

(No Model.)

G. GATES.  
ADJUSTMENT FOR CONCENTRATOR BELTS.

No. 584,502.

Patented June 15, 1897.

Fig. 1.

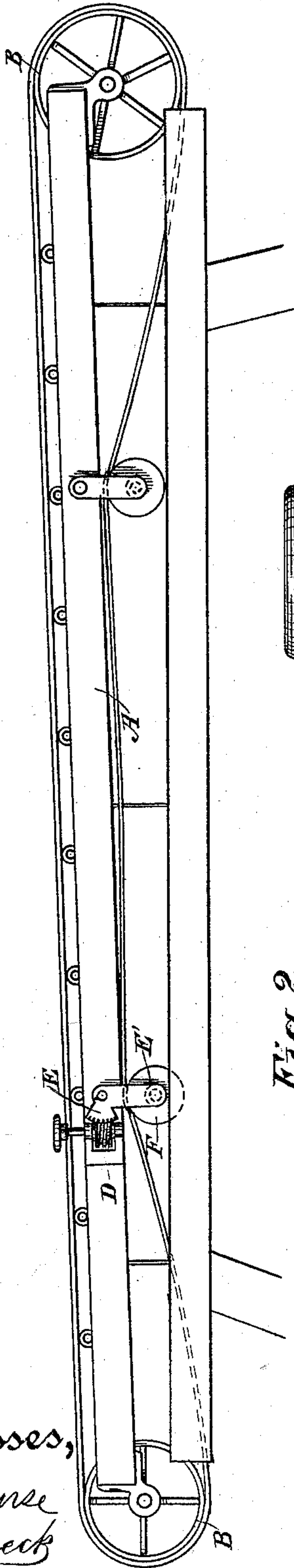


Fig. 2.

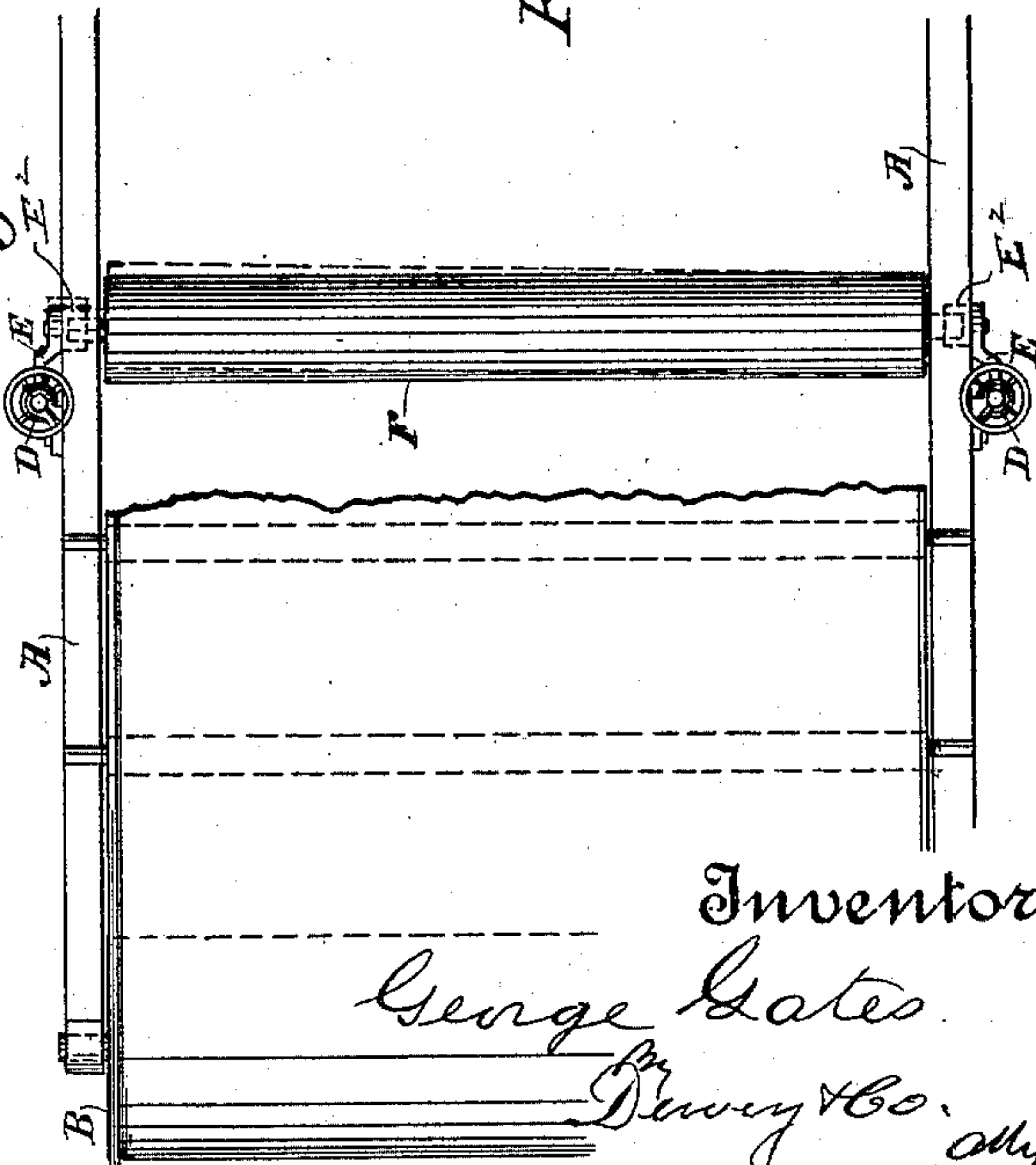


Fig. 3.

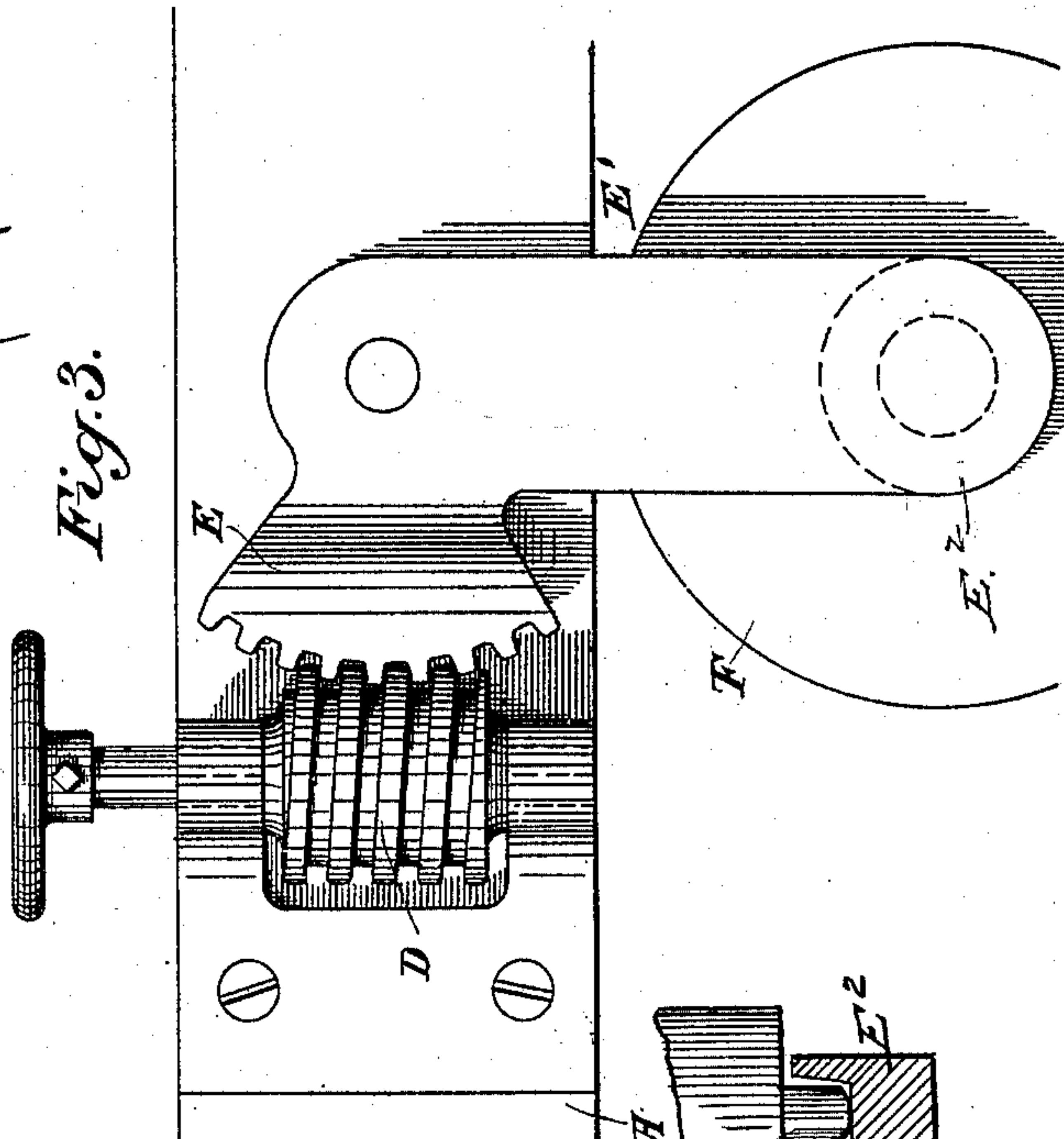
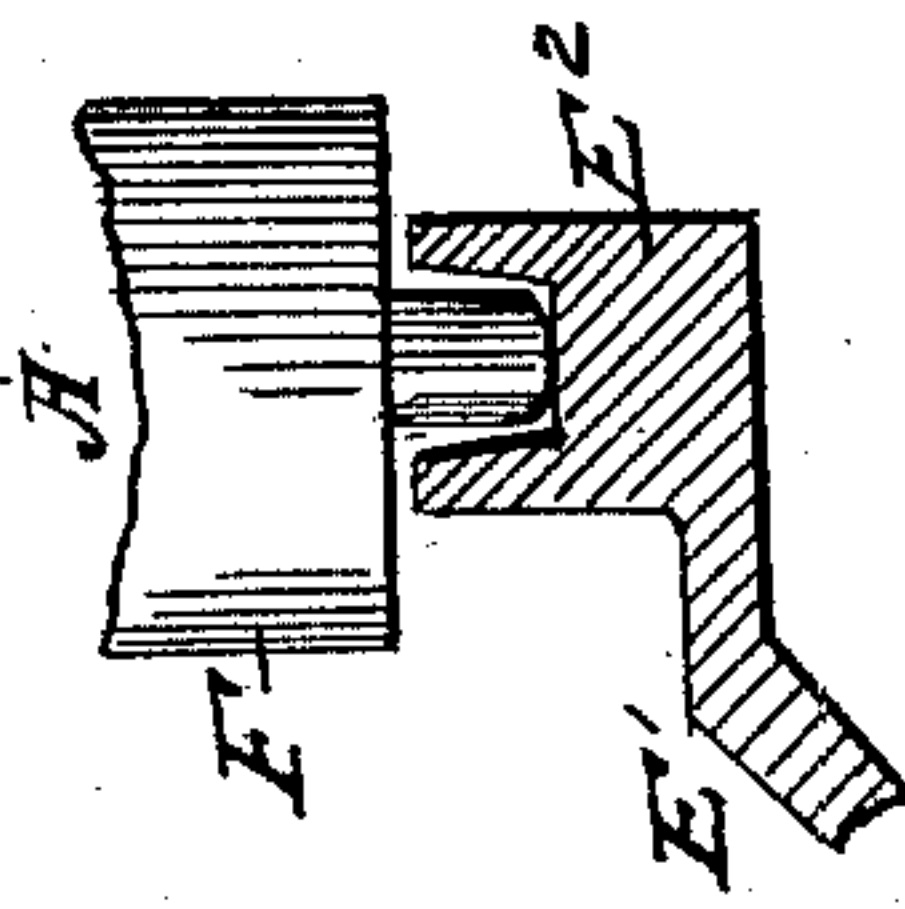


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## ADJUSTMENT FOR CONCENTRATOR-BELTS.

SPECIFICATION forming part of Letters Patent No. 584,502, dated June 15, 1897.

Application filed May 18, 1896. Serial No. 591,922. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE GATES, a citizen of the United States, residing at Jackson, county of Amador, State of California, have  
5 invented an Improvement in Adjustments for Concentrator-Belts; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the means for adjusting endless traveling concentrator-belts.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

15 Figure 1 is a side elevation showing the application of my device. Fig. 2 is a partial plan view. Fig. 3 is a detail view of the adjusting device. Fig. 4 is a detail of one of the boxes E<sup>2</sup>.

20 In the employment of long endless traveling belts for the purpose of concentrating and separating valuable precious and heavy metals and substances from the lighter slimes and tailings these belts are made to travel at  
25 a slow rate of progression around drums or rollers at each end of the apparatus by means of any suitable mechanism. A difficulty arises in the work of concentration with these belts by reason of the varying weight of material which may at times come upon one side  
30 or the other of the belt, and by stretching it cause it to run off of the drums. My invention is designed to correct this difficulty; and it consists in the employment of a roller or rollers  
35 adapted to press upon the lower part of an essentially loose or slack belt, with a means for changing the angle of the roller obliquely to the belt, by which the latter is caused to run to one side or the other, as may be desired.

40 A is the frame of my concentrator, having the drums or rollers B B journaled at opposite ends, and C is the endless traveling belt passing around these drums, with small intermediate supporting-rollers for the upper part  
45 of the belt to keep it approximately straight, the angle of the belt being such as will be most effective for concentrating purposes.

Upon each side of the frame is journaled a screw D, the threads of which engage with the  
50 teeth of a segment E. These segments have

connected with them extensions E', and in these extensions, upon opposite sides of the framework, are formed closed boxes E<sup>2</sup>, in which are loosely fitted and turn the journals of a roller F.

55 It will be manifest that by turning the screw in either direction the hanger in which the roller-shafts are journaled may be caused to swing backward and forward, and by turning one in one direction and the other in the opposite direction the roller will be set obliquely  
60 at any desired angle with the line of travel of the belt, against the lower essentially slack part of which it presses, as shown. This will cause the belt to run to either one side or the other.

The screw-shafts are provided with hand-wheels or means by which they may be turned, and when it is seen that the concentrator-belt is inclined to run off the carrying-drums of  
70 either side this regulating-roller may be adjusted to counteract this action and keep the belt in its proper place.

In the present case I have shown the screws journaled vertically upon the side of the  
75 frame and the toothed segments arranged to engage with the screws. It will be manifest, however, that the screws may be set in any desired position upon the frame and the segments correspondingly formed upon the hang-  
80 ers so as to be engaged by the screws, the relative position of the two not affecting the result.

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

1. In a concentrator, an endless traveling belt adapted to pass around end drums, with the upper portion supported upon intermediate parallel rollers, and the lower portion  
90 passing essentially slack or loosely over direction-drums, one of said drums being mounted to swing and lie obliquely in either direction with the line of travel of the belt.

2. In a concentrator, an endless traveling  
95 belt passing around end drums, with the upper portion supported upon intermediate parallel rollers, and the lower portion passing essentially slack over direction-drums, one of said drums being mounted to swing to an an-  
100

gle in either direction, with the line of travel of the belt, and having its journals loosely fitted in boxes with closed ends.

5 3. In an endless-traveling-belt concentrator, a drum between the upper and lower part of the belt, over which the lower part of the belt loosely passes, closed boxes in which the drum-journals turn loosely, and a mechanism by which the drum is turnable to stand ob-

liquely in either direction, with the line of travel of the belt.

In witness whereof I have hereunto set my hand.

GEORGE GATES.

Witnesses:

S. H. NOURSE,

JESSIE C. BRODIE.