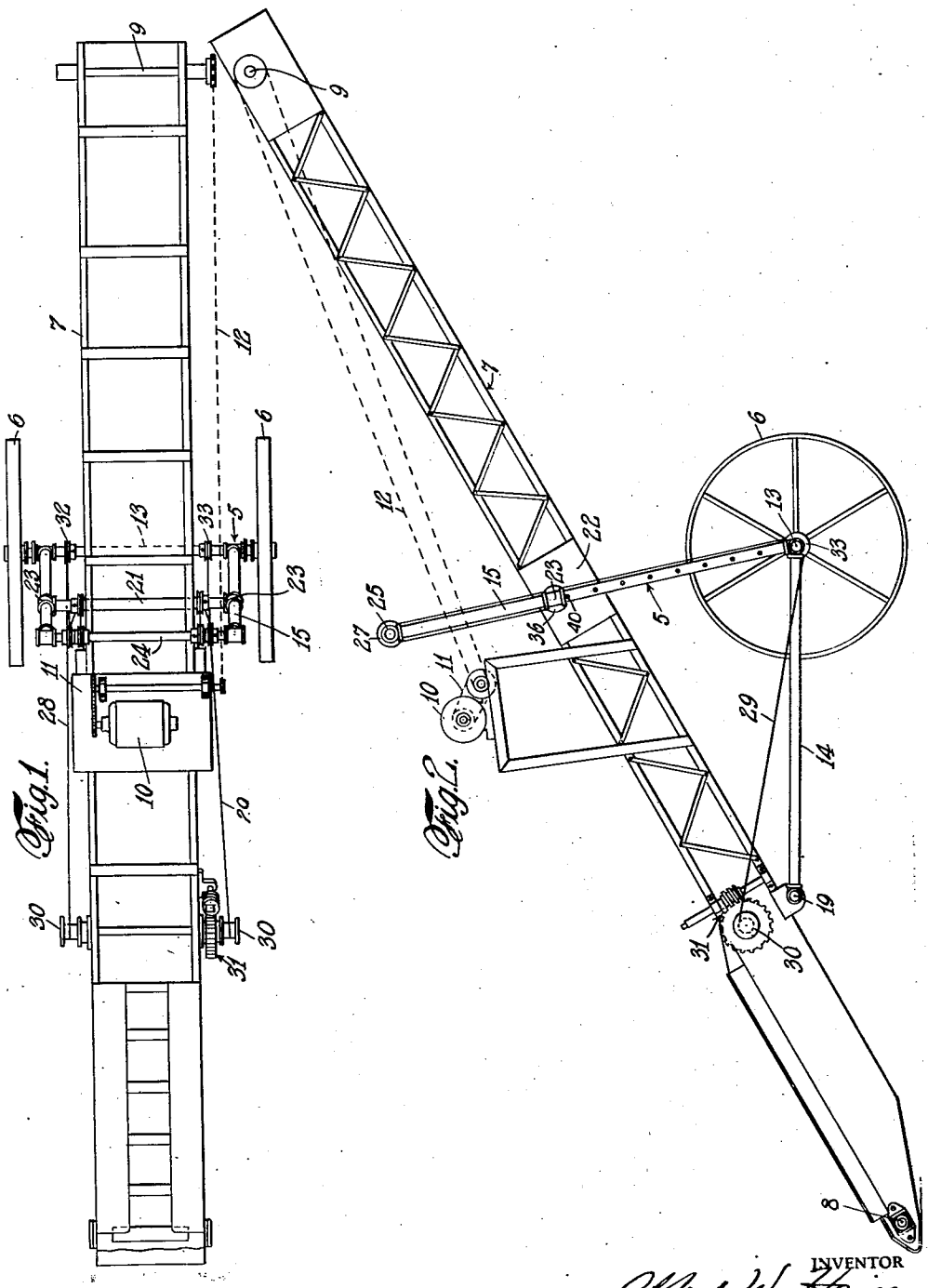
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CONVEYER

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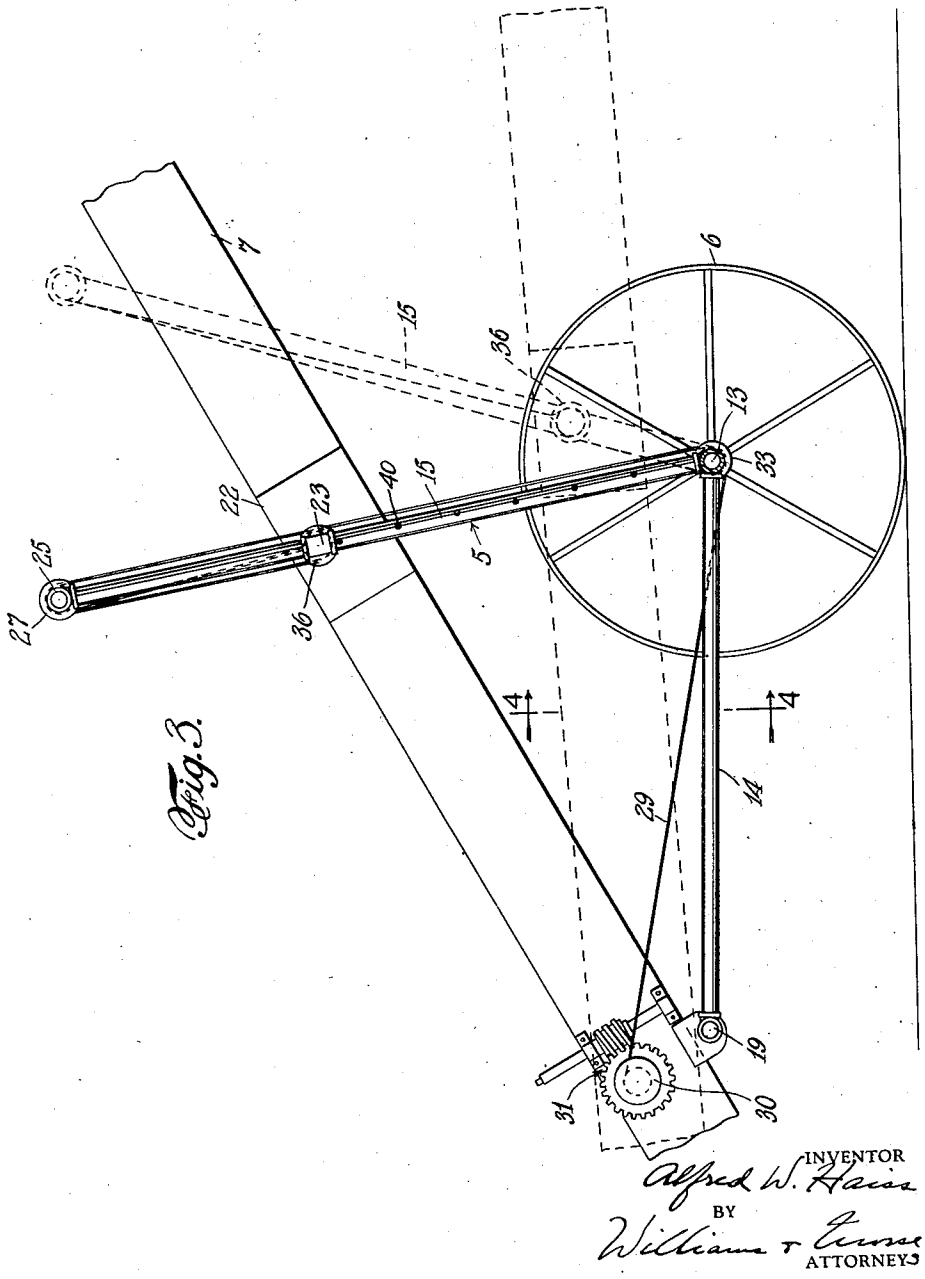


Fig. 3.

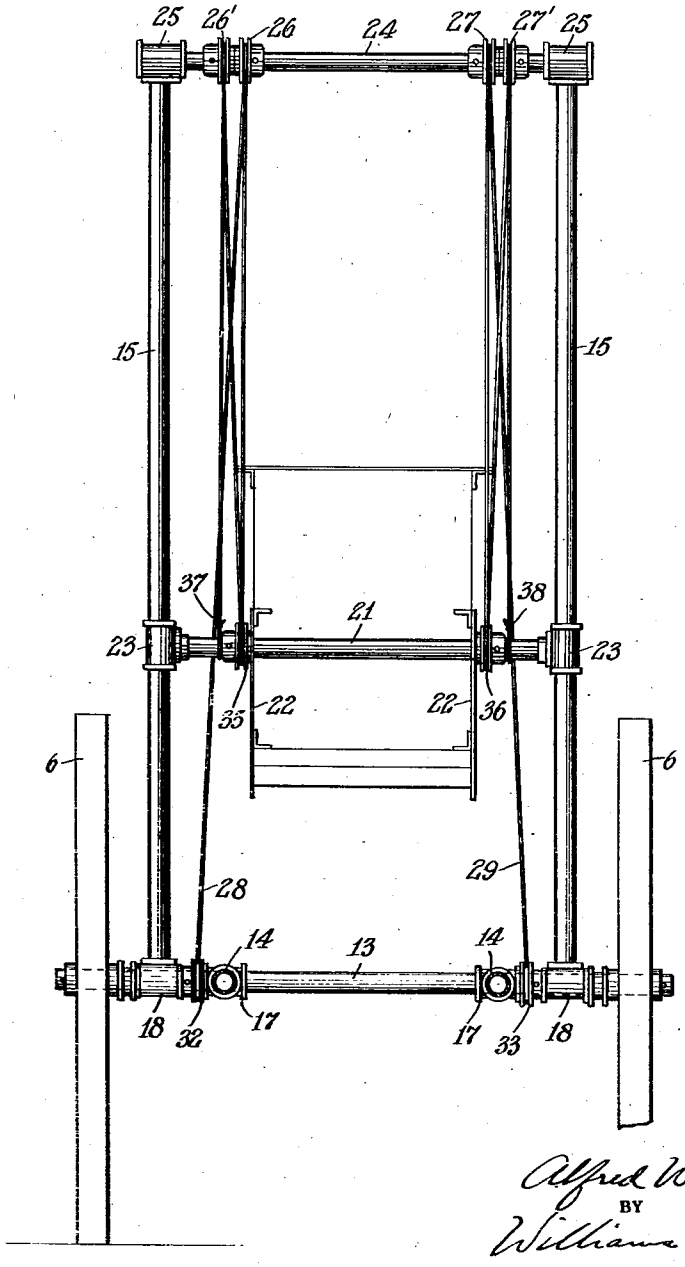
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Fig. 4.



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UNITED STATES PATENT OFFICE

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CONVEYER

Application filed April 20, 1927. Serial No. 185,115.

This invention relates to conveyers, and is herein shown embodied in a conveyer of the portable type having a supporting frame with which is associated a vertically adjustable belt-carrying frame.

Heretofore the supporting frame, in conveyers of the type mentioned, has consisted of a pair of vertically disposed triangularly shaped frame units made up of frame members rigidly connected to each other in a triangular relation, and the belt-carrying frame in some cases has been rigidly connected to the supporting frame and in other instances pivotally connected to such frame, vertical adjustment of the delivery end of the belt-carrying frame having been accomplished in the former instance by vertically adjusting one end of the supporting frame with respect to the other end thereof, and in the latter instance by swinging the belt-carrying frame about its pivotal connection with the supporting frame.

This invention may be considered as an improvement upon the above mentioned forms of conveyers, and its object is to provide a generally improved structure which will be simple in construction and reliable in use.

Other objects and advantages of the invention will become apparent from the following description when taken in connection with the accompanying drawings in which—

Figure 1 is a plan view of a conveyer embodying this invention; Figure 2 is a view showing the conveyer in side elevation; Figure 3 is a fragmental view in elevation showing in full lines and dotted lines respectively, the relation of the supporting frame to the belt-carrying frame when the latter is adjusted to upper and lower positions; and Figure 4 is a transverse sectional view taken on line 4—4 of Figure 3 but showing the belt-carrying frame adjusted to a position intermediate its upper and lower positions.

Referring to the drawings the numeral 5 indicates a supporting frame, provided with road wheels 6 and a belt-carrying frame 7 which may be provided with the usual form of endless belt, not shown, adapted to be supported with respect to the frame 7 on suitable transverse shafts 8 and 9 and driven by a suitable power plant, such as a motor 10, operatively connected to the shaft 9 through the instrumentality of sprocket chains 11 and 12.

The supporting frame 5 includes a pair of frame units or side frames arranged at opposite sides of the belt-carrying frame 7, the frame units being connected to an axle 13 upon which the road wheels 6 are mounted. Each of the side frames comprises a horizontally disposed frame member 14 and an upwardly projecting frame member 15. The frame members 14 and 15 are preferably in the form of sections of pipe and by reason of such, the connections between the frame members 14 and 15 and the axle 13 may be readily made by means of T couplings 17 and 18 respectively. The connections between the frame members 14 and the axle 13 are rigid but the connections between the frame members 15 and the axle 13 are pivotal so as to permit relative movement between the side members 14 and 15, respectively, as and for the purpose hereinafter set forth. The side members 14 are pivotally connected to the belt-carrying frame, as shown at 19, so as to permit relative movement between the belt-carrying frame 7 and the frame members 14 when it is desired to adjust the delivery end of the conveyer to different positions to meet varying conditions of operation.

A sliding connection is provided between the belt-carrying frame 7 and the frame members 15, such connection being afforded by means of a transverse tubular shaft 21 which is journaled for slight rotation in side plates 22 carried by the frame 7 and is provided at its outer end with T-couplings 23 adapted to slide upon the frame members 15 as the frame 7 is moved vertically to its adjusted positions. The frame members 15 are connected together at their upper ends by a transverse frame member 24, preferably in the form of a section of pipe, carrying at its outer ends suitable pipe fittings 25 which are secured to the upper ends of the frame members 15. Upon the frame member 24 are journaled pairs of pulleys 26, 26′ and 27, 27′ over which pass cables 28 and 29. These cables 28 and 29 are suitably connected to drums 30 of a winch

mechanism 31, carried by the frame 7, and pass therefrom under pulleys 32 and 33, respectively, journaled upon the axle 13 from which pulleys they extend upwardly over the pulleys 26 and 27, thereafter passing downwardly over pulleys 35 and 36 journaled upon the shaft 21 from which they extend upwardly over pulleys 26′ and 27′ and downwardly to the shaft 21 to which their ends are anchored as shown at 37 and 38.

Assuming that the belt-carrying frame 7 is in its dotted line position shown in Figure 3 and it is desired to move such frame to its full line position shown in Figure 3, the winch mechanism 31 is operated whereby the cables 28 and 29 are wound upon the drums 30 with the result that an upward pull is exerted upon the shaft 21 and the frame 7 is moved upward. As the belt-carrying frame 7 moves upward, the shaft 21 moves generally to the left, as viewed in Figure 3, due to the fact that the belt-carrying frame is pivotally connected to the frame members 14 at a fixed point. Since the shaft 21 is slidingly connected to the side members 15, such side members are forced to move from their dotted line position shown in Figure 3 toward their full line position shown in Figure 3 and as the side members 15 so move the shaft 21 is forced to move slightly about its axis. To lower the belt-carrying frame 7 from its elevated position, shown in full lines in Figure 3 to its dotted line position shown in Figure 3, the operation of the winch mechanism 31 is reversed, with the result that the belt-carrying frame 7 is permitted to descend by gravity, the downward movement of the belt-carrying frame being permitted by reason of the fact that the frame members 15 are pivotally connected to the axle 13 and by reason of the fact that the shaft 21, which is slidably connected to the frame members 15, is rotatably connected to the belt-carrying frame 7.

The winch mechanism 31 is of the non-reversing type and serves, together with its associated parts, not only as means for raising and lowering the conveyer frame 7 but also as a means for maintaining that frame in various adjusted positions, as will be readily understood. Although the raising and lowering means for the conveyer frame 7 may serve to retain the conveyer frame in various adjusted positions, other retaining means may be employed as, for example, a pair of pins, one of which is indicated at 40 in Figure 3. These pins are adapted to be inserted in openings provided in the frame members 15 after the conveyer frame has been elevated to a desired position, whereupon the winch mechanism is reversed to permit the couplings 23 to move down into engagement with the pins 40 and thus allow the cables 29 to become slack. In order to adjust the conveyer frame 7 to a lower position, it may be first slightly elevated by the winch mechanism 31 to lift the coupling 23 from the pins 40, whereupon the pins may be easily removed to permit the conveyer frame 7 to move downwardly by gravity as the cables 29 are unwound from the winch mechanism.

By the structure embodying this invention, the belt-carrying frame 7 is utilized as a frame member in each of the side frame units and forms with the frame members 14 and 15, of each frame unit, a triangle in which that portion of the belt-carrying frame 7 intermediate its points of connection with the side members 14 and 15 forms a side. By reason of the fact that the belt-carrying frame 7 is so connected to the side members 14 and 15 as to form therewith a side of a triangle, strength and rigidity are afforded the side frame units despite the fact that the belt-carrying frame 7 is pivotally connected to the frame members 14 and 15 and further despite the fact that the frame members 14 and 15 are pivotally connected to each other.

What is claimed is:

1. In a conveyer, an axle, side frames each including a lower frame member and an upper frame member connected to said axle for relative pivotal movement, a transverse frame member connecting said upper frame members together, a transverse shaft slidably connected at its ends to said upper frame members intermediate their respective ends, a conveyer frame pivotally connected to the lower frame member of each side frame and pivotally supported upon said transverse shaft, pulleys carried by said transverse frame member, pulleys carried by said axle, cables passing around the pulleys carried by said axle and over the pulleys carried by said tranverse frame member and connected to said conveyer frame, a winch mechanism supported by said conveyer frame for actuating said cables, whereby said conveyer frame may be moved about its pivotal connection with said lower frame members.

2. In a conveyer, an axle, side frames each including a lower frame member and an upper frame member connected to said axle for relative pivotal movement, a conveyer frame pivotally connected to the lower frame member of each side frame and including side plates, a transverse shaft located between said upper frame members, T-couplings carried at the opposite ends of said transverse shaft and slidable on said upper frame members intermediate their respective ends, said shaft being journaled in said side plates, a transverse frame member connecting said upper frame members together, pulleys carried by said transverse frame member, pulleys carried by said axle, cables passing around the pulleys carried by said axle and over the pulleys carried by said transverse frame member and connected to said conveyer

frame, and a winch mechanism for actuating said cables, whereby said conveyer frame may be moved about its pivotal connection with said lower frame members.

In testimony whereof, I have affixed my signature to this specification.

ALFRED W. HAISS.