

J. STENDEL.  
Fire Escape.

No. 201,567.

Patented March 19, 1878.

Fig 1

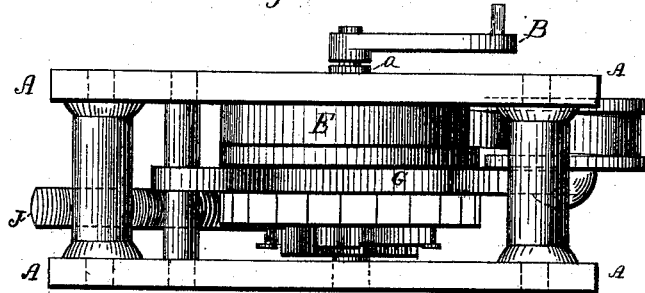


Fig 2

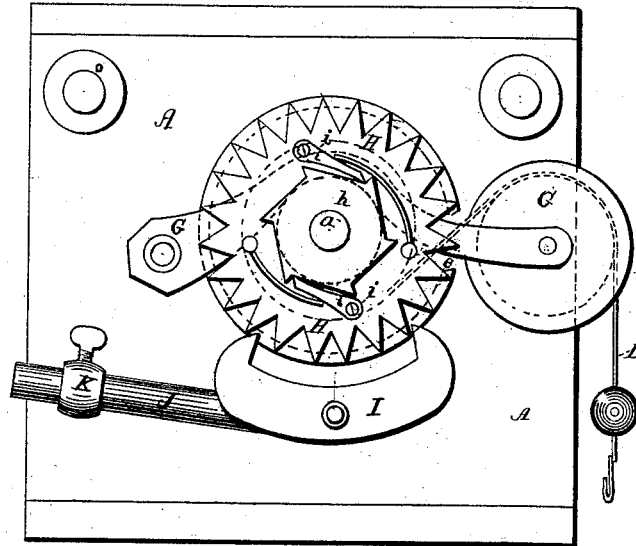
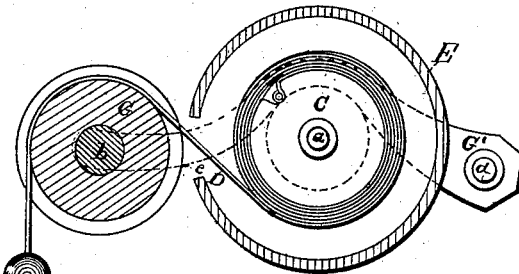


Fig 3



WITNESSES  
A. J. de Zuyk  
H. C. Kupperman.

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Jost Stengel  
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# UNITED STATES PATENT OFFICE.

JOST STENGEL, OF BIG RAPIDS, MICHIGAN.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **201,567**, dated March 19, 1878; application filed July 27, 1877.

*To all whom it may concern:*

Be it known that I, JOST STENGEL, of Big Rapids, in the county of Mecosta and State of Michigan, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a fire-escape, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my improved fire-escape. Fig. 2 is a side elevation of the same with the side plate removed. Fig. 3 is a section through the drum, showing the brake.

A represents a suitable frame-work, to be attached on the outside of a building, in close proximity to the window, either above, below, or at the side of the same. *a* is a shaft, having its bearings in the frame A, and one end thereof projecting beyond the frame for the attachment of a crank, B, to turn the same. On this shaft is secured a drum, C, to which a flat pliable band is attached and wound around the same. This band may be of any suitable length, and is to be made of metal, woven wire, or other suitable material.

The drum C is located within a casing, E, secured to one of the side pieces of the frame, and said casing has an aperture, *e*, in one side, through which the band passes out. The band passes from the drum C through the opening *e* in the casing, and over a flanged pulley, G, which is mounted on a stud, *b*, projecting from the side at one end of the lever G'. This lever is hollowed out or curved, as shown, passes over an enlargement on the shaft, and is, at its other end, pivoted by journals *d* in the frame.

It will readily be seen that if a person or other object is suspended from the end of the band D, the drum C will be turned by the weight, so as to unwind the band and allow the person or object to descend. As the band passes over the pulley G, the lever G' is, of

course, brought down upon the shaft *a*, and acts as a brake to prevent the too sudden descent of the person. The tension or pressure of this brake depends upon the weight of the descending person or object, and hence it becomes entirely self-regulating.

To still further govern speed of the descent, I place loosely upon the shaft a toothed wheel, H, connected to said shaft by pawls *i* and ratchet-wheel *h*. This wheel is intended to act as an escapement-wheel of a clock, in connection with an escapement, I, pivoted in the frame below said wheel H. This escapement is provided with an arm, J, on which is an adjustable ball or weight, K, as shown.

As the drum C is turned by the band D, the wheel H rotates with the shaft and operates the escapement, and the weighted arm acts as a pendulum or governor to regulate the speed, no matter how light or heavy the descending person or object may be.

In connection with this fire-escape I propose to use a kind of garment or harness, especially for ladies when compelled to use this fire-escape. This harness or garment is to be made of strong cloth, in the form of leggings, with armholes at the top, and a loop for hanging it on a hook at the end of the band D.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fire-escape, the combination of a drum, secured upon a shaft, a band attached to and wound around said drum, a lever pivoted at one end and passing over the drum-shaft, and a pulley mounted at the other end of the lever, and having the band passing over it, all substantially as and for the purposes herein set forth.

2. The combination of the drum C, slotted casing E, band D, flanged pulley G, lever G', the drum-shaft *a*, toothed wheel H, pawl and ratchet *i h*, escapement I, arm J, and weight K, all constructed and arranged to operate substantially as and for the purposes herein set forth.

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

JOST STENGEL.

Witnesses:

WILLIAM S. GRAY,  
C. W. NOTTINGHAM.