H. H. BLAKE.

Elevators.

No. 157,061. Patented Nov. 24, 1874.

Fig. 1

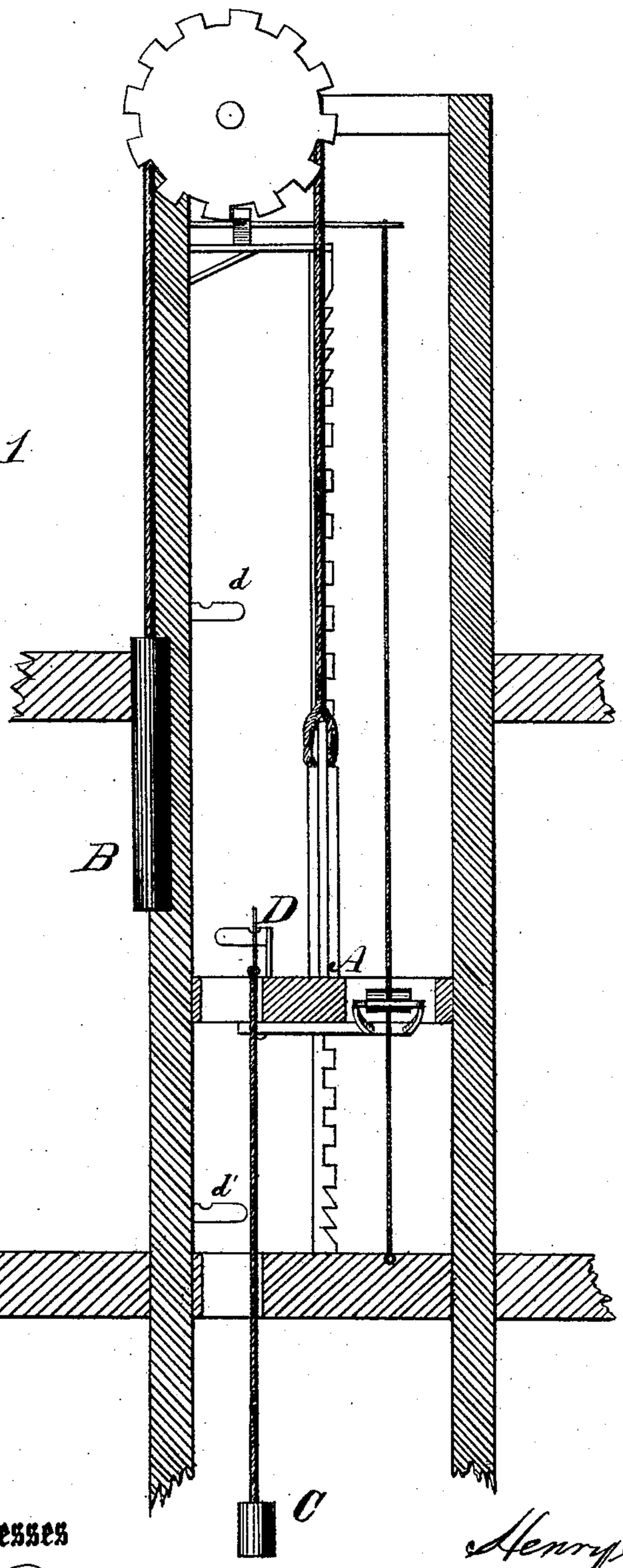


Fig. 2.

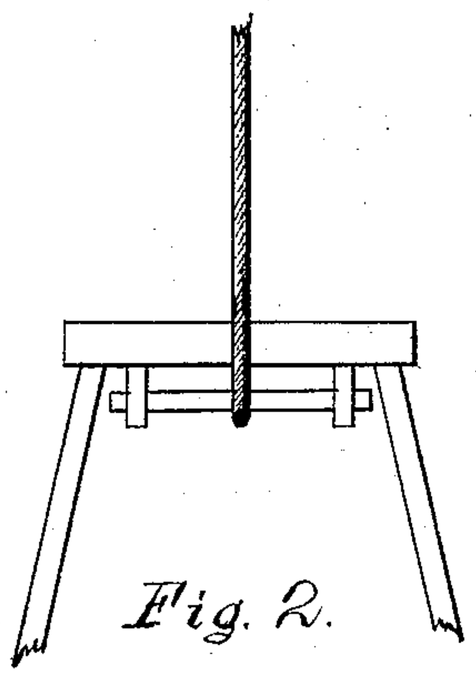
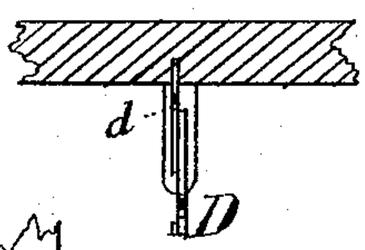


Fig. 3



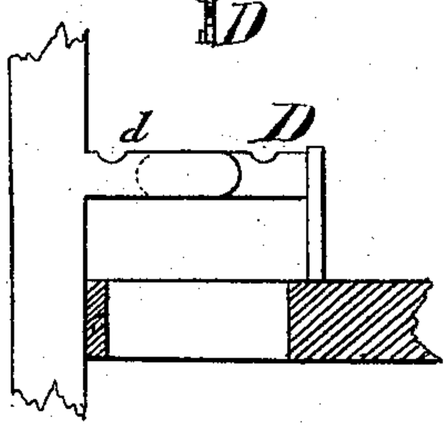


Fig 4

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY H. BLAKE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **157,061**, dated November 24, 1874; application filed October 27, 1874.

To all whom it may concern:

Be it known that I, HENRY H. BLAKE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Counterbalance-Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a sectional elevation, showing an equilibrium. Fig. 2 is an elevation of staging-top, showing safety-bar. Figs. 3 and 4 are, respectively, plan view and sectional elevation of platform and projecting horizontal arms.

My invention has relation to that class of elevators in which a counterpoise is used in connection with movable weights; and consists chiefly in the novel arrangement of the shifting weights, whereby the operation of the same is rendered convenient and easy.

At or above the level of each floor an arm projects to a suitable distance into the hatchway, or from a recess toward it. A slit in the platform permits the latter to pass the projecting arms readily. At a corresponding height on the platform an arm projects in the opposite direction from an upright on the platform, and so arranged that when the two arms are at the same level they are lapping each other partially—sufficient to make their tops on a straight line and continuous. The large counterpoise is of a weight sufficient to counterbalance both platform and shifting weight. The shifting weight is suspended by a rope, through a slit in the floor, from the arms, by a hook, eye, or roller-yoke, having a handle attached above. The shifting weight hangs into the cellar, or, by means of pulleys, above the floor.

As safety is necessary in an elevator, I hang the platform in such a manner that the suspending rope or chain shall exert its strain first upon a spring cross-bar attached under the rafters of the platform or staging. In case this should break, the rope or chain being still around the main rafter or cross-beam, holds the platform securely.

The spring-bar graduates the stopping of the motion, so as to prevent shocks.

Referring to the accompanying drawings, A is the platform of an elevator, B representing a weight equal to that of the platform and the shifting weight C, which latter is an average weight representing a passenger. As the shifting weight C in the drawing is suspended from the platform, the latter and the weight B are in equilibrium, so that a very slight force will move them either way. D is the horizontal arm on the platform, and *d d'* are the arms on the side of the hatchway, one being placed at each floor.

The method of operating is as follows: Suppose the platform is on the lower floor, and a passenger wishes to ascend. He steps upon the platform, moves the hook from the arm D to the side arm *d'*, when the elevator is in equilibrium, after which a slight pull on the propelling-rope sends him upward. On arriving he moves a similar weight from the arm *d* to the arm D, when the apparatus is again in equilibrium and ready for use. In descending the operation is reversed.

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

In combination with a counterbalance-elevator, the suspended weight C, shifting as described, permanent weight B, and horizontal arms *d*, *d'*, and D, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of October, 1874.

HENRY H. BLAKE.

Witnesses:

T. J. MCTIGHE,

PETER KREUTER.