

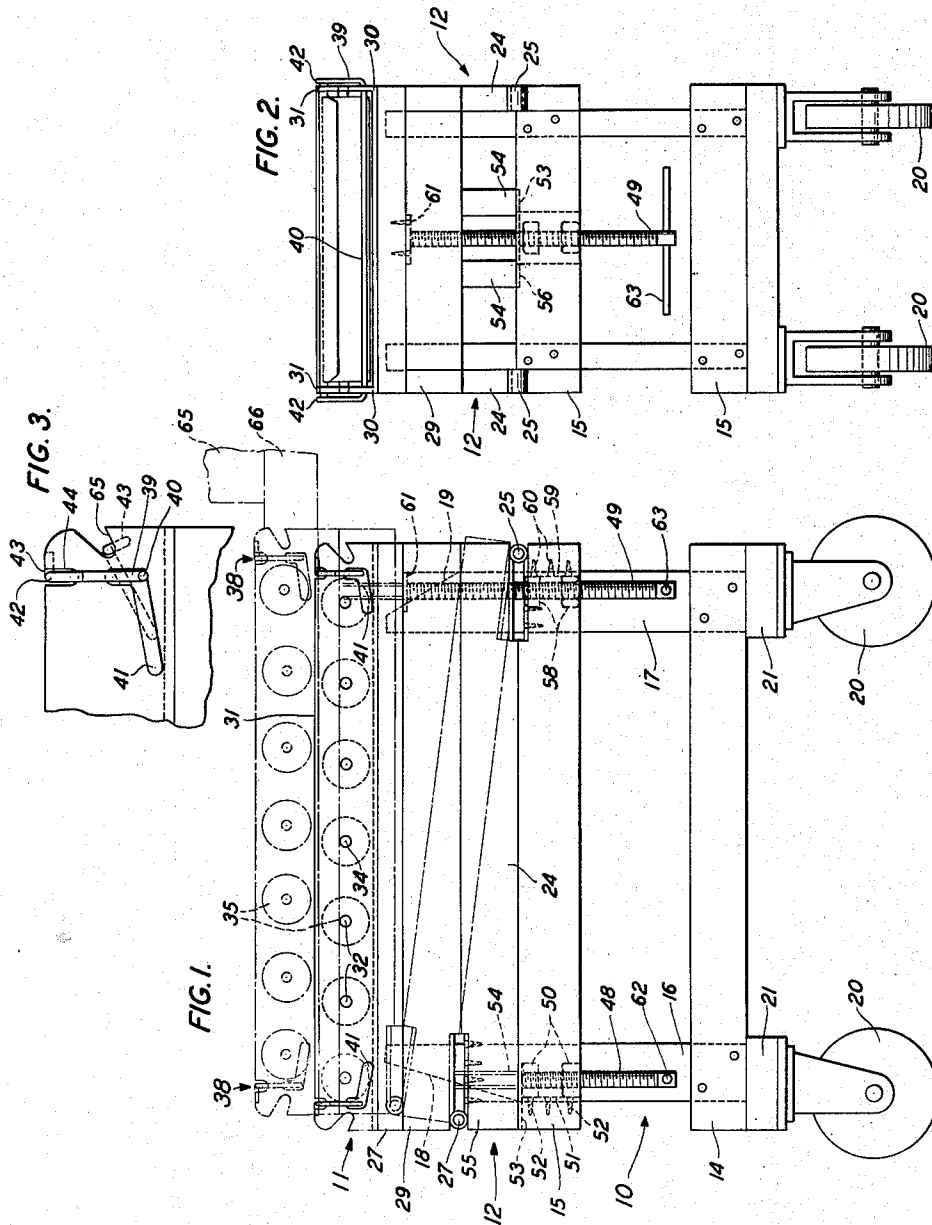
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TRUCK

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TRUCK

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This invention relates to trucks, and more particularly to adjustable trucks for conveying heavy articles.

In the manufacture of articles too heavy to transport manually, it is essential to provide suitable means to receive such articles from one position and transport the articles to another position with the minimum amount of physical effort.

An object of the invention is to provide a truck which is simple in structure and variably adaptable to receive articles from various locations and transport them to other locations.

With this and other objects in view, the invention comprises a truck having an article receiving portion carried by a roller supported portion, with an intermediate element connecting the portions for variation of their relative positions.

Other objects and advantages will be apparent from the following detailed description when considered in conjunction with the accompanying drawing, wherein

Fig. 1 is a side elevational view of the truck, with the article supporting portion shown in solid lines in its normal or lower position and in dot and dash lines in a raised position;

Fig. 2 is an end elevational view of the truck, and

Fig. 3 is an enlarged fragmentary detailed view of one end of the article supporting portion.

Referring now to the drawing, the truck includes a main frame or body indicated generally at 10, an article supporting portion or unit 11 and an intermediate element 12.

Referring first to the body 10, this portion is composed of spaced rectangular sections 14 and 15 fixed at their corners to vertical members 16 and 17. The vertical members are identified in pairs, these members being identical excepting the contour of their upper portions, where they are provided with tapered surfaces 18 and 19 respectively. The purpose of these tapered surfaces or cutaway portions is to permit relative movement of the intermediate element and the article supporting portion relative thereto, and to guide these portions into place when they are lowered into the normal or lowermost positions. Pairs of rollers 20 are mounted upon cross pieces 21 fixed beneath and adjacent the ends of the rectangular section 14.

The intermediate element 12 is in reality a pair of elements 24 hinged at 25 to the adjacent sides of the rectangular section 15. At the opposite ends of the elements 24, and upon the upper sur-

faces thereof, hinges 27 are mounted. Only one of the hinges 27 is shown in the drawing, it being understood that each element is provided with one of these hinges as illustrated in Fig. 1.

The article supporting portion 11 includes a rectangular hollow frame 29 which normally rests upon the elements 24 when the truck is in the closed position and is connected to the elements through the hinges 27. Upon the rectangular frame 29 are fixedly mounted angle members 30, their vertical sides 31 having a plurality of spaced apertures 32 for receiving the ends of shafts 34 upon which rollers 35 are rotatably mounted. The portion 11 may thus be termed a roller conveying unit adapted for the movement of heavy articles thereon, and in a like manner for the movement of the articles therefrom.

Means is provided at each end of the portion or unit 11 for retaining the articles against displacement or accidental movement from the unit. This means includes stop elements indicated generally at 38. These elements each include a U-shaped member 39 having a central portion 40 extending through L-shaped apertures 41 in the vertical sides 31 of the angle members 30. Vertically extending legs 42 of each of the members 39 are secured in any suitable manner, such as by welding, to the ends of an angle or stop member 43. The members 43 extend the full width of the conveyor unit or portion 11, the upper leg of the members being cut away short of the angle members 30, leaving straight lower leg portions receivable in slots 44 of the angle members.

The means to elevate the unit 11 relative to the main frame or body 10 consists mainly of adjusting screws 48 and 49. The adjusting screw 48 is threadedly disposed in a pair of spaced nuts 50 supported by, or formed integral with, a mounting plate 51, the latter being fixed, as at 52, to the adjacent portion of rectangular section 15. The upper end of the adjusting screw 48 is positioned to engage a plate 53, which is formed preferably of metal. Spaced members 54, fixed to a laterally projecting portion 55, cooperate with the latter in supporting the plate 53, the plate being fixed to these portions. As indicated in Fig. 2, the adjacent portion of the section 15 is recessed, as at 56, to receive the plate 53. The laterally projecting portion 55 has its ends fixed to the adjacent ends of the elements 24 to complete the intermediate element 12.

The adjusting screw 49 is supported in a like manner to the supporting of the adjusting screw 48, that is, through the aid of spaced nuts 58 mounted upon a plate 59 which is secured, as at

60, to the adjacent portion of section 15. An abutting plate 61, secured to the adjacent portion of the frame 29 as illustrated in Fig. 2, is positioned to be engaged by the adjusting screw 49. Through the aid of handles 62 and 63, the adjusting screws 48 and 49 respectively may be actuated.

Considering now the operation of the truck, let it be assumed that the article supporting unit 11 is in its lowermost position shown in solid lines in Figs. 1 and 2. Let it further be assumed that an article 65 to be transported is disposed upon a support 66 at a higher level. Through the aid of the adjusting screws 48 and 49, the unit 11 may be raised until the upper surfaces of the rollers 35 are disposed in a plane with the bottom of the article to be transported. The adjustment of the screw 48 will move the element 12 about its hinges 25, until the adjacent (left) end of the unit 11 is in the desired position, after which the adjusting screw 49 may be rotated to move the unit 11 about its hinges 27 until the unit is brought into a horizontal plane. If desired, both adjusting screws may be actuated simultaneously. At this time the truck may be moved on its rollers 20 so as to position one end of the unit in abutting engagement with the support 66 to receive the article. Prior to this movement, however, the stop element 38 at the article receiving end of the unit 11 will be moved upwardly to free the ends of the leg 42 of the stop member 43 free of the slots 44, and move the stop member about the arcuate ends of the angle members 30 into receiving notches 65 (Fig. 3). At this time the U-shaped member 39 moves inwardly into the apertures 41, as shown in dotted lines in Fig. 3, the stop member 43 being thus disposed out of the path of the article. The article may then be moved onto the rollers 35, its movement being limited by the stop element 38 at the opposite end of the unit 11. After the article is located upon the truck, the stop 38 at the loading end may be returned to its slots 44 from the notches 65, to maintain the article against displacement on the unit 11. The article may thus be transported to next position, where one of the stop elements 38 may be removed from its slots 44 and disposed in the notches 65. When in this position the unit 11 may be moved into engagement with the support which is to receive the article, the stop element being disposed inwardly from the end of the unit which may abut the support for the article.

It will be apparent from this disclosure that heavy articles may be freely moved on and off the conveyor or article supporting unit 11, the articles being maintained thereon through the aid of the stop elements during the transporting of the article from one position to another, and the unit 11 may be elevated to any desired position. Furthermore, this variation may compensate for variations in the receiving and delivering positions for the article. Also, if desired, the element may be tilted in either direction to aid in the

movement of the article onto and off this unit.

Although specific improvements of the invention have been shown and described, it will be understood that they are but illustrative and that various modifications may be made therein without departing from the scope and spirit of this invention as defined by the appended claims.

What is claimed is:

1. A truck for transporting articles comprising a body, supporting wheels therefor, a plurality of rollers carried by the body for receiving and supporting an article thereon, a retaining element to maintain the article on the rollers a recess in the body for the element, and means to support the element for movement into the recess out of the path of the article to free the article for movement off of the rollers.

2. A truck for transporting articles comprising a body, supporting wheels therefor, a conveyor unit, movable members interposed between the conveyor unit and the body and having their opposing ends respectively connected pivotally thereto to elevate the unit to any one of a plurality of positions relative to the body to position the unit to receive articles from various positions, and vertical guide members carried by the body and positioned adjacent the movable members to maintain them and the unit against lateral displacement.

3. A truck for transporting articles comprising a body, supporting wheels therefor, a frame carried by the body and having apertures therein adjacent an end thereof, means carried by the frame for receiving and supporting an article, and an element movably carried by the frame and receivable in one of the apertures to maintain the article on the supporting means and receivable in the other aperture short of the end of the frame to free the article for movement off the supporting means.

4. A truck for transporting articles comprising a body, supporting wheels therefor, a frame carried by the body and having apertures in the ends thereof, rollers carried by the frame and disposed at spaced positions between the ends thereof for receiving and supporting an article, and elements disposed adjacent the ends of the frame to maintain the article on the rollers and selectively movable into their respective apertures to positions out of the path of the article and short of their respective ends of the frame to free the article for movement of the rollers at either end of the frame.

5. A truck for transporting articles comprising a body, supporting wheels therefor, a conveyor unit carried by the body and having a plurality of rollers to receive an article, stop elements for both ends of the unit adapted to be positioned in the path of the article, and separate means for supporting the stop elements for movement of the elements individually out of the path of the article to free the article for movement off either end of the unit.

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