E. COOK.

Cotton-Condensers.

No. 204,951. Patented June 18, 1878.

Fig. 1.

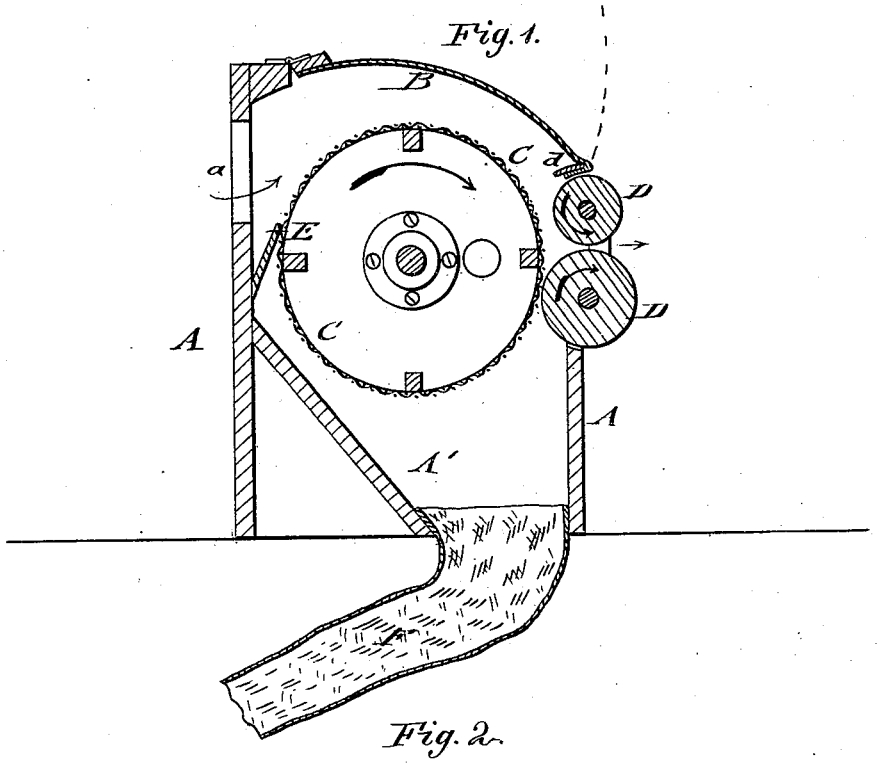
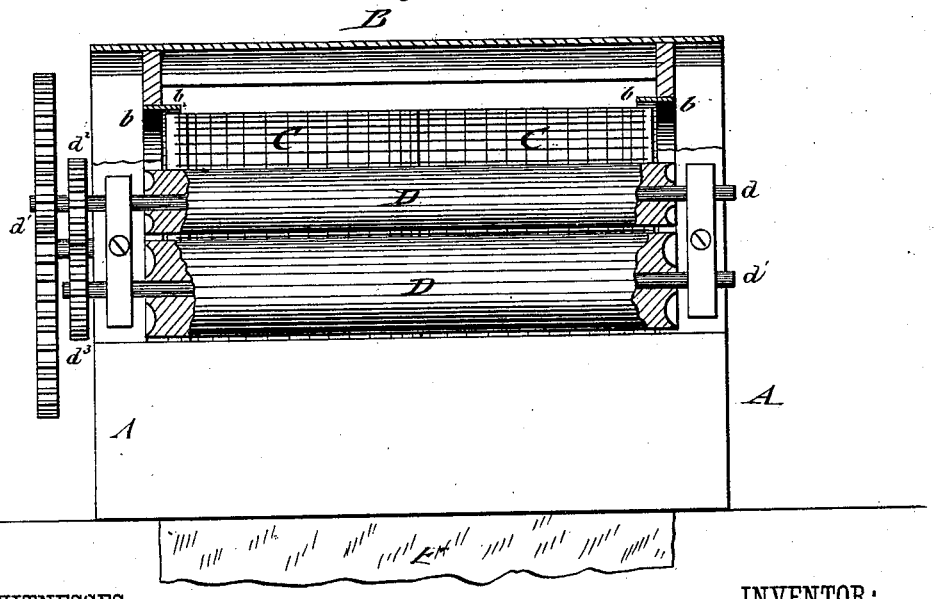


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EMANUEL COOK, OF OGLETHORPE, GEORGIA, ASSIGNOR TO HIMSELF AND JACOB R. COOK, OF SAME PLACE.

IMPROVEMENT IN COTTON-CONDENSERS.

Specification forming part of Letters Patent No. **204,951**, dated June 18, 1878; application filed April 3, 1878.

To all whom it may concern:

Be it known that I, EMANUEL COOK, of Oglethorpe, in the county of Macon and State of Georgia, have invented a new and Improved Condensing Attachment to Cotton-Gins, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical transverse section of my improved condensing attachment to cotton-gins; and Fig. 2 a front elevation of the same, partly in section.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved condensing attachment to cotton-gins, by which the cotton is delivered in smooth and uniform state, and clear of all dust, sand, and trash, the latter being conducted to the outside of the gin-house, so as to prevent it from settling on the cotton and machine.

Referring to the drawing, A represents the outer frame or casing of my improved cotton-condenser, which is provided with an opening, *a*, at the side next to the gin, and closed at the top by a hinged and curved lid, B.

At the inside of the casing A is arranged a revolving wire drum, C, having hand-holes in the heads for cleaning the drum. The end walls of the casing are provided with circular openings of the size of the heads of the wire drum, which openings are lined with leather or other suitable packing *b*, so as to close tightly on the heads of the drum, and prevent thereby the escape of dust and the choking of the machine by the entrance of cotton between the heads of the drum and end walls of the casing, as is the case in most condensers.

The wire drum is revolved jointly with the draw-rolls D, at the front part of the condenser, by suitable gearing, and, by belt-and-pulley transmission, with the driving-shaft of the cotton-gin.

The top roller is smaller than the lower one, thus allowing the cotton to pass freely between the screen and the top roller. The latter's shaft *d* has a pinion, d^4, which is actuated by any suitable drive-wheel, and itself drives another pinion, d^3, on the larger roller. The relative number of teeth on the pinions d^2 d^3 corresponds to the relative diameters of the rolls, so that the same surface velocity will be given to each of the rolls.

An inclined board or trash-gatherer, E, is arranged below the entrance-opening *a*, and extended at an inclination toward the drum, being nearly tangential thereto. The trash-gatherer E takes up the coarser particles and impurities when the cotton passes from the gin to the wire drum.

The draw-rolls and drum take up and condense the cotton in uniform manner, the ends of the rolls being provided with annular concave grooves, so that they run free from their bearings, and are prevented from gumming with oil.

The lid B rests on the upper draw-roll, and closes tightly thereon by means of a soft packing sheet or strip, *d*.

The dust and impurities are passed off through the meshes of the wire drum by the current of air that is forced by the fans of the gin-brush through the wire drum and the hopper-shaped lower part A′ of casing A to a cloth conveyer, F, at the bottom of the hopper.

The dust-conveyer F may be turned in any direction to conduct the dust to the outside of the building, so that the dust is not annoying to those working in the gin-house, and does not settle on the cotton or machines. The cloth conveyer carries off all the dust and trash that pass through the wire drum. The condenser works with great lightness and gives no trouble from choking the cotton by dust or dirt.

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

In a cotton-condenser, the combination of an overshot condensing-screen, C, and the two rolls D D, the upper one of the latter being made smaller than the lower one, as and for the purpose specified.

EMANUEL COOK.

Witnesses:
WM. M. GREER,
A. H. GREER.