April 23, 1940. V. ARTINI 2,198,071

EXTENSIBLE FIRE LADDER

Filed Feb. 9, 1939 2 Sheets-Sheet 1

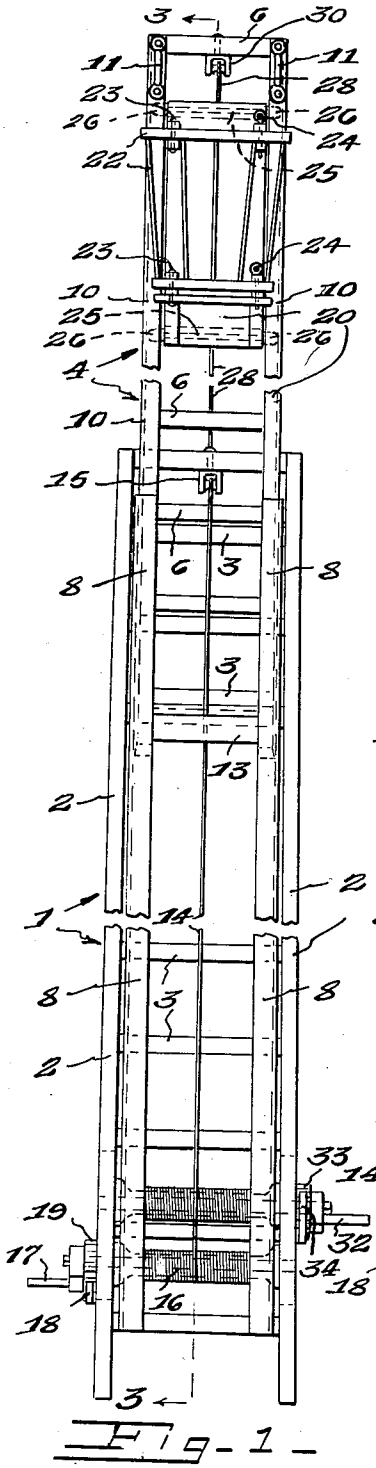


Fig-1-

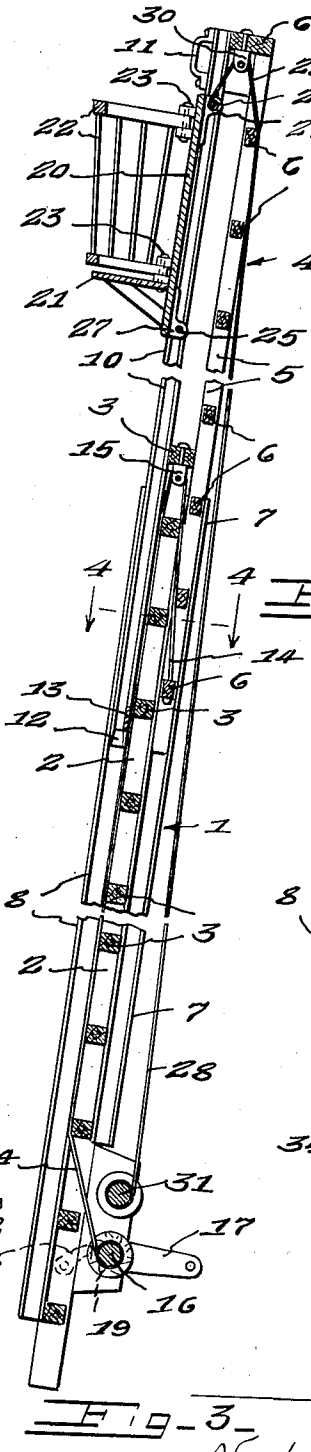


Fig-3-

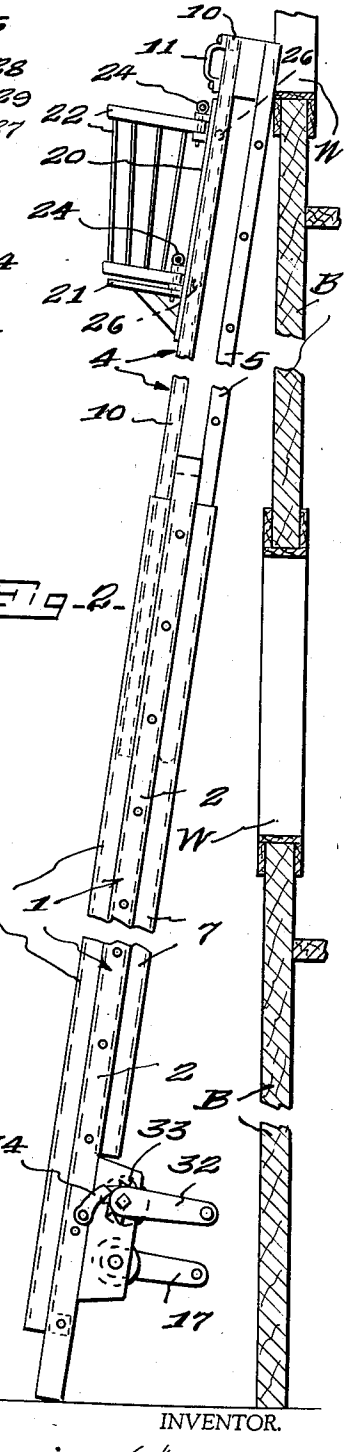


Fig-2-

INVENTOR.

Vespasiano Artini

April 23, 1940. V. ARTINI 2,198,071

EXTENSIBLE FIRE LADDER

Filed Feb. 9, 1939 2 Sheets-Sheet 2

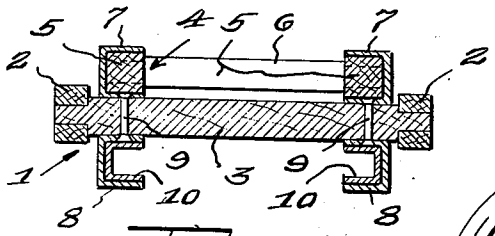


Fig-4

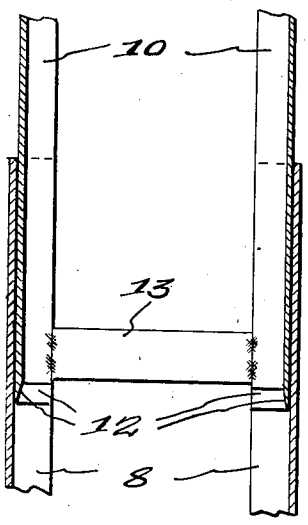


Fig-5

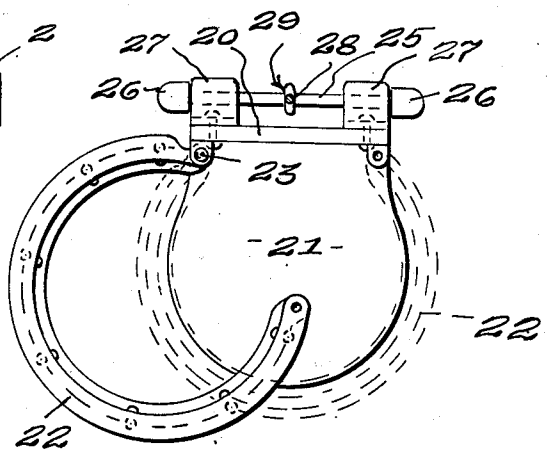


Fig-6

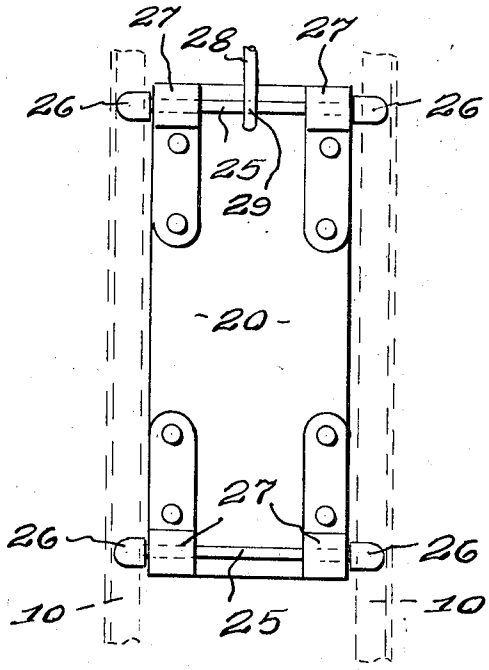


Fig-7

INVENTOR.

Vespasiano Artini

Patented Apr. 23, 1940 2,198,071

UNITED STATES PATENT OFFICE

2,198,071

EXTENSIBLE FIRE LADDER

Vespasiano Artini, Solvay, N. Y.

Application February 9, 1939, Serial No. 255,373

1 Claim. (Cl. 227—22)

My invention has for its object a particularly simple and highly efficient extensible fire ladder, for use in rescuing people from the upper stories of burning buildings and comprises generally a stationary section and an extensible section having the usual parallel side rails and cross rungs, guide members extending lengthwise of said stationary section slidably fitting the side rails of the extensible section, pairs of telescoping guides forming an extensible track for a carriage movable up and down said sections, one of said pairs of guides being fixed to the stationary section and the other pair being fixed to the extensible section.

The invention consists in the novel features hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a front elevation partly broken away.

Figure 2 is a side elevation partly broken away, a portion of a building being shown in section.

Figure 3 is a sectional view taken on line 3—3 Figure 1.

Figure 4 is a sectional view taken on line 4—4 Figure 3.

Figure 5 is a fragmentary sectional view of the telescoping tracks for the carriage.

Figure 6 is a plan view of the carriage.

Figure 7 is a rear view of the carriage.

In the drawings 1 is the stationary section having the usual parallel side rails 2 and equally spaced cross rungs 3.

4 is the extensible section, having parallel side rails 5 and equally spaced cross rungs 6.

7 are a pair of U-shaped guides extending lengthwise of the stationary section 1 near the side rails 2 and on the back side thereof, and 8 are a similar pair of guides on the front side of said stationary section.

These guides 7 and 8 are fixed to the section by means of rivets as 9 extending through one side of said guides 7 and 8 and through the rungs 3 of said section, as illustrated in Fig. 4.

The U-shaped guides 7 and 8 are arranged on the stationary section with the open side of the U facing each other, and the rails 5 of the extensible section 4 slidably fit the pair of guides 7 fixed to the back side of the stationary section 1.

The extensible section 4 is provided with a pair of U-shaped guides 10 suitably fixed to the upper end thereof, which slidably fit the pair of guides 8 fixed to the front side of the stationary section.

The guides 8 and 10 forming an extensible track for a carriage to be hereinafter described.

As here shown, the upper ends of the guides 10 are provided with hand pieces 11 and the lower ends are beveled as at 12, Fig. 5, to permit easier access of the rollers on the carriage from one track to the other and said lower ends are provided with a cross piece 13 welded thereto to hold them in parallel alinement.

The means for raising and lowering the extensible section 4 comprises a cable 14 attached to the lower rung 6 thereof, passing through the pulley 15 fixed to the top rung 3 of the stationary section 1 and around a drum 16 mounted near the lower end of said stationary section.

17 is a crank arm for operating said drum and 18 and 19 are a pawl and ratchet for holding said section 4 in any of its extended positions.

20 is the body of the carriage provided with a platform 21 surrounded by circular guard or rail 22. The guard or rail is hinged to the body at 23 and can be opened and closed and as here shown is held in its closed position by means of the locking pins 24.

25 are a pair of axles having rollers 26 mounted at their ends. The axles are mounted in bearings 27 secured to the back of the body 20 of the carriage, and as here shown the rollers are rounded at their outer ends and are for the purpose of guiding the carriage along the extensible track formed by the U-shaped guides 8 and 10.

The carriage is operated along the tracks 8 and 10 by means of the cable 28 secured at 29 to one of the axles 25 of the carriage, passing through the pulley 30 secured to the top rung 6 of the extensible section 4 and down around a drum 31 near the bottom of the stationary section 1. The drum 31 is the same construction as the drum 16, and is provided with a crank arm 32 and a ratchet and pawl 33 and 34.

The U-shaped guides are preferably made of some light weight metal as aluminum, and the carriage can be made of a similar material.

In operation the ladder is extended to the desired window as W of a building B as illustrated in Figure 2 by means of the drum and cable 16 and 14.

The carriage is then moved to the position illustrated by means of the drum and cable 31 and 28. The person to be lowered takes hold of the handles 11 and steps down on the platform 21 surrounded by the guard rail 22.

When the carriage has been lowered to the ground the guard rail is opened and the person

can step out without climbing over the guard rail.

It is obvious that a device as described could be mounted on a fire truck and could be operated by power from the truck instead of manually as illustrated.

What I claim is:

An extensible fire ladder comprising a stationary section and an extensible section having the usual parallel side rails and cross rungs, pairs of U-shaped guide members extending lengthwise of said stationary section on the front and back sides thereof near said side rails, said U-shaped guide members being fixed to said cross rungs and arranged to have the open ends of the U-shaped guides facing each other, said extensible section having its side rails slidably fitting the pair of U-shaped guide members fixed to the back side of said stationary section, said extensible section being provided with a pair of U-shaped guide members slidably fitting the pair of guide members fixed to the front side of said stationary section, said last mentioned pairs of guide members providing an extensible pair of tracks, means for raising and lowering said extensible section with respect to said stationary section and means for raising and lowering a carriage mounted in said extensible pair of tracks, comprising a pair of drums suitably fixed to said stationary section and a pair of cables winding on said drums, one of said cables being suitably connected to said extensible section, and the other cable being suitably connected to said carriage.

VESPASIANO ARTINI.