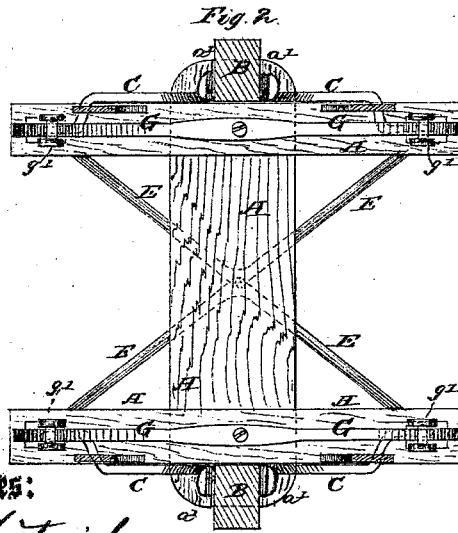
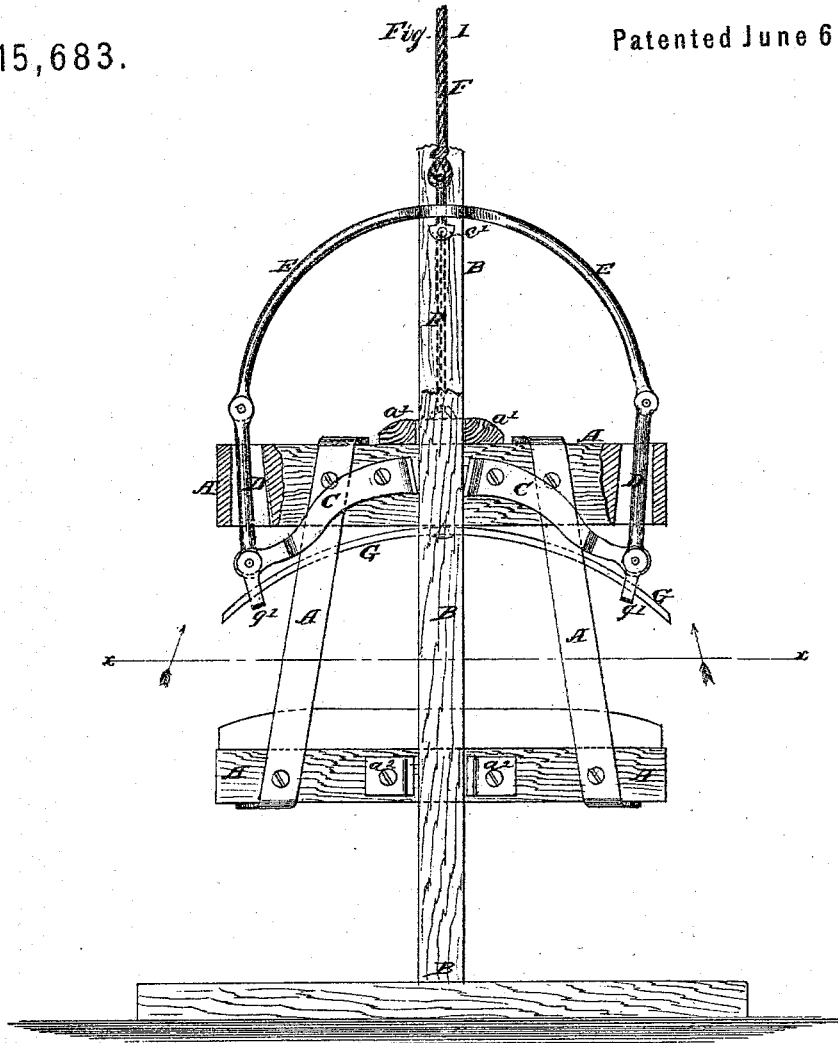


V. C. BLAIR.

## Improvement in Elevators.

No. 115,683.

Patented June 6, 1871.



**Witnesses:**

P. C. Dietrich.

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# UNITED STATES PATENT OFFICE.

VALENTINE C. BLAIR, OF WHEATLAND, PENNSYLVANIA.

## IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. 115,683, dated June 6, 1871.

*To all whom it may concern:*

Be it known that I, VALENTINE C. BLAIR, of Wheatland, in the county of Mercer and State of Pennsylvania, have invented a new and useful Improvement in Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side view of my improved elevator, parts being broken away to show the construction. Fig. 2 is a detail sectional view of the same taken through the line *x x*, and looking upward.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved safety attachment for elevators, designed more particularly for the elevators in mine-shafts, but equally applicable to elevators in storehouses and other places, and which shall be so constructed as to stop and hold the cage or platform should the hoisting rope or chain accidentally break; and it consists in the construction and combination of various parts of the apparatus, as hereinafter more fully described.

A is the frame-work of the cage or platform, which is provided with guides  $a^1 a^2$  to keep it in place upon the slides B, upon which it moves up and down. C are levers, which are pivoted to the frame-work of the cage A, one upon each side of each of the slides B, and upon the inner ends of which are formed jaws to clamp the said slides B and hold the said cage suspended. The outer ends of the levers C are bent inward, and are pivoted to the lower ends of the rods or bars D, which pass up through holes in the corners of the upper part of the frame-work of the cage A, said holes being made larger than the said bars so that the bars may work freely. The upper ends of the four bars D are pivoted to the ends of the four arms of the bow E, through the center of which the hoisting rope or chain F passes. G are springs which are attached to the frame A of the cage, and which are connected with the outer ends of the levers C by stirrups, links, or keepers  $g'$ , and which

are so arranged and made of such strength that when the strain upon the bow E is released by the breaking of the hoisting-rope or chain F they will force down the outer ends of the levers C and cause their inner ends to clamp the slides B, the weight of the cage causing the said catch-levers to clamp the said slides more firmly. The lower end of the hoisting rope or chain F is attached to the center of the central cross-bar at the top of the frame A, and is provided with a stop,  $f'$ , so arranged that when the strain is applied to said hoisting-rope the first effect will be to raise the bow E sufficiently to withdraw the levers C from the slides B. The strain will then come upon the frame A of the cage. The levers C will thus be held away from the slides B so long as the strain is upon the rope or chain F; but should said rope or chain F break, the spring G will at once apply the levers C to the slides B and stop and hold the cage.

With this device it will be impossible for the cage or platform to fall to the bottom of the shaft or hoist-way should the hoisting rope or chain break, thus guarding against the accidental falling of the cage and the consequent loss of life and destruction of property from such accidents.

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

1. The lever clamps or catches C, placed one upon each side of each of the slides B, and each provided with a spring, G, or equivalent spring, in combination with the frame-work A and slides B of an elevator or hoisting apparatus, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever clamps or catches C, springs G, pivoted bars D, four-armed bow E, and stop  $f'$  with each other and with the frame-work A of the cage or platform, and slides B, substantially as herein shown and described, and for the purpose set forth.

VALENTINE C. BLAIR.

Witnesses:

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