

No. 672,358.

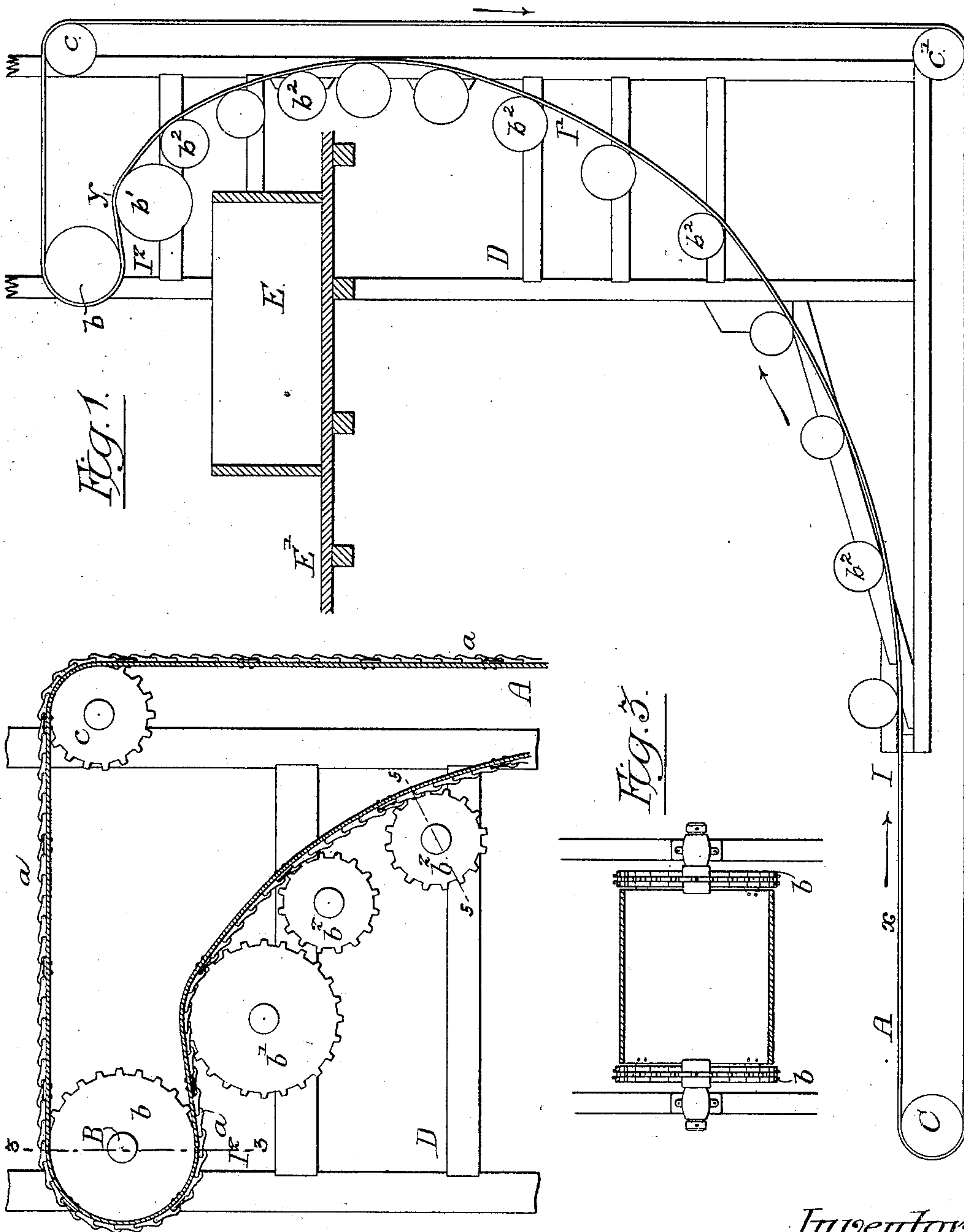
Patented Apr. 16, 1901.

J. M. DODGE.
ENDLESS BELT CONVEYER.

(Application filed Dec. 23, 1899.)

.(No Model.)

2 Sheets—Sheet 1.



Witnesses:-
Charles De Cour
Louis M. Whitelhead.

Fig. 2.

Inventor:-
James M. Dodge.
by his Attorneys:-
Harmon & Howson

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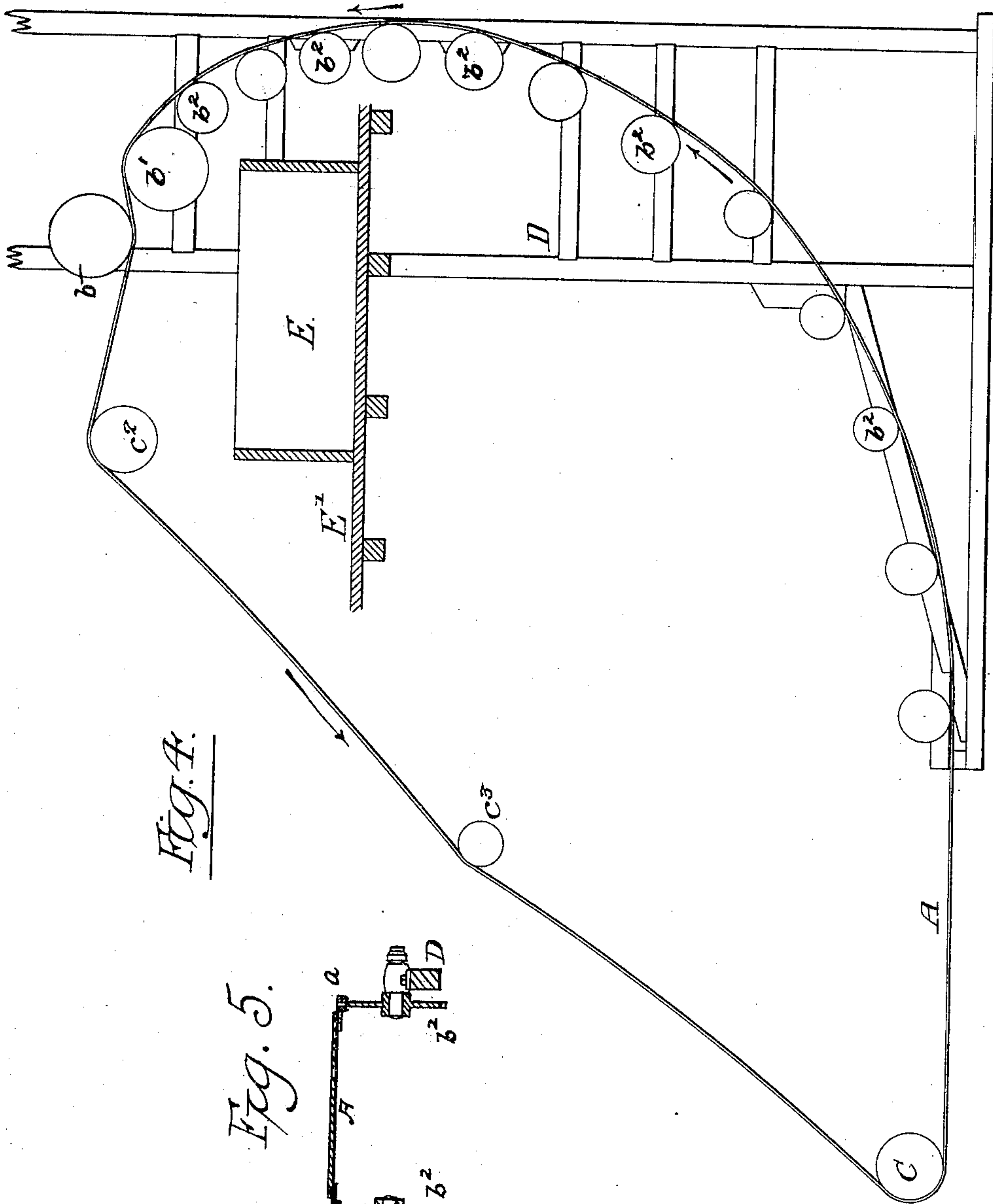
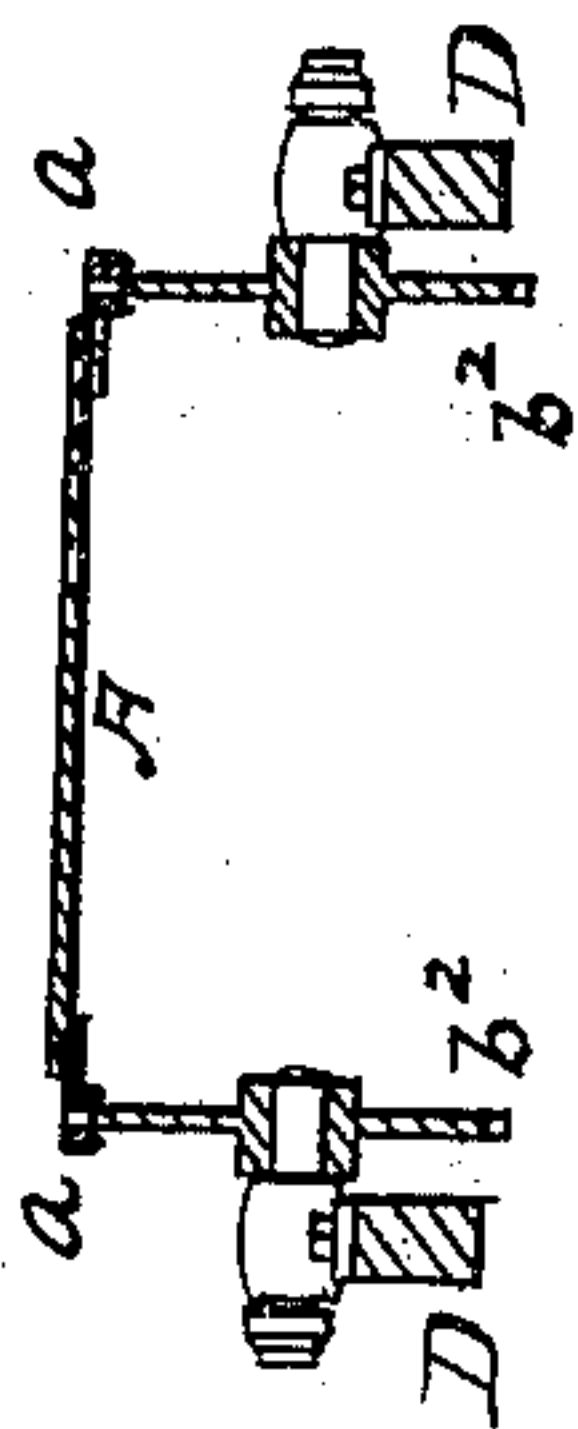


Fig. 4.

Fig. 5.



Witnesses:-

Charles De Cour.

Louis H. Holtshead.

Inventor:-

James M. Dodge.

by His Attorneys:-

Howan & Howan

UNITED STATES PATENT OFFICE.

JAMES M. DODGE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
LINK BELT ENGINEERING COMPANY, OF SAME PLACE.

ENDLESS-BELT CONVEYER.

SPECIFICATION forming part of Letters Patent No. 672,358, dated April 16, 1901.

Application filed December 23, 1899. Serial No. 741,482. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. DODGE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Endless-Belt Conveyers, of which the following is a specification.

The object of my invention is to so construct an endless-belt conveyer that the material will be carried upward on the belt by
10 the combined action of centrifugal force and adhesion. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view in which the
15 sprocket guide-wheels and drive-wheels are shown in diagram, illustrating my invention. Fig. 2 is a detailed view of the upper portion of the elevator, showing the belt and drive-chains at each side. Fig. 3 is a section on the
20 line 3 3, Fig. 2. Fig. 4 is a view of a modification of my invention, wherein the idlers are shown in diagram similarly to Fig. 1. Fig. 5 is a section on the line 5 5, Fig. 2.

My invention is especially adapted for elevating ashes and like material, which will cause ordinary elevating mechanism, such as the buckets, to wear away rapidly. By my invention the ashes are simply placed upon the belt and are carried thereby bodily to the
25 point of discharge.

A is an endless carrying-belt of any suitable form or made of any material.

I is the horizontal portion of the elevating-conveyer, at which point the belt is loaded
35 with material. This horizontal portion can be of any length desired, according to the location of the apparatus.

I' is the curved elevating portion, and I² is the terminal or discharge end, of the elevator,
40 situated above a floor E' or receptacle E, into which the material is discharged.

The belt passes around a drum C at the base and past guide-wheels b^2 b' and around a wheel b on a driven shaft B and returns
45 over guide-wheels c and c' .

As shown in Figs. 2 and 3, I preferably mount on each side of the belt A drive-chains a a , and the wheels b , b' , and b^2 are sprocket-wheels adapted to the chains. A rapid motion in the direction of the arrows, Fig. 1, is imparted to the belt, and the driven shaft B

is so situated that the belt is given an abrupt turn, so that the material will be thrown from the belt onto the floor or into a receptacle.

The several shafts carrying the sprocket-
55 wheels are adapted to bearings in the frame D, and E is a receiver or bin mounted on a floor or other structure E'. The material, such as ashes, is dumped upon the belt at x and is rapidly carried forward and upward by
60 the belt. The material owing to this motion adheres tenaciously to the belt until it reaches a point y , where the belt is abruptly turned, causing the ashes or other material to drop away from the belt and into the bin E, di-
65 rectly below this point.

I have found by a series of experiments that a steady stream of ashes or other material can be carried from one floor to a floor above by means of this improved conveyer
70 without the ashes abrading or destroying the belt.

In some instances the belt instead of being returned as shown in Fig. 1 may be returned as shown in Fig. 4, the idlers c^2 and c^3 being
75 in front of the conveying portion of the belt instead of at the rear.

I claim as my invention—

1. The combination in an elevating-conveyer, of a single endless conveying-belt,
80 guides therefor whereby the carrying-run of the belt is curved from a horizontal point to a point beyond the vertical, with means for driving the belt at such a speed that the material placed upon the belt at the base of the con-
85 veyer will be elevated thereby due to centrifugal action and adhesion and will be discharged from the upper end of the conveyer, substantially as described.

2. The combination in an elevating-con-
90 veyer, of a single endless conveying-belt, guides therefor whereby the carrying-run of the belt is curved from a horizontal point to a point beyond the vertical, and means for abruptly changing the direction of the belt
95 at the discharge-point, substantially as described.

3. The combination in a single elevating-conveyer, of a series of guiding sprocket-
100 wheels arranged in a curved line extending at the upper end beyond the vertical, chains at both sides adapted to the sprocket-wheels,

means for driving said conveyer, and a receiver directly under the overhanging portion of the belt, so that material conveyed thereby will be discharged into the receiver, 5 substantially as described.

4. The combination in an elevating-conveyer, of a single endless carrying-belt, means for driving the same, guides therefor arranged in a curved line to a point past the vertical, 10 and guides at the base of the conveyer so that the belt will travel first horizontally, then in

a curved path vertically, with means for changing the curve of the belt at the upper end of the conveyer to discharge the material, substantially as described. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES M. DODGE.

Witnesses:

WILL. A. BARR,
JOS. H. KLEIN.