(No Model.)

D. B. KIMBALL.

FIRE ESCAPE.

No. 342,108. Patented May 18, 1886.

Fig: 1.

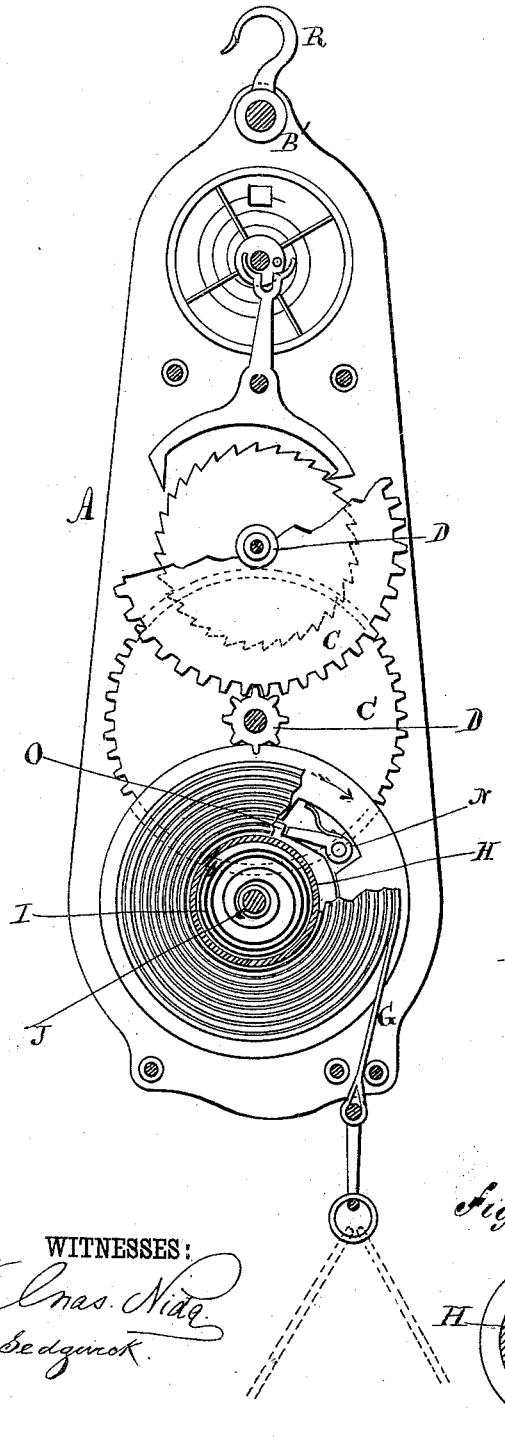


Fig: 2.

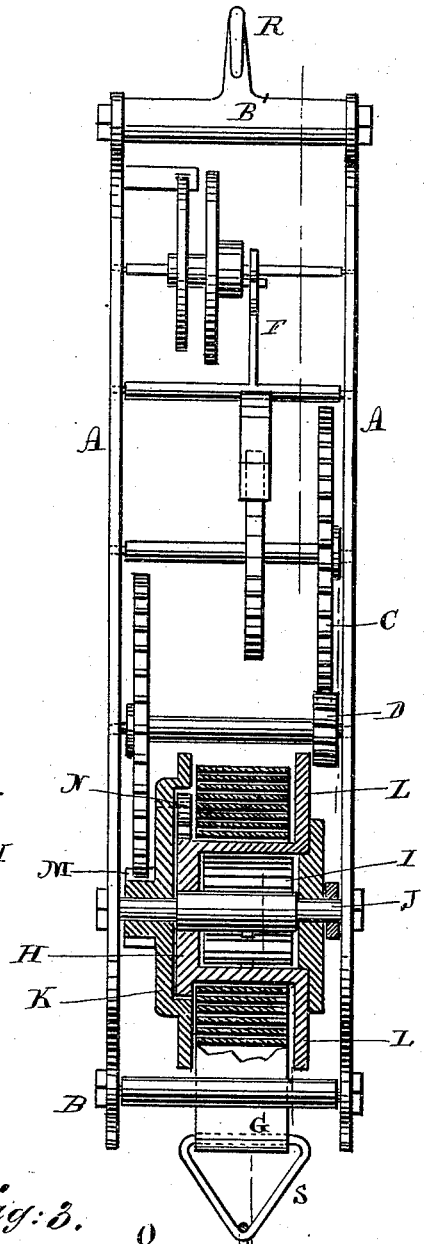
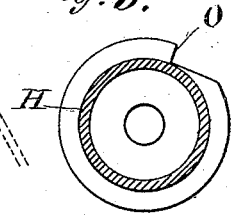


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL B. KIMBALL, OF SAN FRANCISCO, CALIFORNIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 342,108, dated May 18, 1886.

Application filed October 8, 1885. Serial No. 179,338. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. KIMBALL, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description.

This invention consists in a portable fire-escape composed of a suitable frame upon which is mounted a series of cog-wheels and a clock-escapement, to govern the speed of the escape-belt from a drum, and by which the person is to be lowered from a building.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a side elevation of the mechanism composing my improved fire-escape, one side of the frame thereof being removed to show the operating mechanism. Fig. 2 is an edge view of the fire-escape, showing the escape-belt drum and coiled spring in section. Fig. 3 is a side elevation of the notched edge of the drum around which the escape-belt is to be wound.

Figs. 1 and 2 in the accompanying drawings represent the frame of my improved fire-escape, consisting of two side plates, A, with connecting cross-bars B. Between the side plates, A, on suitable shafts supported in bearings in the frame, is arranged a series of cog-wheels, C, and pinions D, together with an ordinary clock-escapement, F, by which the speed of the escape-belt G is to be governed in being unwound from a drum, H, also mounted on a shaft in the frame A. This drum H consists of a cylinder having a recessed center, within which is placed a coiled spring, I, by the action of which the escape-belt G is to be wound on the outside of the cylinder, as shown in Figs. 1 and 2.

The drum H is mounted so as to revolve loosely upon a shaft, J, also supported in bearings in the frame A. To this shaft J is firmly secured a side plate, K, which, together with a projecting flange, L, on the drum, serves to guide the escape-belt while being wound upon and unwound from the drum and to maintain it in position thereon. The hub of this side plate, K, is formed into a pinion, M, from which motion is imparted to the system of gearing and to the clock-escape mechanism by which the belt G is to be unwound from the drum H at the required speed to lower a person from a building in safety. To the inner face of the rotating side plate, K, is secured a pawl, N, which takes into a notch, O, formed on the edge of the drum H, so that when weight is applied to the belt G the plate K will be revolved in the direction of the arrow, Fig. 1, and by means of the pinion M upon its hub will set the cog-gearing and escape mechanism in motion, and as the escape-belt G is unwound from the exterior of the drum H the coiled spring I will be wound around the shaft J of the drum, and when the belt G is relieved of its weight it will be rewound upon the drum by the action of the spring I, the pawl N riding over the notch O in the edge of the drum in an opposite direction.

To one end of the frame and to the cross-bar B′ is secured a hook, R, by which the apparatus is to be secured to any convenient object while the belt G is being unwound from the drum.

To the end of the escape-belt is secured a loop, S, to which may be attached a basket sling, or other suitable device by which a person may be supported while being lowered from a building.

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

In a fire-escape constructed and operating substantially as herein described, in combination with cog-gearing and clock-escape mechanism whereby the escape-belt is permitted to be unwound slowly from the drum H, the side plate, K, pawl N, and coiled spring I, by which the escape-belt is rewound upon the drum H independent of the cog-gearing, and escape mechanism which remains at rest during the rewinding, as set forth.

DANIEL B. KIMBALL.

Witnesses:

EDGAR TATE,

JAMES M. HENLEY.