

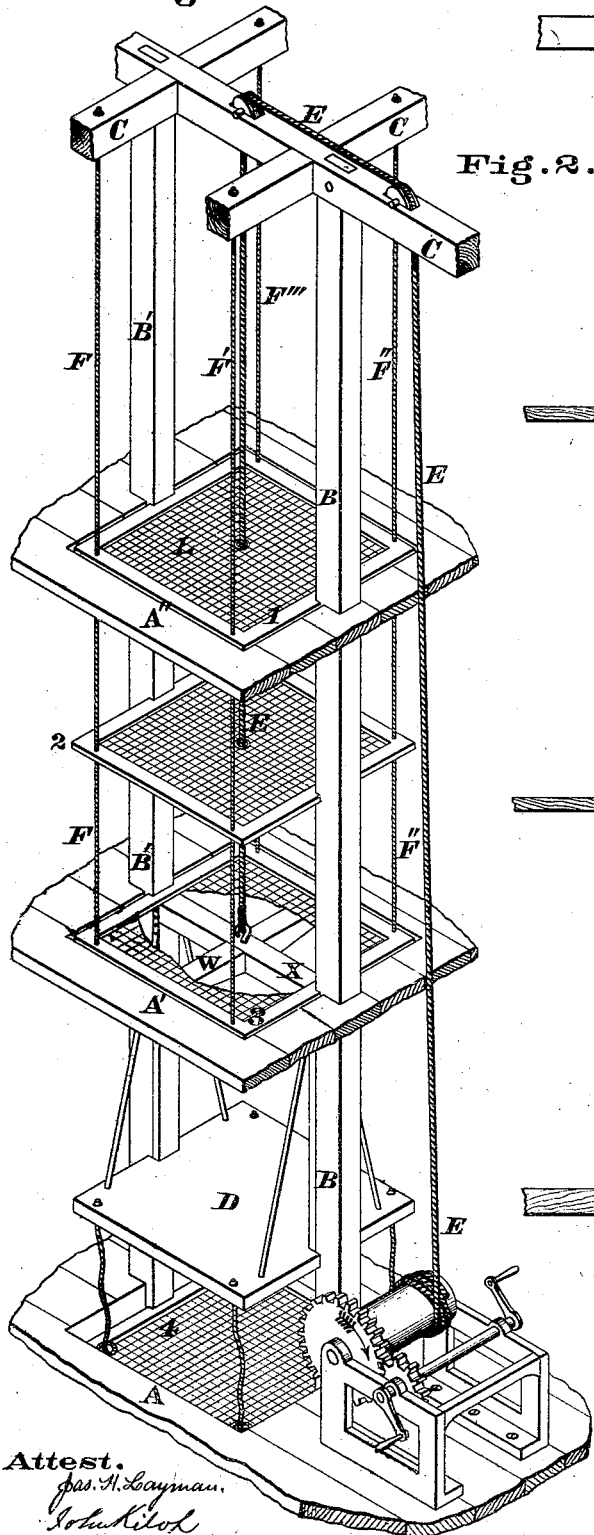
*A. Fries,*

*Hatchway.*

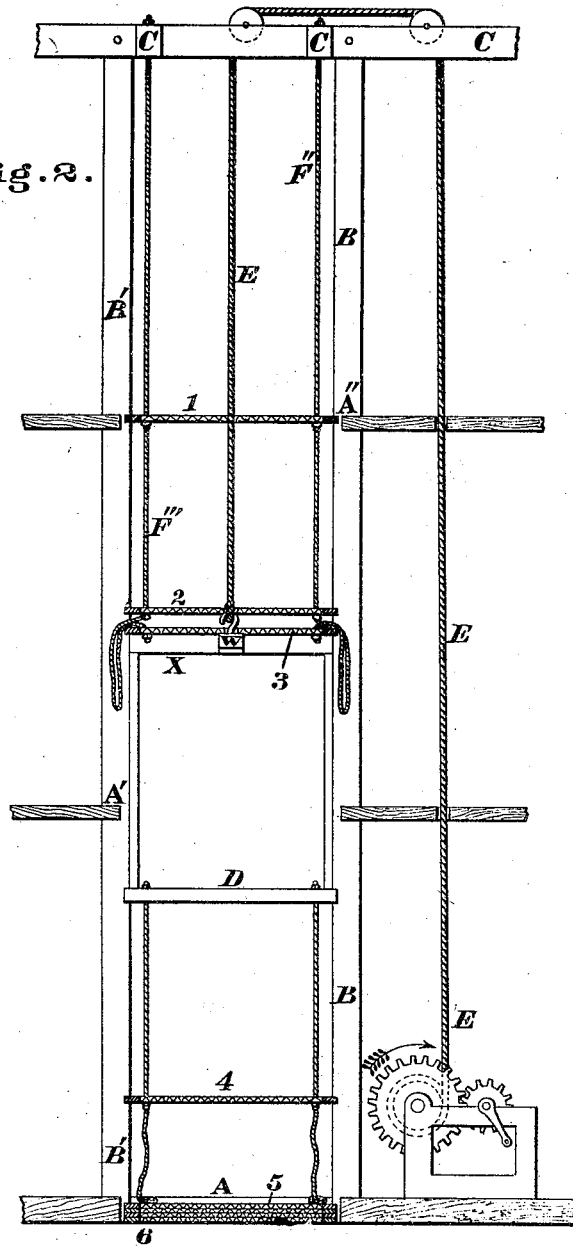
*No. 111,628.*

*Patented Feb. 7. 1871.*

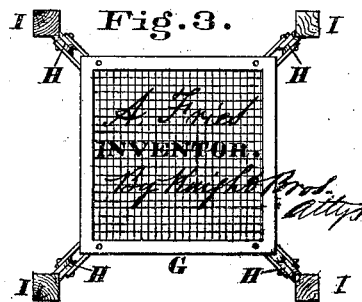
**Fig. 1.**



**Fig. 2.**



**Fig. 3.**



**Attest.**

*Gas. H. Layman.*  
*Notary Public*

# UNITED STATES PATENT OFFICE.

ALEXANDER FRIES, OF CINCINNATI, OHIO.

## IMPROVEMENT IN SAFETY DEVICES FOR HATCHWAYS.

Specification forming part of Letters Patent No. **111,628**, dated February 7, 1871.

*To all whom it may concern:*

Be it known that I, ALEXANDER FRIES, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Safety Device or Attachment for Hatchways, of which the following is a specification.

My invention relates to a device for application to hatchways, whereby the frequent loss of life and limb to persons falling down such openings is avoided; and my invention consists in the provision of a series of nets suspended in the hatchways and adapted to rise and fall with the elevation or depression of the platform.

In the drawings, Figure 1 is a perspective view of a series of hatchways provided with my improvement, a portion of the nets being broken away. Fig. 2 is a vertical section of the same. Fig. 3 is a plan showing a modification of my invention.

A A' A'' represent a series of hatchways; B B', the customary guide-posts; C, timbers at or near the top of the building; D, the platform, capable of elevation by the ordinary hoisting-rope, E, or any other means, and having a bridge, X, and cross-piece W, to lift the upper nettings, hereinafter described. The bridge X also serves for attachment of the hoisting rope or chain where one is used.

Suspended by cords or chains F F' F'' F''' from the timbers C are a series of light horizontal frames, 1 2 3, corresponding in shape and a little less in size than the openings of

the hatchways. Suspended in like manner from the under side of the platform are similar frames, 4 5 6. The central portion of each frame has a net-work filling, L, of rope or cordage.

In the modification shown in Fig. 3 the stanchions B B' are omitted and the frame G is confined to its proper path by rollers H, which traverse the posts I, located at the four corners of said frame.

Operation: As the platform ascends the nets are one by one elevated by the bridge and cross-piece X W, and the lower nets are at the same time consecutively elevated, so as always to oppose one or more guards at every hatchway, capable of breaking the fall of any person who may be precipitated down the opening.

I claim as new and of my invention—

1. The provision of one or more nets to be suspended within hatchways, substantially as and for the purpose stated.

2. The application to the hatchways of a hoisting apparatus of two series of nets, L, of which the upper ones are suspended from some point or points above the platform and the lower ones from the platform itself, substantially as set forth.

In testimony of which invention I hereunto set my hand.

ALEXANDER FRIES.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.