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L. T. WAHL

2,276,127

GASKET LOADER

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2 Sheets-Sheet 1

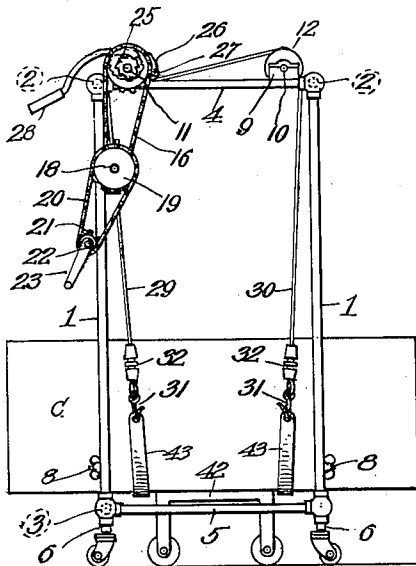


Fig. 1.

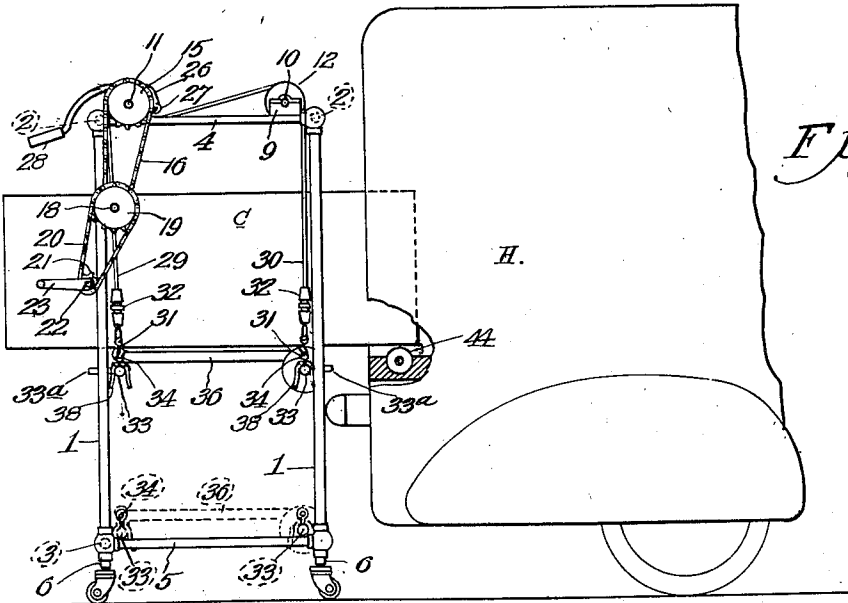
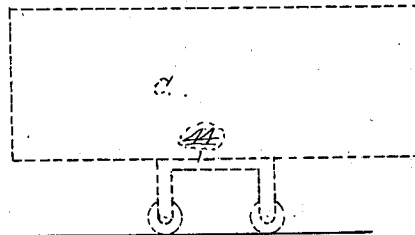


Fig. 2.

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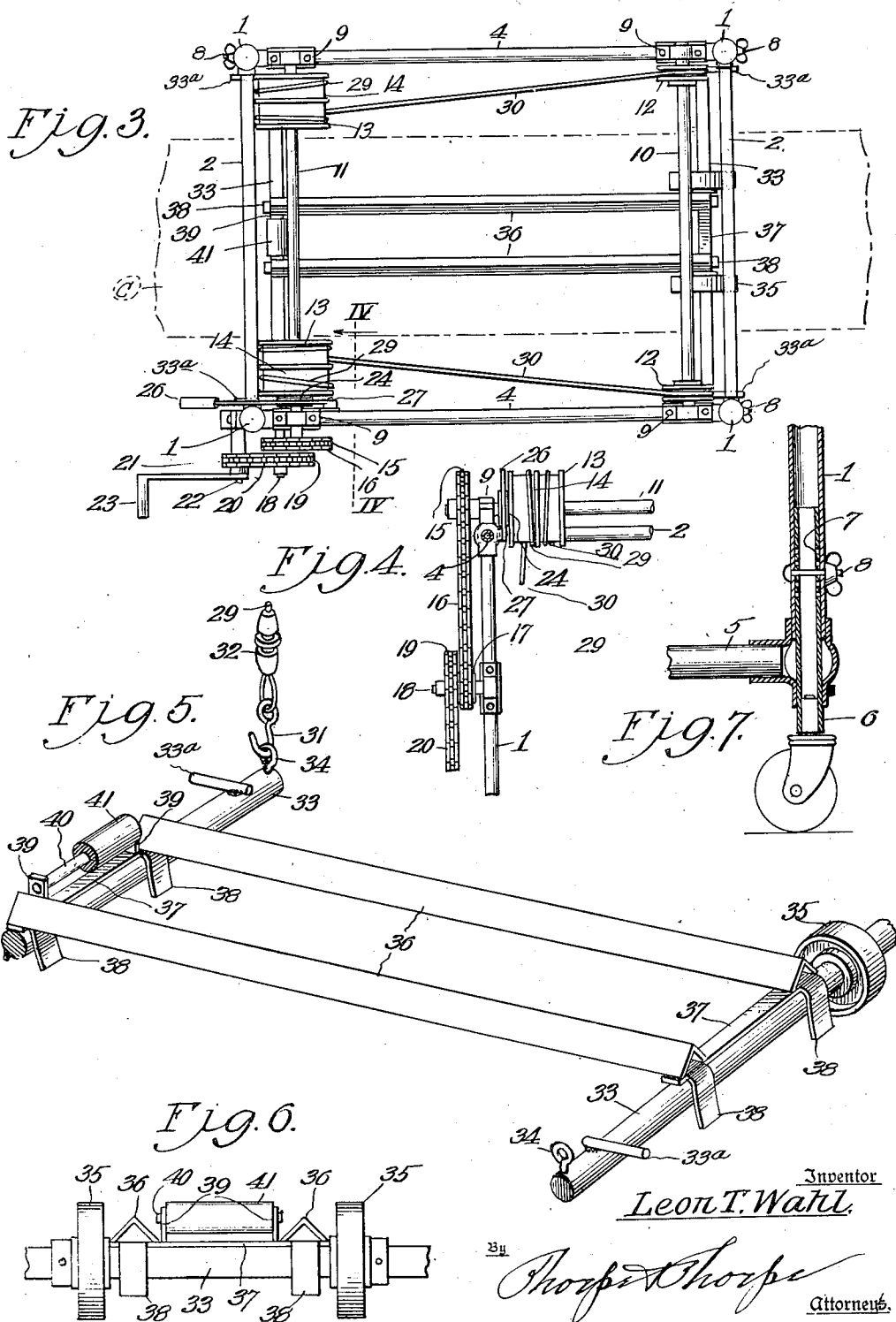
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CASKET LOADER

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UNITED STATES PATENT OFFICE

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CASKET LOADER

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Application June 18, 1941, Serial No. 398,601

5 Claims. (Cl. 214—95)

This invention relates to handling and loading devices for caskets, burial and shipping boxes therefor, and the like, and has for one of its objects to produce apparatus of this character whereby one operator can transfer even the most weighty casket and/or box into a hearse, railway car or the like, or he can remove it from such locations. At the present time it is necessary to secure a crew of five or six men in order to successfully handle caskets and sometimes it is not convenient to find the man power in the middle of the night, particularly around small railroad stations. With the structure of the invention one man can expeditiously handle the situation without danger of injury to himself or accident to the load.

Another object of the invention is to provide apparatus of the general character mentioned having an overhead lifting framework to sustain a vertically adjustable roller platform by means of which the casket or box may be elevated to the door of a hearse, express car or other location or from which the casket or box may be removed, so that the load may be shifted from one position to the other without undue physical effort on the part of the operator.

A further object of the invention is to produce a combination apparatus of the general character outlined which can be used to load or remove caskets from shipping or burial boxes or to place them in position.

With the general objects named in view and others as will hereinafter appear, the invention consists in certain novel and useful features of construction and organization of parts as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawings, in which:

Figure 1 is a side elevation of a portable frame and lifting mechanism of an apparatus for handling a casket, the illustration depicting the casket upon an undertaker's truck and engaged by webbing straps, the truck and casket being shown in dotted lines in their initial positions relative to the lifting apparatus.

Figure 2 is a side elevation showing apparatus of the invention as it appears when a casket or box is being transferred into or out of a hearse or the like.

Figure 3 is a top plan view on a larger scale, of the loading apparatus to more clearly disclose the relation of the supporting spacer elements of the apparatus, the position of the casket being outlined in dotted lines.

Figure 4 is a section on the line IV—IV of Figure 3.

Figure 5 is an enlarged fragmentary perspective view of the casket spacer support.

Figure 6 is an end view of the casket spacer support.

Figure 7 is a detail sectional view disclosing the telescopic supporting adjustment for the upright frame of the lifting apparatus.

In the said drawings, where like reference characters identify corresponding parts in all of the figures, 1 represents the four corner posts of an upright frame, said posts being spaced apart transversely in pairs to accommodate the widest casket or shipping box, and the pairs are spaced somewhat further apart longitudinally or lengthwise of the casket. At one end of the narrower dimension, the uprights 1 are connected by upper and lower frame tubes 2 and 3, but at the other end, the lower frame tube 3 is omitted to provide one open end for a purpose which will hereinafter appear. Longitudinally of the frame, the uprights 1 are connected by pairs of horizontal upper and lower supports 4 and 5 respectively. In order that the upper supports 4 may be elevated higher from the floor to secure a greater extent of lift, as will hereinafter appear, each of the uprights 1 is provided at its lower end, with a telescoping tube 6, having a series of vertically spaced perforations 7 so that the tube 6 may be located in adjusted position by means of the thumb bolts 8 which pass through bolt receiving openings in the lower ends of the uprights 1.

Journalled in suitable bearings 9 carried by the upper supports 4 adjacent the ends of the structure, are a pair of parallel cross shafts 10 and 11, the shaft 10 having a pair of cable sheaves 12 keyed thereto and the shaft 11 having two pairs of winding drums 13 and 14. One end of shaft 11 extends beyond the framework, where it is equipped with a chain drive pulley 15, said pulley accommodating a drive chain 16. The chain 16 also encircles a smaller chain pulley 17 journalled on a shaft 18 projecting from the adjacent upright 1. Also journalled on the shaft 18 and interlocked with the pulley 17 is a larger pulley 19 which is encircled by a chain 20 engaging a smaller drive pulley 21 journalled on a shaft 22 carried by the post 1, and interlocked with said pulley 21 is a manually rotatable crank 23. This apparatus comprises a reduction gearing so that the device can elevate weighty loads without extreme physical effort by the operator, but, of course, any other suitable reduction gearing is within the contemplation of the invention.

To hold the load at any point, a ratchet wheel 24 is pinned or otherwise secured to the drum shaft 11, and cooperating therewith is a dog 25 carried by a gravity engaged arcuate lever 26 pivoted at its end 27 in relation to the support and having its other end formed with a handle 28. The operator by raising the handle 28 may lift the dog clear of the ratchet wheel 24 while he has hold of the operating crank 23 to permit a load to descend by gravity.

Secured to the drums 13 and 14 respectively, are the ends of pairs of lifting cables 29 and 30, the parts being so proportioned that as the drums rotate with the shaft 11, said cables are wound or unwound equal distances. Each of said cables 29—30 is equipped with a hook 31 at its free end, and said cables and hooks are preferably connected by equalizers 32 so that adjustments may be conveniently made to maintain the load horizontal by compensating for the stretching of any of the cables.

Adapted for detachable cooperation with the foregoing structure, are a pair of cross members 33 of such length as to rest on the lower supports 5 and transversely bridge the structure, said cross members being equipped with any suitable means, such as the eyes 34, for detachable engagement with the cable elevating hooks 31 or their equivalents. As the device is shown, the front cross member 33 carries a pair of spaced journaled casket receiving rollers 35, although, if desired, both of said cross members may have such rollers, as will hereinafter appear. The cables 29—30 and eyes 34 are so aligned vertically that the ends of the cross members 33 are held in sliding abutment with the uprights 1 to prevent longitudinal swinging of the load if its center of gravity happens to be off center in relation to the line of lift. To prevent lateral shifting of the cross members 33 they are provided with arms of fingers 33a adjacent the inner sides of the uprights 1, and to make certain that the cross members do not shift longitudinally inward when a casket is being placed or removed from position and to provide a longitudinal support which may assist in the manipulation of the load, a spacer is detachably locked with the cross members 33 to hold them in contact with the uprights 1. The spacer may comprise a pair of longitudinally extending angle bars 36 secured together at their opposite ends by underlying bars 37, said bars also carrying pairs of downwardly facing clips or forks 38 receiving the cross members 33. If desired, instead of having the construction shown in detail in Figure 5 in overlying relation to the rear cross member 33, where the bar 37 is shown as equipped with a pair of upstanding spaced ears 39 carrying a shaft or rod 40 on which a tubular roller 41 is journaled, said rear cross member 33 may have spaced rollers 35 as shown on the front cross member 33 in the same figure.

Operation

The above mechanism may have the following mode of operation: Assuming a casket C is resting on an undertaker's truck 42, the wheeled lifting frame of the invention is rolled over the casket, the omission of the lower frame bar 5 making this possible; or the truck 42 may be rolled within the frame through such open end, until the parts are in the positions shown in Figure 1. It will be noted that the truck or other support must be high enough to permit

the casket to clear the lower bar 3 at the closed end of the frame.

With the casket C in the position shown in Figure 1, the hooks 31 may be engaged with the casket handles (not shown) if there is no danger of marring the casket, but preferably, the casket C is partially encircled with the usual webbing straps 43 having eyes at their ends to engage the hooks 31. The casket is now elevated by rotation of the crank handle 23. It will be evident there is no danger of dropping the load since the gravity dog 25 will ride the ratchet wheel 24. If the elevated casket is to be lowered into a shipping box (not shown), the box may be centered below the casket on a wheeled truck, and then the casket is lowered by lifting dog 25 off of ratchet wheel 24 and holding onto the crank 23 to permit deposition of the load by gravity as will be readily understood.

On the other hand, if the casket is to be pushed within a hearse H or the like, it is elevated only such distance as to permit the convenient placing of the cross members 33 and their longitudinal spacer 36. The casket is then lowered onto the rollers 35 and 40 supported by the cross members 33 (see Figure 2). The hooks and webbing are disconnected from the casket, and said hooks 31 are engaged with the lifting eyes 34 of the cross members, and the casket is elevated by such members slightly higher than the level of the rollers 44 journaled in the floor of the hearse H. The wheeled frame supporting the casket is now pushed up to the door of the hearse so that the projecting end of the casket enters said door and overlies the hearse floor rollers 44. As the casket C is pushed into the hearse from the lifting framework, it rolls on rollers 35 and 40, and as the load balances on the front rollers 35, the front end of the casket commences to ride the hearse roller 44. If the operator should stop forward thrust on the casket before the center of gravity has been transferred to a point in front of the rollers 35 and then fails to support the rear end of the casket which at this time will be off of roller 40, the longitudinally extending spacer bars 36 will take the load of the rear end of the casket so there is no danger that the operator will ever lose control over the load no matter how inattentive he may happen to be. In this connection it is to be noted that the rollers 35—40 should offer more or less extended supports transversely of the frame to take care of situations where the casket may not be centered in the frame in relation to its transverse center of gravity to avoid chance of transverse tipping during the handling operations. As before mentioned, also, it will be noted that each of the cross members 33 is longitudinally and transversely interlocked with a corner post to overcome oscillation in any direction. It will thus be apparent that the casket and/or shipping box may be expeditiously handled by one operator with no danger of injury to the operator or the accidental escape of control over the load while the various operations are being performed.

From the above description it will be apparent that I have produced a construction embodying all of the features of advantage set forth as desirable; and while I have described and illustrated the preferred embodiment it is to be understood that I reserve the right to all changes within the spirit and scope of the appended claims.

I claim:

1. In apparatus of the character described, an upstanding wheeled framework, horizontal supports in vertically spaced relation carried by said framework, lifting apparatus carried by the upper support, cross members detachably supported by the lower support and in abutting contact with the uprights to prevent movement of the cross members to increase the distance between them longitudinally of the framework, a spacer connecting said cross members to prevent decrease of the distance between said members, means on said cross members for detachable connection with and elevation by said lifting apparatus, and rollers supported by the cross members for engagement with and support of a casket.

2. In apparatus of the character described, an upstanding wheeled framework, horizontal supports in vertically spaced relation carried by said framework, lifting apparatus carried by the upper support, cross members detachably supported by the lower support in abutting contact with the uprights to prevent movement of the cross members longitudinally of the framework, means on said cross members for detachable connection with and elevation by said lifting apparatus, guide elements on the cross members in abutment with the uprights to prevent movement of the cross members transversely of the framework, and rollers supported by the cross members for engagement with and support of a casket.

3. In apparatus of the character described, an upstanding framework having uprights, vertically extensible wheeled legs carrying said framework, horizontal supports in vertically spaced relation carried by said framework, lifting apparatus carried by the upper support, cross members detachably supported by the lower support and in abutting contact with the uprights to prevent movement of the cross members longitudinally of the framework, means on the cross

members for detachable connection with and elevation by said lifting apparatus, guide elements on the cross members in abutment with the uprights to prevent movement of the cross members transversely of the framework, rollers supported by the cross members for engagement with and support of a casket, and a spacer detachably connecting said cross members longitudinally of the framework.

4. In apparatus of the character described, an upstanding framework having uprights, horizontal supports in vertically spaced relation carried by said framework, lifting apparatus carried by the upper support, cross members detachably supported by the lower support and in abutting contact with the uprights to prevent movement of the cross members longitudinally of the framework, means on the cross members for detachable connection with and elevation by said lifting apparatus, guide elements on the cross members in abutment with the uprights to prevent movement of the cross members transversely of the framework, and rollers supported by the cross members for engagement with and support of a casket.

5. In apparatus of the character described, an upstanding framework having uprights, vertically extensible wheeled legs carrying said framework, horizontal supports in vertically spaced relation carried by said framework, lifting apparatus carried by the upper support, cross members detachably supported by the lower support in abutting contact with the uprights to prevent movement of the cross members longitudinally of the framework, means on said cross members for detachable connection with and elevation by said lifting apparatus, guide elements on the cross members in abutment with the uprights to prevent movement of the cross members transversely of the framework, and rollers supported by the cross members for engagement with and support of a casket.

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