N. E. DEARDORFF.

LADDER.

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1,166,747.

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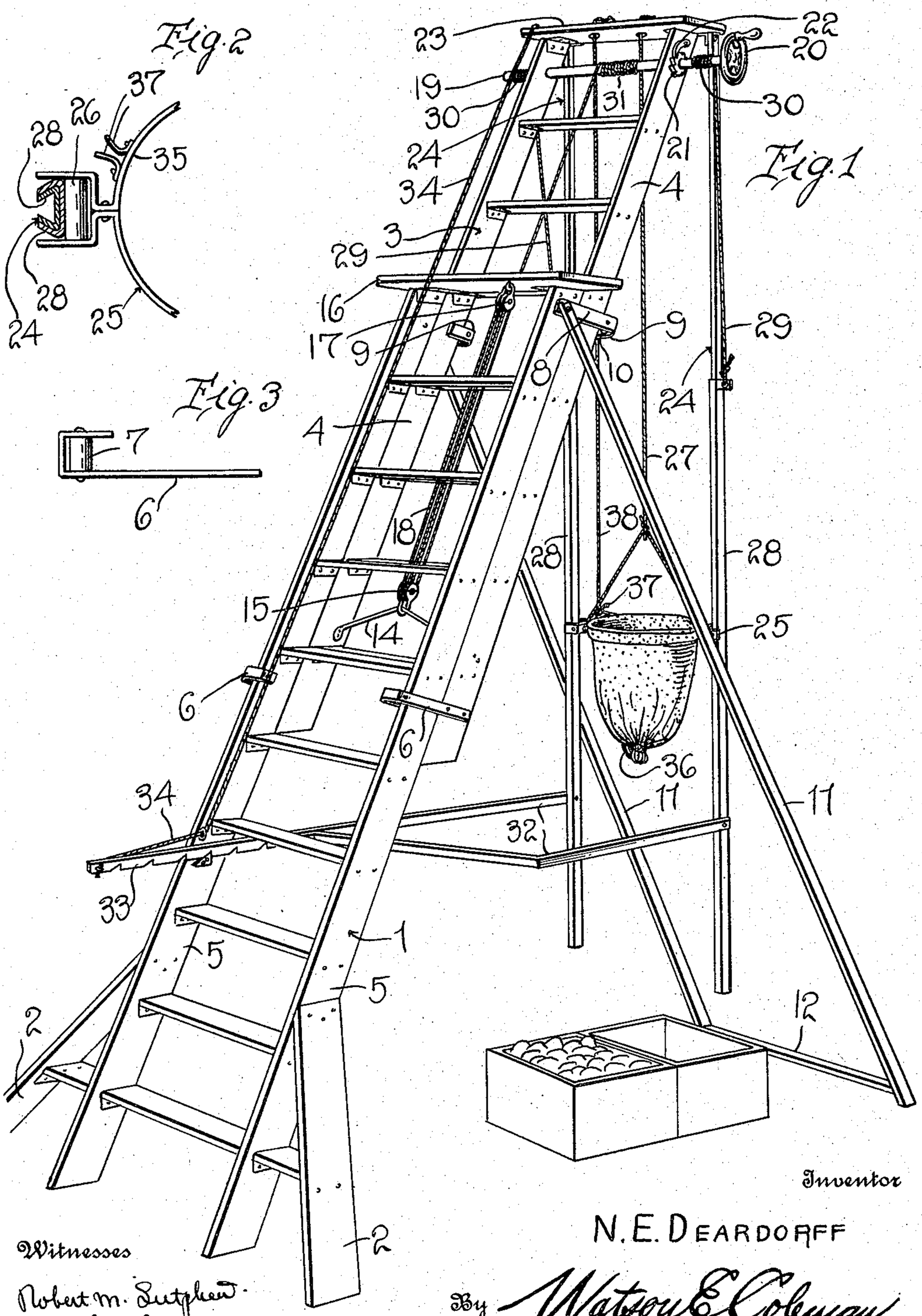
Fig. 2

Fig. 3

Fig. 1



Witnesses

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LADDER.

1,166,747. Specification of Letters Patent. Patented Jan. 4, 1916.

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To all whom it may concern:

Be it known that I, NOBLE E. DEARDORFF, a citizen of the United States, residing at Wenatchee, in the county of Chelan and State of Washington, have invented certain new and useful Improvements in Ladders, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in ladders and has relation more particularly to a device of this general character of an extension type; and an object of the invention is to provide a ladder of this general character having novel and improved means whereby the same may be lengthened or shortened with convenience and facility as the requirements of practice may dictate.

Furthermore, it is an object of the invention to provide a device of this general character particularly adapted for use with orchards and provided with novel and improved means whereby a carrier for the delivery of fruit or the like may be caused to travel in a predetermined path.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved ladder whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise more convenient and advantageous for use, all as will be hereinafter more fully set forth.

The novel features of the invention will be carefully defined in the appended claim.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a view in perspective of a ladder constructed in accordance with an embodiment of my invention; Fig. 2 is an enlarged fragmentary detail, illustrating a guide member and a coacting portion of a carrier herein included; and Fig. 3 is an enlarged fragmentary view in plan of one of the irons herein employed for maintaining the upper and lower sections of the ladder in assembled relation.

As disclosed in the accompanying drawings, 1 denotes the main section of my improved ladder provided at its lower portion with the lateral bracing members 2. Coacting with the main section 1 is the extension section 3, the stringers 4 whereof underlying the stringers 5 of the main section and the lower extremities of the stringers 4 are provided with the irons 6 having angular extremities overlying the outer longitudinal edges of the stringers 5 and provided with the anti-friction rollers 7 in contact with said outer longitudinal edges whereby the extension section may be moved relative to the section 1 with a minimum of friction. The outer extremities of the stringers 5 are provided with the rearwardly disposed irons or straps 8 having angular extremities 9 underlying the lower longitudinal edge of the extension section 3 and provided with an anti-friction roller 10 in contact with such edge for a purpose which is believed to be self-evident. Also suitably secured with the upper extremities of the stringers 5 are the depending props 11 having their lower extremities connected by the tie 12, as is believed to be clearly disclosed in the accompanying drawings.

Secured to the stringers 4 of the section 3 and disposed transversely of said section is a member 14 to which is secured a double pulley 15, while to the top 16 of the section 1 is secured a second double pulley 17 and co-acting with said pulleys 15 and 17 is a flexible member 18, one extremity thereof being anchored to the pulley 17 while the opposite extremity thereof is disposed around the shaft 19 disposed transversely of the section 2 adjacent the upper extremity thereof, said shaft being provided with suitable means, as at 20, whereby the same may be axially rotated. The shaft is also provided with a ratchet wheel 21 with which coacts a pawl 22 carried by the stringer 4 whereby retrograde movement is prevented.

Depending from the top 23 of the section 3 are the guide rods 24 for the carrier 25, said carrier being provided with the rollers 26 coacting with said guides 24 whereby the carrier will be caused to move in a predetermined path of travel under the influence of the flexible member 27 passing upwardly and over the top 23 of the section 3. As herein embodied, each of the guides 24 comprises telescopically engaged sections 28, the lowermost of such sections having secured thereto a flexible member 29 also disposed around the shaft 19, the windings 30 of the

flexible member 29 being reversed to the windings 31 of the flexible member 18, whereby it will be perceived that as the shaft 19 is rotated to elevate the extension 2, the lowermost section 28 of the guide will be permitted to move downwardly and vice versa, thus it is assured that a proper guiding means will be afforded the carrier 25, irrespective of the adjustments of the extension 2.

Projecting forwardly from the lower sections 28 of the guides 24 are the irons 32 connected one with the other at a predetermined distance in advance of the guides 24 and provided with the notched extension 33 coacting with a suitable block carried by one of the stringers 5 of the lower section 1 and connected with the extension 33 is a flexible section 34 extending to the top 23 of the section 3 and which provides a means whereby the guides 24 may be swung inwardly so that the contents of the carrier may be deposited in the boxes, it being understood that the carrier 25 is of a capacity substantially the same as a box and that said boxes are disposed in requisite alinement.

As herein embodied, the carrier 25 comprises a loop 35 to which a bag is suitably connected, the bottom of said bag being open and adapted to be closed by a draw spring 36, said loop having projecting therefrom spaced fingers 37 with which a knot on the string 38 is adapted to engage for maintaining the bag closed. The string is of such a length as to not interfere with the descent of the carrier and to provide a means whereby the bottom of the bag may be opened in order to cause the contents thereof to be discharged within a box.

From the foregoing, it is thought to be obvious that a ladder constructed in accordance with my invention is of an extremely simple and comparatively inexpensive nature and is particularly well adapted for use by reason of the convenience and facility with which it may be assembled, and it will also be obvious that my invention is susceptible of some change and modification without material departure from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice.

I claim:

In combination, a ladder, guides depending therefrom and pivotally engaged therewith, a carrier slidably engaged with the guides, connected members pivotally engaged with the guides, one of said members being provided with an extension, means carried by the ladder and the extension for holding the guides against swinging movement, and a flexible member secured to the free extremity of the extension and disposed upwardly of the ladder and affording a means whereby swinging movement to the guides may be created in one direction.

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

NOBLE E. DEARDORFF.

Witnesses:

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