(No Model.) 2 Sheets—Sheet 1.

S. TORRANCE.

Fire Escape Ladder.

No. 238,460. Patented March 1, 1881.

Fig. 3

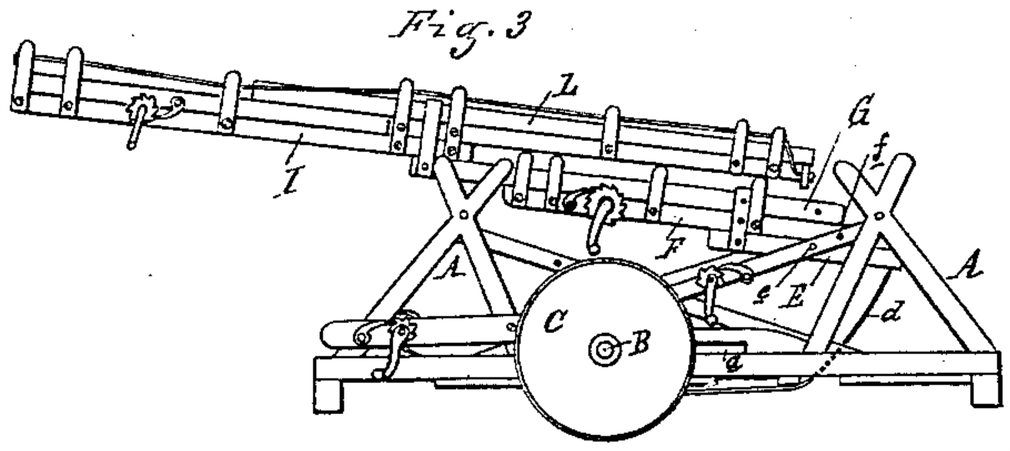

Fig. 1

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(No Model.) 2 Sheets—Sheet 2.

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Fire Escape Ladder.

No. 238,460. Patented March 1, 1881.

Fig. 2.

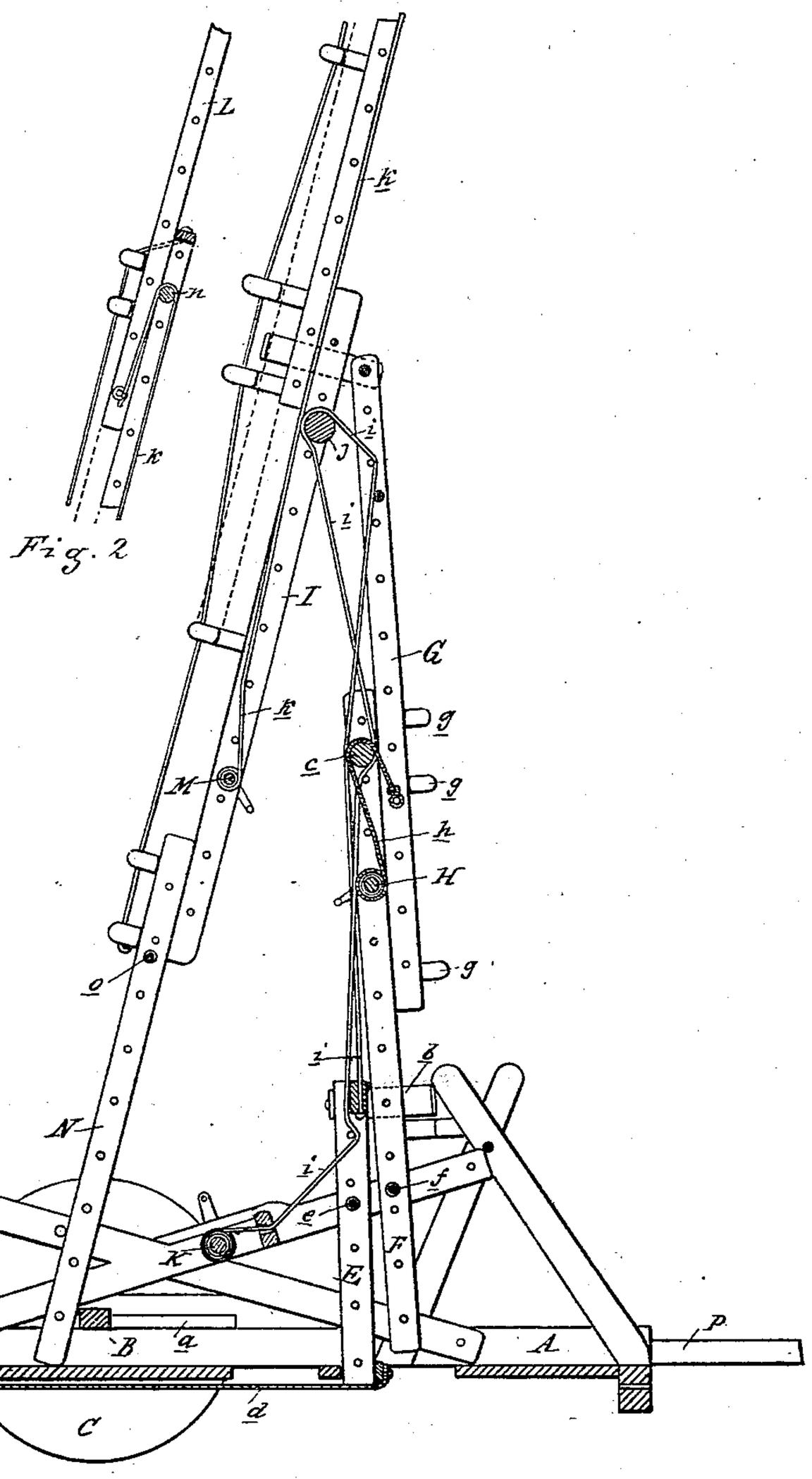
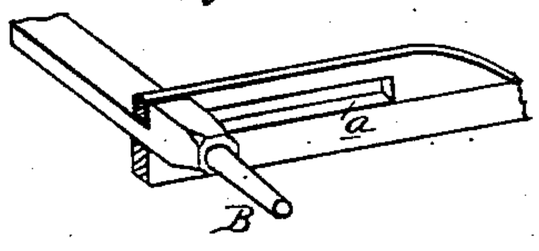


Fig. 4.



Attest:
A. Barthel,
Theo. S. Day.

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UNITED STATES PATENT OFFICE.

SEYMOUR TORRANCE, OF HADLEY, MICHIGAN, ASSIGNOR TO HORACE TORRANCE, JAMES A. KERR, AND MARY ANN TORRANCE, OF SAME PLACE, AND RODERICK TORRANCE, OF FLUSHING, MICHIGAN.

FIRE-ESCAPE LADDER.

SPECIFICATION forming part of Letters Patent No. 238,460, dated March 1, 1881.

Application filed July 31, 1880. (No model.)

To all whom it may concern:

Be it known that I, SEYMOUR TORRANCE, of Hadley, in the county of Lapeer and State of Michigan, have invented an Improvement in Fire Extension-Ladders, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of an extension-ladder mounted upon a suitable truck and provided with proper appliances, whereby the ladder may be extended to the desired height and inclination.

The invention consists, first, in the peculiar construction of the truck which supports the ladder; second, in the peculiar construction and arrangement of the sections of the ladder and the appliances for operating the same; and, third, in the various combinations of parts, all as more fully hereinafter set forth.

Figure 1 is a perspective view of my improved ladder extended. Fig. 2 is a vertical section of the same. Fig. 3 is a side elevation, showing the ladder closed and resting upon the truck. Fig. 4 is a perspective view of the axle and slotted frame.

In the accompanying drawings, which form a part of this specification, A represents a trussed frame, mounted upon the axle B and wheels C. This axle B is arranged in a slot, *a*, in the sides of the trussed frame A, so that the said axle may be adjusted to or from the longitudinal center of the frame, as circumstances may require.

At one end of the frame A is properly journaled the drum D, designed to be operated by a crank handle or handles, as shown. From this drum there passes a belt or rope, *d*, the end of which is secured to the lower end of a lever, E, which is pivoted in the frame A, as at *e*. To the upper end of this lever E is secured a yoke, *b*, which incloses the lower portion of the base-section F of the ladder, which is also pivoted in the frame A, as at *f*. To this section F there is secured, by suitable guides, *g*, a sliding section, G, which is extended by means of a rope, *h*, one end of which is secured to such section G, while the opposite end passes over a drum or pulley, *c*, and is secured to a windlass or drum, H, journaled in the section F.

I is a trussed section of ladder pivotally secured to the upper end of the section G, as shown. This section I is operated by means of a rope, *i*, one end of which is secured to the upper end of the lever E; thence it passes up back of the pulley *c*, thence over one of the upper rounds of the section G, thence over a pulley, J, journaled in the section I, and thence down to and behind the upper round of the lever E, and thence to a windlass, K, properly journaled across the frame A, the function of this rope being to draw together or toward each other the sections I G when the ladder is raised, and to prevent their spreading.

To the upper end of the section I is secured a sliding section, L, which is extended by means of the rope *k* being wound upon the windlass M. A sliding foot-section, N, is fitted into the opposite end of the section I, and is adjusted to the proper extension and held in position by a pin or rod, *o*, which passes through holes in the side bars of such section, the end of the section I resting upon the pin.

When the device is not in use it is closed together and down upon the truck, as shown in Fig. 3, and the axle B is adjusted so as to balance the ladder-frame upon the truck as nearly as is possible. Suitable hand-bars, P, may be attached to the frame A, if desired, or it may be drawn by a horse or horses.

When it is desired to raise the ladder, the drum D is revolved, which winds up the belt *d* and draws down upon the lever E. This compels the main section F to gradually rise. The trussed sections and connections then assume position as in Figs. 1 and 2, the section N being drawn out and resting upon the floor or base of the frame or truck A. After the ladder has been raised as described, then the sliding sections may be extended by operating the various ropes and pulleys hereinbefore described.

What I claim as my invention is—

1. A truck for an extension-ladder provided with and supported upon a single adjustable axle, whereby the ladder and truck may be bal-

anced on said axle in their different positions, substantially as and for the purposes set forth.

2. In an extension-ladder, and in combination with the frame A thereof, the lever E and base-section F, constructed and operating substantially in the manner and for the purposes specified.

3. In combination with the base-section F of an extension-ladder, the sliding section G and trussed section I, said section I having its lower end free from the truck and constructed to rise vertically with section G, and provided with suitable ropes and pulleys for operating the same, substantially as described.

4. In combination with a base-frame, A, mounted upon a suitable truck, lever E, and base-section F, the sliding sections G L, trussed section I, and foot-section N, constructed, arranged, and operating substantially in the manner and for the purposes set forth.

SEYMOUR TORRANCE.

Witnesses:

ALVIN N. WOODARD,

MATHEW JACKSON.