L. S. PUTMAN.

EXTENSIBLE LADDER.

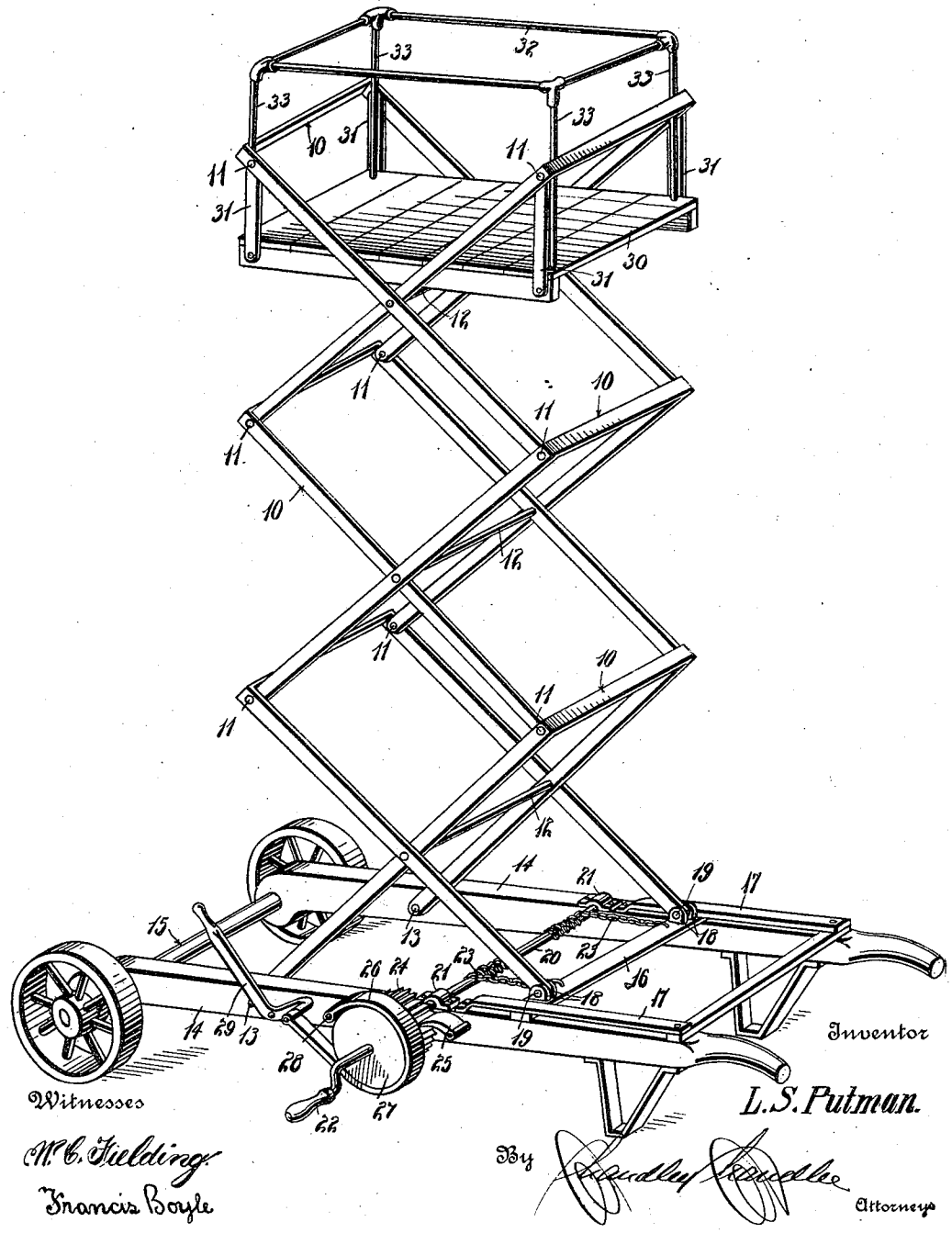
APPLICATION FILED DEC. 7, 1911.

1,031,818.

Patented July 9, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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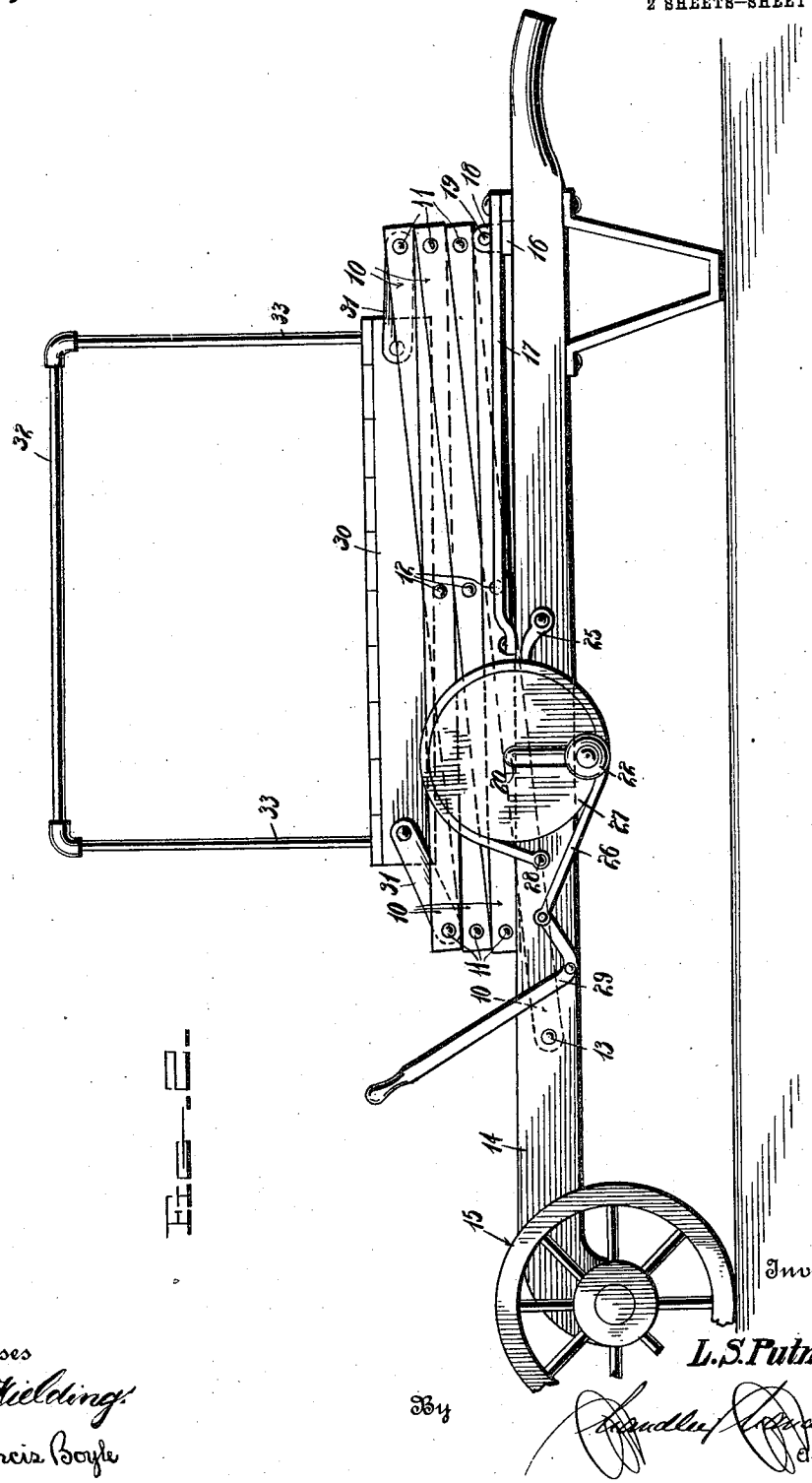

FIG. 2.

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UNITED STATES PATENT OFFICE.

LEWIS S. PUTMAN, OF STACY, TEXAS, ASSIGNOR OF ONE-THIRD TO M. J. STACY AND ONE-THIRD TO C. E. TROTT, BOTH OF STACY, TEXAS.

EXTENSIBLE LADDER.

1,031,818. Specification of Letters Patent. Patented July 9, 1912.

Application filed December 7, 1911. Serial No. 664,383.

To all whom it may concern:

Be it known that I, LEWIS S. PUTMAN, a citizen of the United States, residing at Stacy, in the county of McCulloch, State of Texas, have invented certain new and useful Improvements in Extensible Ladders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to extension ladders of lazy-tong structure and has for an object to provide a ladder on each side of the structure, this being accomplished by forming the members of U-shaped bars, the bridges of the bars serving as ladder steps.

A further object of the invention is to provide a platform which when the structure is extended will drop down between the bridges of the uppermost bars of the structure so that the bridges form guard rails for the platform.

A still further object of the invention is to so secure the platform that it will at all times rest upon the common pivot of the uppermost U-shaped bars so that the pivot forms a support for the platform.

With the above objects in view the invention consists of certain novel details of construction and combination of parts hereinafter described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings forming part of this specification:—Figure 1 is a perspective view of the extensible ladder in operative position. Fig. 2 is a side elevation of the ladder in collapsed position.

Referring now to the drawings in which like characters of reference designate similar parts, the ladder is shown to comprise a lazy-tong structure formed of substantially U-shaped bars 10 the legs of each bar being terminally connected to the legs of the next adjacent bar in close proximity to the bridge thereof by pivot pins 11, and the centrally intersecting portions of the legs of the bars being connected by common pivot pins 12. When the lazy-tong structure is extended, the bridges of the U-shaped bars form ladder steps on each side of the structure, and furthermore the extending movement of the structure is limited by contact of the terminals of each bar legs with the bridge of the adjacent bar so that chains and similar devices commonly used to attain this end are entirely dispensed with.

The terminals of one of the lowermost bars of the structure are pivotally connected by pivot pins 13 to the spaced sides 14 of a skeleton truck which is designated in general by the numeral 15. The terminals of the other lowermost bar are pivotally connected to a slide bar 16 which extends transversely across the truck and is secured to the sides thereof through the instrumentality of strap guides 17 disposed upon the top edges of the truck sides. Upstanding ears 18 are formed on the slide bar and between these ears the terminals of the last named lowermost bar are passed and pivotally connected to the ears through the instrumentality of pivot pins 19.

A windlass for actuating the slide bar is disposed upon the truck and comprises a shaft 20 the opposite ends of which are journaled in suitable bearings 21 mounted upon the top edges of the truck sides, one end of the shaft being equipped with a crank handle 22. A pair of chains 23 or similar flexible connectors are connected to the shaft and to the slide bar and upon rotation of the shaft these chains are wound thereupon and pull the slide bar in the direction of the shaft thus extending the lazy-tong structure. A ratchet wheel 24 is fixed to the shaft and a pawl 25 is pivotally attached to the outer face of the adjacent truck side and operatively engages the ratchet to prevent accidental collapse of the structure. A strap brake 26 is directed about the periphery of a disk 27 carried by the shaft, one end of the strap being fixed to the adjacent side of the truck, as shown at 28, and the opposite end being pivotally connected to one leg of a bell crank handle lever 29 which is pivoted to the side of the truck, depression of the grip of this lever serving to tighten the brake strap on the disk and facilitate gradual collapse of the lazy-tong structure after the pawl has been disengaged from the ratchet wheel.

A platform 30 is suspended from the legs of the uppermost bars of the structure through the instrumentality of short links 31 which are pivotally connected at their opposite ends to the sides of the platform and to the legs of the bars near the bridges

thereof. The links are of such length as to permit of the platform permanently resting upon the common pivot 12 of the uppermost bars so that this pivot coöperates with the links in supporting the platform. It will be noted that by virtue of this arrangement, the bridges of the uppermost bars extend above the platform when the lazy-tong structure is extended and form guard rails for the platform. A hand rail 32 is secured to the platform through the instrumentality of posts 33. It will be noted that by virtue of the platform being supported by the common pivot of the uppermost bars, swinging of the platform when a person steps upon it is positively prevented.

What is claimed, is:—

1. A ladder of lazy-tong structure comprising U-shaped bars, the legs of each bar being terminally pivotally connected to the legs of the next adjacent bar near the bridge thereof, whereby said bridges form ladder steps and further contact with the terminals of the next adjacent bar legs and limit extending movement of the lazy-tong structure.

2. The combination of a ladder of lazy-tong structure comprising crossed bars operatively connected together, both pairs of the uppermost crossed bars of the structure being pivotally connected together through the instrumentality of a common pivot pin, a platform supported by said pivot pin, and short links pivotally connected at their opposite ends to said platform and to said legs and coöperating with said pivot in supporting said platform.

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

LEWIS S. PUTMAN.

Witnesses:
FRANK LACY,
CLARENCE TROTT.