

(No Model.)

2 Sheets—Sheet 1.

J. W. SEIFERT.
COTTON ELEVATOR, CLEANER, AND FEEDER.

No. 604,426.

Patented May 24, 1898.

Fig. 1.

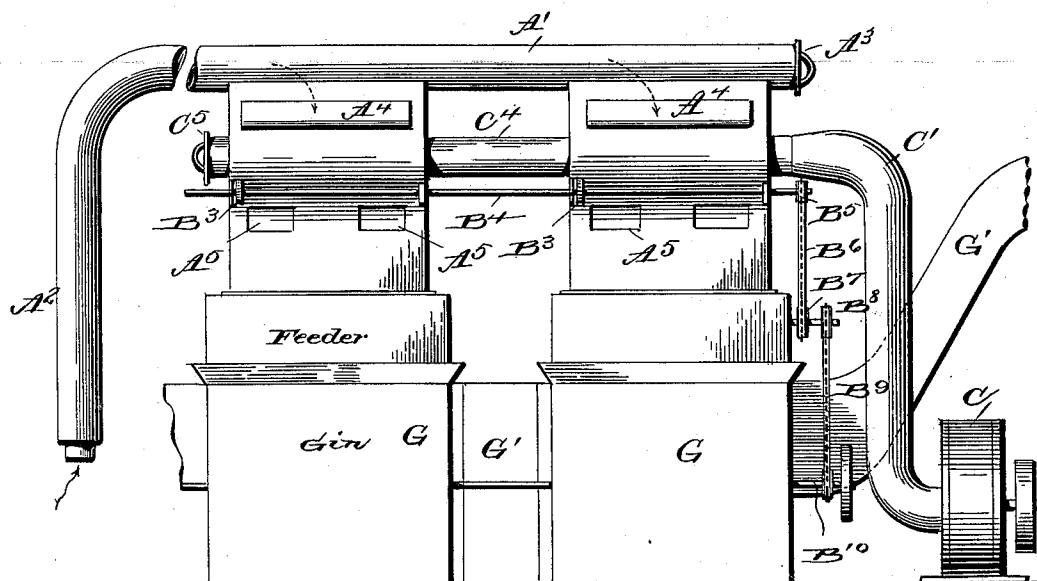
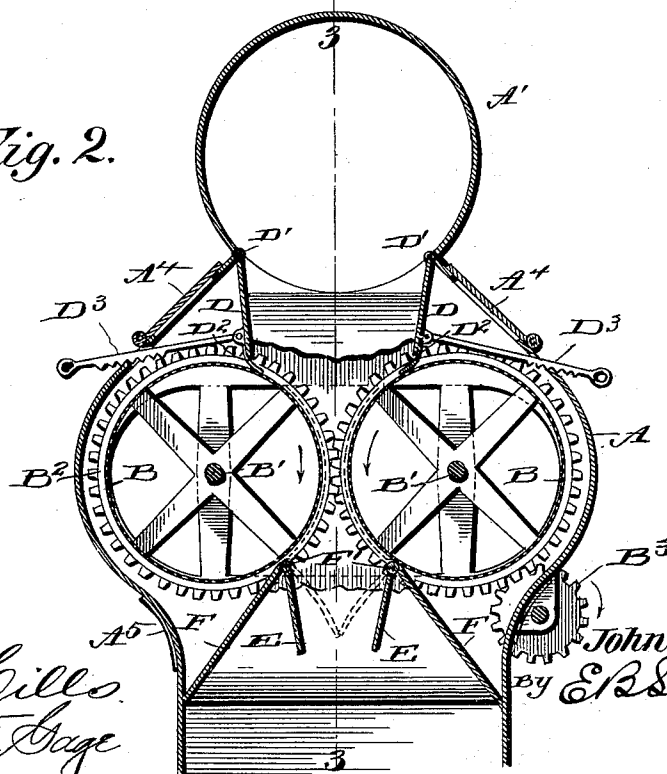


Fig. 2.



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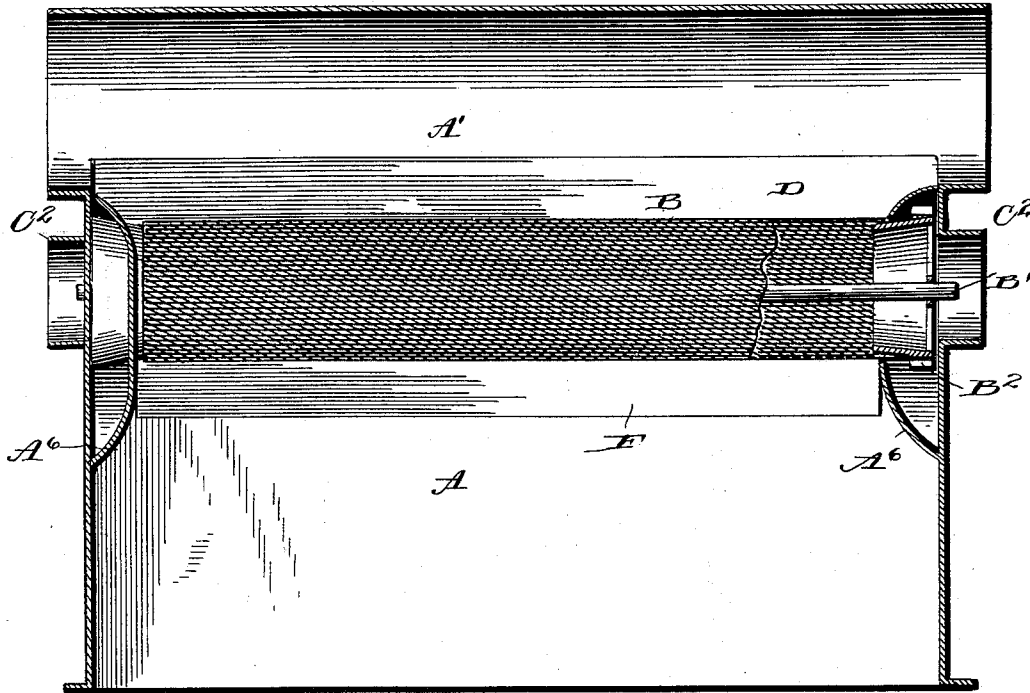


Fig. 3.

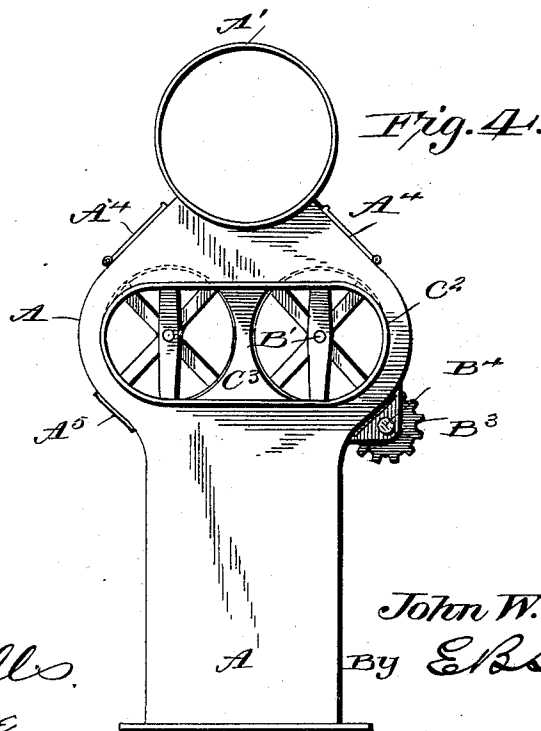


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN W. SEIFERT, OF DALLAS, TEXAS.

COTTON ELEVATOR, CLEANER, AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 604,426, dated May 24, 1898.

Application filed December 4, 1897. Serial No. 660,775. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. SEIFERT, a citizen of the United States, residing at Dallas, in the county of Dallas, State of Texas, have invented certain new and useful Improvements in Cotton Elevators, Cleaners, and Feeders, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to cotton elevators, cleaners, and feeders, and more particularly to such a structure of apparatus which will effect the cleaning of the cotton as the same is positively fed toward the gin.

15 The invention has for its object to simplify the construction of cotton elevators and cleaners and to effect the cleaning operation by the feed-rollers, which insure a positive feed to the gin.

20 It has for a further object to construct the feeding-rollers of reticulated material, so that they will perform both the feeding and cleaning functions, and to further construct the parts so that the area of the rollers may be varied to increase or decrease the surface which will act upon the cotton.

Other objects and advantages of the invention will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

30 In the drawings, Figure 1 is a side elevation of two of the cleaners located in connection with cotton-gins. Fig. 2 is an enlarged vertical cross-section through one of the cleaners with parts broken away. Fig. 3 is a longitudinal vertical section on the line 3 3 of Fig. 2 with parts in section, and Fig. 4 is an end view of the cleaner.

40 Like letters of reference indicate like parts throughout the several figures of the drawings.

45 The letter A designates any suitable form of casing, within which are oppositely located two reticulated cylinders or rollers B, having journals B' bearing in opposite ends of the casing. The coverings of these rollers may be of any suitable material—for instance, a woven-wire netting or perforated metal—and the rollers may be driven by any suitable mechanism. For illustration, each roller may be provided with gear-teeth B², meshing with each other, so that the rollers are caused to ro-

tate in opposite directions and toward each other. The gears B² are driven by a suitable gear-wheel B³, located upon a shaft B⁴, extending longitudinally of the casing, a portion of the gear B³ extending through a suitable aperture in the casing, so as to mesh with one of the gears B², which are located within the casing. One end of the shaft B⁴ may be provided with a suitable gear B⁵, driven by connection with a chain B⁶, extending to a gear B⁷, located upon the driving-shaft of the feed-rollers within the gin. Upon this same shaft another gear B⁸ is located and by means of the connection B⁹ is positively driven from the power-shaft B¹⁰, which actuates the saws within the gin.

The driving mechanism has been described as operating in connection with feed-rollers of the gin; but it has been found in practice that these rollers may be omitted, as the cleaning rollers or cylinders will positively feed the cotton to the gin. The feeder and gin at the left of Fig. 1 are not provided with the gin-feeding rollers, while the gin at the right is so provided.

50 The casing A is provided with the usual conducting-pipe A' at the upper portion, which opens into the body portion A above the cleaning-cylinders, and at one end is provided with a suitable telescopic connection A², and the opposite end of the pipe may be closed by any suitable cap A³, upon the removal of which additional cleaners can be added to those previously in use. The casing is provided with suitable doors A⁴ upon opposite sides, which permit access to the cleaning-cylinders and beneath the cylinders, with windows or doors A⁵ to permit the removal of dust which may drop from the cylinders into the space provided below the same. The opposite ends of the casing are provided with inwardly-extending portions A⁶, within which each of the gears B² of the cleaner-cylinders are located. These portions prevent contact of the cotton with the driving-gears and the escape of dust and dirt at the journaling apertures within the casing.

55 The cotton is elevated from the wagon or other receptacle containing the same by a pneumatic suction or draft effected by means of a fan C, driven by any suitable power, which fan is connected with the ends of the cylinders by a connecting-pipe C'. This pipe

C' fits over a suitable collar or extension C², which is illustrated as oval in shape and communicating with the interior of the oppositely-located cleaning-cylinders, while the space
 5 between the ends of the cylinders is closed by a partition C³, which prevents any draft therethrough. When two or more cleaners are used in connection with a single fan, the same may be connected by a suitable pipe-
 10 section C⁴ and the end of the last cleaner closed by means of a cap C⁵. It will be seen that the suction of the air will be exerted upon the cotton through the reticulated cylinders at the portion thereof in contact with the
 15 cotton.

Above the reticulated cylinders I provide adjustable dampers D, which are pivoted at their upper ends, as at D', and at their lower ends provided with a flexible flap D², lying
 20 in contact with the reticulated cylinders. It will be obvious that these dampers may be adjusted toward and from each other to vary the surface of the cylinders which will be presented to the cotton, and consequently vary
 25 the draft of air acting upon the same. The dampers D may be adjusted by any well-known means—for instance, by racks D³, pivoted at one end to the dampers and at the opposite end engaging a portion of the casing.
 30 Beneath the cylinders I provide suitable flap-valves E, pivoted at their upper ends E', which will close in contact with each other and prevent upward draft from the gin when no cotton is being fed between the cylinders.
 35 Adjacent to the flap-valves E, I locate partition-walls F, which in connection with the case form spaces or chambers to receive such dust and dirt as may fall through the reticulated cylinders in their rotation, although the
 40 larger portion of the dust and dirt will be carried by the draft and discharged through the fan C.

It will be understood that the apparatus is located above and in connection with a cotton-gin G of any suitable construction and
 45 that the lint from the gin is conducted to a condensing apparatus by means of the pipe or duct G'. The cleaners are capable of use, however, without connection to a ginning apparatus.
 50

From the foregoing description the operation of the device will be clearly understood and in brief is as follows: The cotton as it is received from the field is drawn up the
 55 conducting-pipe A² through the conductor A' and by the air is drawn into contact with the reticulated cylinders. The cleaning capacity of these cylinders is regulated by the dampers D, and the dirt and dust will be removed
 60 from the cotton and drawn into the cylinders. The rotation of the cylinders carries the cotton between the same and positively feeds it into the gin located beneath. In the event that the ginning apparatus is stopped
 65 the cotton at once collects upon the surface of the cylinders, and as the same is not fed forward the draft of air is stopped by the col-

lected cotton, so that all clogging of the device is prevented, and as soon as the cylinders again revolve the collected cotton will
 70 be fed from the surface downward and the feeding action through the pipe at once commenced. The cleaning and feeding function is a continuous one, and the cotton and seed are constantly fed to the gin without the
 75 necessity of delays or the operation of the valves to effect the feeding of the cleaned cotton.

I have illustrated and described the details of construction of the several parts of this invention; but it is obvious that numerous
 80 changes may be made in the construction of the parts without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth
 85 its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a cotton cleaner and feeder, the combination with a casing, of reticulated cylinders geared to rotate toward each other, an
 90 air-exhaust communicating with the interior of said cylinders, and adjustable dampers for regulating the air-exhausting area of said cylinders; substantially as specified.

2. In a cotton cleaner and feeder, the combination with a casing, of reticulated cylinders geared to rotate toward each other, an
 95 air-exhaust communicating with the interior of said cylinders, and adjustable dampers provided with flexible flaps in contact with
 100 said cylinders; substantially as specified.

3. In a cotton cleaner and feeder, the combination with a casing, of reticulated cylinders geared to rotate toward each other, an
 105 air-exhaust communicating with the interior of said cylinders, adjustable dampers for regulating the air-exhausting area of said cylinders, and flap-valves located beneath said cylinders; substantially as specified.

4. In a cotton cleaner and feeder, the combination with reticulated cylinders geared to rotate toward each other, of a casing surrounding
 110 said cylinders and provided with apertures above and below the cylinders, closures for said apertures, adjustable dampers above
 115 said cylinders and an air-exhaust connection communicating with the interior of said cylinders; substantially as specified.

5. In a cotton cleaner and feeder, the combination with a casing, of oppositely-located
 120 reticulated cylinders provided with meshing gears, an air-exhaust communicating with the interior of said cylinders, a driving-gear meshing with the gear upon one cylinder, adjustable dampers above said cylinders, and flap-
 125 valves below said cylinders; substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. SEIFERT.

Witnesses:

M. M. THOMPSON,
 J. D. ALDREDGE.