

No. 661,197.

Patented Nov. 6, 1900.

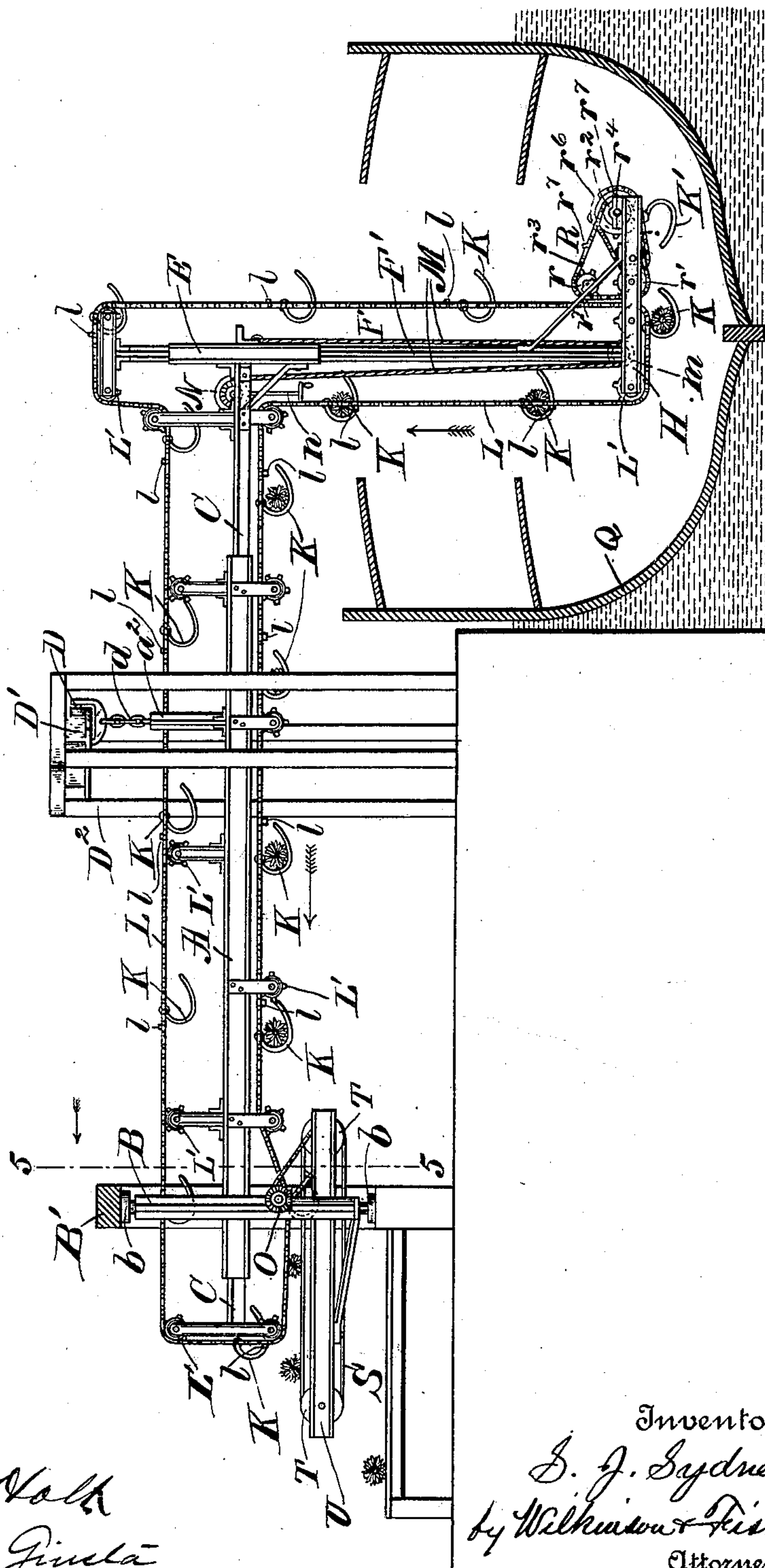
S. J. SYDNEY.  
CONVEYER.

(Application filed Aug. 31, 1899.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.



Witnesses  
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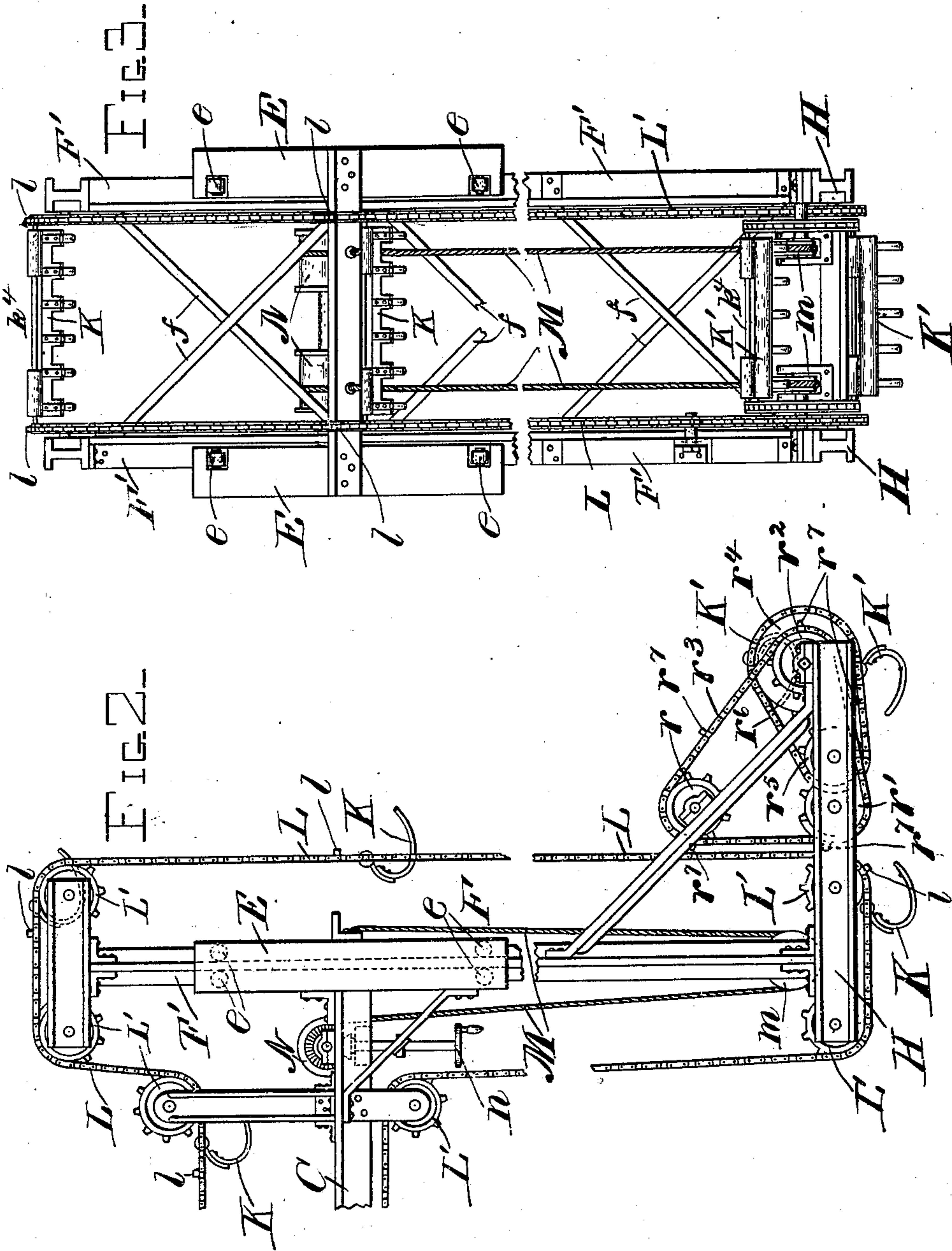
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4 Sheets—Sheet 2.



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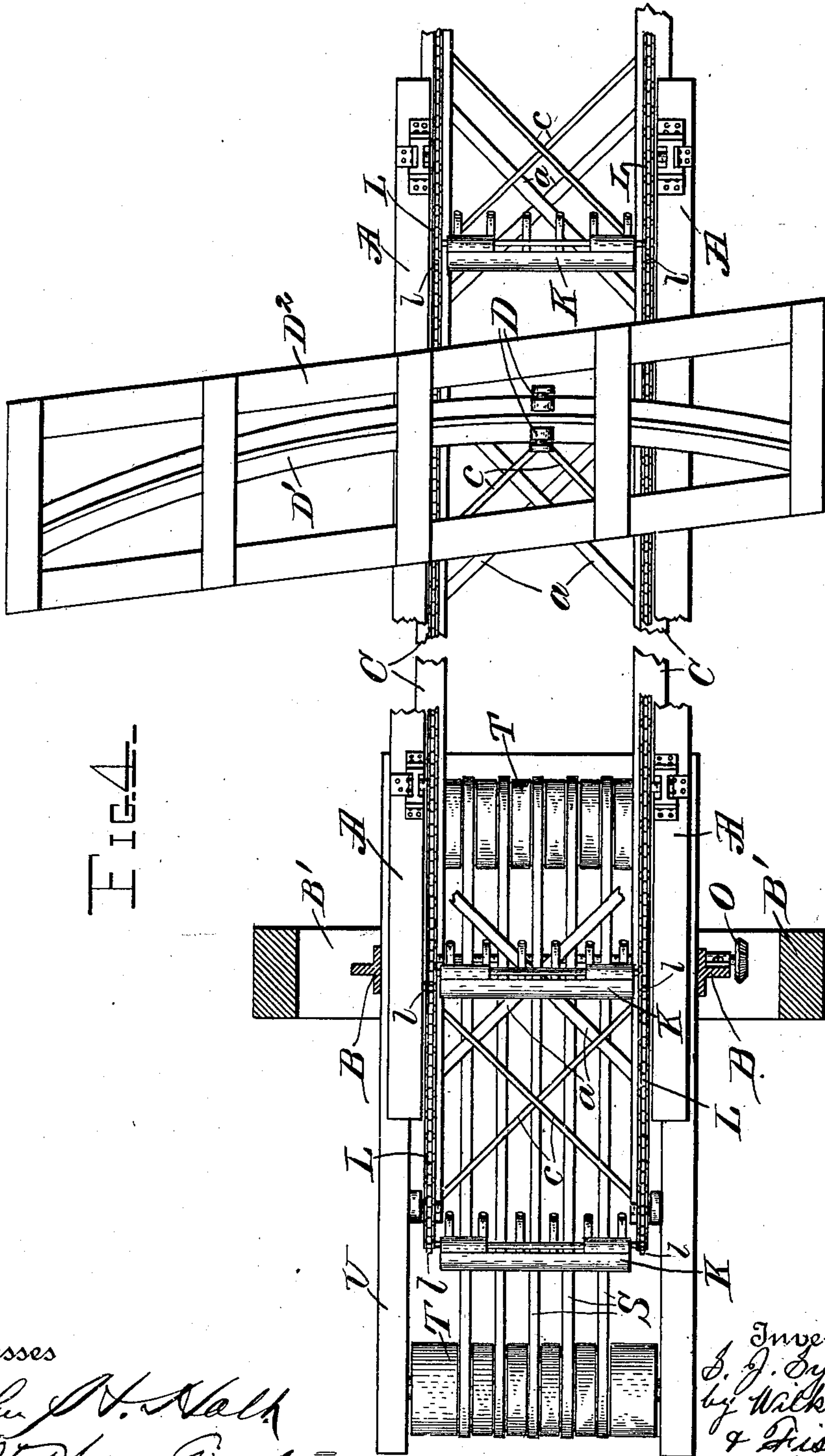
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(No Model.)

4 Sheets—Sheet 3.



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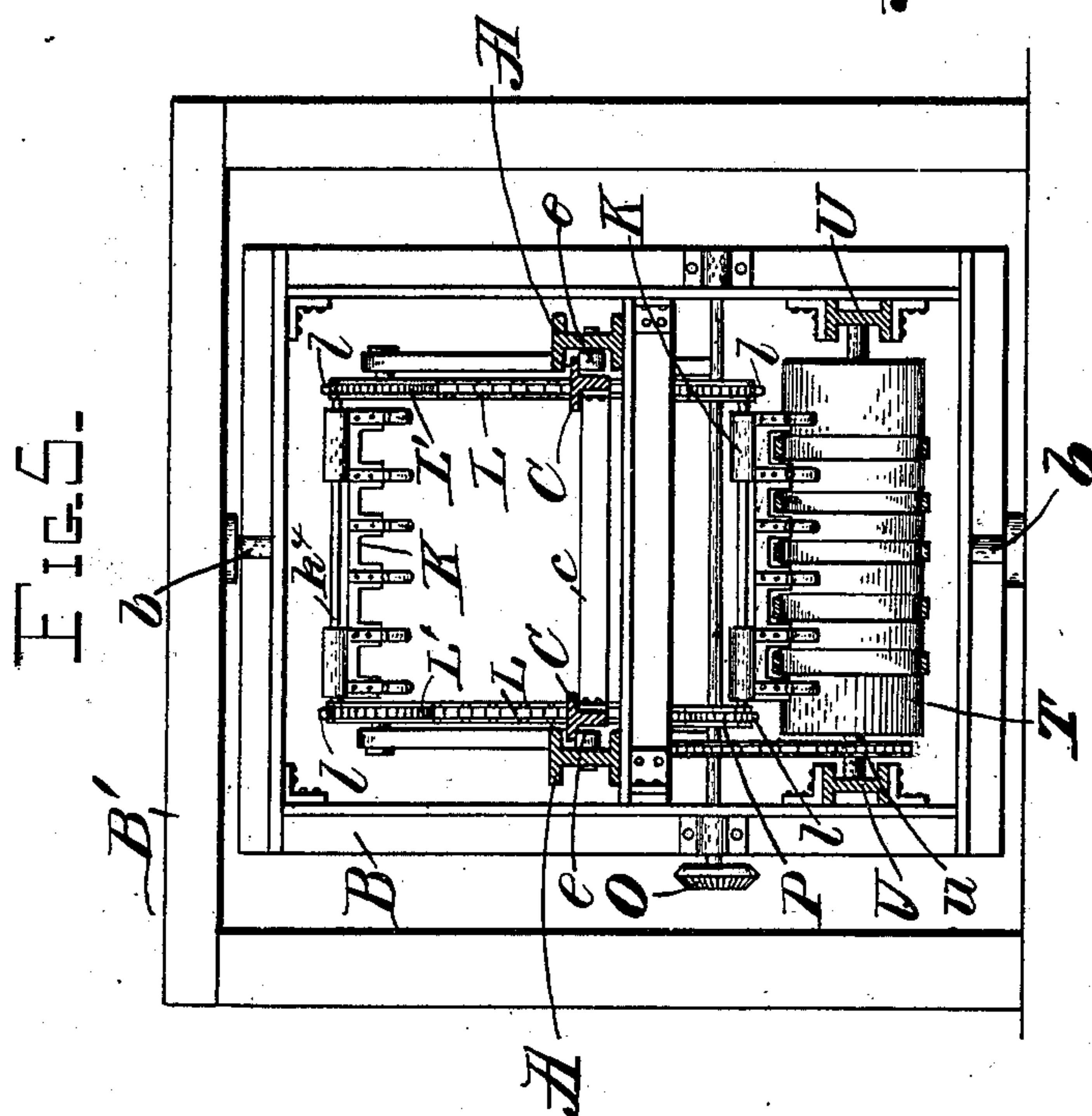
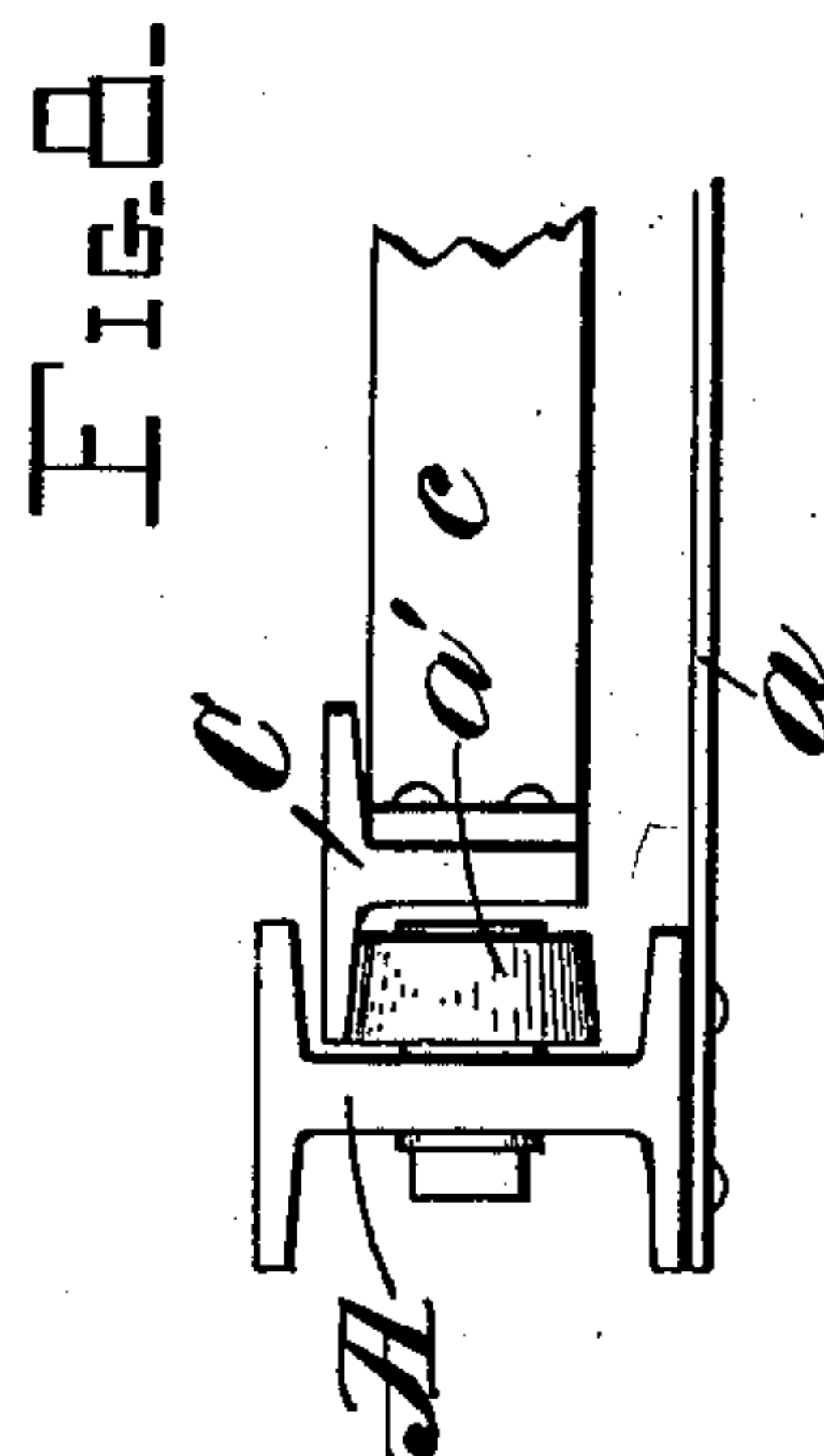
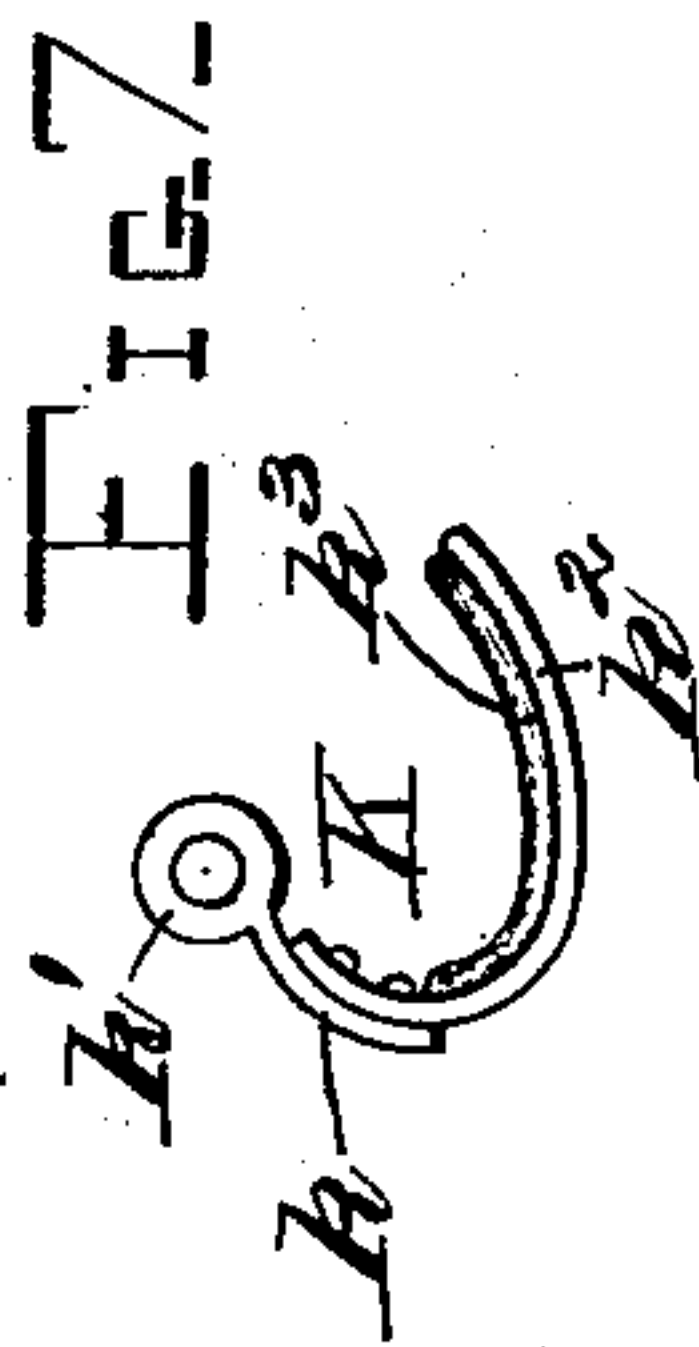
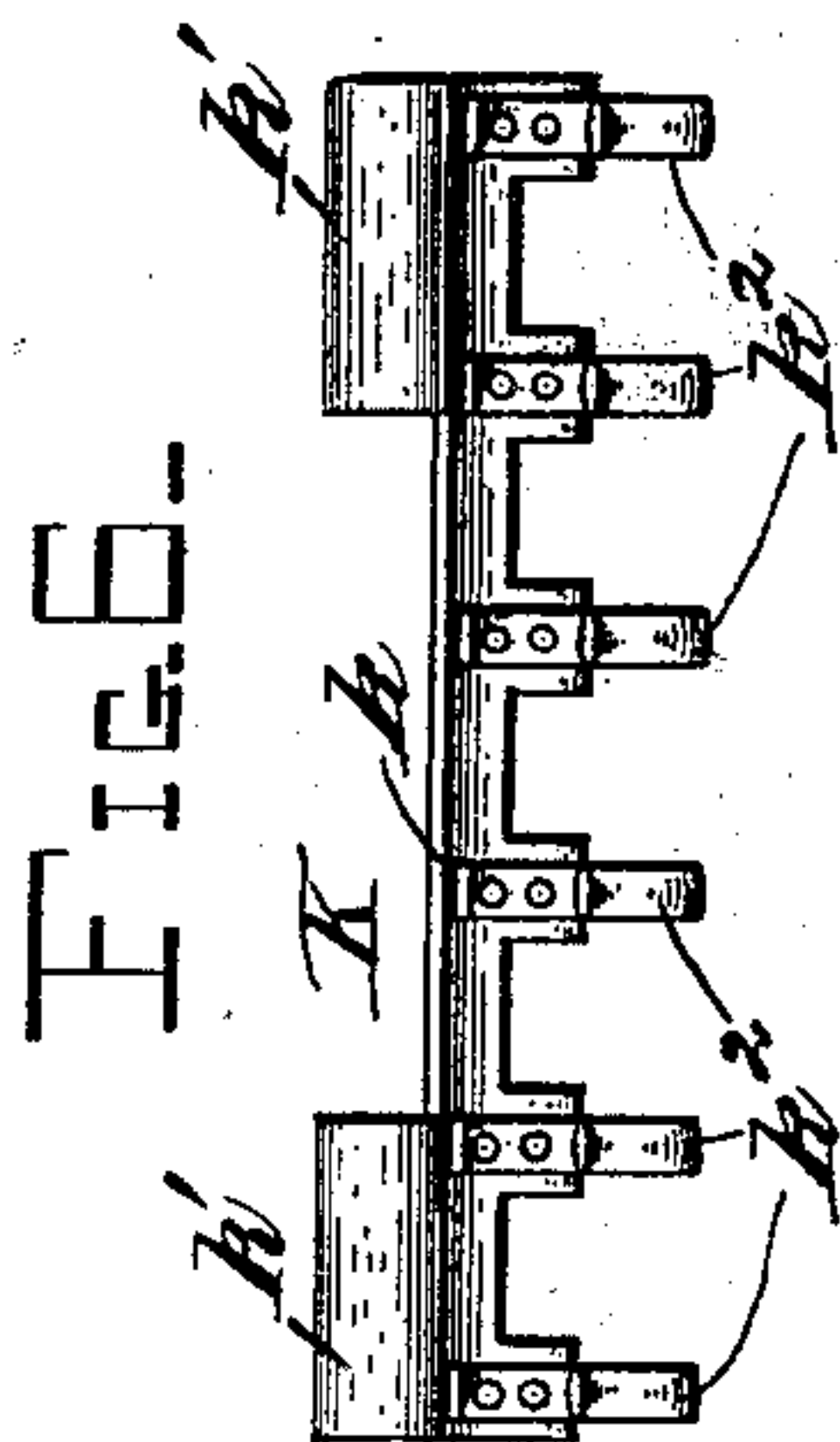
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(Application filed Aug. 31, 1899.)

(No Model.)

4 Sheets—Sheet 4.



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# UNITED STATES PATENT OFFICE.

SIDNEY J. SYDNEY, OF NEW ORLEANS, LOUISIANA.

## CONVEYER.

SPECIFICATION forming part of Letters Patent No. 661,197, dated November 6, 1900.

Application filed August 31, 1899 Serial No. 729,102. (No model.)

*To all whom it may concern:*

Be it known that I, SIDNEY J. SYDNEY, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Conveyers; 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.

My invention relates to improvements in conveyers for loading and unloading vessels; and the object of my said invention is more especially to provide a conveyer for handling fruit, such as bunches of bananas and the like, requiring careful and expeditious handling.

In order that my said invention may be more clearly understood, the same will be described with reference to the accompanying drawings, in which—

Figure 1 represents my improved conveyer in side elevation. Fig. 2 represents in side elevation the adjustable arm and related parts. Fig. 3 represents the same in end elevation. Fig. 4 represents a fragmentary plan view of the shore end of the conveyer. Fig. 5 represents an enlarged section taken on the line 5 5, Fig. 1, and looking in the direction of the arrow. Fig. 6 represents one of the conveyer-baskets in front elevation. Fig. 7 represents the same in end elevation, and Fig. 8 represents an enlarged detail view of the means for supporting the movable horizontal girders.

Similar letters refer to similar parts throughout the several views.

A represents a girder-frame comprising two parallel girders suitably braced, as at *a*, and at or near one end of this frame is located a revoluble supporting-frame B, pivoted, as at *b*, in a suitable frame B', located on the shore or pier. The frame or girders A are secured to this revoluble frame in any suitable manner.

Between the girders A and extending parallel thereto are the girders C, which are capable of longitudinal movement relative to the girders A, a suitable way of mounting these inner girders so as to be capable of this movement being shown in the detail view, Fig. 8, where *a'* represents one of the rollers

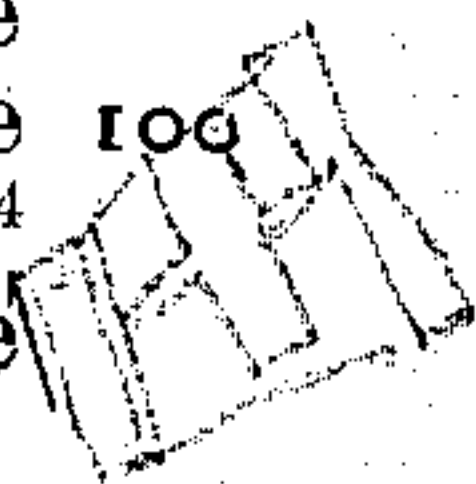
secured to the I-girders A, supporting the flange of the T-girders C, the latter being braced by cross-struts *c*.

In order to allow the conveyer-frame horizontal movement around the pivots of the revoluble frame B' as a center, the said conveyer is supported from a trolley D, which is adapted to travel upon a track D', supported in a suitable frame D<sup>2</sup>. For this purpose suitable uprights *a*<sup>2</sup> are secured to the girders A, the former being connected to the trolley D, as by the chain *d*.

The conveyer is provided at one end with a head comprising two vertical parallel members E, secured to the ends of the girders C, and in this head is carried the vertically-adjustable arm F, which consists, among other parts, of two vertical parallel girders F', suitably braced, as at *f*, and mounted between the rollers *e* of the members E. (Shown most clearly in Figs. 2 and 3.) The adjustable arm F carries at its lower extremity a horizontal frame comprising two members H, secured to the lower ends of the girders F'. The arm F is supported by the cables M, secured to the head E, passing over the pulleys *m* at the lower end of the arm and then around the drums N, the latter being operated in any convenient way, as by the hand-wheel *n*. In this way the arm F may be raised or lowered at pleasure, the object of which will hereinafter more fully appear.

The fruit or other substance to be conveyed is carried in baskets K, hereinafter more fully described, which are secured at proper intervals between the sprocket-chains L, which are supported upon sprocket-wheels L', mounted upon the conveyer-frame, as shown. The power to drive the chains which thus carry the conveyer-baskets may be derived from any convenient source and is transmitted to the chains through the gear O and sprockets P, though I do not wish to confine myself to this exact means, as it is obvious that the power may be transmitted to the chain in many well-known ways.

Upon the members H is carried the auxiliary loading mechanism R, comprising the sprocket-wheels *r*, *r'*, and *r*<sup>2</sup>, driven by the chain *r*<sup>3</sup>, and comprising also the sprockets *r*<sup>4</sup> and *r*<sup>5</sup>, carrying the chains *r*<sup>6</sup>, to which the





auxiliary conveyer-baskets  $K'$  are secured. Power is intermittently transmitted to the chains  $r^3$  from the chains  $L$  by lugs  $l$  on the chains  $L$  coming in contact with lugs  $r^7$  of the chains  $r^3$ , and from the chains  $r^3$  the power is transmitted through the sprocket  $r^2$  to the sprocket  $r^4$ , and this puts the baskets  $K'$  in motion. The lugs  $l$  are located just in the rear of each basket  $K$ , as shown.

The construction of the conveyer-baskets is shown most clearly in Figs. 6 and 7. They consist of a plate  $k$ , provided at each end with the tubular lugs  $k'$ . Secured to this plate  $k$  at suitable intervals are the curved arms  $k^2$ , which are provided with suitable padding  $k^3$  to prevent injuring the fruit. This padding may consist of pneumatic cushions or padding of any sort which will effectually prevent the fruit from being bruised by coming in contact with the basket-arms. The baskets are suspended from rods  $k^4$ , which are secured to the sprocket-chains at either side of the conveyer, as shown.

Assuming that motion is imparted to the baskets in such a manner as to cause them to travel in the direction of the arrows, Fig. 1, the operation of unloading a vessel by means of my conveyer is as follows: The vessel  $Q$  being beneath the head of the conveyer, the arm  $F$  is lowered into the hold of the vessel by operating the hand-wheel  $n$ , which actuates the drums  $N$ , letting out the cables  $M$ . The conveyer-arm may thus be lowered into the vessel to the proper depth. The fruit, which will be assumed to be bunches of bananas, is placed in the baskets  $K'$ , which have motion transmitted to them in the direction of the arrow, as described, the speed of the baskets  $K'$  being such that as each of the baskets  $K$  arrives at a point, say, opposite the sprocket  $r^1$  the baskets  $K'$  will deposit their contents into that one of the baskets  $K$  which at that moment arrives at the point indicated. For this purpose the arms or prongs of the baskets  $K'$  are so spaced that they will pass between those of the baskets  $K$ , thus allowing the bunches of bananas to be deposited in the baskets  $K$  while all of the baskets are moving in the same direction. This method of depositing the fruit in the baskets possesses many advantages over any methods which depend upon the baskets or receptacles taking the fruit from a state of rest, as in this latter case there is necessarily a blow delivered to the fruit, which should be avoided if possible, as it not only knocks the bananas off the bunches, but bruises those that remain. The baskets carrying the fruit then travel as indicated by the arrows.

For receiving the contents of the baskets I provide a plurality of belts  $S$ , carried upon rollers  $T$ , which are mounted in the frame  $U$ , secured to the revolving frame  $B$  beneath the girders  $A$ , motion being transmitted to the rollers from the driving-shaft of the conveyer through the sprocket-gearing  $u$ , driving the belts  $S$  at a slower speed than the carrier-

chains. The belts are so spaced that they occupy positions between the arms or prongs of the conveyer-baskets. The contents of the baskets are deposited upon the belts by causing the baskets to descend as they pass over the belts, allowing their arms to drop below the surface of the belts, and thereby depositing their contents upon the belts. The contents of the baskets may then be removed from the belts by hand or in any other convenient way.

As the vessel is unloaded it will naturally rise; but as the arm  $F$  is capable of vertical movement the rising of the vessel, which in some cases produces great inconvenience, is in this instance compensated for; also, when the cargo from one portion of the ship has been landed the head of the conveyer may be moved along the length of the vessel, being pivoted and supported from the trolley, as described.

It is quite obvious that conveyers constructed according to this invention may be made of various lengths to meet varying demands. Thus in some cases the frame would be very short where the loading-platforms are near the water's edge, while in others the frame would be quite long, in which instance it would be trussed. Moreover, the inner movable girder  $C$  may in some instances be dispensed with and the head of the conveyer secured directly to the ends of the girders  $A$ . It is furthermore obvious that my said invention is capable of many other modifications and changes, which may be made without departing from the spirit of the invention; but,

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a conveyer, the combination with a frame, of an adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, means for transmitting motion to and supporting said baskets, an auxiliary feeding mechanism carried by the adjustable arm, and means for driving the same, substantially as described.

2. In a conveyer, the combination with a frame, of an adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, means for transmitting motion to and supporting said baskets, an auxiliary feeding mechanism carried by the adjustable arm and means for driving the same, said feeding mechanism being adjusted to feed the articles to the conveyer-baskets while both articles and baskets are moving in the same direction, substantially as described.

3. In a conveyer, the combination with a pivoted horizontal frame, of an adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, means for transmitting motion to and supporting said baskets, an auxiliary feeding mechanism carried by the adjustable arm, and means for driving the same, said feeding mechanism being adjusted to feed the arti-



cles to the conveyer-baskets while both articles and basket are moving in the same direction, substantially as described.

4. In a conveyer, the combination with a  
5 pivoted horizontal frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, means for transmitting motion to and supporting said baskets, an auxiliary feeding  
10 ing mechanism carried by the adjustable arm and means for driving the same, said feeding mechanism being adjusted to feed the articles to the conveyer-baskets while both  
15 articles and baskets are moving in the same direction, substantially as described.

5. In a conveyer, the combination with a pivoted horizontal frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and  
20 frame, chain-driving mechanism for transmitting motion to and supporting said baskets, an auxiliary feeding mechanism carried by the adjustable arm and means for driving the same intermittingly, said feeding  
25 mechanism being adjusted to feed the articles to the conveyer-baskets while both articles and basket are moving in the same direction, substantially as described.

6. In a conveyer, the combination with a  
30 pivoted horizontal frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, chain-driving mechanism for transmitting motion to and supporting said baskets, an auxiliary feeding mechanism carried  
35 by the adjustable arm and means for driving the same intermittingly, said feeding mechanism being adjusted to feed the articles to the conveyer-baskets while both articles and  
40 basket are moving in the same direction, substantially as described.

7. In a conveyer, the combination with a horizontal frame, of a revoluble support to which said frame is secured, a traveling support from which said frame is suspended, a  
45 vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried upon said arm and frame, means for transmitting motion to and supporting said baskets, an  
50 auxiliary feeding mechanism carried by the adjustable arm and means for driving the same, said feeding mechanism being adjusted to feed the articles to the conveyer-baskets while both articles and baskets are moving  
55 in the same direction, substantially as described.

8. In a conveyer, the combination with a frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets  
60 carried by said frame and arm, means for supporting and transmitting motion to said baskets, an auxiliary feeding mechanism comprising conveyer feed-baskets and means for supporting the same, and means for imparting  
65 ing motion to the feed-baskets in the same direction as that of the conveyer-baskets and at different speed whereby the feed-baskets

are caused to deposit their contents into the conveyer-baskets, substantially as described.

9. In a conveyer, the combination with a  
70 horizontal pivoted frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried by said frame and arm, chain-driving mechanism for supporting and transmitting motion to said baskets, 75  
an auxiliary feeding mechanism comprising conveyer feed-baskets and means for supporting the same, and means for imparting motion to the feed-baskets in the same direction as that of the conveyer-baskets and  
80 at different speed whereby the feed-baskets are caused to deposit their contents into the conveyer-baskets, substantially as described.

10. In a conveyer, the combination with a  
85 horizontal pivoted frame, of a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried by said frame and arm, means for supporting and transmitting motion to said baskets, an auxiliary feeding  
90 mechanism comprising conveyer feed-baskets, and means for supporting the same and means for imparting motion to the feed-baskets in the same direction as that of the conveyer-baskets and at different speed whereby  
95 the feed-baskets are caused to deposit their contents into the conveyer-baskets, substantially as described.

11. In a conveyer, the combination with a horizontal frame, of a revoluble frame supporting said horizontal frame near one end, 100  
a traveling support from which said horizontal frame is suspended, a vertically-adjustable arm carried at one end of said frame, conveyer-baskets carried by said frame and arm, means for supporting and transmitting 105  
motion to said baskets, an auxiliary feeding mechanism comprising conveyer feed-baskets and means for supporting the same, and means for imparting motion to the feed-baskets in the same direction as that of the conveyer-baskets and at different speed whereby  
110 the feed-baskets are caused to deposit their contents into the conveyer-baskets, substantially as described.

12. In a conveyer, the combination with a  
115 horizontal extensible frame, a revoluble pivoted frame supporting one end of said horizontal frame, a traveling support from which said horizontal frame is suspended, a vertically-adjustable arm carried at one end of 120  
said frame, conveyer-baskets carried by said frame and arm, means for supporting and transmitting motion to said baskets, an auxiliary feeding mechanism comprising conveyer feed-baskets and means for supporting 125  
the same, and means for imparting motion to the feed-baskets in the same direction as that of the conveyer-baskets and at a different speed, whereby the feed-baskets are caused to deposit their contents into the conveyer- 130  
baskets, substantially as described.

13. In a conveyer, the combination with a horizontal pivoted frame, conveyer-baskets carried by said frame, means for supporting



said baskets upon said frame and imparting motion thereto, mechanism for receiving the contents of said conveyer-baskets comprising a moving support; and means for driving said moving support at a speed differing from that of the said baskets, substantially as described.

14. In a conveyer, the combination with a horizontal pivoted frame, an adjustable arm carried by said frame, chain-and-sprocket driving-gear carried by said frame and arm, conveyer-baskets carried by said chain driving-gear, mechanism for receiving the contents of said conveyer-baskets, comprising moving belts and means for supporting the same, and means for driving said belts at a speed differing from that of the conveyer-baskets, substantially as described.

15. In a conveyer, the combination with a horizontal frame, an adjustable arm carried by said conveyer, baskets carried by said frame and arm, means for supporting and transmitting motion to said baskets, mechanism for receiving the contents of said conveyer-baskets comprising moving belts located beneath the baskets, means for supporting said belts, and means for driving them at a speed differing from that of the conveyer-baskets, substantially as described.

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

SIDNEY J. SYDNEY.

Witnesses:

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FRANK D. BLACKISTONE.