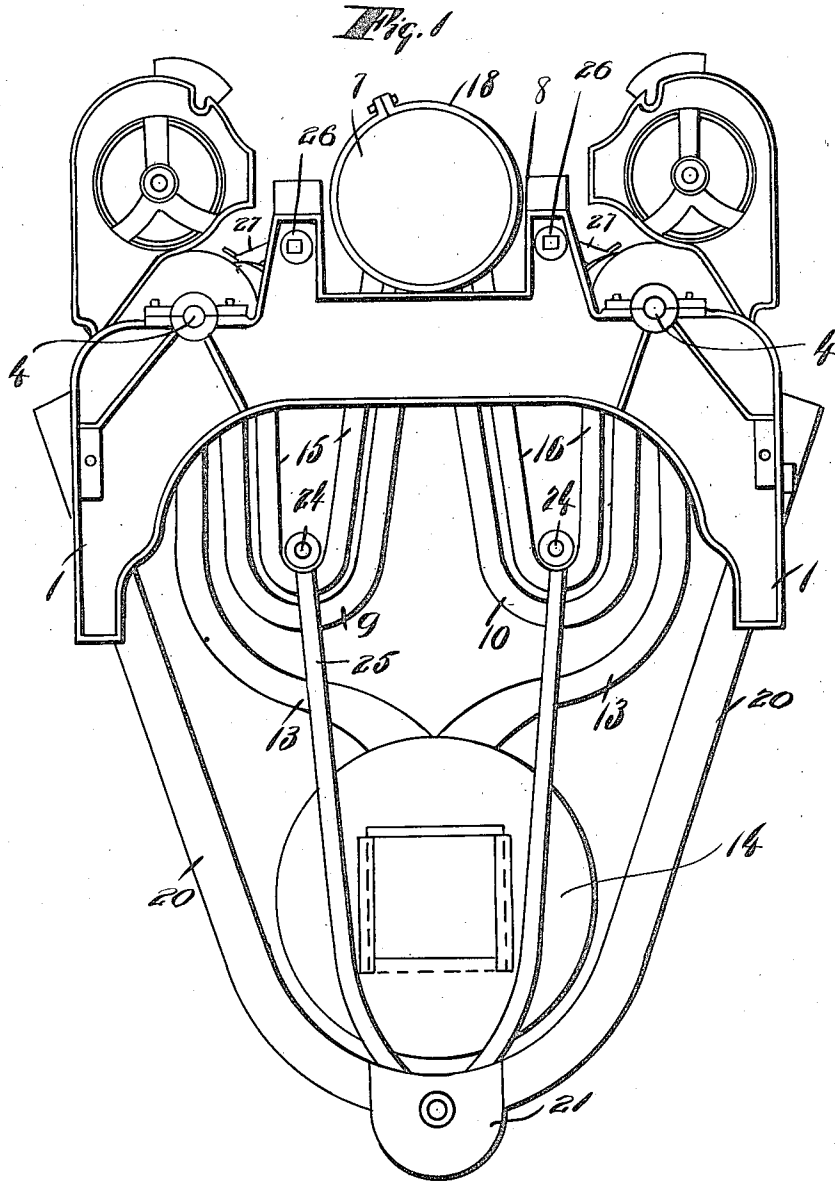
E. LUMPKIN.
COTTON GIN.

APPLICATION FILED MAY 25, 1909.

961,624.

Patented June 14, 1910.

3 SHEETS—SHEET 1.



Witnesses
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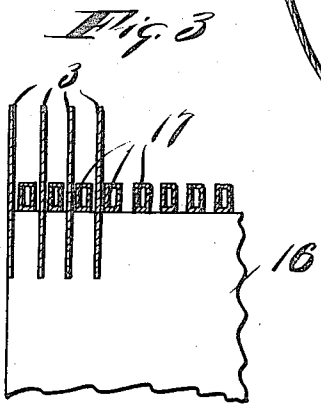
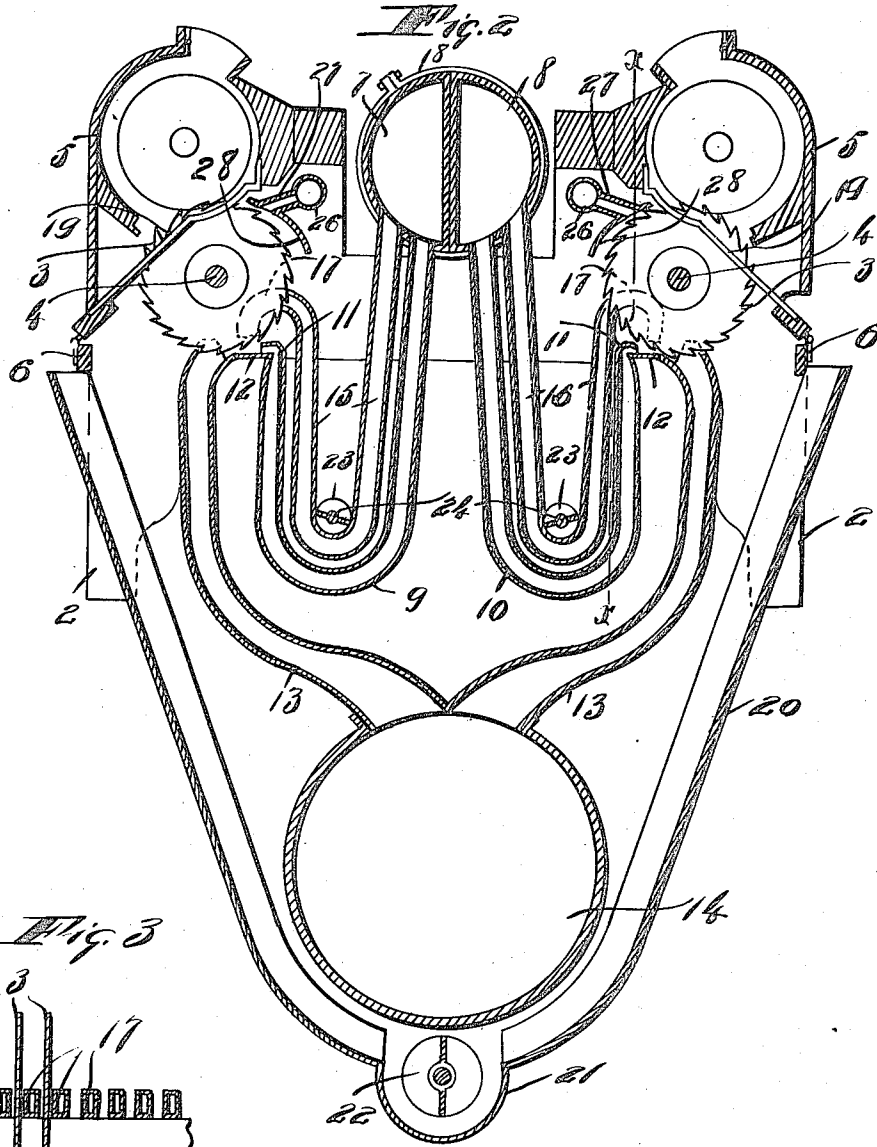
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3 SHEETS—SHEET 2.



Witnesses

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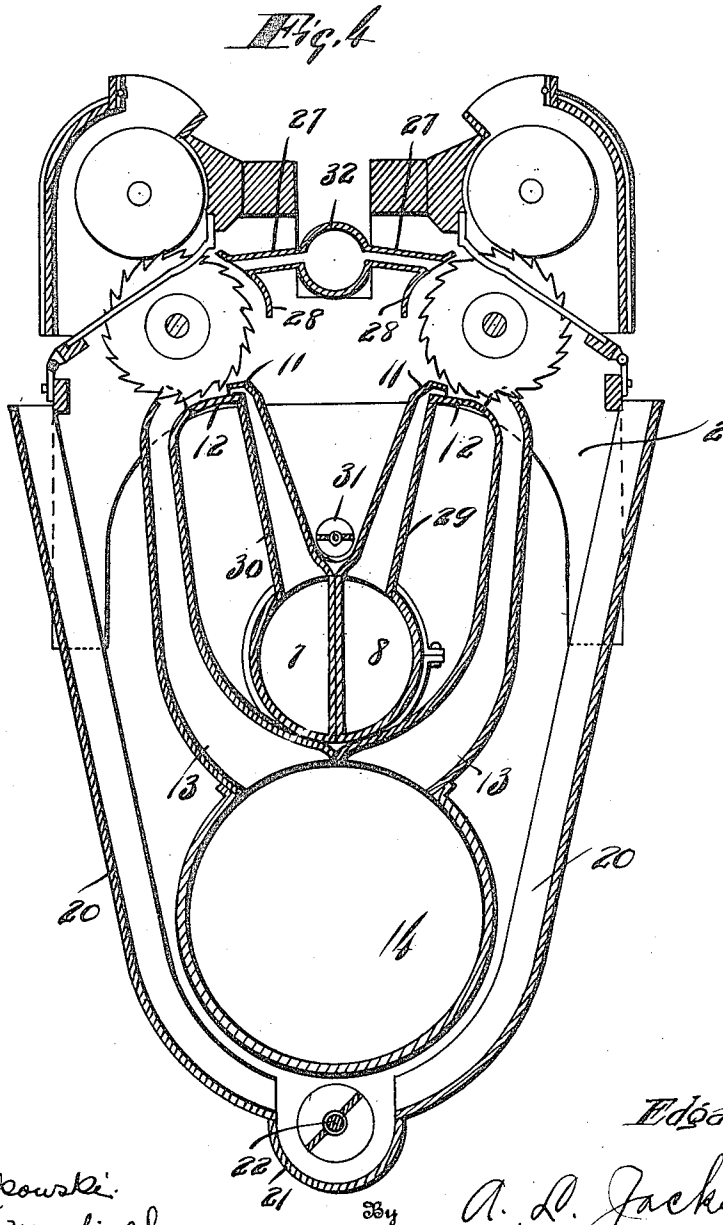
COTTON GIN.

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3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

EDGAR LUMPKIN, OF DALLAS, TEXAS.

COTTON-GIN.

961,624.

Specification of Letters Patent. Patented June 14, 1910.

Application filed May 25, 1909. Serial No. 498,296.

To all whom it may concern:

Be it known that I, EDGAR LUMPKIN, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Cotton-Gins, of which the following is a specification.

This invention relates to cotton gins and more particularly to cotton gins provided with attachments for stripping lint cotton from the saw teeth of the gin by means of air pressure or air in motion concentrated in the path of the saw teeth during operation.

The invention consists of certain improvements on the patent granted to Robert B. Lumpkin on January 26, 1909, No. 910,700. In that patent some trash and motes would fall on top of the air-feeding chute and thence fall down between the gin saws on the floor of the gin house.

One object of this invention is to provide air chutes which will prevent the trash and motes from falling down through the saws and which provides a receptacle for receiving the motes and trash so that the same can be removed.

Another object is to reinforce the air blast which is utilized in said patent to strip the lint from the gin saws.

Another object is to improve the air supply tube or chamber for double gins.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application and specification.

Figure 1 is an end view of a double gin stand. Fig. 2 is a vertical section of the double gin. Fig. 3 is a broken section, taken substantially along a portion of the line $x-x$ of Fig. 2. Fig. 4 is a vertical section, showing a variation in the air supply and cleaner pipes.

Similar characters of reference are used to indicate the same parts throughout the several views.

The frame of the gins herein described is similar to the frame shown in the patent to Robert B. Lumpkin, issued May 12, 1908, No. 887,487.

In Fig. 1, the numeral 1 indicates one of

the frame elements and in Fig. 2, the numeral 2 indicates the other frame element. 55
The gin saws 3 are journaled in said frame by means of shafts 4 and the gin breasts 5 are hinged to the side beams 6. Air chambers 7 and 8 are mounted in the upper part of the frame. These air-chambers are made 60
separately and several advantages are obtained by making the same in two parts. This arrangement makes certain an equal amount of air pressure for each side of the gin and a change in the parts of one gin for 65
any purpose will not affect the operation of the air-pressure on the other side of the gin stand. The two parts are more readily adjusted than if made together. The main air-feeding chutes 9 and 10 extend from the 70
air chambers 7 and 8 respectively downwardly lower than the gin saws and then back upwardly in close proximity to the gin saws and terminate with bent lips 11, forming contracted exit chutes. The air blast 75
discharged from the chutes strikes a deflecting plate 12 which causes a concentration of the air-blast in the path of the saw teeth and drives the lint cotton from the saw teeth into lint chutes 13 which deliver the cotton 80
to a common lint receiver 14 from whence the cotton is carried by the same air-pressure to a condenser or press. Auxiliary air-feeding chutes 15 and 16 are provided for reinforcing the air-pressure previously described. 85
The auxiliary chutes are substantially parallel to the main air-feeding chutes and the lowest parts of the auxiliary chutes are curved concentrically with the lowest parts of the main air-feeding chutes. The auxiliary air-feeding chutes 15 and 16 extend farther upwardly than the main air feeding 90
chutes and close to the peripheries of the saws. Curved tubes 17, forming outlets for the air, extend from the chutes 15 and 16 between the saws and terminate at points adjacent to the deflecting plates 12, the object being to discharge the air at the points of the greatest concentration of air pressure from the main air-chutes and thus to aid in forcing the cotton from the saw teeth. The air 100
chambers 7 and 8 supply air for the respective chutes 9 and 15 and 10 and 16. The chambers 7 and 8 are bound together by suitable bands 18. 105

The gins are provided with the usual ribs

19 for discharging the cotton seed. The seed are discharged in seed chutes 20 which carry the seed to a common trough 21 from whence they are carried to a suitable storage place by a spiral conveyer 22.

Provision is made for removing trash and motes and dust. Portions of the peripheries of the saws at the backs of the gins are exposed so that the saws throw off trash and motes and dust by reason of centrifugal force. I have provided pneumatic cleaning devices to catch such matter and remove the same from the gin. Suction pipes 26 are mounted in the machine frame and extend parallel to the gangs of saws and these pipes are provided with chutes 27 which extend in close proximity to the saw teeth. The mouths of the chutes 27 are flared to form shallow hoods. As the trash and motes and dust are thrown from the saws they will strike the hoods 28 and be drawn through the pipes 26 by suction. The suction must not be strong like the blast which removes the cotton from the saws, but can be strong enough to remove the trash and motes without interfering with the lint removing process. Provision may be made for removing any trash and motes that may pass the hoods 28 and fall down in the bends of the air-chutes 15 and 16. Spiral conveyers 23 are mounted to run in the bends of the chutes 15 and 16 and are provided with projecting shafts 24 to which power may be applied for driving the same. Chutes 25 are provided for directing the trash and motes into trough 21 or to any other suitable receptacle when forced out of the bends of the air-chutes by the conveyers 23.

Fig. 4 illustrates a variation in the pneumatic cleaning pipes and in the devices for stripping the lint from the saws. The mechanism is much simplified. The auxiliary chutes are omitted from this view, but it is apparent that such chutes can be applied to this form of the gin. There is no change in the lint flue 14 nor in the seed chutes 20 nor trough 21 and conveyer 22. There is no change in the construction of the air supply pipes 7 and 8 and lint chutes 13. The air-feeding chutes 29 and 30 operate in the same manner as the chutes 9 and 10, but are differently constructed. These chutes have the same bent portions 11. Instead of two conveyers, only one conveyer carries away trash and motes. Instead of two cleaner suction tubes, only one suction tube 32 is necessary since the air-feeding chutes and the air supply pipe are placed in the lower part of the machine. The suction chutes 27 and the hoods 28 operate as above described. Any motes and trash that may escape the hoods 28 will fall down within a receptacle formed between the air-feeding

chutes and be carried out of the machine by the conveyer 31.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. In a cotton gin provided with a frame and a gang of saws mounted in each side of said frame and a common lint receiver; lint chutes extending from said saws to said receiver, an air-blast chamber, main air-feeding chutes extending from said air-blast chamber to and directing a blast of air upon the peripheries of said saws to drive the lint therefrom into said lint chutes, and auxiliary air feeding chutes extending from said air-blast chamber to said saws and provided with outlet pipes projecting between the saws and discharging blasts radially outwardly between each pair of saws and approximately at the points at which the blast from the main air feeding chutes strike the peripheries of the saws to drive the lint from the saws into said lint chutes.

2. In a cotton gin provided with a frame and a gang of saws mounted in each side of said frame and a common lint receiver; lint chutes extending from the saws to said receiver, an air-blast chamber, main air-feeding chutes extending from said air-blast chamber and directing a blast of air upon the peripheries of said saws, deflecting plates forming connections between said air-feeding chutes and said lint chutes, and auxiliary air-feeding chutes extending from said air-blast chamber to said saws and provided with outlet pipes the extremities of which project radially outward between the saws at the points of said saws at which the blasts from said main air-feeding chutes strike the saws and coöperating with said main air-feeding chutes and said plates to concentrate air-pressure in the paths of the saw teeth.

3. In a cotton gin provided with a frame and a gang of saws mounted in each side thereof; an air blast chamber, a receptacle for trash and motes adjacent to each gang of saws, air-feeding chutes communicating with said air-chamber and terminating in close proximity to said saws to drive the lint therefrom, said air-feeding chutes being arranged to form said receptacle adjacent to and below each gang of saws, and means for removing the trash and motes from said receptacle.

4. In a cotton gin provided with a frame and a gang of saws mounted in each side thereof, an air blast chamber, a receptacle for trash and motes adjacent to each gang of saws, air-feeding chutes communicating with said air-chamber and terminating in close proximity to said saws to drive the lint therefrom, said air-feeding chutes being ex-

tended downwardly and then bent upwardly
to form said trash and motes receptacles,
spiral conveyers mounted in the bends of
said air-feeding chutes, and chutes connect-
5 ed with said receptacles to receive trash and
motes removed from said receptacles by said
conveyers.

In testimony whereof, I set my hand in
the presence of two witnesses, this 14th day
of May, 1909.

EDGAR LUMPKIN.

Witnesses:

J. E. McDONALD,
F. E. McDONALD.