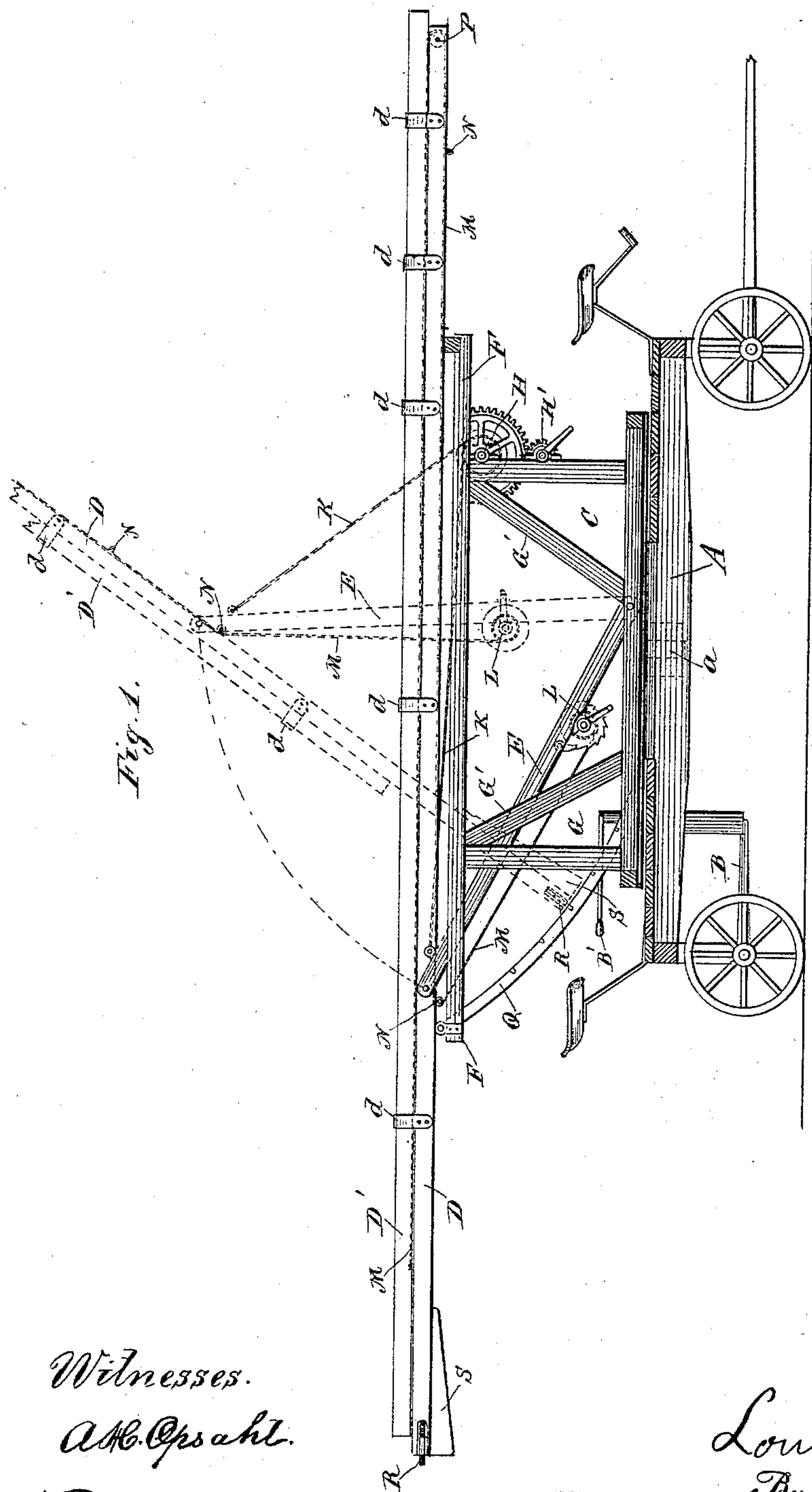


(No Model.)

L. DE LORIA.  
FIREMAN'S LADDER.

No. 444,878.

Patented Jan. 20, 1891.



Witnesses.

A. H. Opsahl.

Frank D. Merchant.

Inventor.

Louis DeLoria

By his Attorney.

Jas. F. Williamson

# UNITED STATES PATENT OFFICE.

LOUIS DE LORIA, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY DIRECT  
AND MESNE ASSIGNMENTS, OF ONE-HALF TO JOSEPH BAYORGEON  
AND MAXIME RABLLARD, OF SAME PLACE.

## FIREMAN'S LADDER.

SPECIFICATION forming part of Letters Patent No. 444,878, dated January 20, 1891.

Application filed September 16, 1890. Serial No. 365,180. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS DE LORIA, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Firemen's 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.

My invention relates to firemen's ladders, and has for its object to provide a truck extension-ladder of simple construction which shall be capable of quick action. To this end I pivotally mount a turn-table on the truck, and I connect the extension-ladder to the turn-table by a swinging support pivotally connected at its lower end to the turn-table and at its upper end to the extension-ladder at some point preferably below the center of the fixed section. On the turn-table I mount a windlass, with hoisting-cable connected to the upper end of the swinging support, and on the swinging support at some point near its base I mount another windlass, with extension-ropes running over a sheave on the fixed section of the ladder and connected at the lower end to the movable section. For supporting the ladder in a sufficiently elevated position when folded to afford the necessary clearance, I provide a rectangular frame secured to the tops of standards connected to and properly braced from the turn-table. The swinging support is pivoted inside this rectangular frame and is guided against lateral displacement thereby. In its lowermost position the ladder lies on the top of the rectangular frame. When elevated, the base of the ladder swings into the rectangular frame and rests with its heels against some part of the turn-table or rigid extension thereof, and may be secured by any suitable catch or locking device. The hoisting-windlass is preferably located at the forward corner of the rectangular frame. This construction makes a ladder which can be handled very

quickly. The raising of the swinging supports elevates the ladder at once, after which it can be with equal quickness extended to any desired extent, while the turn-table serves its usual functions of allowing the ladder to be turned in any direction with reference to the truck.

In the drawing, like letters referring to like parts, the figure is a view, partly in side elevation and partly in section, showing the entire construction, the full lines representing the ladder in its lowermost position and the dotted lines representing the same in an elevated position.

A is the truck, of any suitable construction.

B B' is the steering device, attached to the rear-truck axle.

C is the turn-table, pivoted on the truck, as shown at *a*.

D D' is the ladder, of which D is the fixed and D' the movable section, the latter being held and guided by the straps *d*.

E is the swinging support, preferably composed of a pair of parallel bars or arms connected by cross-braces. (Not shown.)

F is the rectangular frame.

H is the hoisting-windlass; H', a crank-shaft and pinion for operating the same.

K is the hoisting-cable from the windlass H to the top of the swinging support.

L is the extension-windlass on the support E.

M are the extension-ropes from the windlass L to the movable section of the ladder. The ropes are preferably guided by bails or eyelets N, secured to the lower surface of the fixed section, and by sheaves P, secured to the outer ends of the same.

Q is a curved base-plate or rigid extension from the rear of the turn-table to the rear corner of the rectangular frame, forming part of the base for the foot of the ladder.

R is a sliding latch mounted on the foot of the ladder, engageable with holes on the base-plate or turn-table for locking the ladder at any desired position. Any other device might be employed for the purpose.



S are the weights secured to the foot of the fixed section of the ladder for counterpoising the same on the swinging support.

The operation is evident from the description already given.

What I claim, and desire to secure by Letters Patent, is as follows:

1. The combination, with the truck and the turn-table, of the extension-ladder, the swinging support pivotally connecting the ladder and the table, and fixed guides on said table for preventing the lateral displacement of said swinging support.

2. The combination, with the truck and the turn-table, of the extension-ladder, the elevated rectangular frame fixed to said table, and the swinging support located between the side bars of said frame, pivotally connecting the ladder and the table, whereby the frame is adapted to support the ladder in its horizontal position and guide the support in its movement.

3. The combination, with the truck and the turn-table, of the elevated rectangular frame, the extension-ladder, the swinging support located between the side bars of the frame

and pivotally connecting the ladder and the table, the hoisting-windlass on said frame, with cable connected to upper end of said support, and the ladder-extension windlass located on the swinging support, the extension-ropes therefrom to the movable section of the ladder, and the sheaves at the head of fixed section for applying said ropes, substantially as described.

4. The combination, with the truck and turn-table and base-plate, of the extension-ladder, the swinging support pivotally connecting the ladder and the table, and a sliding bolt or latch carried by the heel of the support, engageable with the base-plate or turn-table to secure the support in an elevated position.

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

LOUIS <sup>his</sup> X DE LORIA.  
mark

Witnesses:

JO BAYORGON,  
FRANK D. MERCHANT.