F. A. MOORE.

TRUCK.

APPLICATION FILED OCT. 7, 1914.

1,243.200.

Patented Oct. 16, 1917.

3 SHEETS—SHEET 1.

Fig. 2.

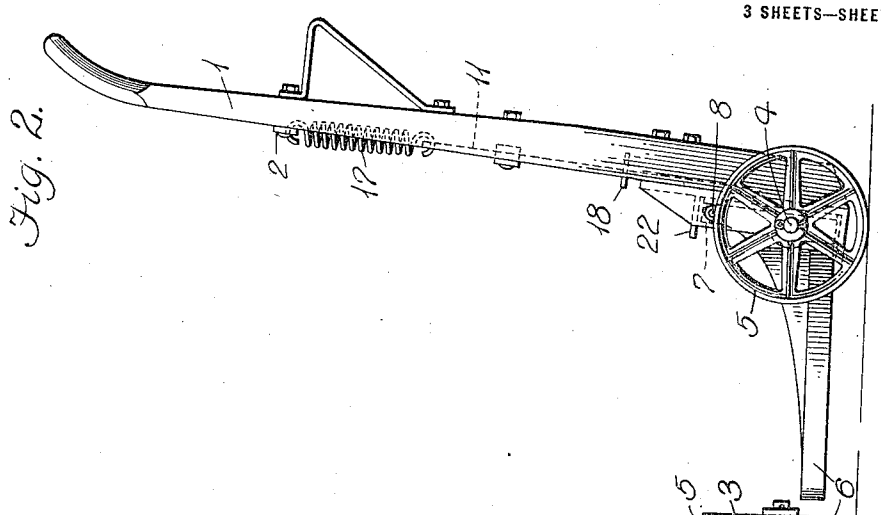


Fig. 1.

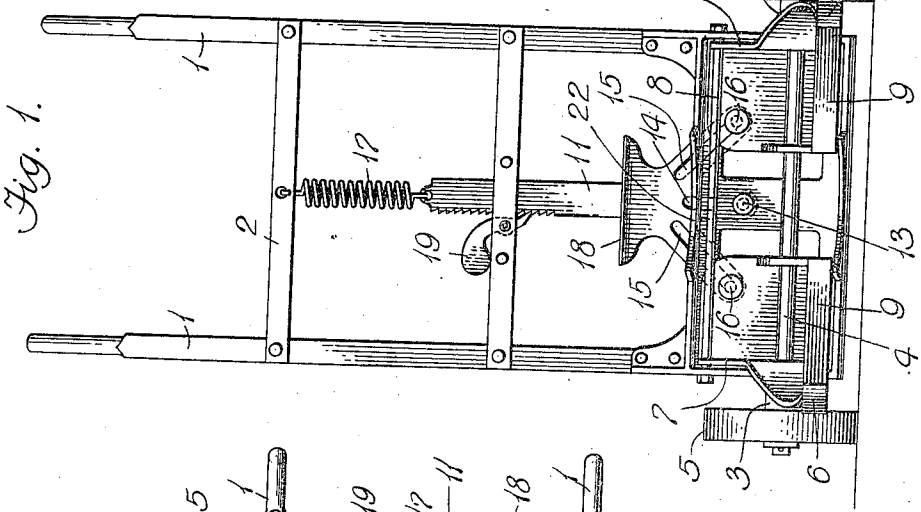
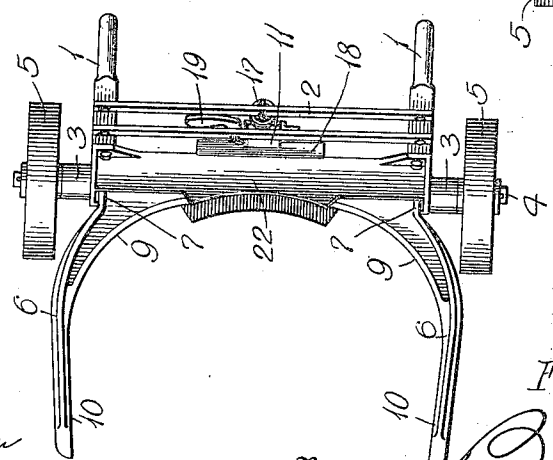


Fig. 3.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 4.

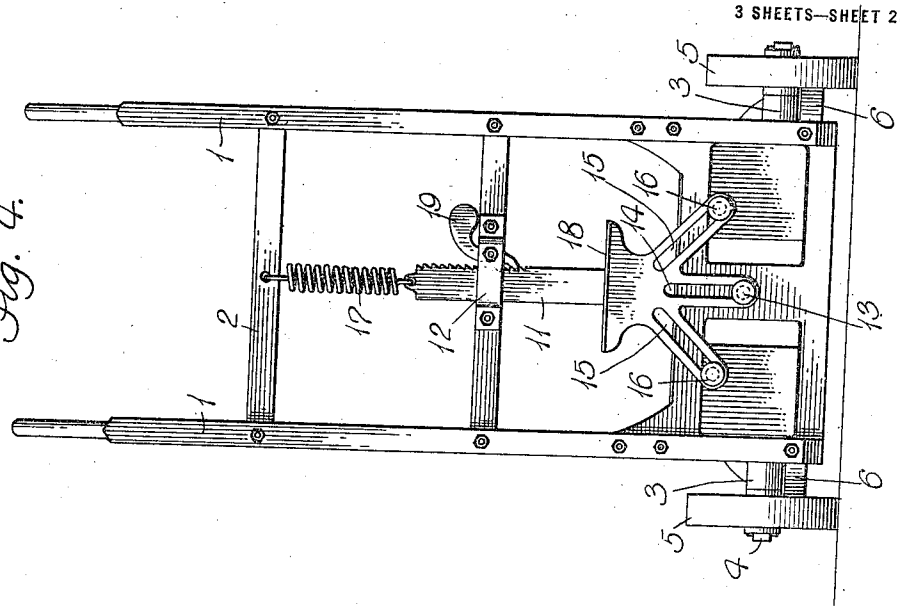
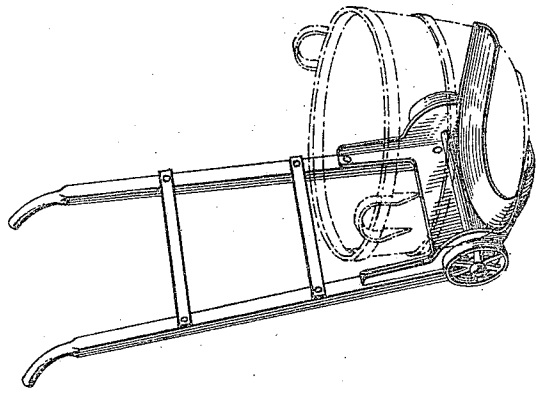


Fig. 10.



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3 SHEETS—SHEET 3.

Fig. 9.

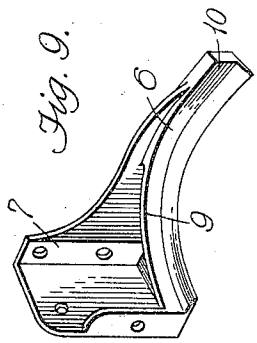


Fig. 7.

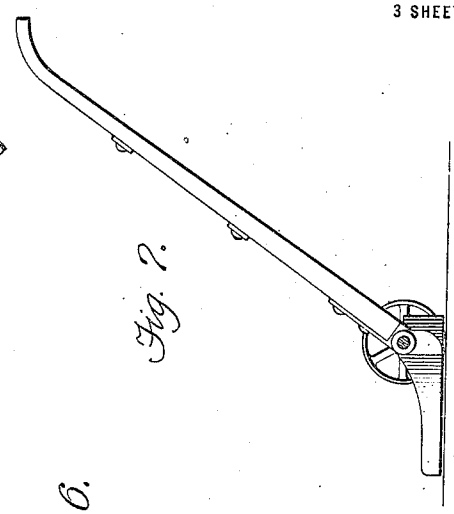


Fig. 8.

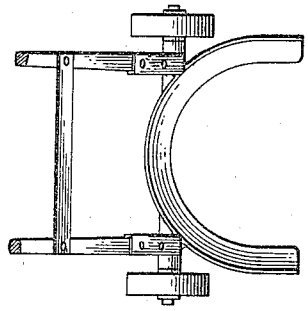


Fig. 6.

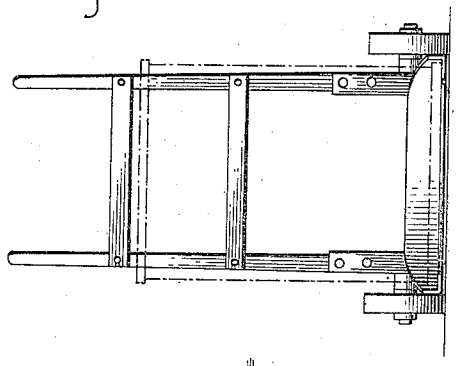
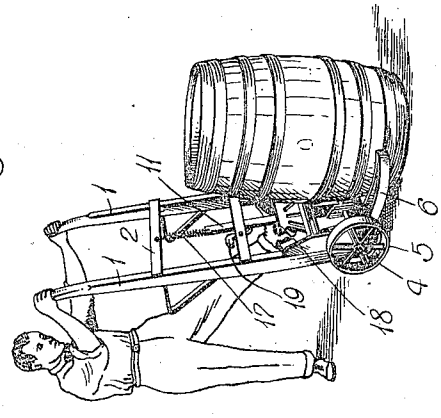


Fig. 5.



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UNITED STATES PATENT OFFICE.

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1,243,200. Specification of Letters Patent. Patented Oct. 16, 1917.

Application filed October 7, 1914. Serial No. 865,416.

To all whom it may concern:

Be it known that I, FRANK A. MOORE, a citizen of the United States of America, residing at Wyandotte, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Trucks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to lifting trucks of the type in use in warehouses, stores, docks or the like, and more particularly to means for lifting barrels, either of the old standard form or the more modern sheet metal type, baskets, bags and the like, clear of the ground without the necessity of the operator's removing his hands from the truck to tilt back or to drag the article to be loaded onto the truck. The invention also includes means whereby the truck is adjustable to operate successfully on articles of this nature, regardless of their size. A further feature is an arrangement of the device whereby a stack of bags, crates or the like may be lifted from the ground without tilting the stack sufficiently to displace the individual parts thereof.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a view in front elevation of a truck that embodies features of the invention;

Fig. 2 is a view in side elevation thereof;

Fig. 3 is a plan view of the truck;

Fig. 4 is a view in rear elevation of the truck;

Fig. 5 is a view in perspective showing the method of picking up a standard barrel by the truck without the aid of the operator's hands;

Fig. 6 is a view in front elevation of a truck designed for underrunning and lifting a sheet metal package, or a bag;

Fig. 7 is a view in side elevation thereof;

Fig. 8 is a plan view, partially broken away and in section of the package lifting truck;

Fig. 9 is a view in detail of a truck jaw; and

Fig. 10 is a view in perspective showing a truck in position for loading and trundling a basket or the like.

Referring to the drawings a frame of standard construction is formed in any preferred manner with side handle bars 1, cross members 2, and bearing members 3 or the like, whereby the lower portion of the frame is mounted by means of a shaft 4, either fixed or rotatable, as preferred, on a pair of suitable bearing wheels 5.

A pair of oppositely disposed jaws 6 have upwardly extending, suitably proportioned arms 7 that are slidably mounted on a cross guide member 8 which may take the form of a truss rod, so that the jaws may be moved toward or from each other to embrace or underrun objects of different sizes. The jaws are disposed in a plane transverse to the plane of the main frame and close to the ground on which the bearing wheels of the trucks rest in such position that when the handles are practically upright, as indicated in Fig. 2 for example, the jaws are substantially parallel to the ground. Furthermore they are preferably disposed to be very close thereto. As a further feature of preferred construction, the inner peripheries 9 of the jaws are curved to form a substantially true semi-circle when the jaws are closed, while the outer portions 10 thereof converge slightly beyond the center of curvature.

A member 11 is longitudinally reciprocable on the main frame near the lower end thereof, a clip 12 and a stud 13 that passes through a longitudinal slot 14 of the member, acting as guides. A pair of divergent guide slots 15 on the member 11 are engaged by studs 16 each secured on a jaw arm 7, the parts being so disposed that movement of the guide downward forces the jaws together while the action of a retracting spring 17 in tension between the upper end portion of the member 11 and a suitable part of the main frame, in drawing the member 11 upward, tends to move the jaws 9 apart. A foot plate 18 that may be readily engaged by the foot of the user, as indicated in Fig. 5, affords means for depressing the member 11 and thereby contracting the jaws and a suitably arranged dog 19 that engages the notched margin of the adjacent portion of the member 11 locks the latter in depressed position, the dog being so arranged as to fall into engagement with the member 11 by gravity and to move out of engagement when kicked or pushed by the user's foot.

As indicated in Figs. 6, 7, 8, 9 and 10, the jaws may be fixedly secured to the main frame in proper spaced relation and in such

instance the particular design shown in Fig. 9 is preferable wherein a crescent shaped thin edged or knife-edged flange is provided that lies close to the ground and is readily pushed under the raised margin of the embossed head of a sheet metal barrel, or under the rounded base of a basket as shown clearly in Fig. 10.

In either construction the arms are so disposed that if they underrun an object, they engage it when the truck is tilted back at a point beyond the center of gravity or mass so that the first effect of the depressing of the truck handles is to tilt back the object firmly on to the truck and thereby hold it in position to be readily balanced and trundled without the necessity of other handling by the operator. To insure stability of an object so engaged, a transverse yoke 22 of suitable form may be used. Where a barrel of standard type is to be loaded the truck may be readily run against the barrel with the jaws spread sufficiently to embrace it, as when the operator pushes down the separating member against the action of the retractile spring he brings the jaws into engagement with the sides of the barrel close to the floor and at such point that the center of gravity lies between the engaged points and the truck frame. Consequently when the truck handles are depressed the barrel tilts back into balanced position on the truck. Where baskets disposed in tiers, sacks or crates are to be lifted the form of the jaws is such that the truck is loaded without tilting the basket or the like sufficiently to displace the upper members of the stack.

The truck is therefore not only available for loading various articles but for handling various sizes of the same article as it is quickly adjustable to meet the requirements of service. It is simple and durable in construction and withstands the violent usage to which articles of this kind are frequently subjected.

What I claim is:—

1. A lifting truck comprising a main frame supported at the lower end on bearing wheels, a guide member on the lower portion thereof, a pair of forwardly extending jaws in sliding engagement with the guide member, and means longitudinally movable on the frame adjustably interlocked therewith and adapted to expand and contract the jaws, the jaws being adapted to engage an article at a point outside the center of the mass when the frame is tilted backward.

2. A lifting truck comprising a main frame, bearing wheels supporting the lower end portion thereof, a guide member secured across the lower end portion of the front face of the frame, a pair of forwardly extending jaws in sliding engagement with the guide member, a member longitudinally movable on the frame adapted to expand and to contract the jaws when shifted on the frame and means for locking the longitudinally movable member in adjusted position, the jaws being adapted to first engage the lower end portion of a body against which the truck is run on the opposite side of the center of mass thereof when the frame is tilted backwardly.

3. A lifting truck comprising a main frame, bearing wheels supporting the lower end portion thereof, a guide member secured across the lower end portion of the front face of the frame, a pair of forwardly extending jaws in sliding engagement with the guide member, a member longitudinally movable on the frame adapted to expand and contract the jaws when shifted on the frame, means for locking the longitudinally movable member in projected position, and means for yieldingly retracting the longitudinally movable member when the latter is released.

4. A lifting truck comprising a main frame, a pair of bearing wheels supporting the lower end portion thereof, jaw guiding means secured across the lower end portion of the frame, a pair of oppositely disposed jaws in sliding engagement with the guiding means extending forwardly from the main frame, a member reciprocable longitudinally of the main frame engaging the jaws and contracting them when projected and separating them when retracted, means for locking the member in projected position, and means for yieldingly retracting the member when released from the locking means, the jaws being shaped to conform substantially with a given article and to embrace the lower portion thereof and being adapted to engage such article when the truck is run against it with the frame in substantially upright position on the opposite side of the center of mass of the article from the truck when the frame is tilted backwardly.

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

FRANK A MOORE.

Witnesses:

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ANNA M. DORR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."