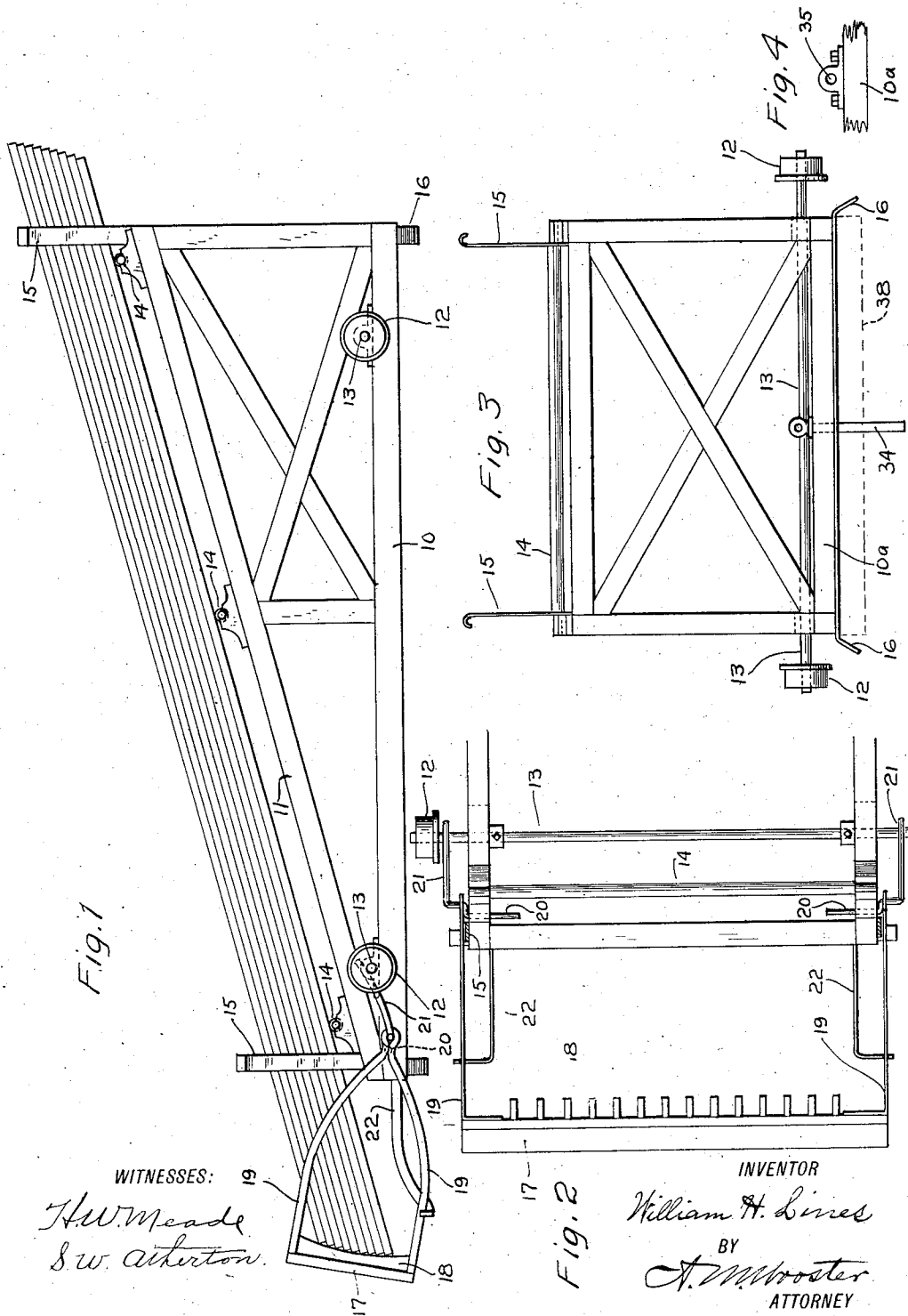


W. H. LINES.
LOADING APPARATUS.
APPLICATION FILED DEC. 14, 1911.

1,028,576.

Patented June 4, 1912.

3 SHEETS-SHEET 1.



WITNESSES:
H. W. Meade
S. W. Atherton

Fig. 2

INVENTOR

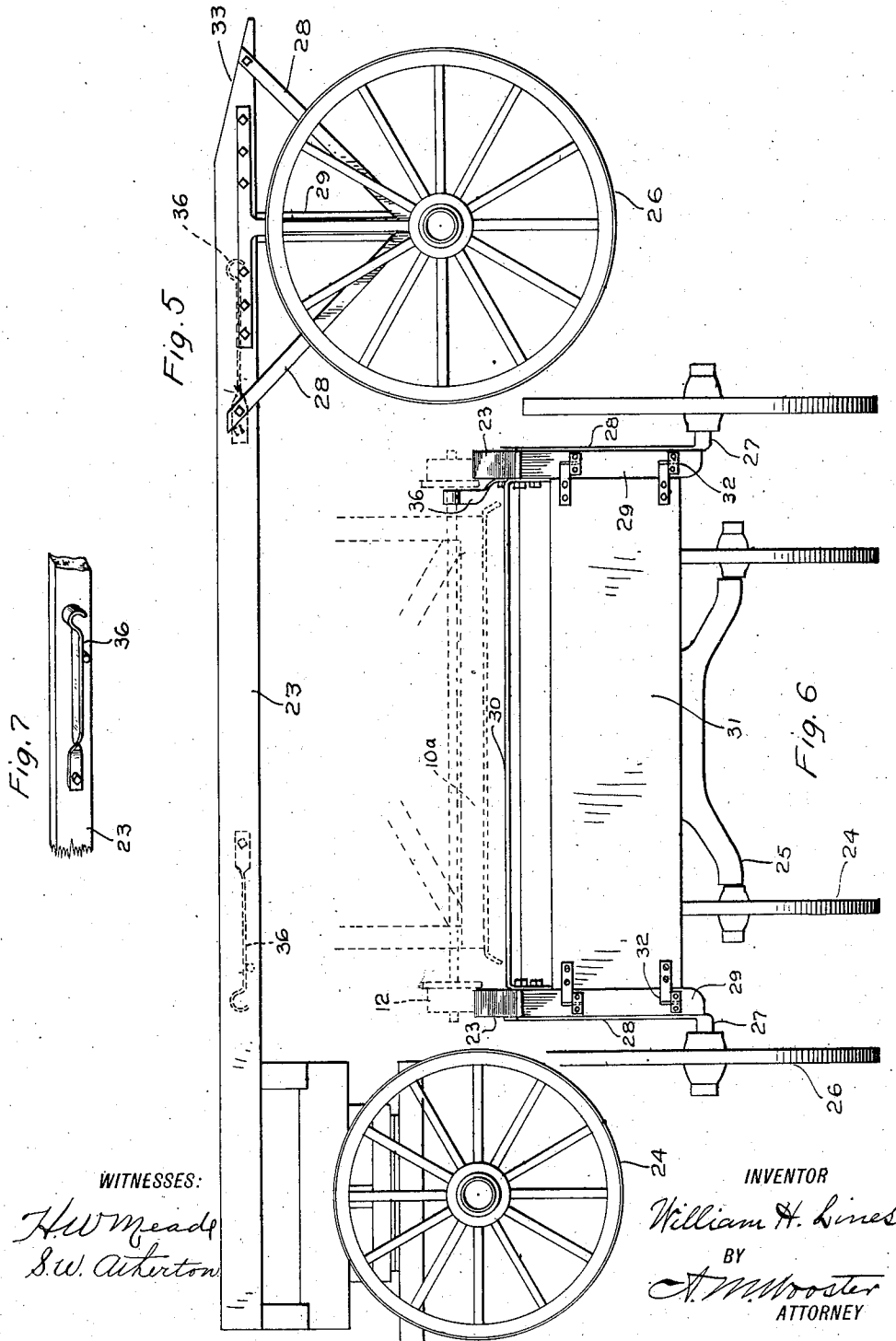
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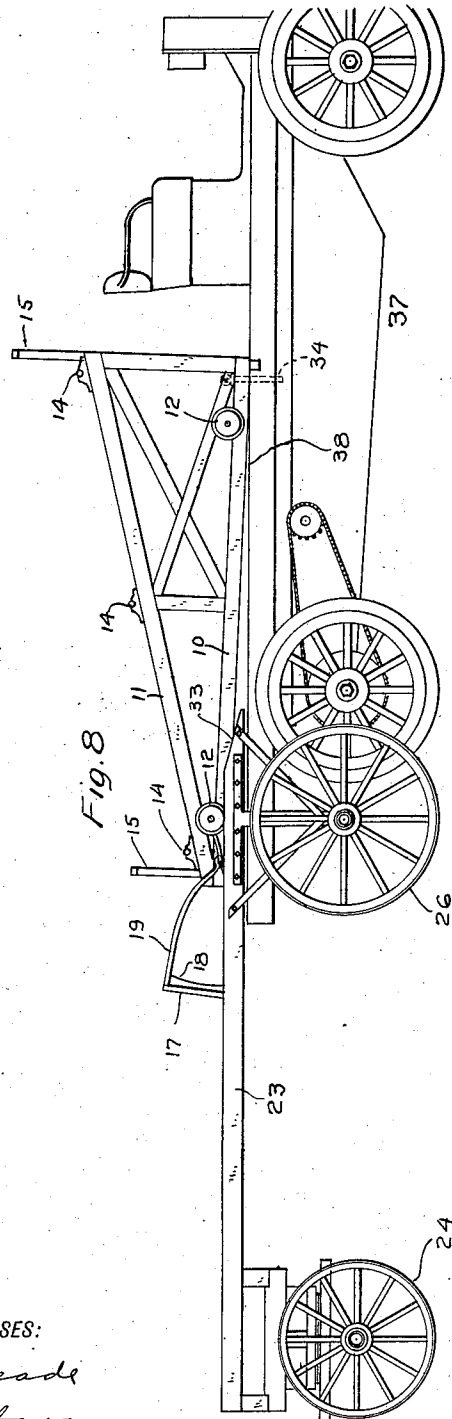
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UNITED STATES PATENT OFFICE.

WILLIAM H. LINES, OF ANSONIA, CONNECTICUT.

LOADING APPARATUS.

1,028,576.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed December 14, 1911. Serial No. 665,762.

To all whom it may concern:

Be it known that I, WILLIAM H. LINES, a citizen of the United States, residing at Ansonia, county of New Haven, State of Connecticut, have invented an Improvement in Loading Apparatus, of which the following is a specification.

This invention has for its object to provide loading apparatus adapted for general use and especially adapted for loading lumber upon motor and other trucks. In order to facilitate the rapid handling of stock I may use a plurality of racks of special construction and a plurality of running gears of special construction upon which loaded and unloaded racks may be moved about whenever and wherever required for loading purposes and from which a loaded rack may be easily and quickly transferred to a truck and to which an unloaded rack may be transferred from a truck.

In the accompanying drawings forming a part of this specification, Figure 1 is a side elevation of a rack detached and shown as loaded with lumber; Fig. 2 a plan view of the front end of a rack, unloaded; Fig. 3 an end elevation of the rear end of the rack, that is as seen from the right in Fig. 1, but unloaded; Fig. 4 a detail view showing the eye to receive the king pin; Fig. 5 a side elevation of my novel running gear; Fig. 6 a rear end elevation of the running gear, that is as seen from the right in Fig. 5, a rack being indicated thereon by dotted lines; Fig. 7 a detail view illustrating means for securing the rack upon the running gear; and Fig. 8 is a side elevation illustrating the mode of transferring a rack from a running gear to a truck or vice versa.

The details of construction of the rack would of course be varied to meet the requirements of special classes of merchandise to which my novel loading apparatus might be applied. The rack illustrated is specially adapted for use in loading lumber. The rack consists of a framework which may be of any ordinary or preferred construction and comprises essentially a base 10 and an inclined rest 11. The base is provided with wheels 12 on axles 13. The wheels may be fixed to rotary axles or may rotate on fixed axles as preferred. The inclined rest in the present instance is shown as provided with transverse rollers 14 to facilitate the loading of lumber. 15 denotes side pieces which extend upward from the inclined rest and

retain the lumber thereon against lateral movement, and 16, guides on the base which overlie the edges of a truck platform and act to center the platform in backing under the running gear, as will be more fully explained. At the front end of the rack is a swinging retainer which acts to retain lumber or other merchandise upon the rack. This retainer consists of an end cross piece 17 which may or may not be provided with vertical strips 18. These strips are preferably used upon lumber racks and the ends of boards on the inclined rest lie against them, as clearly shown in Fig. 1. The end piece is carried by side pieces 19, preferably of metal, the inner ends of which are pivoted on crank shafts 20, which are journaled in the base, as clearly shown in Fig. 2. The crank shafts are provided with operating arms 21 which in the operative position of the retainer lie in contact with one of the axles, said axle serving as a stop to limit their movement when swung downward. The retainer is held in operative position, as in Fig. 1, by means of spring arms 22 extending from the base upon which the side pieces rest, as clearly shown. To throw the retainer out of operative position, the crank shafts are operated by moving arms 21 away from the axle, the effect of which is to throw the retainer out of engagement with the load, after which it is disengaged from spring arms 22. The retainer will then swing on the crank shafts and drop downward wholly out of the way.

The running gear differs from an ordinary wagon gear in that the bed must be placed relatively high, that is high enough to permit the platform of an ordinary truck to be backed under it freely, and the rear wheels must be placed far enough apart to permit the rear wheels of a truck to pass between them freely; that is, they must be placed considerably farther apart than standard gage. The rear wheels are carried by short axles which hang from the bed, which is indicated by 23.

24 denotes the front wheels, 25 the front axle which may or may not be of standard gage, 26 the rear wheels and 27 the rear axles. These axles are carried by brackets 28 which are secured to the bed and are shown as backed up by studs 29 which extend downward from the bed. These studs give the required elevation to the rear end of the bed and the forward end thereof is

raised in any suitable manner, for example—as shown in Figs. 5 and 8. If the running gear is used with a truck that will permit it, I provide a permanent cross brace 30 between studs 29. Either with or without this cross brace I may use a detachable end board 31 which lies between the studs and braces and strengthens the structure. The end board is shown as connected to the studs by ordinary pin and eye connections, indicated by 32. This end board remains in place except when the platform of a truck is backed under the bed for the transference of a rack. The rear ends of the side pieces of the bed are provided with inclines 33. When a rack is upon a truck it is secured thereto by means of a king pin 34 which passes through an eye 35 upon the end cross piece of the base of the rack, indicated specifically by 10^a, and engages the platform of the truck (see Figs. 3 and 8). When a rack is in place upon a running gear it is locked thereto by means of one or more hooks 36 which are pivoted on the inner side of a side piece of the bed of the running gear and are adapted to hook over axles 13 on the racks.

37 denotes a truck which may be of any ordinary construction, the sole requirement being that it be provided with a platform, as 38, adapted to receive a rack from a running gear.

The operation of transferring a rack either loaded or unloaded from a truck to a running gear is as follows: The truck platform is backed under the rear end of the bed of the running gear, as clearly shown in Fig. 8. As the truck moves backward under the bed of the running gear, inclines 33 on the bed will pass under the front wheels 12 on the rack and the wheels will ride up the inclines and upon the bed, as clearly shown. An instant later the rear wheels of the rack will ride up the inclines and upon the bed of the running gear. When the rack is in place on the running gear it is connected thereto by placing one or more hooks 36 upon the running gear in engagement with the axles of the rack, after which the king pin is disengaged from the truck platform and the truck is removed, leaving the rack upon the running gear.

The operation of transferring a rack from a running gear to a truck is the reverse of the operation just described. The platform of the truck is backed under the rear end of the bed of the running gear until it is in position for the king pin to engage the platform. After the rack has been connected to the truck by means of the king pin, hooks 36 are disengaged from the axles of the rack leaving the rack and running gear disconnected. The truck is then moved forward carrying the rack and its contents

with it. When a truck is backed under the bed of a running gear, guides 16 (see Fig. 3) overlie the edges of the truck platform and center it as it is backed to place.

Having thus described my invention I claim:

1. In a loading apparatus, the combination with a rack having an inclined rest and a base and wheels mounted upon the base, of a running gear having a bed placed high enough to permit the platform of a truck to be backed under it and rear wheels placed at a sufficient distance apart to permit the rear wheels of a truck to pass between them.

2. In a loading apparatus, the combination with a rack having an inclined rest provided with transverse rollers, for the purpose set forth, and a base provided with wheels, of a running gear having a bed placed high enough to permit the platform of a truck to be backed under it and rear wheels placed at a sufficient distance apart to permit the rear wheels of a truck to pass between them.

3. In a loading apparatus, the combination with a rack having an inclined rest, a base having wheels mounted thereon and a swinging retainer, for the purpose set forth, of a running gear having a bed placed high enough to permit the platform of a truck to be backed under it and rear wheels placed at a sufficient distance apart to permit the rear wheels of a truck to pass between them.

4. In a loading apparatus, the combination with a rack having an inclined rest, a base having wheels mounted thereon, a swinging retainer, for the purpose set forth, and crank shafts journaled in the base upon which the retainer is pivoted, rotary movement of the crank shafts acting to throw the retainer into and out of operative position, of a running gear having a bed placed high enough to permit the platform of a truck to be backed under it and rear wheels placed at a sufficient distance apart to permit the rear wheels of a truck to pass between them.

5. A loading apparatus of the character described comprising a rack having an inclined rest, a base having wheels mounted thereon, a swinging retainer and crank shafts journaled in the base upon which the retainer is pivoted, rotary movement of the crank shaft acting to throw the retainer into and out of operative position, and a running gear adapted to receive the rack and provided with means for holding the rack thereon.

6. A loading apparatus of the character described, comprising a rack having an inclined rest, a base having wheels mounted thereon, a swinging retainer, crank shafts journaled in the base upon which the retainer is pivoted and spring arms extending

from the base upon which the retainer may rest, rotary movement of the crank shaft acting to throw the retainer into and out of operative position and the retainer when disengaged from the spring arms dropping downward out of the way, and a running gear for the reception of the rack and provided with means for holding the rack thereon.

10 7. A loading apparatus of the character described comprising a running gear having a base placed relatively high, for the purpose set forth, front wheels and rear wheels journaled at a greater distance apart than standard gage, so that a truck may be backed under the bed and between the rear wheels, a rack adapted to be placed on the running gear, and means for holding the rack on the running gear.

20 8. A loading apparatus of the character described comprising a running gear hav-

ing a base placed relatively high, for the purpose set forth, rear wheels, axles therefor and brackets for said axles attached to the bed at a greater distance apart than standard gage, so that a truck platform may be backed under the bed and between the rear wheels, a load holder adapted to be placed on the running gear, and means for retaining the holder on the running gear.

9. A loading apparatus comprising a load holder provided with axles, rollers carried by the axles, a running gear for the reception of the holder, and means carried by the running gear for engaging the axles to retain the holder on the running gear.

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

WILLIAM H. LINES.

Witnesses:

A. M. WOOSTER,

S. W. ATHERTON.

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