

No. 709,090.

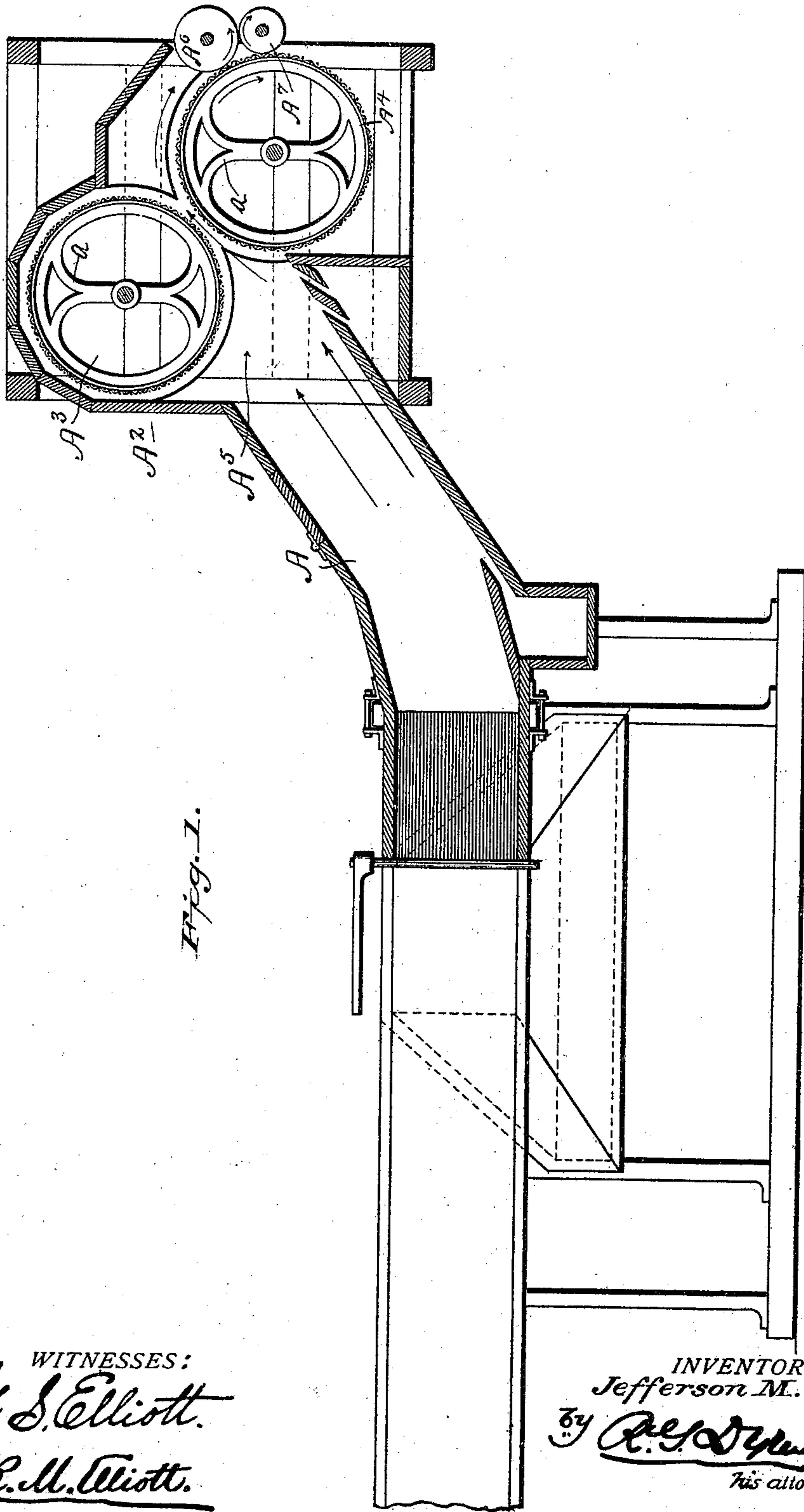
Patented Sept. 16, 1902.

J. M. GARDNER.
CONDENSER FOR COTTON FIBER.

(Application filed Jan. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
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R. M. Elliott.

INVENTOR:
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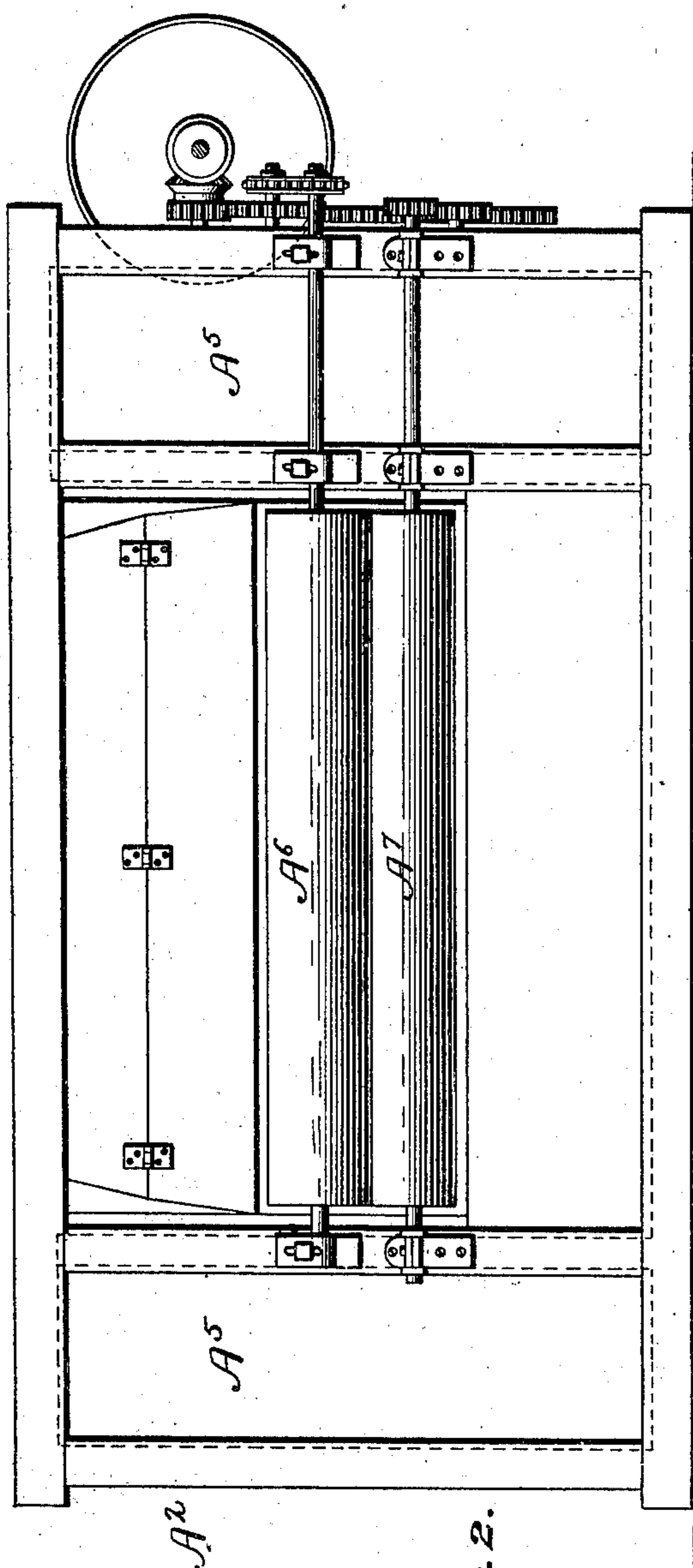


Fig. 2.

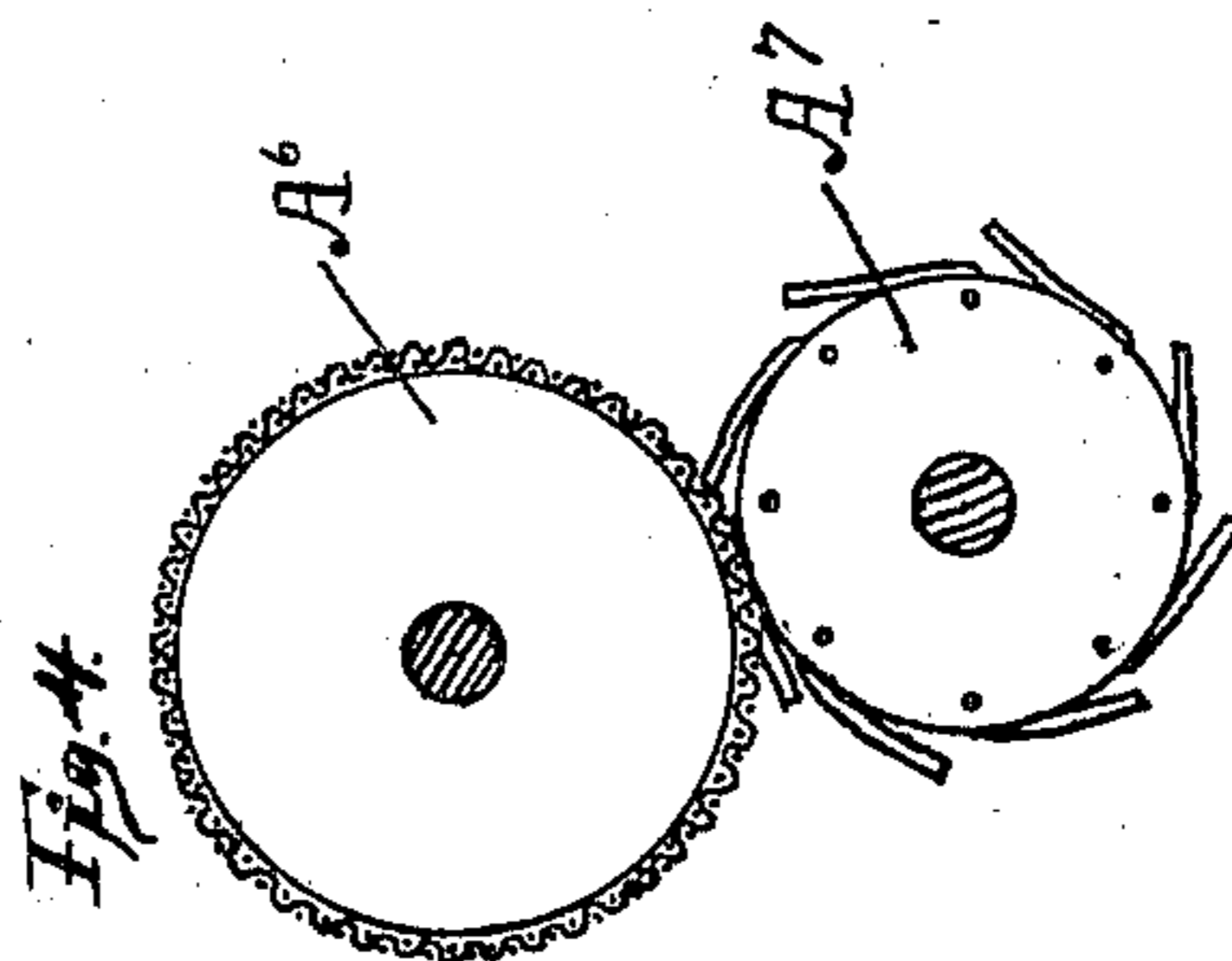


Fig. 4.

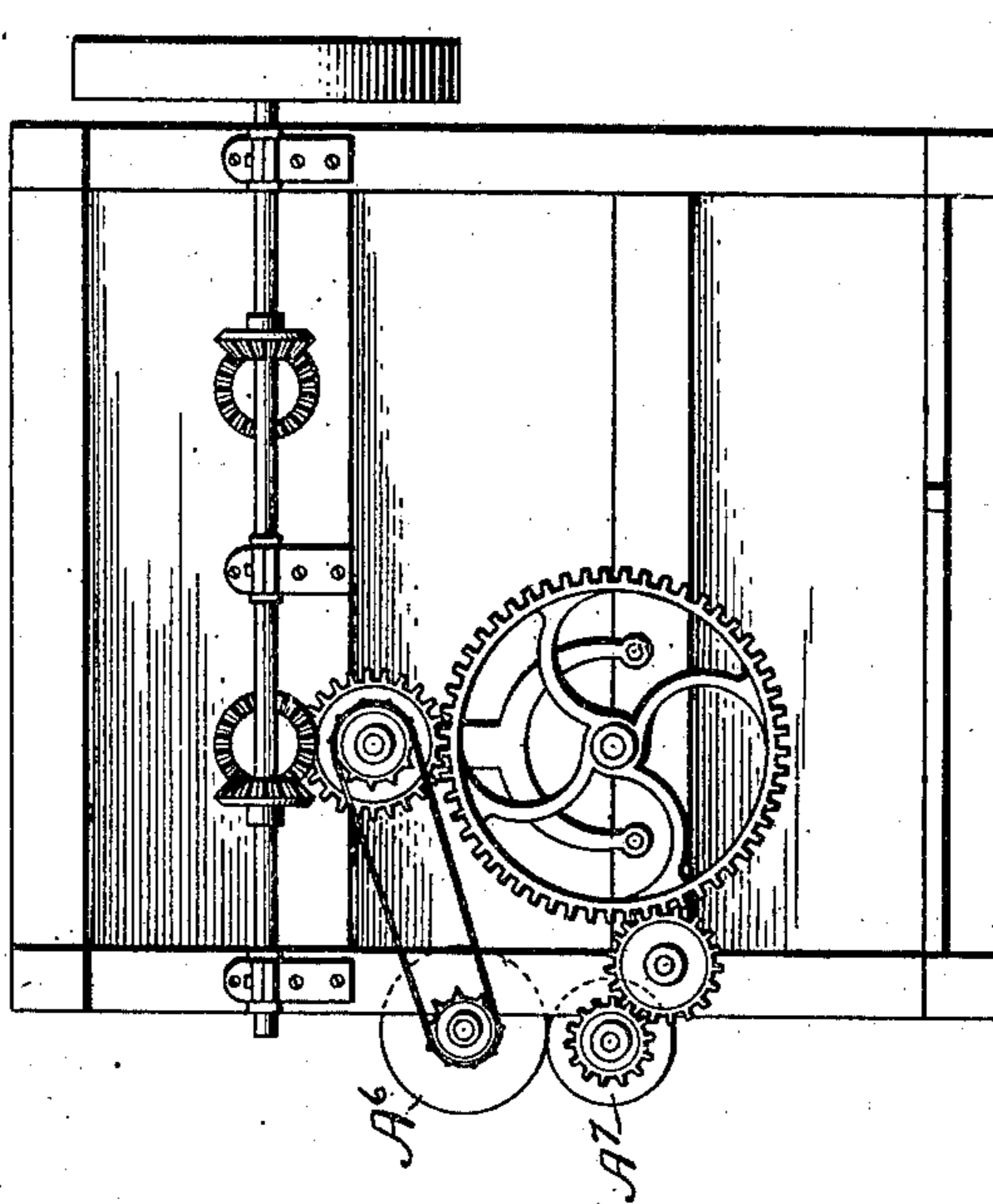


Fig. 3.

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UNITED STATES PATENT OFFICE.

JEFFERSON M. GARDNER, OF NEW LONDON, CONNECTICUT.

CONDENSER FOR COTTON FIBERS.

SPECIFICATION forming part of Letters Patent No. 709,090, dated September 16, 1902.

Application filed January 5, 1899. Serial No. 701,256. (No model.)

To all whom it may concern:

Be it known that I, JEFFERSON M. GARDNER, a citizen of the United States, residing at New London, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Condensers for Cotton Fibers; 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 same.

The object is in a simple and efficient manner to separate the lint-cotton from the current of outgoing air produced by the rapid rotation of the gin-brush in the process of removing the lint-cotton from the saws and to condense this lint into a smooth and even bat; furthermore, to permit rapid and easy escape of the air from the machine, thereby to afford the gin-stand the greatest freedom of action in removing the lint-cotton from the seed.

The invention consists in the novel construction and combination of parts of a cotton-batting condenser, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of the specification, and in which like letters of reference indicate corresponding parts, I have illustrated one form of embodiment of my invention, it being understood that other forms of embodiment thereof may be employed without departing from the spirit of the same, and in the drawings—

Figure 1 is a view in longitudinal vertical section of a machine embodying my invention. Fig. 2 is a view in front elevation showing more particularly the batting-rollers, and Fig. 3 is a view in end elevation showing the mechanism for driving the condenser-cylinders and the batting-rollers. Fig. 4 is a detail end view of the batting-rollers.

Referring to the drawings, A designates an air and cotton flue, which is suitably connected to the condenser-frame A², as shown in Fig. 1. In the process of ginning lint-cotton from the seed lint-cotton is blown by a current of air produced by the rapid rotation of the gin-brush (not shown herein) though the flue A and against the condenser-cylinders A³ and A⁴. These cylinders may be constructed of any suitable material adapted

for the purpose, preferably, in this instance, of wire-gauze suitably secured to internal heads or spiders a. The cylinders are run at different rates of speed, the lower cylinder A⁴ being driven at a rate of speed about one-fourth as fast as the upper cylinder A³. By this means the lint-cotton is thrown from the upper cylinder A³ onto the lower cylinder A⁴, and the air is allowed to escape through the meshes of the wire covering of the two cylinders and freely passes out at each end thereof and through flues A⁵, provided at each end of the frame A² for the escape of air, as shown in Fig. 2. The two cylinders are set at a sufficient distance apart to permit the lint-cotton to pass between them in such quantity as may be desired.

Arranged in front of the cylinder A⁴ are the batting-rollers A⁶ A⁷. The roller A⁷ is provided with rubber or leather flaps and is rotated in the same direction as the wire cylinder A⁴ to prevent any lint-cotton being carried below the discharge-opening by the cylinder A⁴. The upper batting-roller A⁶ is by preference covered with wire-cloth and subserves the double function of pressing the lint-cotton into an even smooth bat and discharging the same and of permitting the escape of sufficient air to insure the cotton being freed from the cylinder A³ by the air passing through this cylinder and out through the roller A⁶.

It is to be understood that, if desired, the cylinders and rollers may be made adjustable with relation to each other, so as to vary the thickness of the bat.

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

1. In a condenser for cotton fiber, the combination with condensing-cylinders, of batting-rollers arranged adjacent thereto, adapted to receive and, by pressure, compact the cotton into a bat one of the batting-rollers being provided with means adapted to direct the cotton from the condensing-cylinders into engagement with the batting-rollers and the other having a surface pervious to air, substantially as described.

2. In a condenser for cotton fiber, the combination with condensing-cylinders, of batting-rollers arranged adjacent thereto adapt-

ed to receive and, by pressure, compact the cotton into a bat, one of the batting-rollers having a surface pervious to the passage of air, substantially as described.

5 3. In a condenser for cotton fiber, the combination with condensing-cylinders, of batting-rollers adapted to receive the cotton from the condensing-cylinders and, by pressure, compact the same into a bat, one of the batting-rollers being provided with flaps or pro-
10 jections and the other having a surface pervious to air, as and for the purpose specified.

4. In a batting-condenser, the combination of two wire-gauze-covered cylinders arranged
15 approximately one above the other, means for driving one cylinder at a higher surface speed than the other, batting-rollers arranged adjacent thereto adapted to receive and, by pressure, compact the cotton into a bat and
20 the surface of one of the batting-rollers being covered with wire-cloth, substantially as described.

5. In a condenser for cotton fiber, the combination of two condenser-cylinders, one of
25 which is perforated to permit escape of air, the two cylinders revolving in opposite directions and having different surface speeds, batting-rollers adjacent to one of the condenser-cylinders and the upper roller being
30 covered with wire-cloth, substantially as described.

6. In a condenser for cotton fiber, the combination of two condenser-cylinders, one of which is perforated to permit escape of air,
35 the two cylinders revolving in opposite directions and having different surface speeds, means for feeding the cotton fiber, under pressure, to the condenser-cylinders, and two batting-rollers arranged adjacent to the con-
40 denser-cylinders in position to receive the condensed cotton from the condenser-cylinders, one of the rollers having a surface pervious to air, substantially as described.

7. In a batting-condenser, the combination
45 of two gauze-covered condenser-cylinders arranged approximately one above the other,

means for driving the upper cylinder at a higher surface speed than the lower cylinder, and two batting-rollers arranged adjacent to the lower condenser-cylinder, the lower bat-
50 ting-roller being rotated in the same direction to that of the said lower cylinder, and the upper roller having a surface pervious to air, substantially as described.

8. In a cotton-batting condenser, the com-
55 bination of gauze-covered condenser-cylinders arranged approximately one above the other, means for driving the upper cylinder to impart thereto a higher rate of surface speed than that of the lower cylinder, bat-
60 ting-rollers arranged adjacent to the lower cylinder, the lower batting-roller being rotated in the same direction as the lower condenser-cylinder and provided with flaps or projections, and the upper roller being
65 covered with wire-cloth, a housed discharge-flue arranged above the lower cylinder, and means for causing the proper separation and collection of the lint-cotton and condensation of the same into a smooth and even bat, sub-
70 stantially as described.

9. In a batting-condenser, the combination of two wire-gauze-covered cylinders arranged approximately one above the other, means for
75 driving the upper cylinder at a higher rate of surface speed than the lower cylinder, batting-rollers arranged adjacent to the lower cylinder, the lower roller being rotated in the same direction as the lower cylinder, and the upper roller being covered with wire-cloth, a
80 housed discharge-flue arranged above the lower cylinder, and means for causing a proper separation and collection of the lint-cotton and condensation of the same into a smooth and even bat, substantially as de-
85 scribed.

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

JEFFERSON M. GARDNER.

Witnesses:

EDWARD T. BROWN,
GEORGE COLFAX.