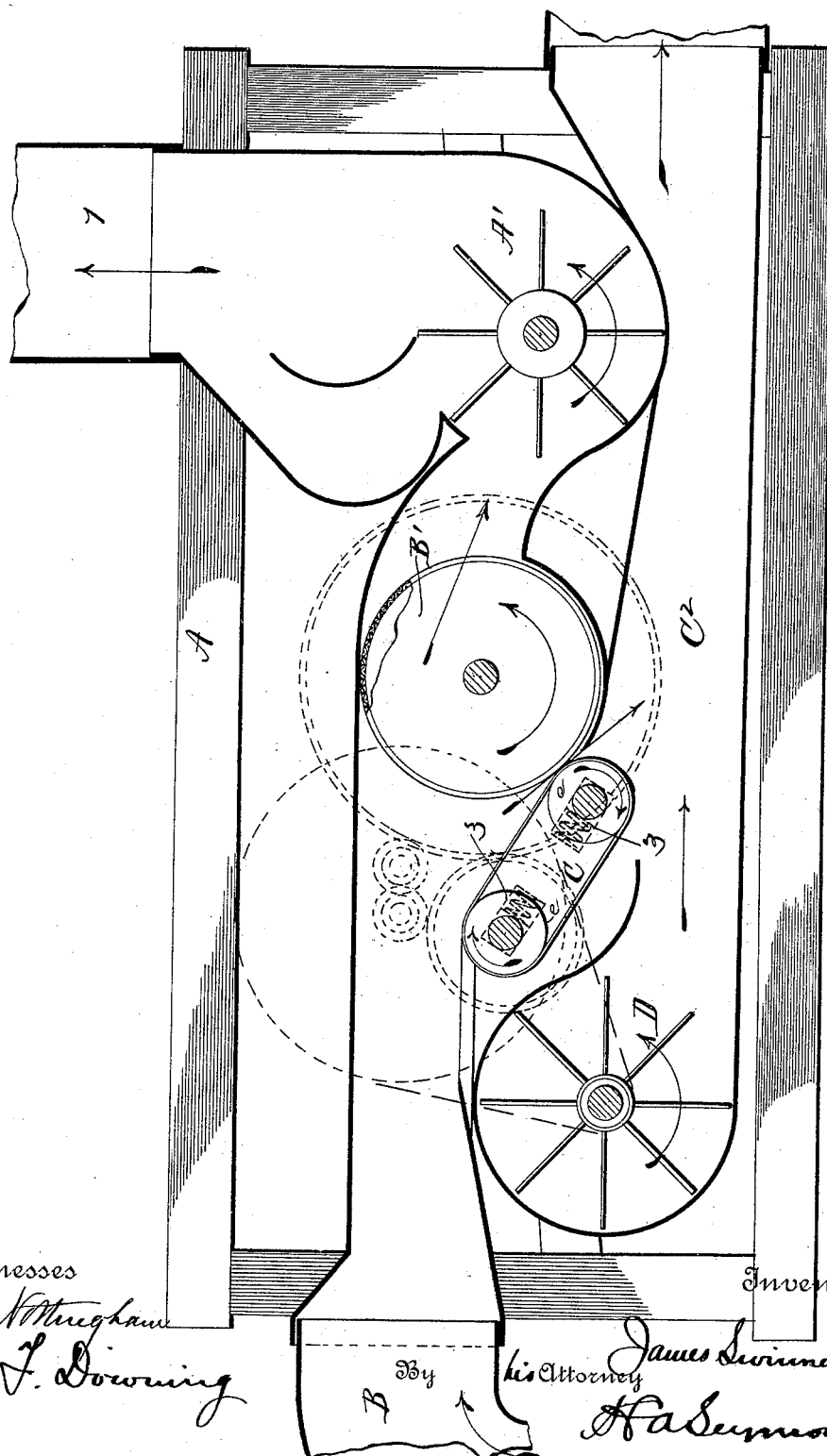


(No Model.)

J. SWINNERTON.
COTTON ELEVATOR.

No. 418,084.

Patented Dec. 24, 1889.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES SWINNERTON, OF DALLAS, TEXAS.

COTTON-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 418,084, dated December 24, 1889.

Application filed August 16, 1889. Serial No. 320,947. (No model.)

To all whom it may concern:

Be it known that I, JAMES SWINNERTON, of Dallas, in the county of Dallas and State of Texas, have invented certain new and useful
5 Improvements in Cotton-Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the
10 same.

My invention relates to an improvement in cotton-elevators.

Hitherto there have been two general plans upon which cotton-elevators have been constructed, in both of which a single fan has
15 been used, by the first plan the cotton, dust, and motes being taken up through the suction-pipe and discharging them through the blast-opening, to which a discharge-pipe had been attached, to the gins; but this plan is open
20 to the objection that it does not separate the dust and motes from the cotton, and that the seeds in passing through the fan are broken, spoiling the sample of cotton, besides increasing
25 the danger from fire due to the friction induced and the liability of the cotton to wrap around the revolving parts of the fan.

The second system comprehends using the suction of a single fan to elevate the cotton,
30 dust, and motes from wagon or bin to a point where the same can be dropped or forced to the gins and carrying the dust and motes out by the blast from the fan. To make this plan effective it is necessary to use a stationary
35 wire screen in connection with a vacuum box or chamber, into which the seed-cotton may collect, and discharge the same by means of air-tight beaters or by periodically opening a valve, thus interrupting the suction.
40 The objections to this second plan are that the fan must necessarily be placed at the farthest point from the cotton to be elevated, necessitating the use of an extra large fan and consuming a large amount of power; the
45 employment of various complicated devices to effect the separation of the cotton and the dust, and when more than one gin is used a distributor or equalizer to deliver the cotton to the gins; that the cotton, after passing
50 through the various devices before reaching the saws of the gin, is more or less compacted,

and consequently not in the proper condition to produce the finest sample or make the best and most presentable appearance.

The object of my invention is to obviate all
55 of these defects and to furnish a compact perfect-working elevator at a much reduced cost, dispensing with cumbrous and complicated parts.

A further object is to submit the seed-cotton to a second air-blast after being divested
60 of the dust and motes by the suction-fan, to place the elevator near to the cotton to be elevated, enabling it to be run with less power, to entirely dispense with distributors
65 by blowing the seed-cotton to the feeder of any number of gins or storage-bins, to furnish a small neat compact machine that any planter or ginner can readily put up and operate, and to provide a machine equally well
70 adapted to small as large ginning outfits.

With these ends in view my invention consists, essentially, in two fans, one for elevating and removing dust and motes and the
75 other for conveying the cleaned seed-cotton to the gins or storage-bins.

It further consists in certain novel features of construction and combinations of parts, as
80 will be hereinafter described, and pointed out in the claims.

The accompanying drawing is a vertical sectional view of my improved elevator.

A represents the frame of the elevator, upon which the parts are supported, and B is a suction-pipe, preferably bending downward
85 at one end, where it receives the seed-cotton from a wagon or bin, and bent at the opposite end, where it terminates in the discharging dust-flue 1. An exhaust-fan A' is revolv-
90 ably supported at the lower end of the flue. This fan preferably has its suction and discharge at the periphery, in contradistinction to the common practice of creating the suction at the center. Of course any kind of
95 fan might be employed; but the one shown is more effective.

B' is a revolving cylinder covered with perforated sheet metal or wire-cloth to permit
100 the free passage of dust and motes through it, but at the same time arrest the passage of the seed-cotton, and by its revolution turn or deflect it downward between its periphery

and the endless belt C into the discharge-pipe C² below. The rollers *e e*, upon which the belt is carried, are held yieldingly in position by small coil or other springs 3 3, so as not to crush the seed and at the same time preserve an air-tight joint between the belt and cylinder.

A fan D of the ordinary or special construction is located in the end of the discharge-passage, and is used to blow the cotton to the gins or storage-bins. The various parts are driven by suitable belts, pulleys, and gears, as partly indicated by dotted lines in the drawing. Motion is communicated from the line-shaft by means of a belt running over a pulley on the shaft of either fan, as most convenient.

It is evident that changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the particular construction herein set forth; but,

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

1. The combination, with a suction-pipe and a discharge-pipe, of a suction-fan, a screening-cylinder located in advance of the suction-fan, and another fan in the discharge-pipe for forcing the cleaned seed-cotton to the gin, substantially as set forth.

2. The combination, with suction and dis-

charge pipes, of a suction-fan, a screening-cylinder, an endless belt for forcing the seed-cotton into the discharge-pipe, and a fan in the discharge-pipe for forcing the cleaned seed-cotton to the gin, substantially as set forth.

3. The combination, with a suction-pipe and a discharge-pipe, of a screening-cylinder and yieldingly-supported endless belt for separating the dust and motes from the seed-cotton and deflecting the latter into the discharge-pipe, a suction-fan in the suction-pipe, and a blowing-fan in the discharge-pipe, substantially as set forth.

4. The combination, with a frame, a suction-pipe having one end bent downward to receive the seed-cotton and the other end terminating in an upwardly-extending dust-flue, and a suction-fan having its suction and discharge at the periphery, of a perforated screening-cylinder, an endless belt which coacts with the cylinder to deflect the cotton into the discharge-pipe, and a blowing-fan in the latter for forcing the seed-cotton to the gins, substantially as set forth.

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

JAMES SWINNERTON.

Witnesses:

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L. C. MCBRIDE.