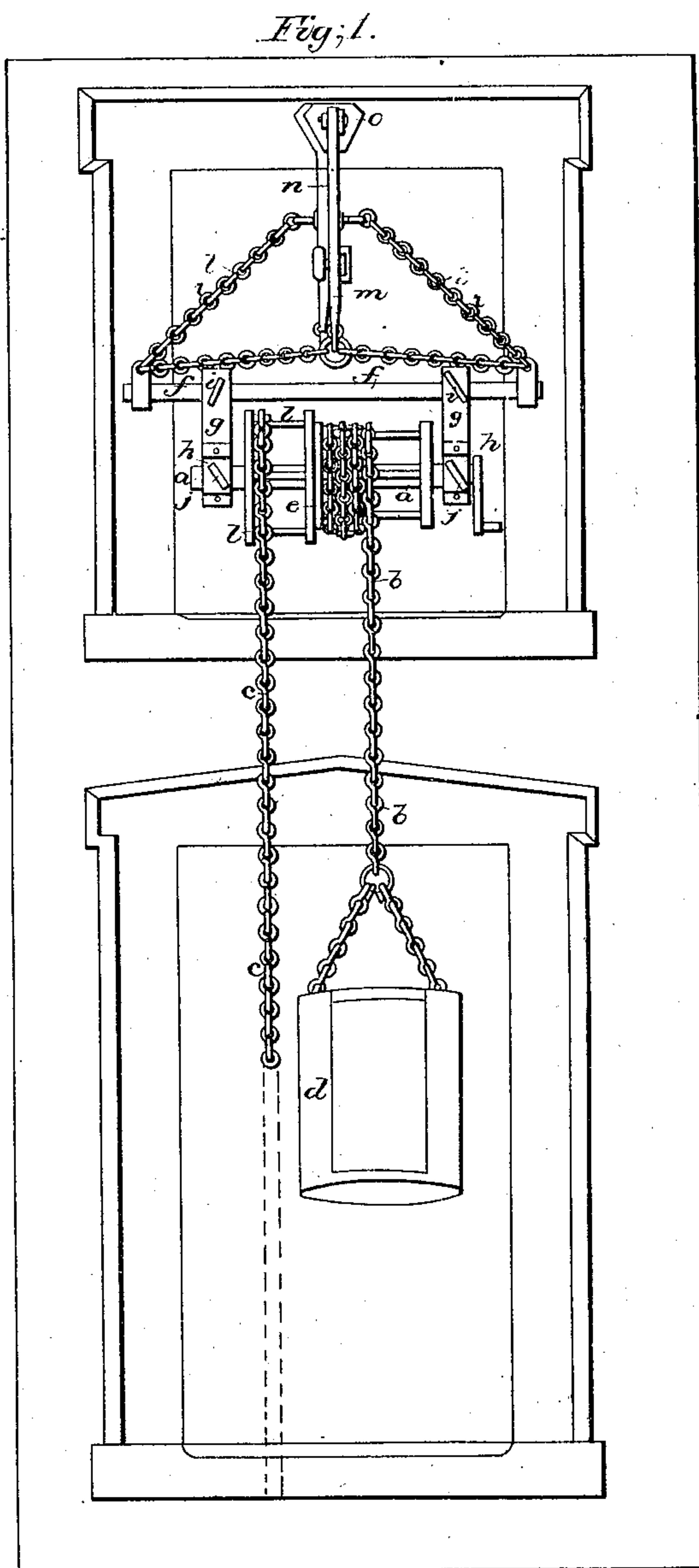
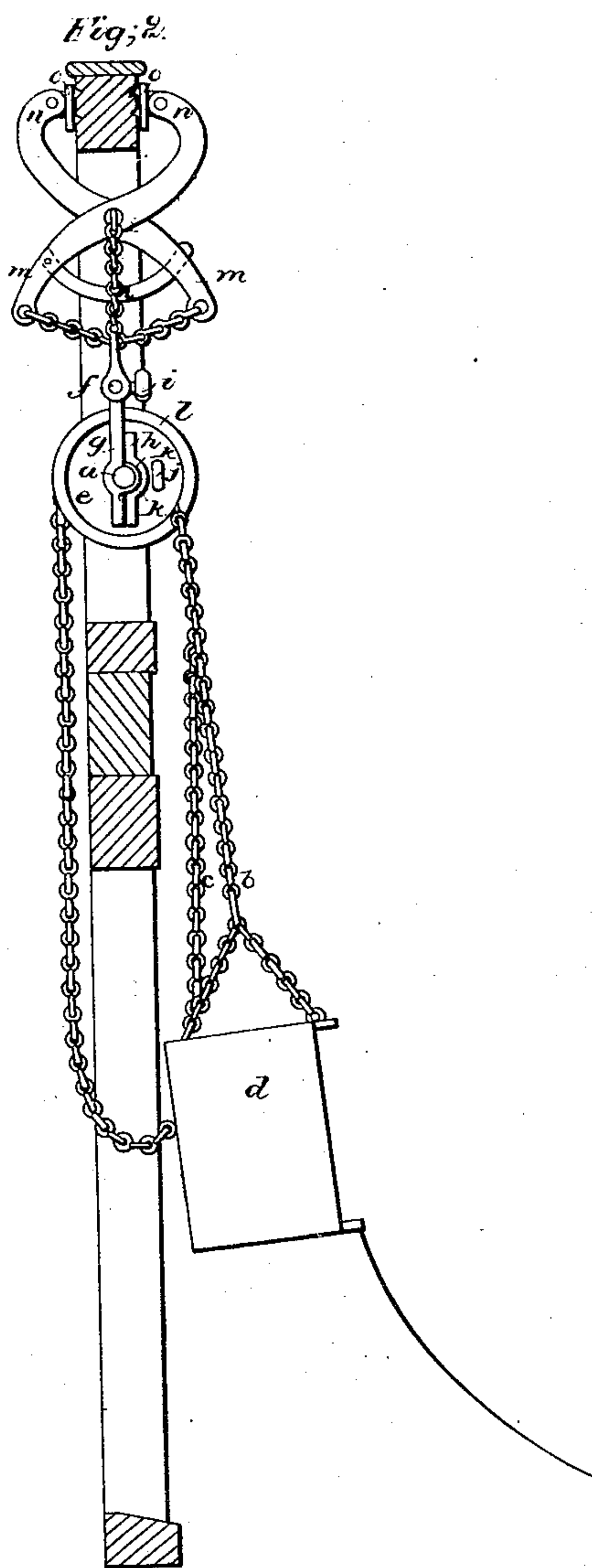


*W. B. Avery.*

*Fire Escape.*

*No 28,561.*

*Patented Jan. 5, 1860.*



*Witnesses;*  
*L. B. Crosby*  
*W. B. Avery*

*Inventor;*  
*W. B. Avery*

# UNITED STATES PATENT OFFICE.

WILLIAM B. AVERY, OF CAMBRIDGE, MASSACHUSETTS.

## FIRE-ESCAPE.

Specification of Letters Patent No. 28,551, dated June 5, 1860.

*To all whom it may concern:*

Be it known that I, WILLIAM B. AVERY, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description thereof so full and exact as to enable those skilled in the art to practice my invention.

The object of my invention is to provide means whereby persons can escape from burning buildings, when the usual outlets thereof are closed by the flames, which means are so arranged that the descent of the person is regulated by the mechanism, which can be applied for the relief of persons within a burning building by firemen, or others, from the street, or can be kept within buildings ready to be applied by the inmates thereof in times of danger.

The nature of my invention consists in the combination and arrangement of parts herein shown and described.

Figure 1 is a front view of my fire escape, shown as applied to the window of a building; Fig. 2 is a side view of the same.

Similar letters denote similar parts in the drawings.

Upon the shaft (*a*) are two reels or drums, which operate and are operated by the chains (*b*) and (*c*), the first of which supports the car (*d*) and the latter of which is continuous or endless, and designed to be of sufficient length to be reached by people in the street so as by them to re-coil the chain (*b*) upon its reel (*e*) and to elevate the car (*d*) after its descent. The shaft (*a*) is hung from the rod (*f*) by the links (*g*), which can be adjusted upon (*f*) by means of the set screws (*i*), so as to bring the car into the desired position when the whole apparatus is hurriedly fixed out of the center line of the window. At the lower ends of the links (*g*) the shaft (*a*) rotates in boxes formed in the links and by the box caps (*h*), beneath which, and operated by the screws (*j*), are

the brake caps (*k*), which can be so forced upon the shaft (*a*) by screws (*j*) as to retard the rapidity of its rotation.

The diameter of the reel (*e*) is purposely made small, while that of (*l*) is made large, so that the leverage of any weight in the car may be controlled by a brake of moderate power, and so that the car may be easily elevated by means of chain (*c*).

The rod (*f*) is suspended from the building by the double-armed grapple, which is arranged, as shown clearly in the drawings, so that increased weight and strain upon it only increase its hold upon the building, for it will be obvious that weight hung upon the chain connecting the lower parts (*m*) of the grapple will tend to bring the upper parts (*n*) thereof more nearly together.

To the upper parts (*n*) of the grapple the spurred dogs (*o*) are pivoted, by means of which the grapple accommodates itself to any inequalities of the building. The lower arms of the grapple are provided with a quadrant and set screw, by which any hold which the grapple has upon the building can be kept.

The stay chains (*r*) run to the center pin of the grapple to prevent sway of the reel gear.

The shaft (*a*) is provided with a crank by which any person can be lowered, or the car raised, by a person within the window.

The car, which is suspended by the chain (*b*), is covered with wire gauze, or with cloth chemically prepared to resist the action of the fire, an opening being left through the covering for ingress and egress. The car is also provided with a guy rope, by which it may be swung clear of projections by persons in the street, and with beackets or straps which its passengers may hold on by to prevent being thrown out. The descent of the car may be accelerated or retarded by means of the chain (*c*), acting with or without the coöperation of the brakes and the crank.

The apparatus described is designed to form part of the equipment of fire companies, by any member of which it may be



carried up a ladder and attached by means of its grapple to the walls of any building whatsoever.

What I claim is—

- 5 The combination and arrangement with a grapple constructed with pivoted holding dogs (*o o*); of the reels (*e* and *l*), when these latter are hung by a shaft (*a*) in links (*g*) adjustable in position as described, and

provided with a crank, chain (*c*) and brakes, 10 all operating to regulate and control the position and descent of the car (*d*), substantially as described.

WM. B. AVERY.

Witnesses:

W. B. GLEASON,  
A. B. CROSBY.