F. ALDER AND J. C. ROGERS.

LINT CLEANER AND BATTING MACHINE.

APPLICATION FILED DEC 17, 1920.

1,425,502.

Patented Aug. 15, 1922.

2 SHEETS—SHEET 1.

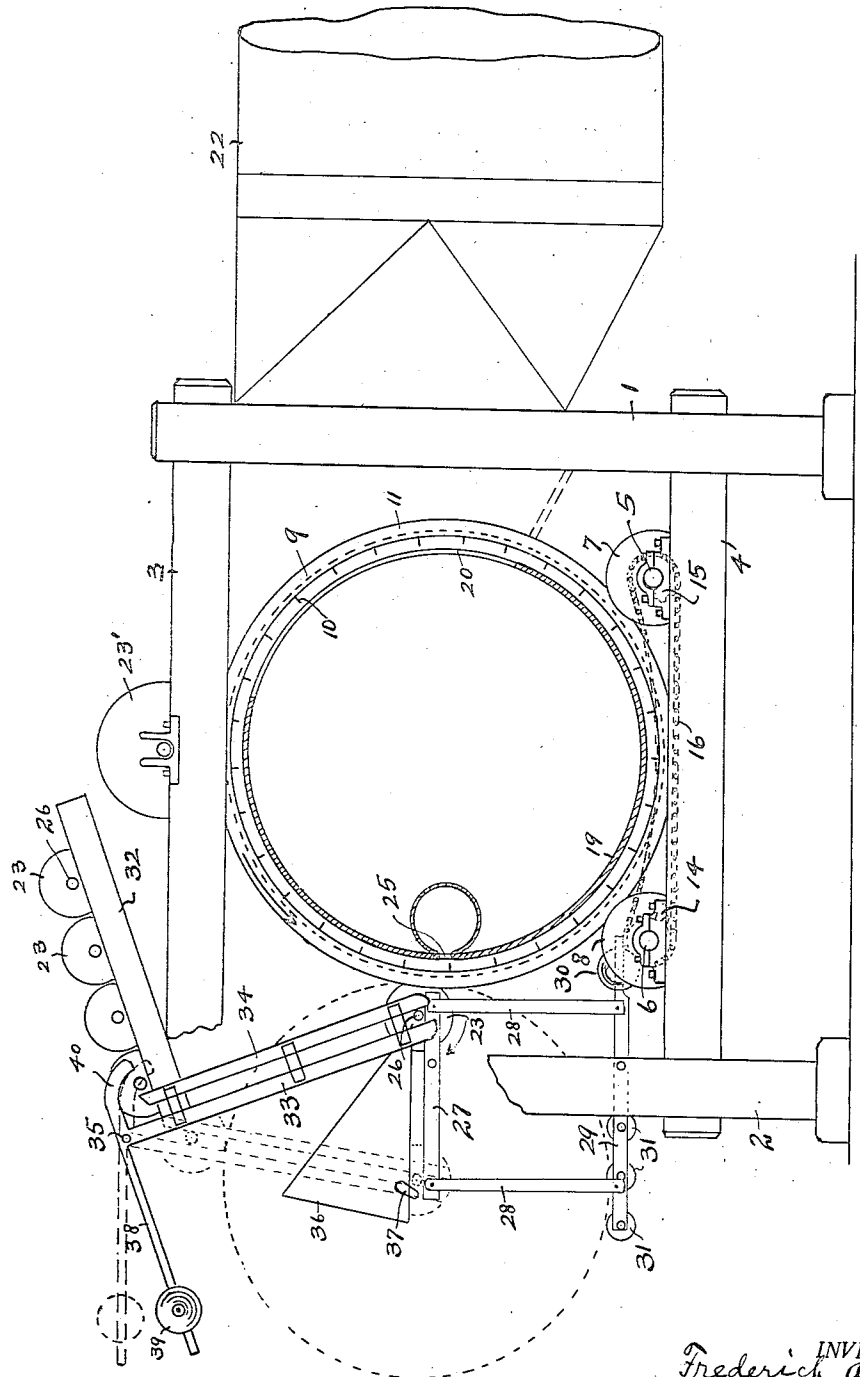


Fig. 1.

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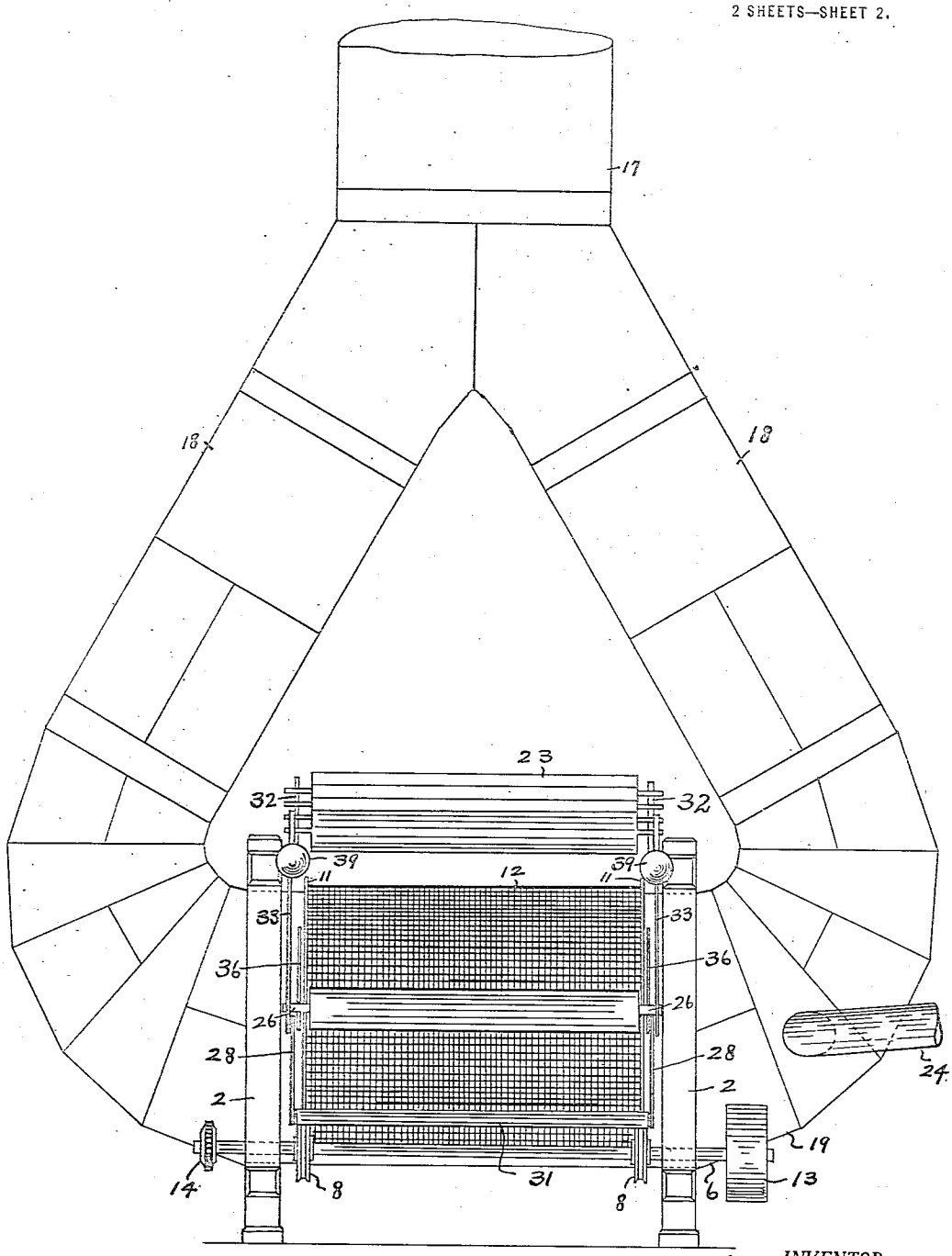


Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDERICK ALDER AND JOHN C. ROGERS, OF HOUSTON, TEXAS.

LINT CLEANER AND BATTING MACHINE.

1,425,502. Specification of Letters Patent. Patented Aug. 15, 1922.

Application filed December 17, 1920. Serial No. 431,505.

To all whom it may concern:

Be it known that we, FREDERICK ALDER, subject of the King of Great Britain, and JOHN C. ROGERS, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in a Lint Cleaner and Batting Machine, of which the following is a specification.

This invention relates to new and useful improvements in a lint cleaner and batting machine.

One object of the invention is to provide a machine of the character described specially constructed to receive lint cotton from one or more gins and to clean the same and condense it into a bat of a form to be readily compressed into a bale.

With the above and other objects in view the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

Figure 1 is a side view of the machine with the near end wall removed, and

Figure 2 is a rear view thereof.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numerals 1 and 2 designate, respectively, the front and rear supporting legs, to which are secured the upper and lower cross beams 3 and 4 forming a supporting framework. The numerals 5 and 6 designate transverse shafts which are rotatably mounted in suitable bearings carried by the lower cross beams 4 and these shafts carry the respective grooved drive wheels 7, 7 and 8, 8 which are spaced apart and which support the revolving cylindrical drum 9. This drum is formed with lengthwise ribs 10 which are spaced apart and which are secured at their ends to the end flanges 11 of the drum and the ribs 10 support a foraminated covering 12. The end flanges 11 ride in the grooves of the drive wheels 7 and 8 and the drum is rotated from said drive wheels. Fixed upon one end of the shaft 6 there is a drive pulley 13 over which a suitable drive belt, (not shown), operates and fixed upon the other end of said shaft there is a sprocket wheel 14 which is in alignment with a similar sprocket wheel 15 which is fixed upon the corresponding end of the shaft 5. A driving sprocket chain 16 operates over these sprocket wheels and thereby the shaft 5 and the driving wheel 7 fixed thereon, are driven and the drum 9 rotated. The numeral 17 refers to a suction pipe through which an air current is induced by means of any suitable suction fan, (not shown). This suction pipe is divided into the branches 18, 18 which are connected by the transverse conduit 19 which passes through the drum and the forward side of this conduit has an inlet opening 20, said opening being of a length equal to the length of the drum and being of sufficient width to give the required inlet. Opposite this inlet opening there is an inlet pipe 22 which leads from the gin and which enters the casing of the machine and through this inlet pipe the lint cotton is delivered from the gin. The drum rotates in the direction indicated by the arrow in Figure 1 and as it rotates the dirt and foreign matter is sucked through the opening 20 and discharged out through the suction pipe 17 but the lint is deposited in the form of a bat on the drum 9 and passes between said drum and the compression roller 23′ which is mounted in suitable bearings carried by the framework and is in rolling contact with said drum and this roller compresses said bat into a compact form. A lint roller 23 is arranged to receive the bat from the drum and rotates in the direction indicated by the arrow in Figure 1. The bat passes between the drum and lint roller 23 and adheres to and is wound around the latter. A blow pipe 24 is arranged within the conduit 19 and has a long nozzle opening 25 arranged to blow through the foraminated covering of the drum immediately beneath the lint roller and the current of air releases the bat from the drum and causes it to wind around said roller 23. The lint roller 23 has the spindles 26, 26 projecting from each end thereof and these rest upon the corresponding dumping tracks 27, 27 which are pivoted to the adjacent uprights 2, 2, and pivoted to and depending from the respective ends of the tracks 27 are the links 28, and to the lower ends of each pair of links 28 there is pivoted a swinging lever 29, said levers being also pivoted to the adjacent uprights 2. The inner ends of these levers carry the counter-balances 30 and their outer ends support the friction

rollers 31. 31. It is obvious that as the lint is rolled around the lint roller 23 a roll will be formed which will gradually enlarge in diameter and the roller 23 will move outwardly along the dumping tracks 27, as is indicated in dotted lines in Figure 1.

Fixed to the framework and located above the same there is a roller rack 32 which is kept supplied with a number of lint rollers 23. The rack declines so that said rollers will pass by gravity therefrom. On each side there is a swinging guide formed of the guide bars 33 and 34 which are spaced apart and which are pivoted to the framework at the point 35. The guide bar 34 normally projects above the rack 32 and forms a stop for the storage rollers 23 holding them in the rack 32. As the roll of lint increases in diameter the lint roller 23, around which the same is wound, moves outwardly along the dumping track 27 and the spindles 26, operating between the lower ends of the bars 33 and 34 carry said bars outwardly into the position indicated in dotted lines in Figure 1, the friction rollers 31 operating to prevent the lint roll from sagging. On each side above the dumping track there is fixed an empty roller track 36 and each track 36 has a depending stop 37 secured thereto, said stops being in alignment. These stops are provided so that should either end of the lint roller 23 travel in advance of the other end the advanced end will be stopped and held, until the roll is brought into an exact transverse position before the dumping operation. When the roll is ready to dump it will be of sufficient weight to overcome the weight of the counter-balances 30 and the outer ends of the dumping tracks 27 will be over-balanced and the spindles 26 will pass off of said tracks and the roll will fall to the floor to be disposed of in the usual way. In the meantime the lint roller guide will have swung out a sufficient distance to cause the upper ends of the bars 34 to clear the spindles of the lower reserve roller 23 and this roller will drop off of the rack and its spindles will follow down said guides and it will rest against the lint roll until said roll is discharged and then it will follow on down said guides and tracks 36 onto the dumping track adjacent the drum. The upper end of each of the bars 33 carries a rearwardly extending arm 38 whose free end carries a weight 39 and whose opposite end 40 is downwardly curved to engage in front of the other reserve lint rollers to prevent them from passing off of the rack 32. When the lint roll has been discharged the weights 39 will carry the swinging guides back into original position, carrying the next succeeding lint roll 23 into contact with the drum.

From the foregoing it is obvious that the operation of this machine is in a great measure automatic, that is, the lint cotton is automatically delivered from the gin, and cleaned and formed into a bat and wound into rolls of uniform dimensions, which are automatically discharged from the machine.

What we claim is:—

1. A device of the character described, including a framework, a drum mounted to revolve therein, an inlet chute arranged to deliver lint cotton to the drum, a lint roller arranged to receive the bat from said drum around which the bat is wound into a roll in rolling contact with the drum, and a dumping track along which said lint roller travels from the drum as the roll increases in diameter.

2. A device of the character described including a framework, a drum mounted to revolve therein, an inlet chute arranged to deliver lint cotton to the drum, a lint roller arranged to receive the bat from said drum around which the bat is wound into a roll in rolling contact with the drum, and a dumping track along which said lint roller travels from the drum as the roll increases in diameter, said track being arranged to automatically discharge said roll from the machine when said roll has attained a predetermined weight.

3. A device of the character described including a framework, a drum rotatably mounted therein and provided to receive a bat, a delivery chute arranged to deliver lint cotton to the drum, a lint roller arranged to cooperate with said drum and receive the bat, formed thereon, therefrom, a dumping track on which said lint roller operates and which automatically discharges said roller and the roll carried thereby from the device.

4. A device of the character described including a framework, a drum rotatably mounted therein and provided to receive a bat, a delivery chute arranged to deliver lint cotton to the drum, a lint roller arranged to co-operate with said drum and receive the bat, formed thereon, therefrom, a dumping track on which said lint roller operates and which automatically discharges said roller and the roll carried thereby, from the device, a rack mounted above the framework to retain reserve lint rollers, and means for automatically delivering said reserve rollers, singly, into co-operation with the drum.

5. A device of the character described including a framework, a drum rotatably mounted therein and provided to receive a bat, a delivery chute arranged to deliver lint cotton to the drum, a lint roller arranged to co-operate with said drum and receive the bat, formed thereon, therefrom, a dumping track on which said lint roller operates and which automatically discharges said roller and the roll carried thereby from the device, a rack mounted above the framework to retain reserve lint rollers and means for automatically delivering a reserve roller from

...with the drum, ...the discharge of each roll from the device.

3. In combination, a framework, a drum rotatable therein, a delivery chute for delivering lint cotton to said drum, a compression roller in rolling contact with the drum, a lint roller around which the lint is wound from said drum, a dumping track supporting said lint roller and automatically discharging the same, and the roll thereon, from the device when said roll has attained a predetermined weight, a rack mounted on the framework, reserve lint rollers mounted thereon, and a swinging guide actuated by the lint roller as it moves along said track, and operating to deliver said reserve rollers successively into co-operative relation with said drum.

7. In combination, a framework, a drum rotatable therein, a delivery chute for delivering lint cotton to said drum, a compression roller in rolling contact with the drum, a lint roller around which the lint is wound from said drum, a dumping track supporting said lint roller and automatically discharging the same, and the roll thereon, from the device when said roll has attained a predetermined weight, a rack mounted on the framework, reserve lint rollers mounted thereon, and a swinging guide actuated by the lint roller as it moves along said track, and operating to deliver said reserve roller successively into co-operative relation with said drum after the successive discharge of said lint rolls.

8. A device of the character described including a frame-work, a bat forming drum rotatably mounted therein, means for rotating said drum, a roller arranged adjacent the drum and provided to receive the bat formed on said drum therefrom, and a dumping track along which said roller travels from the drum.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK ALDER.
JOHN C. ROGERS.

Witnesses:
JAS. W. OLIVER,
E. V. HARDWAY.