March 18, 1924. 1,487,571

S. HURWITZ

LOADING APPARATUS

Original Filed Feb. 21, 1921 2 Sheets-Sheet 1

Fig. 1.

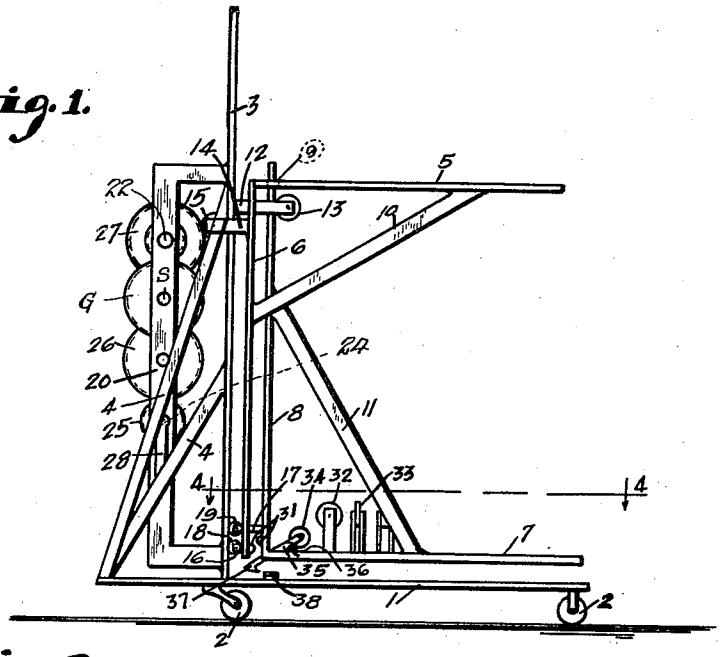


Fig. 2.

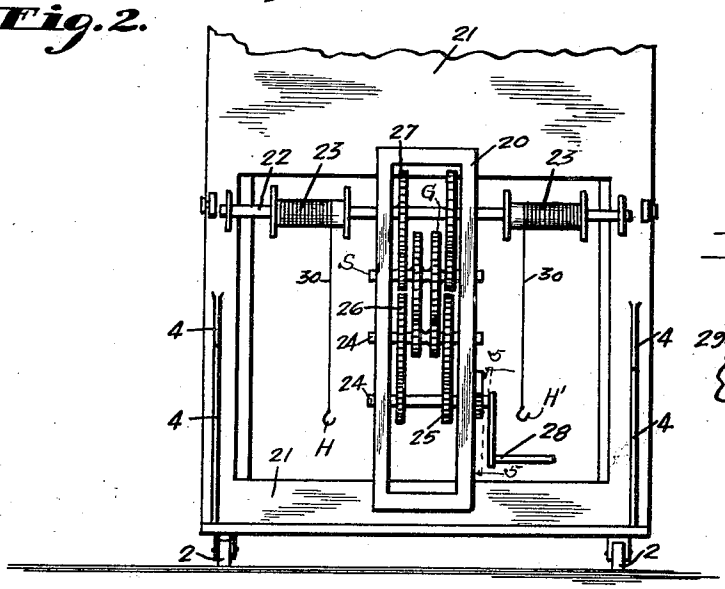
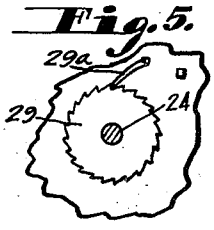


Fig. 5.



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Fig. 3.

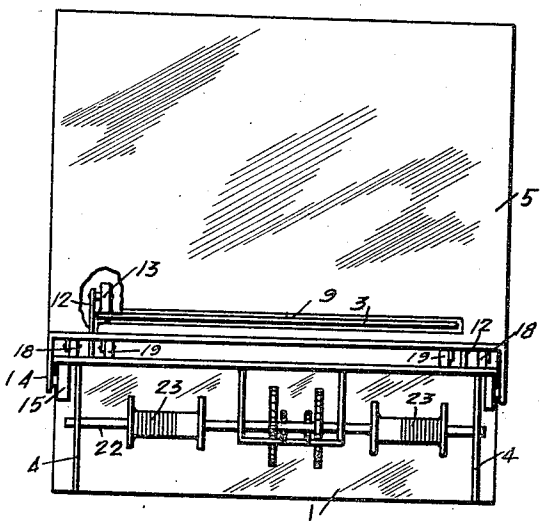
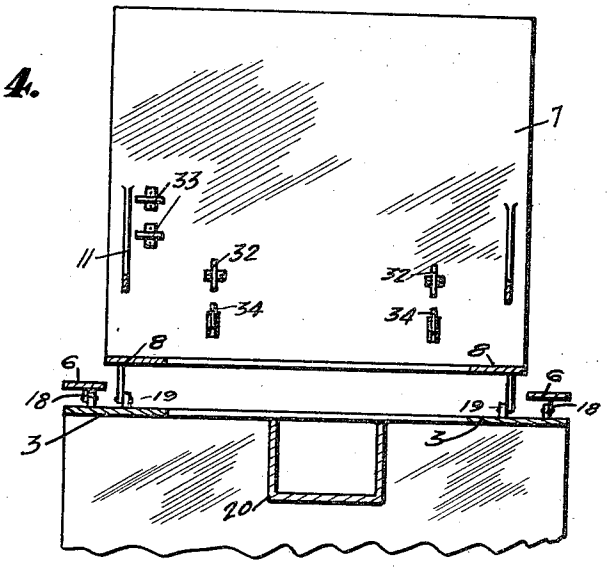


Fig. 4.



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Patented Mar. 18, 1924. 1,487,571

UNITED STATES PATENT OFFICE.

SAMUEL HURWITZ, OF LOS ANGELES, CALIFORNIA.

LOADING APPARATUS.

Refiling of application Serial No. 446,789, filed February 21, 1921. This application filed October 4, 1922. Serial No. 592,387.

To all whom it may concern:

Be it known that I, SAMUEL HURWITZ, a citizen of Russia, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Loading Apparatus, of which the following is a specification.

It is the object of this invention to provide a loading apparatus particularly adapted to be employed for loading heavy objects on to trucks and the like.

As stated in my application Serial No. 446,789, filed February 21, 1921, and not prosecuted to an allowance, this invention consists essentially of a frame which is preferably a vehicle frame and platforms thereon adapted to be raised and lowered with relation to the frame. Winding means are provided upon the frame and are preferably manually actuated through a suitable reduction gearing. The cables received upon the winding means are adapted to be connected to one of the elevating platforms for raising the same or may be extended beyond the apparatus and connected to any object which it is desired to draw toward the apparatus in order that it may be placed upon one of the elevating platforms and then raised as previously described.

The invention will be readily understood from the following description of the accompanying drawings, in which

Figure 1 is a side elevation of a loading apparatus constructed in accordance with the invention.

Fig. 2 is a rear view of the same.

Fig. 3 is a top plan view of the apparatus.

Fig. 4 is a horizontal section on the line 4—4 of Fig. 1.

Fig. 5 is a detail section on the line 5—5 of Fig. 2.

The main frame of the apparatus comprises a base 1 preferably mounted upon rollers or casters 2. Vertical guide means project upwardly from the base and are shown as comprising uprights 3 at the respective sides of the base and spaced from the rear end of the same. Braces 4 connect the uprights 3 and the base at its rear edge.

Loading platforms are positioned above the base 1 at the front of uprights 3 and are shown as comprising an upper platform 5 having depending uprights 6 at the respective sides of its rear edge. A lower platform 7 is provided with similar uprights 8 at the respective sides of its rear edge, and these latter uprights extend upwardly through a slot 9 provided in platform 5. Suitable braces 10 and 11 connect platform 5 and its uprights and platform 7 and its uprights respectively.

The platforms in their lowered position are shown in Fig. 1, and the uprights 3 of the main frame extend an appreciable distance above the platforms when in this position, in order to form guide means for the uprights of either one of the platforms as it is elevated. For this purpose brackets 12 extend forwardly from the respective uprights 3 and are provided with rollers 13 engaging the front of the respective uprights 8 adjacent the upper ends of the same when the platforms are in lowered position, and in similar manner brackets 14 extend rearwardly from uprights 6 adjacent the upper ends of the same and are provided with rollers 15 engaging the rear surfaces of uprights 3. Brackets 16 and 17 also extend rearwardly from the lower ends of uprights 6 and 8 respectively and are provided with rollers 18 and 19 engaging the front surfaces of uprights 3.

The means for raising and lowering one or the other of the platforms includes a frame 20 extending rearwardly from the cross plates 21 connecting uprights 3 and having a suitable shaft 22 journaled transversely therein and carrying winding drums 23. A suitable reduction gearing is mounted in frame 20 and is shown as comprising shafts 24 one above the other. Small gears 25 on the respective shafts mesh with large gears 26 upon the next upper shafts, and the uppermost small gears rotated by large gears G on shaft S mesh with large gears 27 upon shaft 22, so that rotation of the lowermost shaft 24, as by means of a usual crank 28, will actuate shaft 22 through the reduction gearing. A pawl and ratchet 29 and 29^a is provided for the lowermost shaft 24, so as to hold the platforms in elevated position.

Cables 30 wound upon drums 23 are adapted to be engaged by means of hooks H, H′ in suitable eyes 31 at the lower ends of uprights 6 and 8, in order that one or the other or both of the loading platforms may be elevated. When, however, it is desired to employ the winding means for drawing an object to be raised toward the

apparatus, the cables 30 may be passed over guide rollers 32 so as to extend in one direction, or are passed around guide rollers 32 or around guide rollers 33 arranged at an angle thereto so that the cables will extend in a different direction. When the cables are thus passed over the guide rollers, they may optionally be passed beneath rollers 34 carried by pivotally mounted latch arms 35 mounted upon platform 7. These latch arms are normally spring retracted as shown at 36, but adapted to be swung upon their pivots when pull is exerted upon the cables passing beneath the same, so as to engage the latch heads 37 beneath retaining means 38 mounted upon base 1 in order to lock the platform relative to the base.

Various changes may be made without departing from the spirit of the invention as claimed.

What is claimed is:

1. A loading apparatus comprising a frame, a plurality of independently movable platforms vertically movable relative thereto, and winding means carried by said frame and having cables adapted to engage said platforms for elevating the same.

2. A loading apparatus comprising a frame, upper and lower platforms vertically movable relative thereto, and winding means carried by said frame and having cables adapted to engage one or the other of said platforms for elevating the same.

3. A loading apparatus comprising a frame, platforms vertically movable relative thereto, winding means carried by said frame, and cable guides thereon, said winding means having cables adapted to engage either of said platforms for elevating the same or to extend beyond said guides to engage an object to be moved to said loading apparatus.

4. A loading apparatus comprising a frame, platforms vertically movable relative thereto, winding means carried by said frame, and a reduction gear for operating the same, said winding means having cables adapted to engage either of said platforms for elevating the same.

5. A loading apparatus comprising a frame, a platform vertically movable relative thereto, winding means carried by said frame, and cable guides thereon extending in different directions, said winding means having a plurality of cables adapted to engage said platform for elevating the same or alternatively to extend about either of said guides to engage objects to be drawn to said loading apparatus from different directions.

6. A loading apparatus comprising a frame, a platform vertically movable relative thereto, winding means carried by said frame, cable guides thereon, said winding means having cables adapted to engage said platform for elevating the same or to extend beyond said guides to engage an object to be moved to said loading apparatus, and means for locking said platform relative to said frame, said means being actuated by said cables co-operating with said guides.

In testimony whereof I have signed my name to this specification.

SAM HURWITZ.