

(No Model.)

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F. ZEDLER.

APPARATUS FOR THE TREATMENT OF COTTON.

No. 520,285.

Patented May 22, 1894.

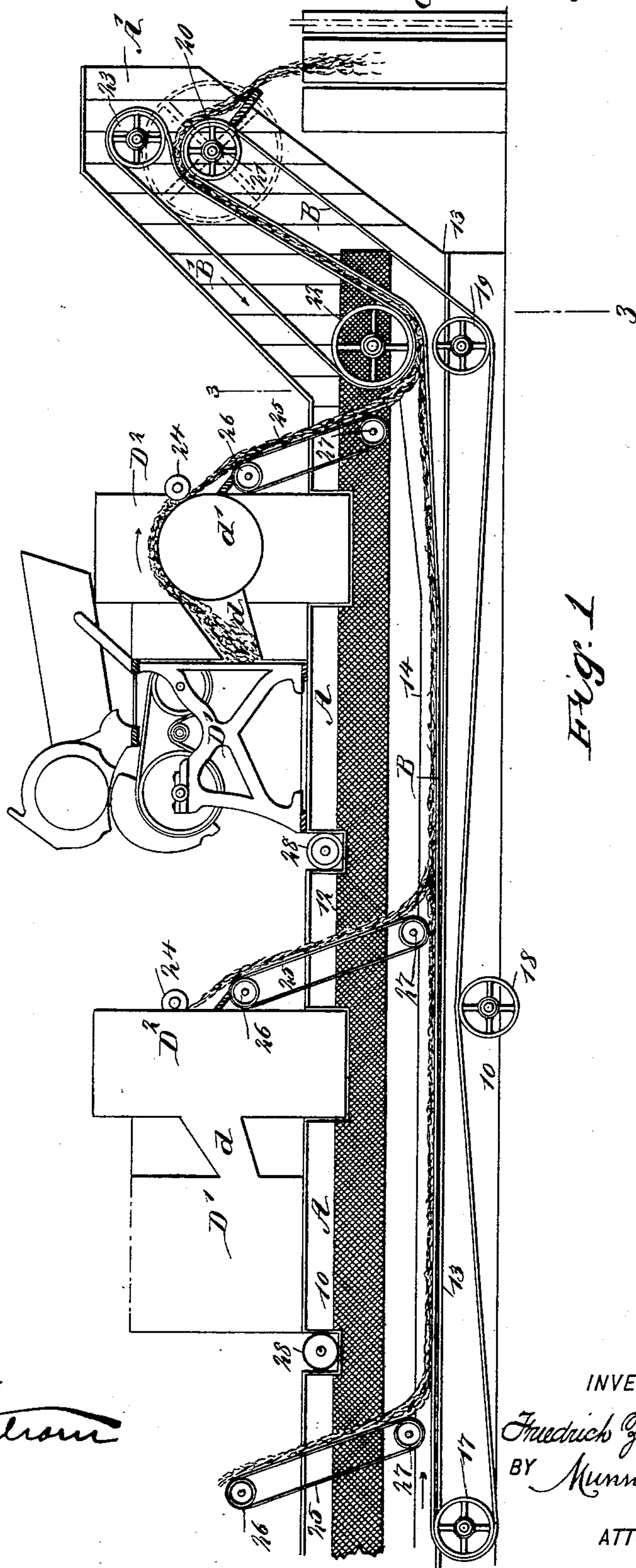


Fig. 1

WITNESSES:

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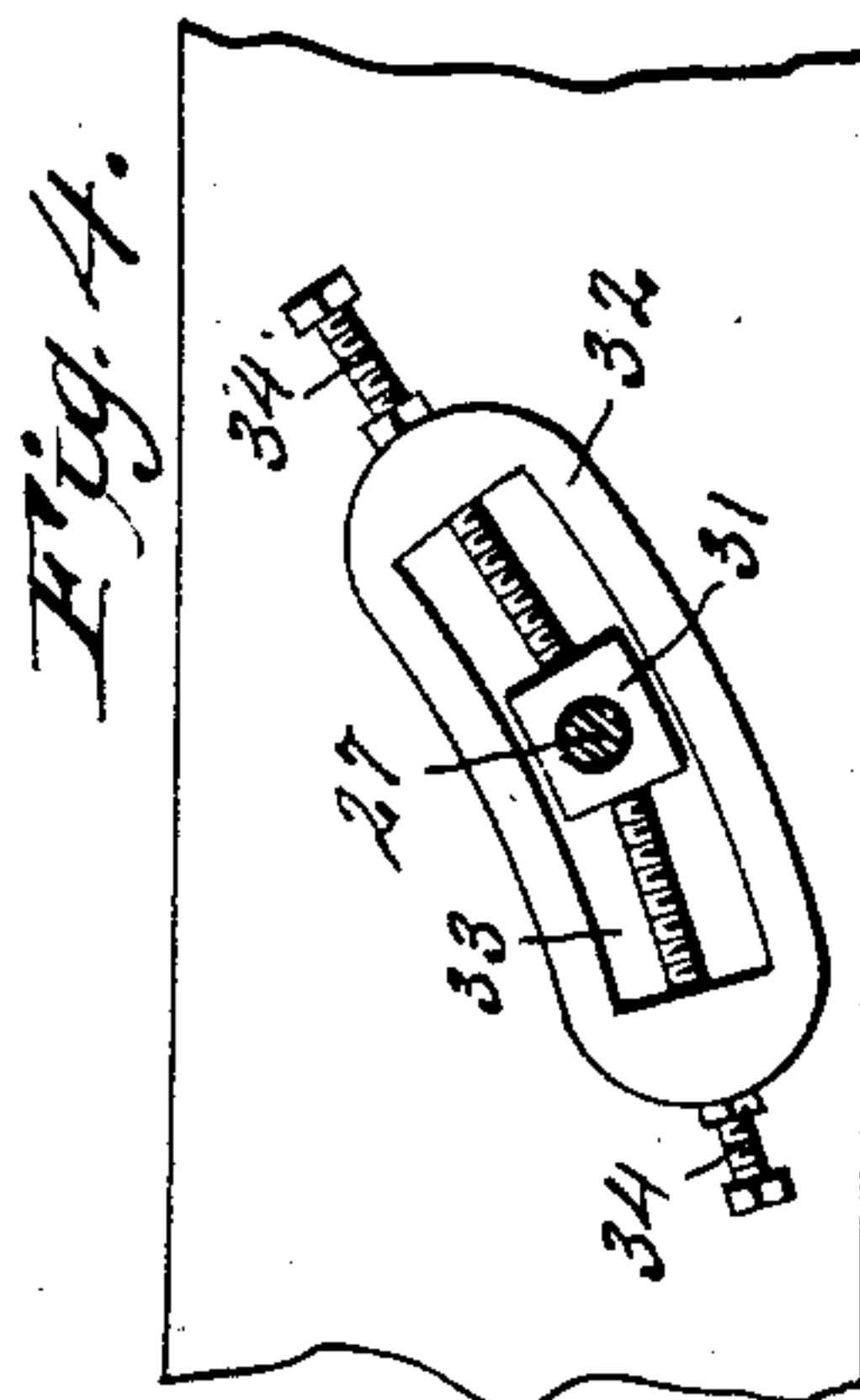
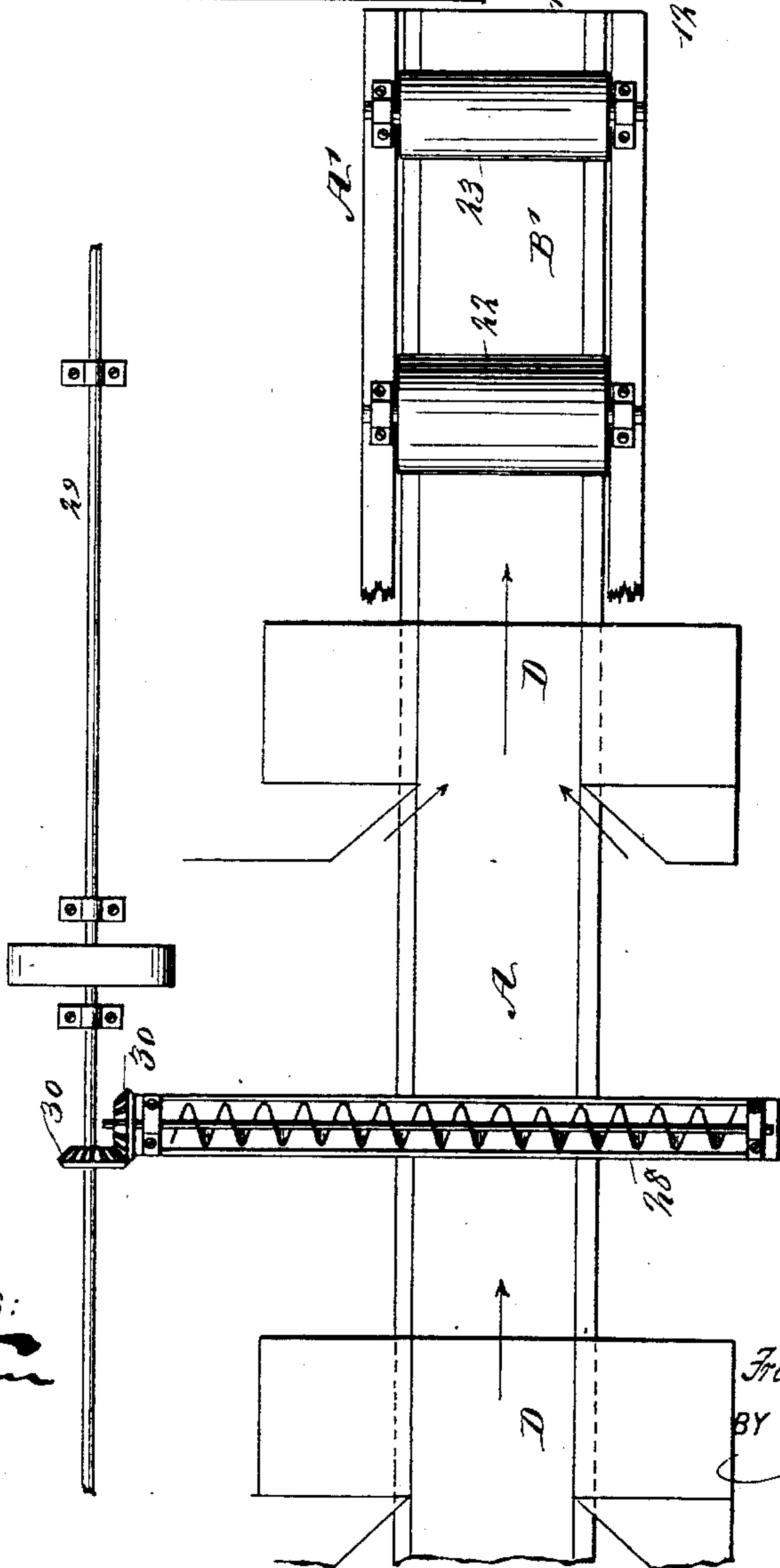
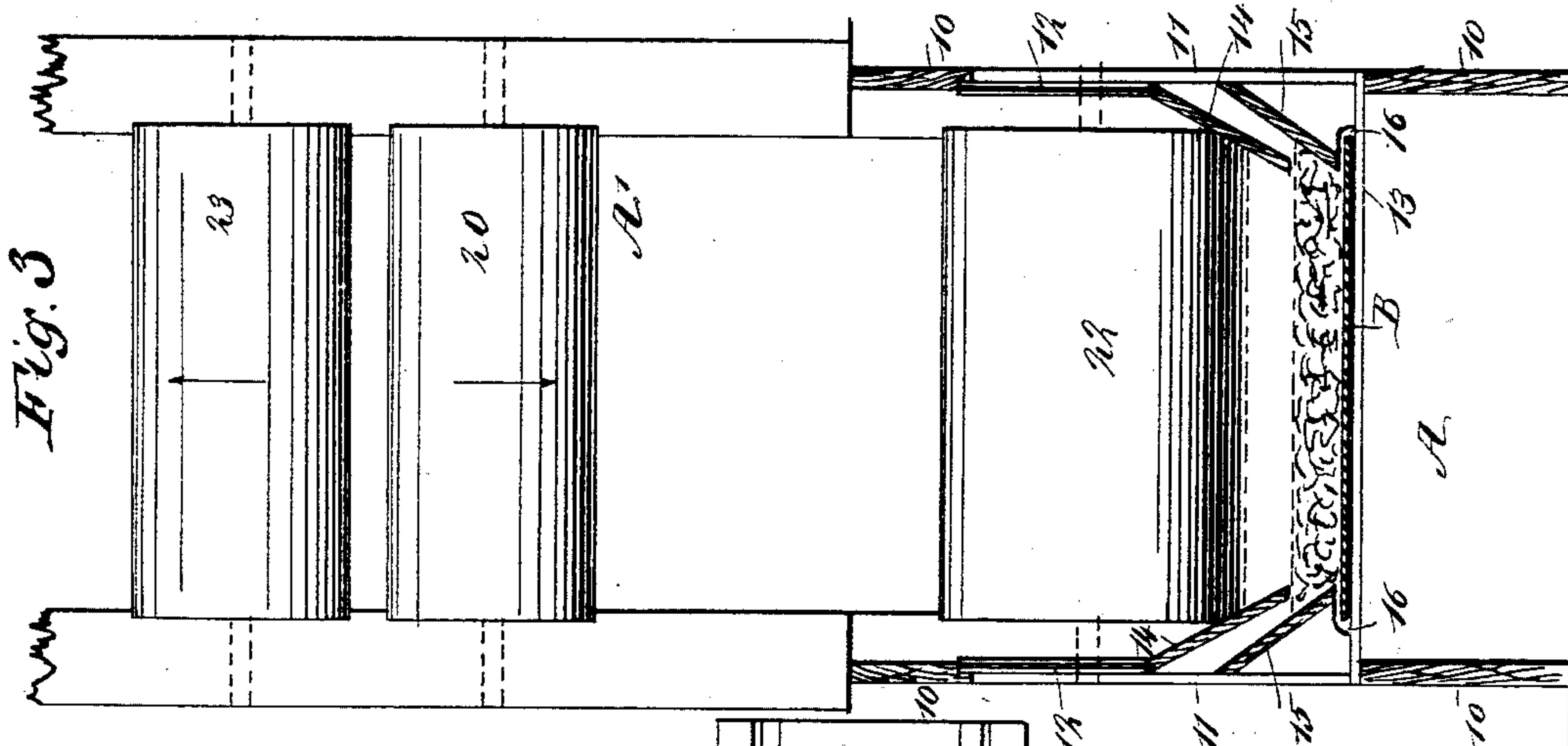
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# APPARATUS FOR THE TREATMENT OF COTTON.

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# UNITED STATES PATENT OFFICE.

FRIEDRICH ZEDLER, OF CUERO, TEXAS.

## APPARATUS FOR THE TREATMENT OF COTTON.

SPECIFICATION forming part of Letters Patent No. 520,285, dated May 22, 1894.

Application filed July 25, 1893. Serial No. 481,404. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH ZEDLER, of Cuero, in the county of De Witt and State of Texas, have invented a new and useful Improvement in Apparatus for the Treatment of Cotton, of which the following is a full, clear, and exact description.

My invention relates to an improvement in apparatus for the treatment of cotton, and it has for its object to provide a means whereby a number of gins and condensers may be located in consecutive order and over a flue, the lint cotton in bat form being delivered from all of the condensers in independent bats to a common conveyer, the bat cotton increasing in thickness upon the common conveyer and in its travel to a press, compress or other receptacle, receiving the different bats from the different condensers, one bat lying smoothly upon the other, until at the discharge end of the common conveyer, the bat in which the lint is evenly distributed and which is of considerable thickness, will be conveniently discharged.

A further object of the invention is to provide a means whereby the flue in which the common conveyer is located and into which all the conveyers of the condensers lead, will be provided with ventilators for the escape of surplus air.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section through a flue, illustrating the position of the condensers and gin with respect thereto. Fig. 2 is a partial plan view of the flue, showing the position of the stands at which the gins and condensers are located. Fig. 3 is a vertical section taken through the flue, substantially on the line 3—3 of Fig. 1; and Fig. 4 is a detail view illustrating the adjustable bearing for the lower rollers of the endless carrier belts.

In carrying out the invention the flue A, is constructed of any desired length, and is

erected upon any suitable form of support. The flue usually consists of upper and lower side boards 10, as shown in Fig. 3, connected by suitable uprights 11; and below the top board at each side of the flue a ventilator 12 of any approved construction is located; usually woven wire is employed as a ventilator, but perforated metal may be substituted if desired. The bottom board 13, is located between the center and bottom of the flue and extends practically from end to end thereof and from side to side, which bottom board may be supported upon the lower side boards 10. Two inwardly and downwardly inclined side boards 14 and 15, are secured to each side of the trough, as shown in Fig. 3, the lower side boards extending practically downward to an engagement with the floor 13, being however ordinarily provided with recesses 16 in their lower edges. The lower edges of the upper inclined boards 14, do not extend as far downward as the lower edges of the lower boards. Within the flue thus formed a common conveyer belt B, is adapted to travel. The upper stretch of the belt is adapted to travel immediately over the top of the floor 13 of the flue, and the belt, which is endless, is passed around pulleys 17, located at what may be termed the front end of the flue; and the lower stretch of the belt is supported by one or more idlers 18, located between the ends of the flue, while another set of pulleys 19, is located at what may be termed the discharge end of the flue, with which pulleys the lower stretch only of the endless belt engages.

At the discharge end of the flue an upwardly and rearwardly inclined extension A', is erected, and the main conveyer belt B, at its rear end passes over a series of pulleys 20, located in the extension near its upper end, which pulleys are secured upon the drive shaft 21. It will be understood that whenever pulleys have been heretofore alluded to a single drum may be used for the purpose, as shown in Fig. 3.

In addition to the main conveyer belt B an assistant conveyer belt B', is located in the extension A' of the flue, and this belt passes over a large pulley or drum 22, located partially within the extension and partially within the main section of the flue, the belt being further



passed over a smaller pulley or drum 23 located above, in fact, almost over the upper pulley 20 of the main conveyer belt. Thus the under stretch of the assistant conveyer or pressure belt will travel parallel to the upper rear stretch of the main belt, and the finished bat of cotton will be carried upward between these two belts, as shown in Fig. 1, and will be delivered into a press C, or into any other receptacle suitable to receive it, and while the bat is being carried upward by the main conveyer belt, it will be pressed or compressed by the assistant conveyer or pressure belt B'. It will be understood that the belts B and B' may be tightened in any manner known to the trade.

At various intervals along the length of the flue stands or platforms D, are erected transversely over the flue. Upon each platform a cotton gin D', is located, which is connected by a flue d' with a condenser D<sup>2</sup>, the ginned cotton passing out of the gin in each instance being made to pass over the condensing cylinder d' of the condenser, as shown in Fig. 1, and each gin is provided with its own condenser. The condenser is provided with as large a screening surface as possible in order that the lint passing over it may be freed from all dust, dirt, leaves or other foreign matter, and at the same time the lint is pressed to bat form by means of a pressure roller 24, one of which is located at the rear of each condensing cylinder, or over the discharge surface thereof. The bat of lint from each condenser is made to travel downward over a carrier belt 25, one of the belts being located at the rear of each condenser, receiving the lint from its condensing cylinder. The carrier belts 25, are supported by suitable drums 26 and 27, the upper drum 26, being located beneath the pressure roller 24 of the condenser, while the lower roller is adjustably mounted in the flue at a predetermined distance from the main conveyer belt, and each carrier belt is located over the said main conveyer belt. As illustrated in Fig. 4, the bearings 31 for the lower rollers 27 are mounted in a support 32, provided with a curved slot 33. The rollers are adjusted to any desired position by means of the set screws 34. All of the first or intermediate carrier belts, or those connected with the first and intermediate condensers, deliver the bats of lint carried by them directly upon the main conveyer belt; but the rear carrier belt, or that belonging to the last or rear condenser, delivers its bat between the main conveyer belt and the assistant belt B'.

At the foot of each gin a seed conveyer 28, is located, which is preferably a screw conveyer, as shown in Fig. 2, and the said conveyer is driven from a suitable line shaft 29, through the medium of meshing miter gears 30, one of which is carried by the line shaft and the other by the conveyer shaft; and the carrier belts may be driven in any suitable or approved manner, as for example, they

may be driven from one of the driving or driven pulleys of the gin in connection with which they are to be used.

In the operation of this plant it will be observed that the flue is located beneath a series of gins and condensers, and that the gins and condensers are arranged in sets and in consecutive order; therefore when the plant is set in operation, each carrier belt will deliver the lint in bat form from its condenser upon the main conveyer belt; the bat of lint delivered from the first condenser will be carried along until it meets that delivered from the second condenser, whereupon the bat from the second condenser will be laid smoothly and regularly upon the bat delivered from the first condenser, and in this manner the thickness of the bats will be augmented by the addition of different layers of lint until the last condenser has been passed, whereupon the lint will be conveyed up through the rear extension of the flue in the shape of a bat of predetermined thickness, and in a compressed or highly pressed state, and in this shape it is delivered to a press of any suitable construction, or to any receptacle placed to receive it. By means of the mechanism above set forth and also owing to the process of treating lint above set forth, lint cotton is increased in value, as all its dirt, leaves and other foreign material will be extracted from it without in the slightest degree detracting from the quality of the lint, and without disturbing its form, each gin and condenser cleaning its cotton, and the product of all of the gins is automatically and regularly assembled, and the combined product of the gins in compact form is delivered at a predetermined point in the plant. It will be understood that the conveyer belt may be made of rubber, leather, cotton, wire cloth, or any other flexible material, and that the bat as it comes from the condensers is placed upon the conveyer belt in smooth layers. The ventilators are provided in the flue in order to get rid of the surplus air which passes through the condensers with the cotton.

It will be understood that the condensers and carrier belts run at the same rate of speed, in order to deliver the bat of lint or cotton unbroken to the main conveyer within the main flue; and I desire it to be further understood that the carrier belts or short conveyers 25 may be placed at any required angle to the main conveyer belt, since they are adjustable at their lower ends.

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

1. In an apparatus for the treatment of cotton, a series of gins placed in order one at the rear of the other, a condenser located at the rear of each gin, an endless conveyer common to all the condensers, endless carrier belts leading from the condensers to the endless conveyer and a flue in which said endless



conveyer is located, the said flue consisting of the upper and lower side boards, a ventilator located below the top board at each side of the flue, the bottom board located between  
5 the center and bottom of the flue, and the inwardly and downwardly inclined side boards, substantially as shown and described.

2. In an apparatus for the treatment of cotton, a flue provided with ventilators, an endless conveyer located within the flue, two or  
10 more gins located over the flue, a condenser connected with each gin, and endless carrier belts leading from the condensers to the conveyer, the said carrier belts being adjustable  
15 at their lower ends, as and for the purpose set forth.

3. In an apparatus for the treatment of cotton, a flue, an endless conveyer located within the flue, two or more gins located over the  
20 flue and conveyer, a condenser connected with each gin, carriers leading from the condensers to the main conveyer, and an auxil-

iary conveyer or pressure belt located above and parallel with the delivery section of the main conveyer, substantially as and for the  
25 purpose set forth.

4. In an apparatus for the treatment of cotton, the combination, with a flue provided with ventilators and an extension at one end  
30 located at an angle to the body of the flue, and an endless conveyer located both in the body and extension of the flue, of two or more gins located upon the body portion of the flue over the conveyer, a condenser connected  
35 with each gin, carriers extending from each condenser to the conveyer, and a pressure belt located above and parallel with the delivery stretch of the conveyer, as and for the purpose set forth.

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Witnesses:

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