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AUTOMATIC SUCTION DISTRIBUTER FOR GINNING PLANTS.

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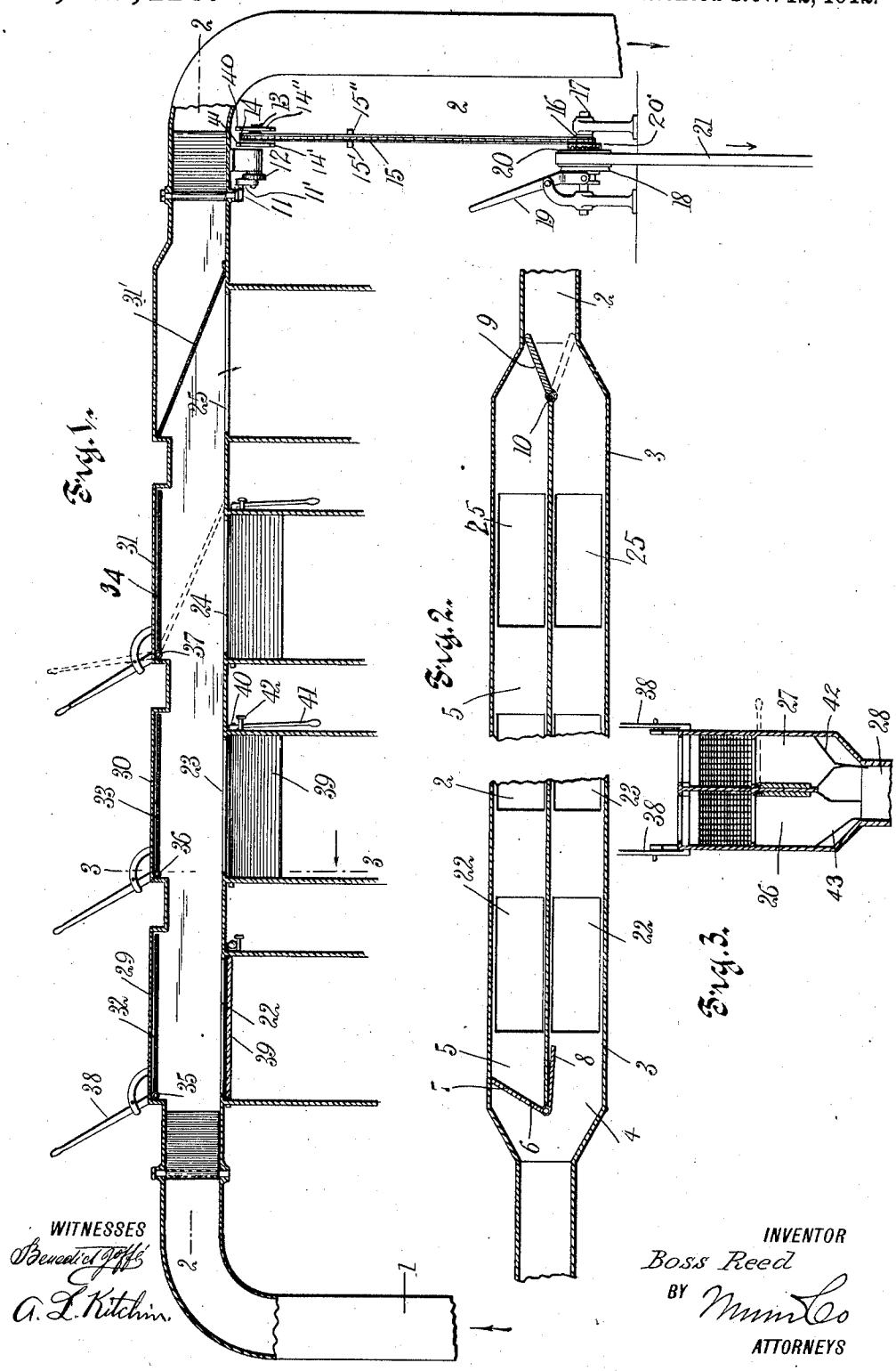

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

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AUTOMATIC SUCTION-DISTRIBUTER FOR GINNING PLANTS.

1,044,418. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed March 18, 1912. Serial No. 684,505.

To all whom it may concern:

Be it known that I, Boss Reed, a citizen of the United States, and a resident of Russet, in the county of Johnston and State of Oklahoma, have invented a new and Improved Automatic Suction-Distributer for Ginning Plants, of which the following is a full, clear, and exact description.

This invention relates to improvements in ginning plants and particularly to automatic suction distributing pipes or tubes designed to deliver cotton to the various gins and has for an object the provision of means which will provide a maximum control of the distributing or feeding means whereby the gins may be continuously operated even though part of the distributing or feeding means is out of order.

A further object of the invention is to provide a suction pipe formed with pairs of divided chutes merging into a single discharge pipe adapted to enter a gin, this discharge pipe being associated with baffling means arranged to guide cotton to either of the discharge pipes, as desired.

In carrying out the objects of the invention, a distributing suction pipe is provided having a pair of passageways arranged therein. Each of the passageways is adapted to have a plurality of apertures in the bottom thereof through which the cotton is designed to be discharged. A baffling screen is arranged adjacent each of the openings or apertures, and is movably mounted so that the same may be moved into the path of movement of the cotton for directing the cotton to any of the apertures. A movable floor or closure is also provided for each aperture for preventing positively the entrance of cotton therein under certain circumstances. The apertures are arranged in pairs and open into chutes which merge into a single discharge pipe, to which is connected a gin whereby when cotton is fed to either of a single pair of apertures the gin is receiving cotton.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal vertical section through an embodiment of the invention; Fig. 2 is a section through Fig. 1 approximately on line 2—2; and Fig. 3 is a section through Fig. 1 on line 3—3.

Referring to the accompanying drawings by numerals, 1 indicates a cotton intake pipe. Cotton is supplied to this pipe or tube in any desired manner. At the opposite end of the device a pipe 2 is provided, designed to be connected with a fan or suction device for providing suction which will draw the cotton through the pipe 1 and into a central pipe 3 having passageways 4 and 5, the pipes 1 and 2 merging into the pipe 3. At a point where the pipe 1 joins the pipe 3, a pivotally mounted door 6 is provided having closure members 7 and 8 actuated by the suction. Near the end where the pipe 2 merges into pipe 3, a single door 9 is provided, rigidly secured to a shaft 10. An arm 11 is rigidly secured to the shaft 10 and is pivotally connected with a link 11′ which in turn is pivotally connected with a crank 12 rigidly secured to a shaft 13 so that when the shaft 13 is rotated for a half rotation the door will be shifted from one position to another. The shaft 13 carries a sprocket wheel 14 which accommodates a chain 15 adapted to pass over or be operated by a sprocket wheel 16 connected to a shaft 17. The sprocket 14 is loosely mounted on the shaft 13 and has arranged on each side thereof wheels 14′ and 14″ provided with lugs 40 and 41 which are adapted to be engaged by lugs 15′ and 15″ arranged on one of the links of the chain 15. The sprocket 14 is designed to run freely on the shaft 13 but the wheels 14′ and 14″ are rigidly secured to the shaft 13 so that when the lugs 15′ and 15″ engage the lugs 40 and 41 the shaft 13 will be turned for a half revolution, there being preferably two lugs on each of the wheels 14′ and 14″, the same being positioned diametrically opposite each other. Connected with the pulley 20 on which the belt 21 is mounted is a sleeve 18 engaged by a pivotally mounted lever 19 so as to shift the pulley 20 back and forth slightly for causing the interlocking toothed gears or clutches 20′ to be engaged or disengaged as desired.

When the interlocking gears or clutches 20′ are engaged the chain 15 is continuously running which will cause the lugs 15′ and 15″ to operate the door 9 upon a completion of each cycle. However, when it is desired to hold the door 9 in either position the lever 19 is moved whereby the chain 15 is stopped. The same may be started any time for shifting the door 9. From this

construction and arrangement it will be noted that at any time the door 9 may be held in either position by moving the lever 19 so as to disconnect the chain 15 and it will stand in that position until a change is desired. When the lever 19 is drawn back for causing the interclutching gears 20′ to mesh, the chain 15 will be caused to operate and the door 9 will be thereby caused to operate automatically from one side to the other and continue to do so until stopped by a movement of the lever 19. This construction and arrangement is very important in that the same is of advantage at the time that the gin is finishing one load of cotton. At this time one of the passageways will be empty and will thereby allow the next load of cotton to be taken into the passageway and held therein until the remaining cotton from the previous load is ginned out. It will of course be evident that the door 9 may be manipulated for automatically moving back and forth whenever desired, or may be held stationary whenever desired according to the circumstances and according to the particular wish of the operator.

The tube or pipe 3 is provided with a plurality of openings 22, 23, 24 and 25, the same being arranged in pairs, one opening or aperture being arranged in each of the passageways 4 and 5. Each of the openings 22, 23, 24 and 25 have associated therewith chutes 26 and 27 which merge into single discharge pipes 28. The pipes 28 are connected to ginning machines in any desided manner. By providing the passageways 4 and 5 the pipes 28 may be supplied with cotton through the apertures in one of the passageways 4 or 5, and if for any reason the passageway or any of the gins get out of order the cotton may be switched to the other passageway which will continue to feed cotton to the gins. At the bottom of the chutes 26 and 27 are arranged canvas valves 42 and 43 of preferably the usual structure, which act in the usual manner for permitting the proper suction of the cotton into the passageways 4 and 5, and also permit the proper feeding of the cotton through pipes 28 into the respective gins. When a load of cotton is being fed through either of the chutes 26 or 27 the valves 42 or 43 will be closed.

The pipe 3 is formed with raised portions 29, 30 and 31 for accommodating screens 32, 33, and 34 rigidly secured to pivotally mounted shafts 35, 36, and 37. Each of these shafts has rigidly secured thereto an operating lever 38 which may be operated for raising and lowering the screens for preventing the passage of cotton beyond a certain point. There is a separate screen and separate operating handle or lever in each of the passageways so that the passageways are thus independent of each other. If for any reason it should be desired to prevent cotton from passing into the aperture 25, the screen 34 is lowered to the position shown in dotted lines in Fig. 1, whereupon the air may be freely drawn through the passageway, but cotton will be prevented from passing to aperture 25. This is very desirable when the gin receiving cotton from aperture 25 is out of order. In case the gin receiving cotton from aperture 23 is out of order a door 39 is raised for closing the apertures 23. In Fig. 1 the door 39 is shown raised for closing aperture 22. This will permit the cotton to pass by this aperture and be fed into the remaining apertures. Each of the doors 39 is rigidly secured to a shaft 40 and each in turn carries an operating handle 41 designed to be used for raising and lowering the doors. A suitable stop 42 is provided for holding the door in its elevated position.

In operation as the cotton is drawn through pipe 1 the same is guided into one of the passageways 4 and 5 and falls down the respective openings arranged in the passageway. After passing through the respective openings in the passageway 4 for instance, the cotton enters the pipes 28 and from thence moves into the respective gins. In the drawings only four openings are shown so that only four gins could be used, but it will be evident that a greater or less number of openings could be provided as occasion might require. In case it should be desired to use the passageway 5 instead of passageway 4, it will only be necessary to shift the door 9 when the cotton will automatically feed into the passageway 4 and from thence down through the openings arranged in that passageway to the same gins so that the gins may be kept going. By the arrangement of the screens 29, 30, and 31, and the doors 39 the cotton may be prevented from entering any particular opening and consequently from entering any particular gin. This is of advantage where it is desired to repair or examine one of the gins but permit the remaining gins to operate. Adjacent the opening 25 is arranged a permanent screen 31′ which is designed to positively prevent any of the cotton passing out pipe 2 but permits the free passage of air.

Having thus described my invention I claim as new and desire to secure by Letters Patent:

1. In a device of the character described, a cotton distributing member formed with a pair of passageways and a plurality of pairs of discharge openings, said pairs of discharge openings being arranged in opposite passageways, a single distribution chute for each pair of passageways, an independent door for closing each of said openings where-

by cotton may be fed from either of said passageways into any of said distributing chutes, a pivotally mounted screen arranged adjacent each of said openings, means for moving said screens into and out of the path of movement of cotton over said openings, and a locking member for locking said screens in their respective positions.

2. In a device of the character described, a cotton distributing member formed with a pair of passageways, each of said passageways being formed with a plurality of apertures, and said apertures being arranged in pairs, a single chute for each pair of apertures, means for closing any of said apertures independently, a pivotally mounted tures, means for closing any of said apertures, means defining a recess for each of said screens, means for removing said screens from across said passageways into said recesses, and means for locking said screens in either position.

3. In a device of the character described, a cotton distributing member formed with a pair of passageways, means for directing cotton to either of said passageways, said passageways having apertures therein, arranged in pairs, a single discharge chute for each pair of apertures, a pivotally mounted door for independently closing each of said apertures, a pivotally mounted stop arranged opposite each of said openings, and means for moving said stop across said respective passageways for shutting off the flow of cotton from any of said apertures.

4. In a device of the character described, the combination with a plurality of cotton gins, of a tube for each gin, a divided chute discharging into each of said tubes, a distributing member connected with all of said chutes and formed with a pair of passageways having spaced apertures opening into said chutes, apertures in one passageway opening into one part of the chute and the openings in the opposite passageway opening into the other part of the chute, a cotton intake pipe connected with one end of said distributing member, a suction pipe connected with the opposite end of said distributing member, and doors arranged at each end of said distributing member for guiding cotton into either of said passageways.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BOSS REED.

Witnesses:
E. T. WOLVERTON,
W. I. ALLEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."