

(No Model.)

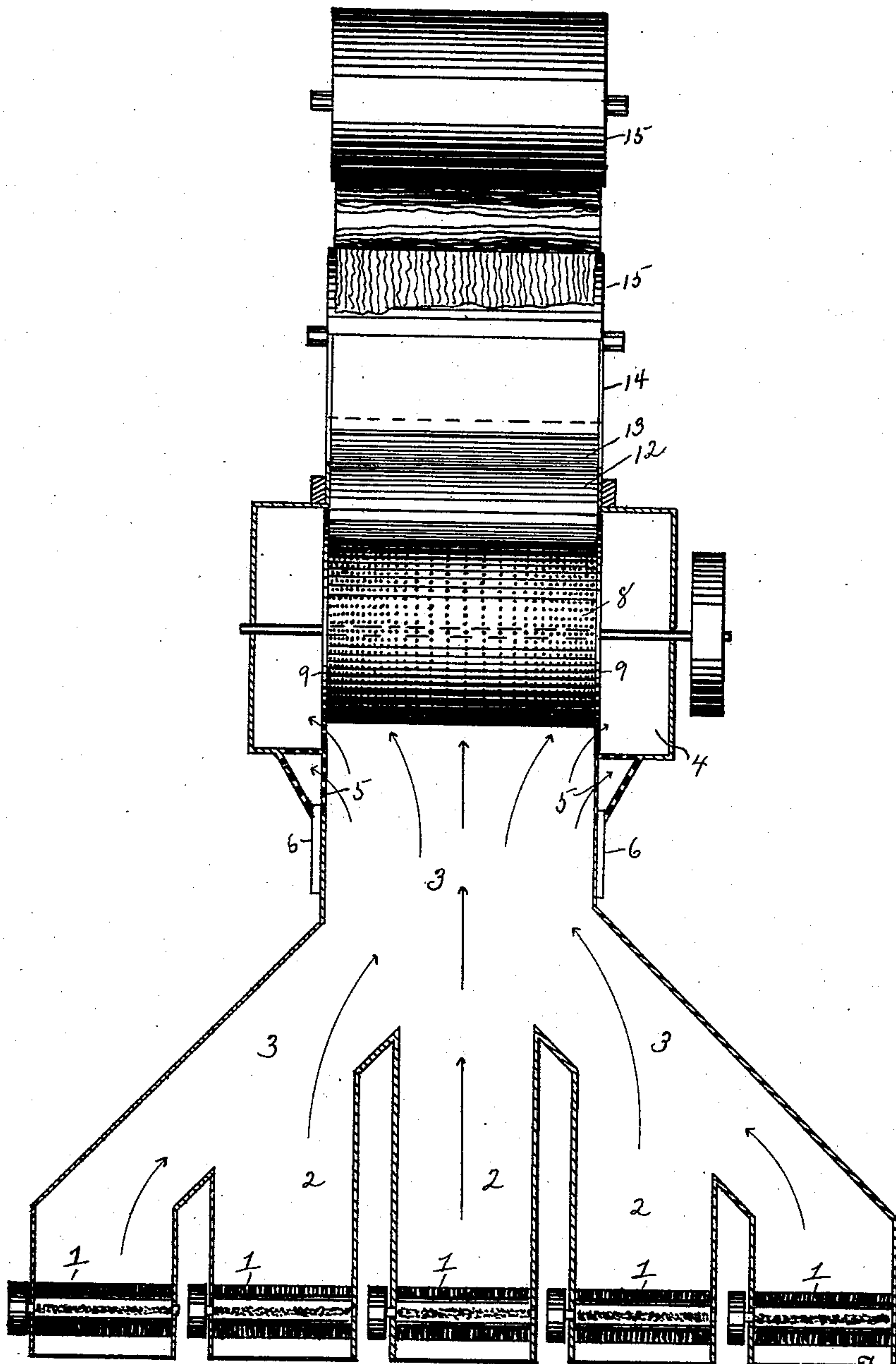
3 Sheets—Sheet 1.

J. M COCHRAN.
COTTON CONDENSER.

No. 572,650.

Patented Dec. 8, 1896.

Fig. 1.



Witnesses

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(No Model.)

3 Sheets—Sheet 2.

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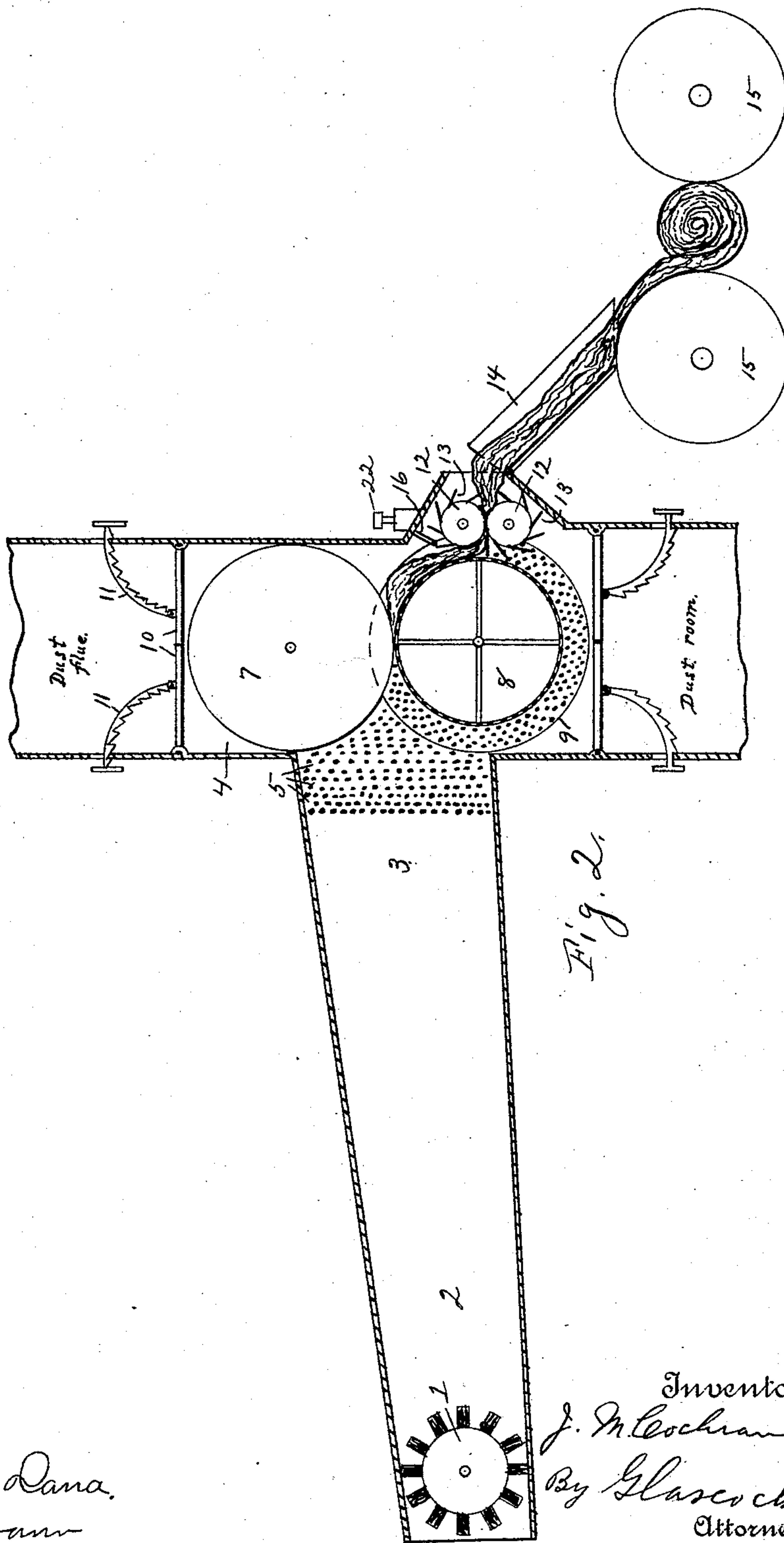


Fig. 2.

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3 Sheets—Sheet 3.

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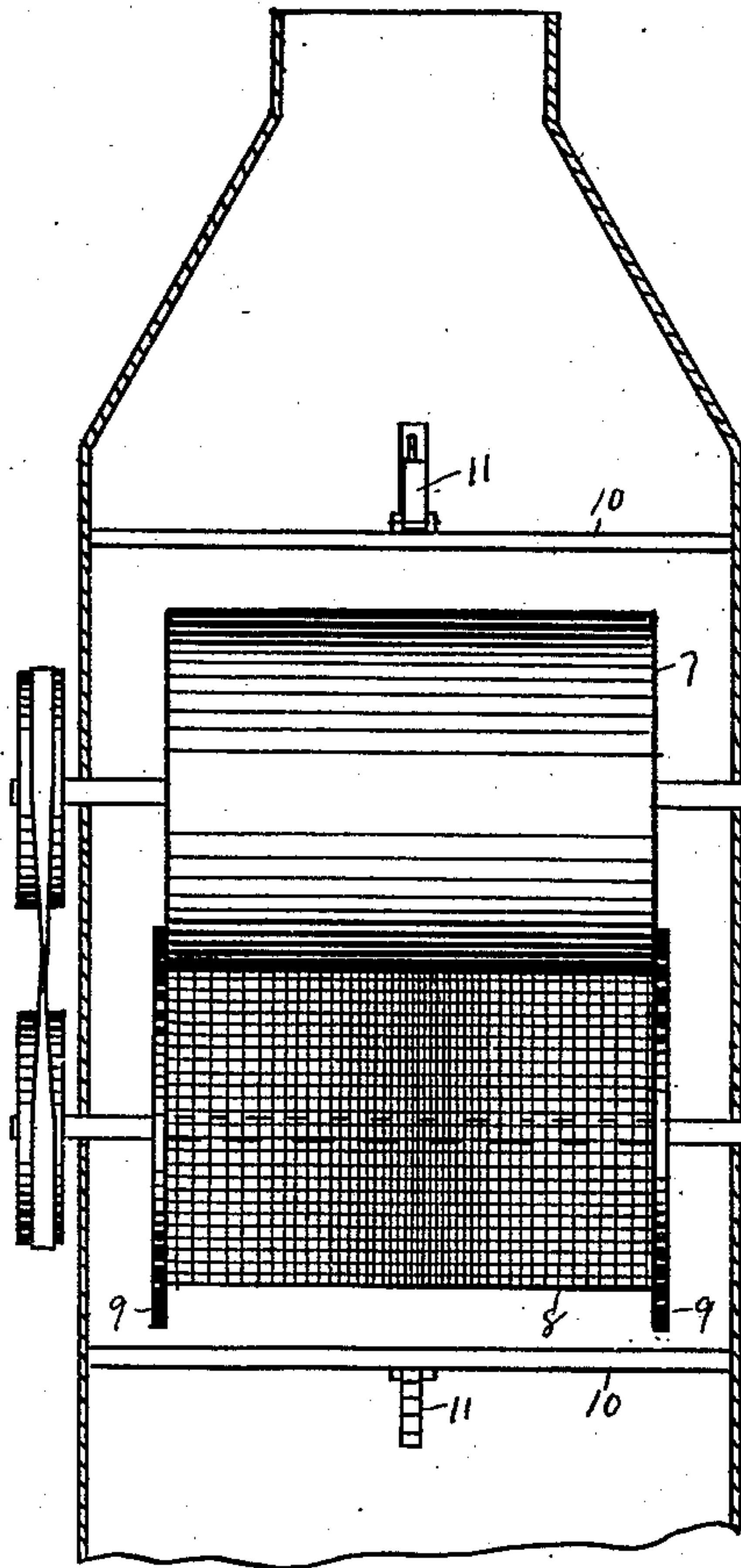


Fig. 3.

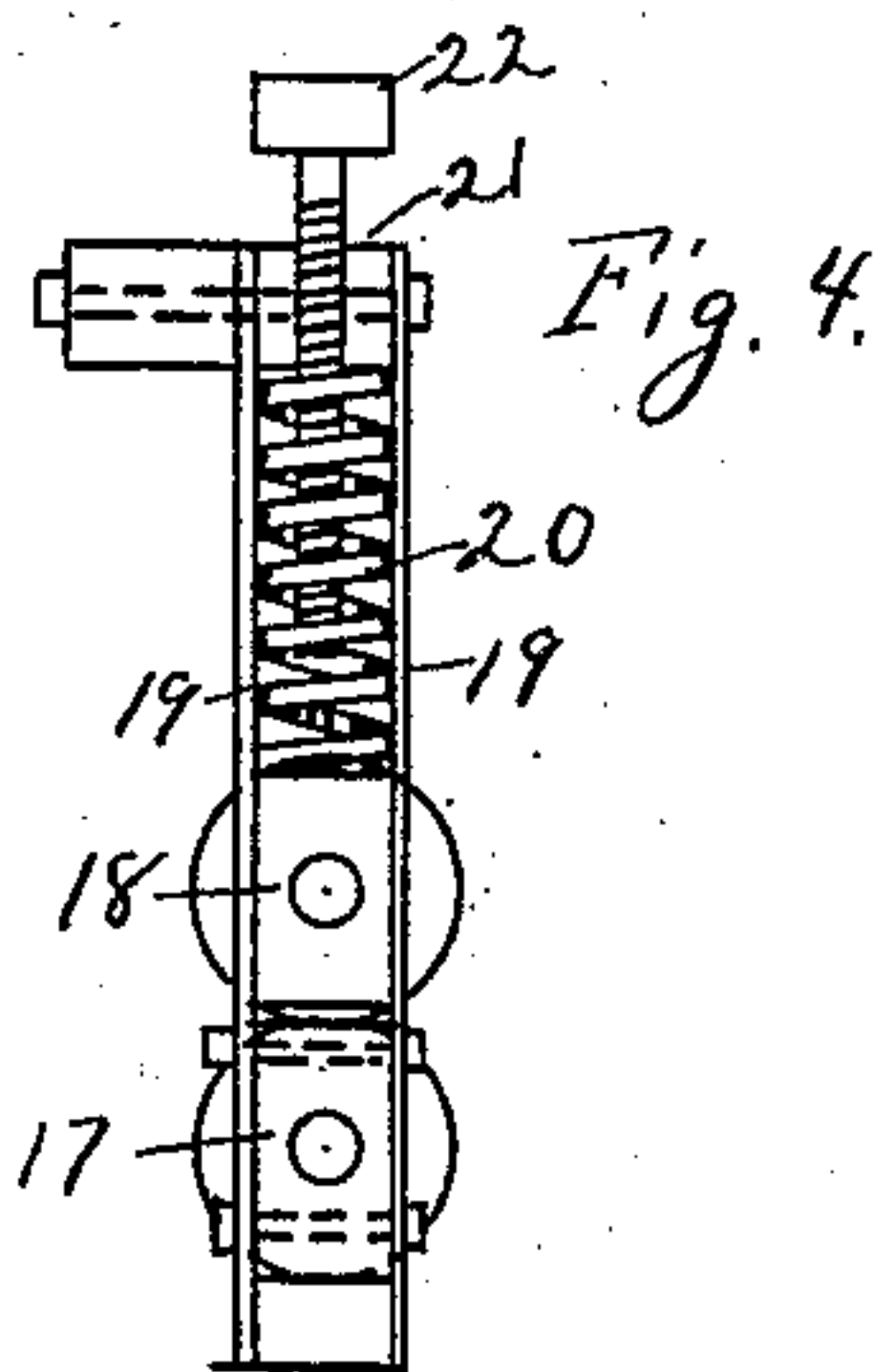


Fig. 4.

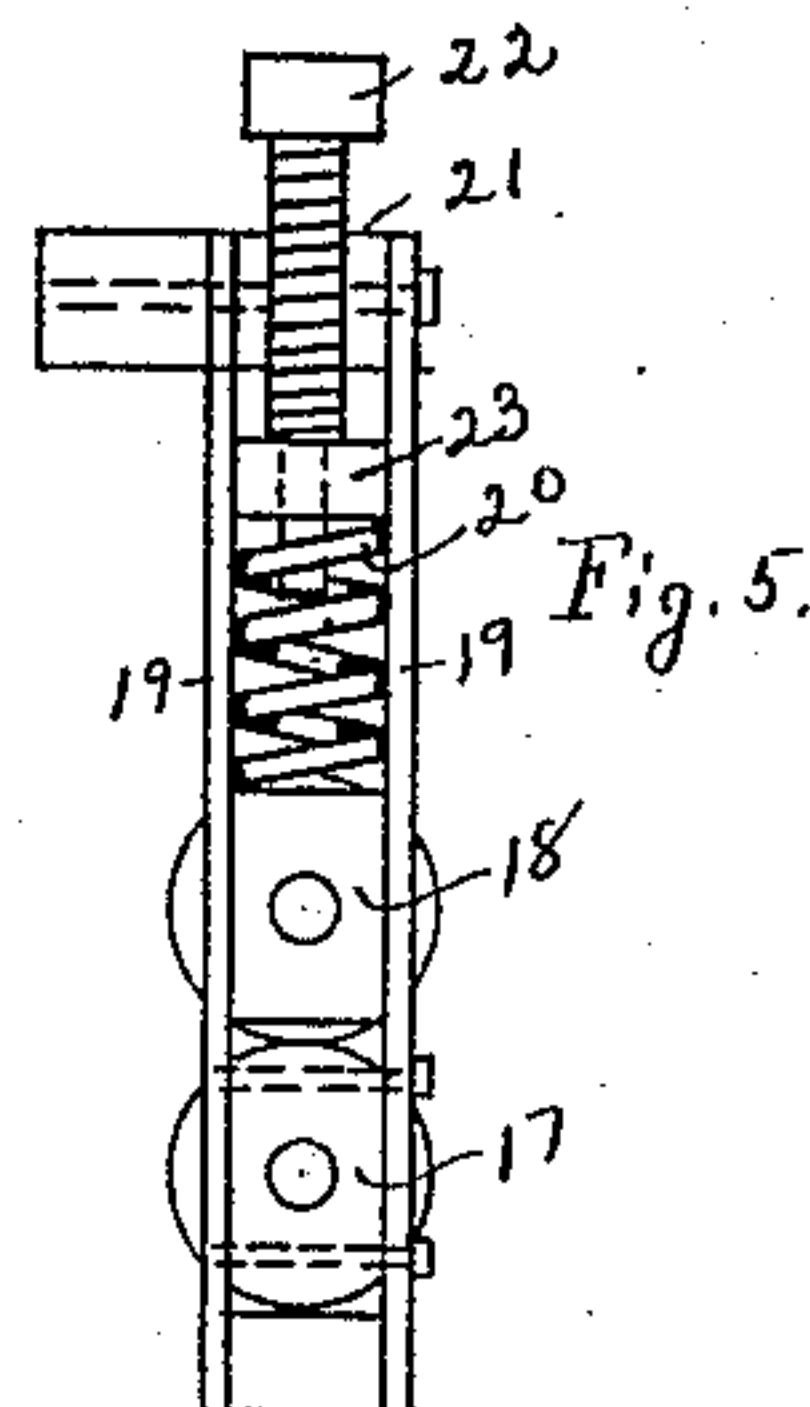


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES MARTIN COCHRAN, OF JACKSON, TENNESSEE.

COTTON-CONDENSER.

SPECIFICATION forming part of Letters Patent No. 572,650, dated December 8, 1896.

Application filed May 7, 1896. Serial No. 590,586. (No model.)

To all whom it may concern:

Be it known that I, JAMES MARTIN COCHRAN, a citizen of the United States, residing at Jackson, in the county of Madison and State of Tennessee, have invented a certain new, useful, and valuable Improvement in Cotton-Condensers, of which the following is a full, clear, and exact description.

My invention has relation to cotton-condensers; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of my invention is to form the cotton in a bat of uniform thickness—that is, the bat will be as thick at the edges as it is in the middle. Said bat can then be wound into a roll or bale, which will also be of uniform breadth and thickness.

In the accompanying drawings, Figure 1 is a top plan view of my invention, partly in section. Fig. 2 is a lateral sectional view of my invention. Fig. 3 is a transverse sectional view of the condenser-flue. Figs. 4 and 5 are detail views and will be explained hereinafter.

The gins 1 1 are located at the end of the machine. Said gins may be operated by any suitable means. From each gin a passage 2 leads into a common passage 3, said passage leading into the condenser-flue 4. At the end of the passage 3 the perpendicular sides of the same are provided with the perforations 5. (See Figs. 1 and 2.) On the outside of the passage 3 the shutters 6 6 are located, one on each side. These shutters are adapted to pass over the perforations 5 5 and close the same temporarily. As the draft passes through the passage 3 the air will escape through the perforations 5, and the lint will thus be diverted from the middle of the passage 3 toward the sides of the passage, and hence a greater amount of lint will be deposited at the ends of the drum 8 than would be deposited if the passage 3 were not provided with the perforations 5. By the manipulation of the shutters 6 6 the lateral passage of the air from the passage 3 may be regulated.

The condenser consists of the two rollers or drums 7 and 8. The drum 7 is journaled above the drum 8, and the said drum 7 may be a solid roller or it may be a hollow cylinder

with perforations leading laterally into its interior. The drum 8 consists of a hollow cylinder having at each of its ends a flange 9 9. The cylinder may be made of perforated sheet metal or it may be made of wire-netting. The flanges 9 9 at the ends of the cylinder are adapted to pass up against the ends of the drum 7, as shown in Fig. 3. The flanges 9 9 are perforated. When the drum 8 is made of perforated sheet metal, the perforations toward the ends of the drum are more numerous and closer together than they are at the middle of the drum, as shown in Fig. 1. When the drum 8 is made of wire-netting, the meshes of the netting at the middle of the drum are closer than they are at the ends of the drum. These drums are thus constructed in order that there will be a greater draft at the ends of the drum than at the middle, and hence a greater amount of the lint will be deposited at the ends of the drum than would be if the drum were provided with uniform perforations, the great trouble experienced heretofore being that too much lint is deposited at the middle of the drum, and hence the bat is thicker at the middle and a compact bale cannot be formed of the same. The perforations in the flanges 9 9 permit a lateral escapement for the air, and hence the lint will be carried toward the ends of the drum 8.

Above the drum 7 are located the hinged shutters 10 10. Said shutters when down close the upper part of the flue. Each said shutter is provided on its top with a pivoted rack-bar 11, said bars being arc shape and the racks being on the under side of the bar. The upper ends of the bars extend through suitable perforations in the side of the flue, and the extreme ends of the bars are provided with suitable handles. The shutters can be opened to any extent by pulling the bars 11 11 out through the perforations in the sides of the flue and then allowing the racks on the under sides of the bars to engage the lower side of the perforation in the flue. A similar set of shutters is located below the drum 8. The lower shutters are provided with bars somewhat similar to the bars 11 11, with the exception that the racks are on the outer periphery of the arc. The lower shutters are operated in a manner similar to that described

for the upper shutters. By the manipulation of the upper and the lower shutters the draft through the condenser is regulated.

Behind the drum 8 is located a pair of doffer-rollers 12 12. Said rollers are provided on their peripheries with the flexible strips 13 13, which are adapted to remove the bat from the drum 8, and as the doffers revolve the bat is drawn between them in the usual manner. From the doffers 12 12 the bat passes into the chute 14, said chute being hinged at its upper end to the condenser. (See Fig. 2.) The bat is then rolled up and compressed between the rollers 15 15, and thus the bale is formed.

A flexible shield 16 is secured in the condenser above the upper doffer-roller 12 and to the front of the same. Said shield is adapted to prevent the lint from passing up over the upper doffer. The lower doffer 12 is permanently journaled at each end in a stationary bearing, as shown by 17 in Fig. 4, while the upper doffer 12 is journaled at each end in a block 18, said block being mounted between the two uprights 19 19 and having a perpendicular play therein. The lower end of the coil-spring 20 bears against the upper end of the block 19, and the upper end of the said spring bears against the permanently-secured block 21 or the adjusting-block 23. (See Fig. 5.) The coil-spring 20 is retained laterally in place by the bolt 22, which passes down through the block 21 and its lower end extending down into the interior of the coil-spring. Thus it will be seen that the upper doffer-roller 12 has a perpendicular play and automatically adjusts itself to any thickness of the bat.

The drums 7 and 8 and the doffer-rollers 12 12 may be operated by any suitable means

or any mechanism may be employed in transmitting power to them without departing from the spirit of my invention.

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

1. In a condenser adapted to form a continuous bat of uniform thickness, a drum having a hollow interior and openings or perforations leading into said hollow interior, the perforations or openings at the ends of the drum being more numerous than at the middle of the drum, a perforated flange located at each end of the drum and adapted to form the edges of the bat.

2. In a condenser adapted to form a continuous bat of uniform thickness, a drum having a hollow interior and perforations or openings leading into said hollow interior the perforations or openings at the ends of the drum being larger than those at the middle of the drum, a perforated flange located at each end of the drum and adapted to form the edges of the bat.

3. In combination with a condenser-inclosure, a flue leading to said inclosure, said flue having perforations in its sides, and shutters adapted to close said perforations.

4. In a condenser a pair of drums one located above the other, one drum having at each end a flange extending up along the end of the other drum, the flanges having perforations.

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

JAMES MARTIN COCHRAN.

Witnesses:

B. J. HOWARD,
JOHN MAZERNEY, Jr.