(No Model.) 2 Sheets—Sheet 1.

G. W. RICH.

FIRE LADDER.

No. 261,874. Patented Aug. 1, 1882.

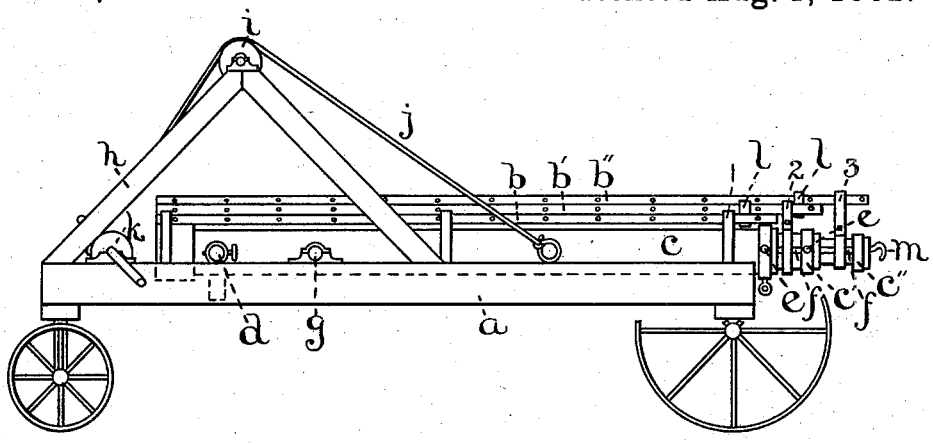

FIG. 1.

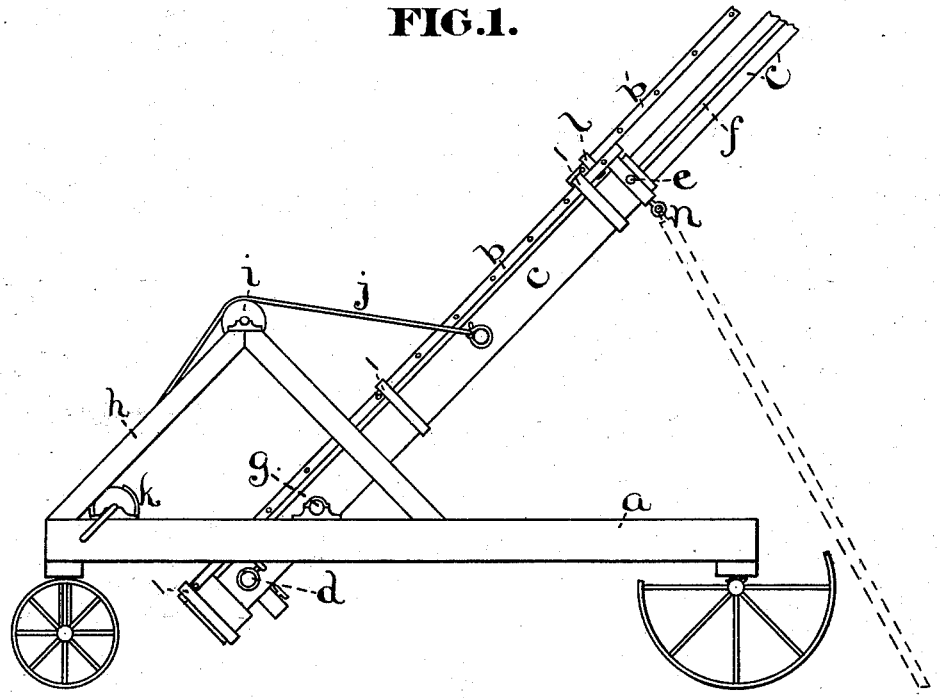

FIG. 2.

WITNESSES.

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(No Model.) 2 Sheets—Sheet 2

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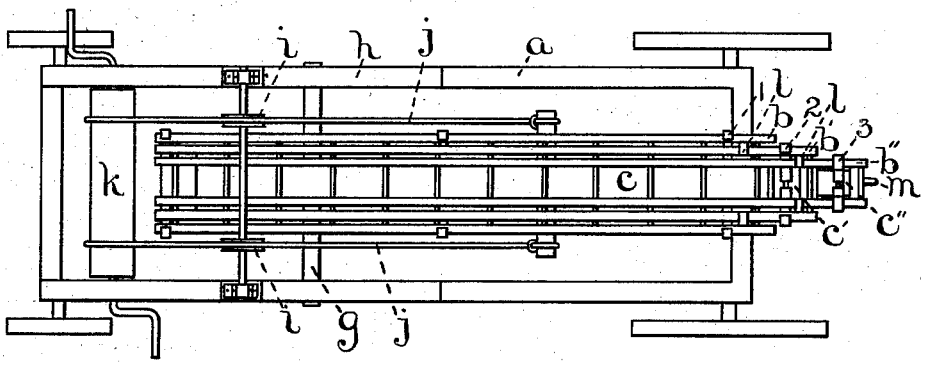

FIG. 3.

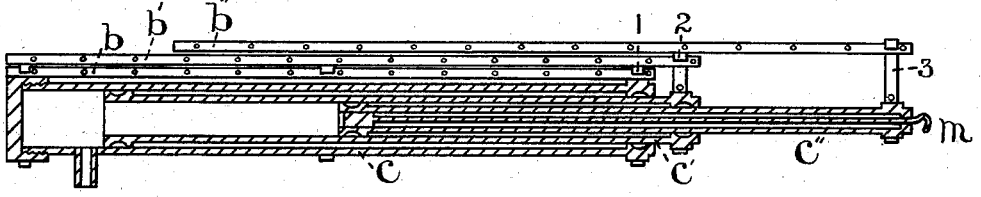

FIG. 4.

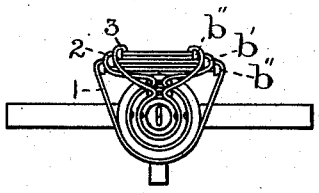

FIG. 5.

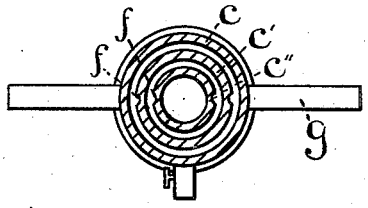

FIG. 6.

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UNITED STATES PATENT OFFICE.

GEORGE W. RICH, OF PORTLAND, MAINE.

FIRE-LADDER.

SPECIFICATION forming part of Letters Patent No. 261,874, dated August 1, 1882.

Application filed April 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RICH, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Fire-Ladders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 shows a side elevation. Fig. 2 shows a side elevation with the tubes and ladders elevated. Fig. 3 is a top plan. Fig. 4 is a side sectional elevation of the pipes or tubes and the ladders. Fig. 5 is an end view of the tubes and ladders and a view of the bar to which the raising-cords are attached. Fig. 6 is an end view of the tubes in section, also a view of the pivot on which they turn when elevated, also a view of the arrangement to prevent the tubes from turning on their axes when in use.

Same letters show like parts.

My invention relates to fire-ladders.

It consists in the combination of an extensible ladder with certain tubes shutting one within another, like telescopic tubes, with an elevating device and a bed or carriage, the raising of said ladders to be effected by hydraulic pressure in the tubes, in the manner hereinafter to be set forth.

a shows the carriage or bed. *b b′ b″* show the ladders. *c c′ c″* show the tubes to receive the water.

The ladder *b* is rigidly connected with the tube *c* by the metal band 1. The ladder *b′* is in the same way connected with the tube *c′* by the metal band 2. In the case of the third ladder and tube the same connection is made by means of the metal band 3. As the tubes therefore are extended or forced out by hydraulic pressure they draw with them the ladders thus attached to them. Water is admitted into the tubes at *d*, into the tube *c*, or the stationary one. By its pressure the other two are successively forced out or extended, and thus the ladders are lifted up to a building in flames.

The tubes are prevented from turning on their own axes when moving up by the pins *e* on the inner and the grooves *f* on the outer surfaces of the inner tubes.

The water-pressure of a public system of water-works can be employed to operate the device.

The tube *c* is pivoted to a carriage or bed at *g*, so as to enable it to receive the proper inclination, as seen in Fig. 2, and the frame *h*, pulleys *i*, band *j*, and crank and windlass *k* are used to give tubes and ladders the desired angle of inclination and to hold them at such inclination.

The ladders move one upon another in the common way through guides or ways *l*—that is, the guide of the ladder *b′* is on the sides of the ladder *b* and those of *b″* on the sides of the ladder *b′*, as seen in the drawings.

When the ladder is to be used the inlet *d* is connected with a hydrant, for instance, the water admitted into the stationary tube *c*, and by its pressure it will extend the tubes in the manner hereinbefore indicated. The upper end of the tube *c″* is of course closed by a proper head; but it may be fitted with a device for attaching a sprinkling-hose for use in case it becomes necessary to apply water at any point of a building to which the fireman desires to gain access.

m is a hook to aid in carrying up a hose as the ladder is lifted.

It is manifest that my ladder could be set permanently by a building—in an excavation, for instance, by the side of a building—and kept shut except in case of need, and thus by being connected with a water-pressure extended and used as a fire-escape from a burning building.

n is an eye to receive a hook or other device on the upper end of an A-shaped support, to sustain the tubes and ladders when raised, as seen in Fig. 2.

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination, with the frame or bed *a*, of the ladders *b b′ b″*, tubes *c c′ c″*, bands 1 2 3, pins *e*, grooves *f*, frame *h*, pulleys *i*, band *j*, and crank and windlass *k*, all as herein set forth, and to operate as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE W. RICH.

Witnesses:
JOHN P. KERRIGAN,
WM. F. GOODWIN.