

J. S. GOBLE.
SELF LOADING AND UNLOADING BARREL TRUCK.
APPLICATION FILED SEPT. 16, 1912.

Patented Mar. 3, 1914.

4 SHEETS—SHEET 1.

1,088,980.

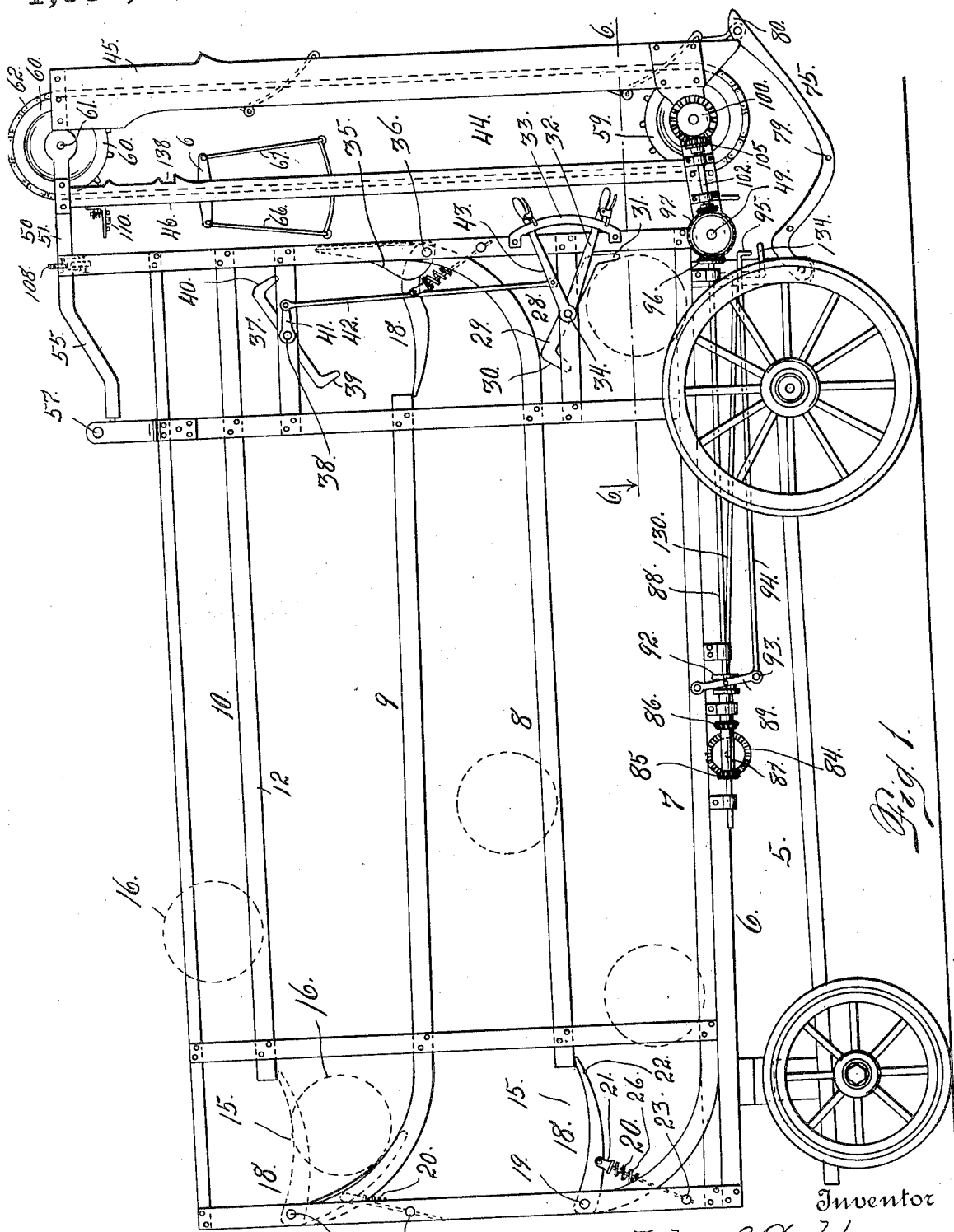


Fig. 1.

Witnesses

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Inventor

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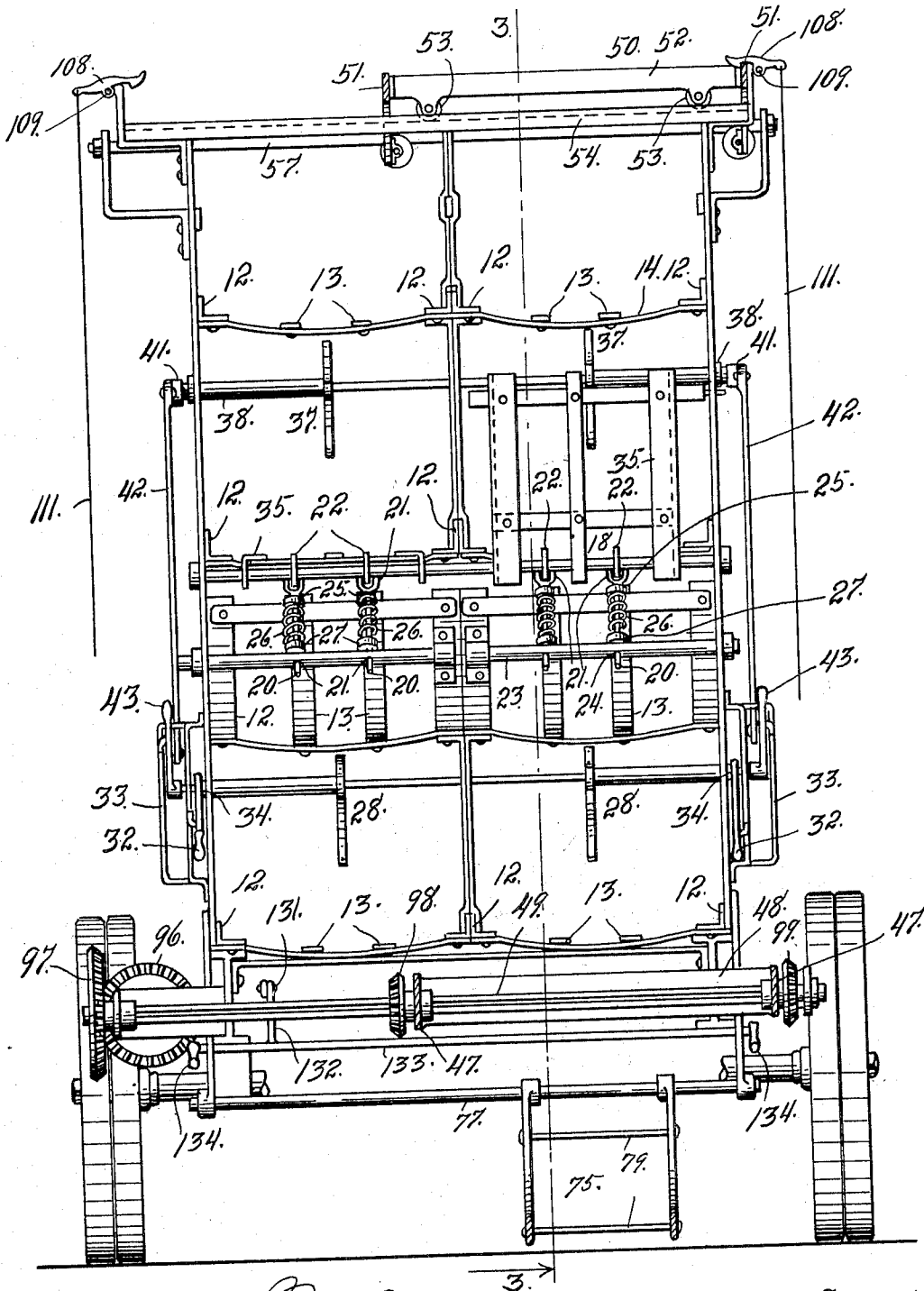


Fig. 2.

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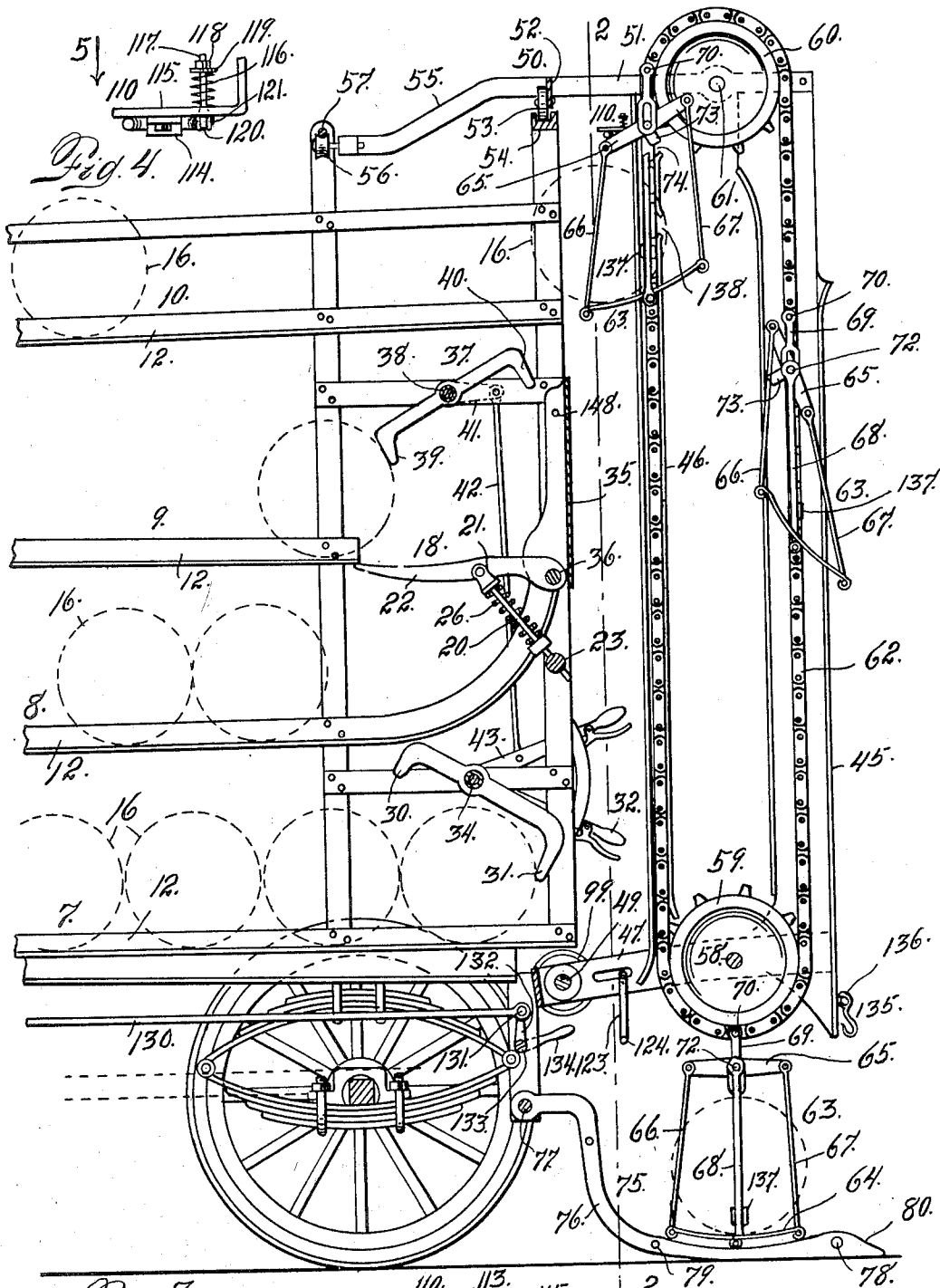


Fig. 3.

Witnesses

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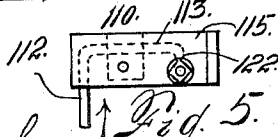


Fig. 5.

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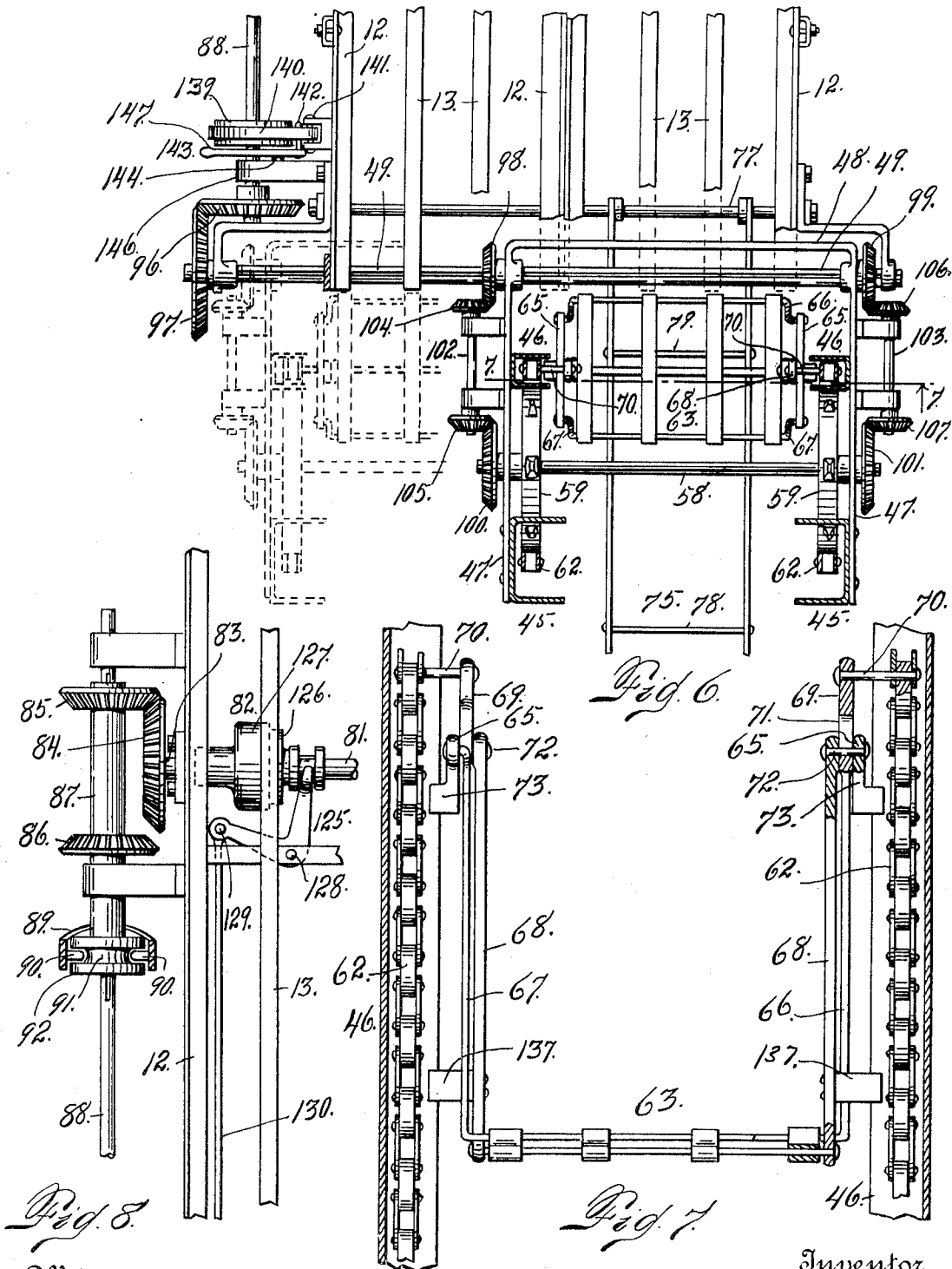
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4 SHEETS—SHEET 4.



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SELF LOADING AND UNLOADING BARREL-TRUCK.

1,088,980.

Specification of Letters Patent.

Patented Mar. 3, 1914.

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To all whom it may concern:

Be it known that I, JOHN S. GOBLE, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Self Loading and Unloading Barrel-Trucks; and I do 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; reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a self-loading and unloading barrel truck, my object being to provide a truck so constructed that barrels or kegs may be readily loaded thereon and as readily unloaded therefrom, whereby the truck is adapted for use in cities or other localities where barrels or kegs of goods are delivered at various places from the same wagon.

A truck of this character may be advantageously employed in delivering kegs of beer at various localities in cities.

My improved truck is constructed with a number of intercommunicating decks arranged one above another. In unloading the truck, the kegs or barrels are first elevated to the uppermost deck and delivered thereto. This deck is so constructed that it is slightly inclined downwardly from the rear toward the front, and as the kegs or barrels are delivered at the rear of the deck they will roll to the forward end of the same and pass thence to the deck next below, upon which they travel in the opposite direction, and upon reaching the rear extremity of this deck they pass to the third deck, and so on until the last deck is reached and the keg or barrel has taken the lowermost position thereon. In this way the kegs or barrels are successively delivered until all of the decks are filled. Provision is made whereby the first barrel or keg of the lowermost deck is locked against escaping from the deck, hence as the other kegs or barrels are successively delivered to the truck they gradually fill all the decks. When it is desired to unload, the movement of the elevator is reversed and the cage is utilized for lowering the kegs or barrels as they are

successively released from the lowermost deck.

If desired, trucks or barrels may be unloaded from a deck between the lowermost and uppermost decks, as, for instance, when the load is composed of different sized packages, as barrels, half-barrels and kegs, and the particular size to be delivered is located on a deck above the uppermost it will then be convenient to take the barrel directly from an upper deck rather than unload all of the barrels below in order to allow the desired barrel to reach the uppermost position of the lowermost deck.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a side elevation of my improved truck, kegs or barrels in different locations being indicated thereon in dotted lines. Fig. 2 is a transverse section taken on the line 2-2 Fig. 3, shown on a larger scale. Fig. 3 is a section taken on the line 3-3, Fig. 2, looking toward the right. Fig. 4 is a detail view of a device for automatically actuating the elevator cage to throw it to position for automatically delivering a keg or barrel to the uppermost deck. The device is shown on a larger scale in this view than in the general views. Fig. 5 is a top plan view of the same, or a view looking in the direction of arrow 5, Fig. 4. Fig. 6 is a horizontal section taken on the line 6-6, Fig. 1, looking downwardly; the parts being shown on a larger scale. Fig. 7 is a vertical section taken through the elevator and cutting a cage thereof, the parts being shown on a larger scale. Fig. 8 is a fragmentary view of the operating mechanism of the structure, the same being shown in top plan view.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the running gear of a truck upon which is mounted a body 6 composed of a number of intercommunicating decks 7, 8, 9 and 10. As illustrated in the drawing, (see Fig. 2,) each of these decks is of a width equal to twice the length of the barrels or kegs to be carried by the truck whereby it becomes practicable to make the width of the load equal to that

of two of the kegs or barrels placed end to end, the width being so regulated as to bring about this result without crowding.

Each compartment of each deck consists of angle iron tracks 12, the space between the inner and outer track members consisting of supporting bars 13 connected by transversely arranged bottom members 14. The tracks 12 are so spaced as to conveniently handle the various sizes of barrel packages. At the forward extremity of the uppermost deck the barrel-supporting members terminate at a sufficient distance in the rear to leave a space 15 of sufficient length to allow a barrel 16 to pass downwardly to the deck 9 below.

In order to prevent the barrel from falling suddenly from an upper deck to a lower deck, the upright frame-work 17 of the structure is provided with a spring-supported platform 18, the said platform being hinged at one extremity as shown at 19 and supported intermediate its extremities by rods 20 whose upper extremities are bifurcated as shown at 21 to straddle bars 22 with which they are pivotally connected. The lower portions of these rods pass through bars 23 as shown at 24, the rods being slidable therein. The upper portions of the rods are provided with stops 25 which are made fast on the rods and bear against the upper extremities of spiral springs 26 which surround the rods, the lower extremities of the springs engaging stops 27 which engage the bar 23 and through which the rods also slide freely. The parts 27 simply form bearings or seats for the lower extremities of the spiral springs. The tension of these springs is so regulated as to yield to the weight of the barrel while at the same time they are sufficiently strong to prevent the barrel from falling suddenly from one platform to the other, which might result in injury to the barrel or to the truck structure, or both, as will be readily understood. As soon as the platform is moved downwardly to the proper position, the barrel rolls toward the opposite end of the lower deck to which it has now been transferred, and the platform under the influence of its springs returns to its normal position. Substantially the same platform structure is employed at one end of each deck, these spring-supported platforms being arranged at the opposite ends of adjacent decks, as will be readily understood from an inspection of the drawing. Hence, there is a platform 18 at the left-hand extremity of the uppermost deck 10, at the right-hand extremity of the next lower deck 9, and at the left-hand extremity of the deck 8, referring to Fig. 1 of the drawing, the said platform being always located at the opposite end of the deck from that where the barrel enters.

The right-hand extremity of the lowermost deck, or the location where the barrels are removed from the truck, is provided with a sort of escapement lever 28 consisting of a straight portion 29 having parts 30 and 31 extending downwardly from its opposite extremities. Normally, or while loading the truck, this escapement lever is inclined so that its rear projection 31 is lowermost and arranged to prevent the barrel 16 from rolling from the truck while its opposite projection 30 is raised to allow the next barrel to engage the first. When, however, it is desired to unload barrels from the rear extremity of the lowermost deck, the escapement lever 28 is manipulated by means of an arm 32 which is secured to the escapement lever at one extremity and engages a sort of quadrant 33 at its opposite extremity whereby the escapement may be locked in any desired position upon the quadrant. The escapement lever is fulcrumed on the frame as shown at 34. As this lever is tilted to raise its projection 31 and lower its projection 30, the rearmost barrel of the lowermost deck will be released, while the next barrel forward will be engaged in the rear by the projection 30 of the lever and held against further movement until the removed barrel is taken care of in a manner hereinafter explained. The escapement lever will then be returned to its original position, and the next barrel takes the place of the barrel first removed, and in this way the barrels may be successively removed with great facility.

Should it be desired to remove a barrel from an upper deck, as from the deck 9, an auxiliary slatted platform 35 pivotally mounted on the frame-work as shown at 36 and normally occupying an upright position, is thrown forwardly, whereby it is caused to rest upon the rear extremity of the deck 9 which supports it in such position that the barrel 16 when it reaches the rear extremity of the deck 9 will pass to this platform and thence into position upon the elevator cage as hereinafter explained, whereby it may be lowered without removing the barrels from the lowermost deck. In this event a second escapement lever 37 fulcrumed on the frame as shown at 38 and provided with downward projections 39 and 40 at its opposite extremities is employed. A crank 41 is connected with this lever while a rod 42 leads downwardly from the crank arm to a lever arm 43 pivotally connected with the fulcrum 34 of the escapement lever 28. By operating the lever 43 the escapement lever may be controlled in the same manner as the escapement lever 28 heretofore explained.

The manner of elevating the barrels, while loading the truck, as well as employing the

same elevator construction for lowering the barrels in unloading the truck, will now be described. A vertically arranged elevator frame 44 is mounted on the rear extremity of the body of the truck and extends the entire height of all the decks of the truck. This frame is composed of two U-shaped rear members 45 and two similarly shaped forward members 46. The lower extremities of the four members 45 and 46 are secured to the parallel arms 47 of a U-shaped frame 48 which is loosely mounted and freely slidable on a transverse shaft 49. The upper extremities of the bars 45 and 46 are secured to a top frame 50 composed of side bars 51 and a transverse member 52 located forward of the U-shaped bars 46 and carrying rollers 53 which engage a transverse track 54 mounted on the stationary framework of the truck. The frame 50 is further provided with forward extensions 55 which carry rollers 56 which engage a track 57 from below, said tracks being transversely arranged and adapted to aid in the support of the elevator carriage during its transverse movement on the truck from a position directly in the rear of the deck compartments on one side of the truck to a position directly in the rear of the corresponding compartments of the decks on the other side of the truck. During this transverse travel of the elevator carriage on the truck, the U-shaped frame 38 slides freely on the shaft 49.

Mounted on a shaft 58 journaled in the side supports 47 of the frame 48 are sprocket wheels 59 while corresponding sprocket wheels 60 are mounted on stub shafts 61 journaled in side members 51 of the frame 50. Upon these two sets of sprocket wheels are mounted endless chains 62 which run in ways formed by the U-shaped frame bars 45 and 46. Elevator cages 63 are connected with these chains in a manner best illustrated in Fig. 7 of the drawing. Each cage is composed of a bottom 64 and oppositely arranged top bars 65, the top bars and the opposite ends of the bottom of the cage being pivotally connected by means of front, rear and middle rods 66, 67 and 68 respectively. Each cage is suspended from the elevator chains 62 by means of links 69 whose upper extremities are pivotally connected with pins 70, the latter being suitably connected with the said chains. The lower portions of these links are slotted as shown at 71 and the bars 65 of the cage are centrally and pivotally connected therewith by means of rivet pins 72 which pass through perforations formed in the upper extremities of the rod 68, and the slots 71 of the links 69. Depending guide blocks 73 are formed integral with the bars 65 of the cage, the said blocks being centrally located and oc-

cupying positions between the side members 65 of the U-shaped bars 45 and 46 during the travel of the chains therewith. By virtue of these guide blocks, the elevator cages are maintained in the upright position while traveling upwardly with the forward runs 70 of the endless chains of the elevator, since the U-shaped bars 46 have their side members arranged in such proximity as to produce this result. The rear flanges of the U-shaped bars 46 are cut away at the upper extremities of the bars, as shown at 74, to allow the guide blocks to change their position, whereby the bottom 64 of the bucket is inclined to allow a barrel 16 to roll automatically from the elevator to the uppermost deck, after which the cages are carried with the chains as they pass over the uppermost sprockets 60, the cages passing thence downwardly in the collapsed position, since the U-shaped frame bars 45 have their front and rear flanges sufficiently spaced to allow the cages to assume the collapsed position by virtue of the pivoted connection of their several parts. As soon, however, as the cages reach the lowermost extremity of the elevator, the said cages assume an upright position ready to receive a keg. When in this position the bottom of each cage rests upon a sled-like structure 75 composed of two runners 76 pivotally connected with the frame, as shown at 77. These runners are connected by transverse rods 78 and 79. The runners rest upon the surface where the barrels to be loaded are located, so that these barrels may be rolled first upwardly on the outer extremities 80 of the runners and thence to a position upon the bottom of the cage as indicated by dotted lines in Fig. 3.

The elevator is operated from a suitable motor (not shown,) carried by the truck, the power being taken from a main shaft 81 having a clutch connection 82 with a short shaft 83 carrying a beveled gear 84 which meshes with either of two gears 85 or 86 carried by a sleeve 87 splined on a shaft 88. The gears 85 and 86 are arranged on opposite sides of the gear 84 whereby, when one gear of the sleeve 87 is in mesh with the gear 84 the shaft 88 rotates in one direction, while when the other gear on the sleeve is in mesh with the gear 84 the shaft rotates in the reverse direction. The sleeve 87, which is longitudinally slidable on the shaft 88, is shifted in one direction or the other by means of a suitable lever 89 having pins 90 which enter a circumferential groove 91 formed in a collar 92 fast on the sleeve. The lever 89 is pivotally connected at its lower extremity as shown at 93 with the forward extremity of a rod 94, the rear extremity of this rod being exposed as shown at 95 for manipulating purposes. The rear

extremity of the shaft 88 is provided with a pinion 96 which meshes with a gear 97 fast on the shaft 49 upon which the elevator carriage is slidably mounted, as heretofore explained. This shaft 49 carries two gears 98 and 99 which are splined on the shaft and arranged on opposite sides of the U-shaped frame member 48. These gears 98 and 99 are connected in operative relation with gears 100 and 101 mounted on opposite extremities of the shaft 58, by means of short shafts 102 and 103 and gears carried by the said shafts. The shaft 102 has a gear 104 meshing with the gear 98 and a gear 105 meshing with the gear 100, while the shaft 103 has a gear 106 meshing with the gear 99, and a gear 107 meshing with the gear 101. The gears 98, 99, 100, 101, 104, 105, 106 and 107, as well as the shafts 102, 103 and 58, constitute a part of the elevator carriage and move transversely therewith, the gears 98 and 99 being splined on the shaft 49.

The opposite sides of the frame at the top above the elevator carriage are provided with pawls 108, which are pivotally mounted, as shown at 109. When the carriage is moved to its limit of movement in either direction, one of these pawls will engage a top frame bar 51 in interlocking relation. Each pawl is provided with a pull-cord, or chain, 111, which hangs down within reach of the operator, and the carriage may be released by pulling downwardly on the cord connected with the pawl which is in engagement with the carriage. The pawls, however, are arranged to automatically interlock with the carriage when the latter is moved transversely in either direction to its limit of travel.

The elevator cages are successively tilted during the operation of the elevator to allow the barrels to roll from any cage to the uppermost deck,—see Fig. 3,—by means of a trip 110 mounted on the framework and having an arm 112 arranged in the path of one of the bars 65 of the cage, the said arm being arranged to engage the bar forward of its bearing in the slot 71 of the link 69. As the rear flanges of the guide bars 46 are cut away, as shown at 74, as heretofore explained, the cage is allowed to tilt in response to its engagement with this trip as the carriage continues its upward movement after the barrel has been delivered to the uppermost deck, and it will move past the trip by virtue of the fact that it is free to collapse, since the depending guide blocks 73 are no longer traveling between the flanges of the guide bars 46.

The use of the trip 110 heretofore described is that which occurs during the upward movement of the elevator cages while loading the truck. During the unloading

operation, or when the elevator is traveling in the reverse direction, the elevator bar 65 will engage the projecting arm 112 of this trip, but the latter will move by virtue of the fact that a part 113 of the trip is journaled in a bearing 114 secured to the under side of a frame plate 115 which is mounted on one of the frame bars 46 of the elevator structure. The part 112 of the trip is normally held in a horizontal position, and, consequently, in a position to engage a bar 65 of any cage, by means of a spiral spring 116 which surrounds an eye-bolt 117 above the plate 115. A nut 118 and a washer 119 being employed to form a stop for the upper extremity of the spring while its lower extremity bears against the upper surface of the plate 115. The eye-bolt passes through an opening formed in the plate 115, and its head 120 is pivotally connected, as shown at 121, with a short crank-arm 122 of the trip. The part 112 of the trip also constitutes a sort of crank-arm, whereby, as the cage engages the part 112 the trip will be turned in its bearing and the bolt will be drawn downwardly a short distance, placing the spring 116 under tension. The recoil of this spring will return the trip to its normal position as soon as the bucket has released the part 112. Furthermore, as the cages approach their downward limit of travel during the unloading operation, a hook-shaped trip 123 is detachably connected with an arm 47 of the elevator frame. The lower extremity 124 of this trip is arranged to engage a bar 65 of the cage on its under surface, and forward of its pivot, and thus serves to tilt the cage whereby the barrels may be automatically removed therefrom if desired. This detachable trip 123 is not employed during the loading of the truck.

The motor, (not shown,) which operates the shaft 81, may be run if desired without operating the elevator. In this event a bell-crank lever 125,—see Fig. 8,—is employed to disconnect the member 126 of the clutch from the member 127, whereby the power is cut off from the elevator. This bell-crank lever is fulcrumed on the frame at 128, and one of its arms is connected, as shown at 129, with the forward extremity of a rod 130, the rear extremity of the rod being pivotally connected, as shown at 131, with a crank arm 132 fast on a rock-shaft 133, the rock-shaft having rearwardly extending arms 134 for convenience of manipulation.

From the foregoing description, the use and operation of my improved construction will be readily understood.

In loading the truck the barrels are carried successively by means of the cages 63 to a sufficient height to cause one of the bars 65 of any cage to engage the trip 110, the

trip in this event acting on the upper edge of the bar forward of its pivot, whereby the barrels are caused to roll on the uppermost deck, whence they pass successively to the decks below. In this manner all of the barrels may be loaded with barrels, as they will gradually fill, in a manner that will be readily understood. As a barrel passes from one deck to the next deck below, it engages one of the hinged spring-supported platforms 18 which gradually carries it to the deck below, thus preventing any injury to the construction of the barrels.

Assuming that the decks have a horizontal width equal to the length of two barrels, the deck compartments on one side that are arranged one above another, are first filled, after which the elevator carriage is moved transversely to a position immediately in the rear of the other set of deck compartments, and the latter are filled in the manner heretofore explained. It is evident that the truck may have a width equal to that of the length of a single barrel, or two barrels, or even of a greater number of barrels, as may be desired. During the unloading operation, if the barrels are taken successively from the rear extremity of the lowermost deck, the escapement lever 28, which, as illustrated in Figs. 1 and 3, is in position to form a stop for the barrels, is shifted to release the barrel farthest in the rear, and in so doing its projection 30 is caused to engage the barrel immediately forward of the rear-most barrel, whereby the forward barrel is held against movement until the rearmost barrel is removed, after which the escapement lever is returned to its normal position and the next barrel moves to the rear-most position upon the deck and is removed in the same manner as just explained.

Assuming now that it is desirable to remove one or more barrels from an upper deck, say the deck 9, the platform 35, which normally occupies an upright position, as shown in Figs. 1 and 3, is thrown forwardly to a horizontal position whereby its free extremity rests upon the rear extremity of the deck. This opens the way for a barrel to leave the deck 9 and pass to a cage of the elevator whereby it is lowered, being removed in the same manner as if it had been taken from the lowermost deck. It will be understood that during the unloading operation the travel of the elevator is reversed so that the cages are moved downwardly instead of upwardly on the forward run of the endless conveyer. In this event the trip 123 may be employed to tilt the cage to a position to allow the barrel to roll rearwardly from the cage as the latter descends to the proper level. In removing barrels from an upper deck, as the deck 9, the escapement lever 37 is employed in the same

manner as the corresponding lever 28, the use of which has already been explained.

When the truck is traveling from place to place, or when the loading or unloading operation is not going on, the sled-like structure 75 is raised to the position shown in Fig. 1, its rearmost rod 78 being connected with a hook 135 which is pivotally connected with the elevator frame as shown at 136.

Attention is called to the fact that the central upright bar 68 of each cage of the elevator is provided near its lower extremity with a guide-block 137 which passes between the flanges of the upright frame parts 46 and gives the cage stability during its vertical travel. The rear flanges of the frame bars 46 are cut away below their upper extremities, as shown at 138, to allow these blocks to escape from the frame bars as the cage begins its travel with the chains over the upper sprocket wheels. It will be understood that before the blocks 137 could reach the upper extremities of the flanges of these frame bars, the cage, in traveling with the chains over the upper sprocket wheels, will have moved rearwardly a sufficient distance to make it necessary that the blocks 137 should escape from the spaces between the flanges of these bars, and the openings 138 are for this purpose. It should be stated, further, that the short or stub shafts 61, upon which the sprocket wheels 60 are mounted, are made necessary by reason of the fact that if a single shaft were employed extending from one wheel to the other it would prevent the travel of the cages with the portions of the chains which are passed over the uppermost sprockets.

In order that the elevator chains may be stopped when any cage is in any desired position in its upward or downward travel, it is not only necessary to disconnect the elevator-operating mechanism from the power shaft, but suitable brake mechanism will be required in order to prevent the travel of the chains by virtue of the weight of a loaded cage. For this purpose I have applied a drum 139 to the shaft 88, the said drum being employed in connection with a band brake 140, one extremity of which is connected with the truck as shown at 141, while its opposite extremity is connected, as shown at 142, with a lever 143 fulcrumed at 144 on a bracket 146. By pressing downwardly on the arm 147 of this lever, the brake band may be caused to engage the drum with the necessary friction for holding the elevator in the desired position.

The auxiliary platform 35 may be held in its upright position,—see Fig. 3,—when not in use, in any suitable manner. As illustrated in the drawing, I pass a pin 148 through an opening formed in a part of the platform and cause the pin to engage a reg-

istering opening in the stationary framework of the truck. When it is desired to use this platform for the purpose herein explained, the pin 148 may be removed.

- 5 By reason of the fact that the U-shaped frame bars 45 have their parallel flanges much farther apart than the corresponding flanges of the bars 46, the cages are caused to assume the collapsed position during
10 their downward travel with the rear runs of the endless chains. By reason of this fact the descending cages do not interfere with the ascending cages, and the two sets of frame bars 45 and 46 may be brought nearer
15 together.

Having thus described my invention, what I claim is:

1. A barrel truck having a number of decks, each deck being divided longitudinally into a number of compartments, and
20 a barrel elevator mounted on the truck and transversely movable to bring it into position to load or unload barrels to the different compartments of the several decks, substantially as described.

2. A barrel truck composed of a number of inter-communicating decks arranged one above another, and an auxiliary platform mounted on the truck and arranged to close
30 the opening leading from one deck to another whereby it becomes practicable to unload from an upper deck, substantially as described.

3. A barrel truck composed of a number
35 of decks, arranged one above another, the decks having terminal outlets to allow barrels to pass from one deck to the deck next below, and an auxiliary platform arranged to close the terminal opening of any deck
40 to prevent barrels from passing from that deck to the deck next below, whereby it becomes practicable to unload barrels from an upper deck, substantially as described.

4. A barrel truck composed of a number
45 of decks, the several decks being divided longitudinally, whereby each deck is formed into a number of compartments, an elevator mounted on the truck for barrel-loading and unloading purposes, and a transversely
50 movable carriage upon which the elevator is mounted whereby it may be brought into position for handling barrels in connection with any set of compartments of the various decks, substantially as described.

- 55 5. A barrel truck composed of a number of decks arranged one above another, the said decks sloping alternately toward the front and rear, to facilitate the travel of the barrels for loading and unloading purposes,
60 each deck having an opening at one extremity to allow the barrels to travel therefrom to the deck next below, and a rocking lever mounted adjacent any deck and serving, when in one position, to form a stop for the

barrels, while when in another position it separates a terminal barrel from an adjacent barrel for unloading purposes, substantially as described.

6. A barrel truck composed of a number of decks arranged one above the other, the
70 said decks sloping alternately in opposite directions, each deck being connected at one extremity with the deck next below, means for removing barrels from the lowest deck, means for elevating barrels to the upper-
75 most deck and means for automatically dumping the barrels upon said uppermost deck.

7. A storage rack for barrels comprising a plurality of decks arranged one above another, each deck being connected at one extremity with the deck next below, said connections being alternately at opposite ends
80 of the rack, the said decks sloping alternately in opposite directions, a lever pivoted intermediate of its ends at the free extremity of the lowest deck, said lever being adapted to act as an escapement for the barrels and means for manually rocking
90 said lever upon its pivot.

8. A barrel truck composed of a number of decks, the several decks being divided longitudinally, whereby each deck is formed into a plurality of compartments, an elevator mounted on the truck, a transversely
95 movable carriage upon which the elevator is mounted, a motor fixedly mounted upon the truck and gearing connections for transmitting power from said motor to the elevator in any position of said transversely movable
100 carriage.

9. The combination with a barrel rack having an inclined track, of a barrel feeding device located at the lower extremity of the rack, said device comprising a lever
105 arranged above the path of the barrel to swing in a vertical plane transversely of the barrel, said lever having depending arms at each extremity, the parts being so arranged that each barrel fed shall be engaged
110 first by one of said arms and then when the lever has been rocked by the other of said arms.

10. A truck, superposed decks mounted thereon and an elevator so mounted upon
115 the truck adjacent the decks as to permit its movement bodily alongside of said decks.

11. A truck, a carriage transversely slidable upon the truck at one extremity thereof, and an elevator mounted upon said carriage
120

12. In combination a series of superposed decks sloping downwardly in alternate directions, each deck except the lowest and highest communicating at one extremity with the deck next above and at the other
125 extremity with the deck next below, the lower deck at each communication being curved up to approximately the level of the

upper deck and extending outwardly beyond the end of the same, a platform pivoted at one extremity to the end of said lower deck, its free extremity extending to-
5 ward the upper deck, and resilient means arranged to normally support the platform in a substantially horizontal position.

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

JOHN S. GOBLE.

Witnesses:

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MAY CLEMENTS.