

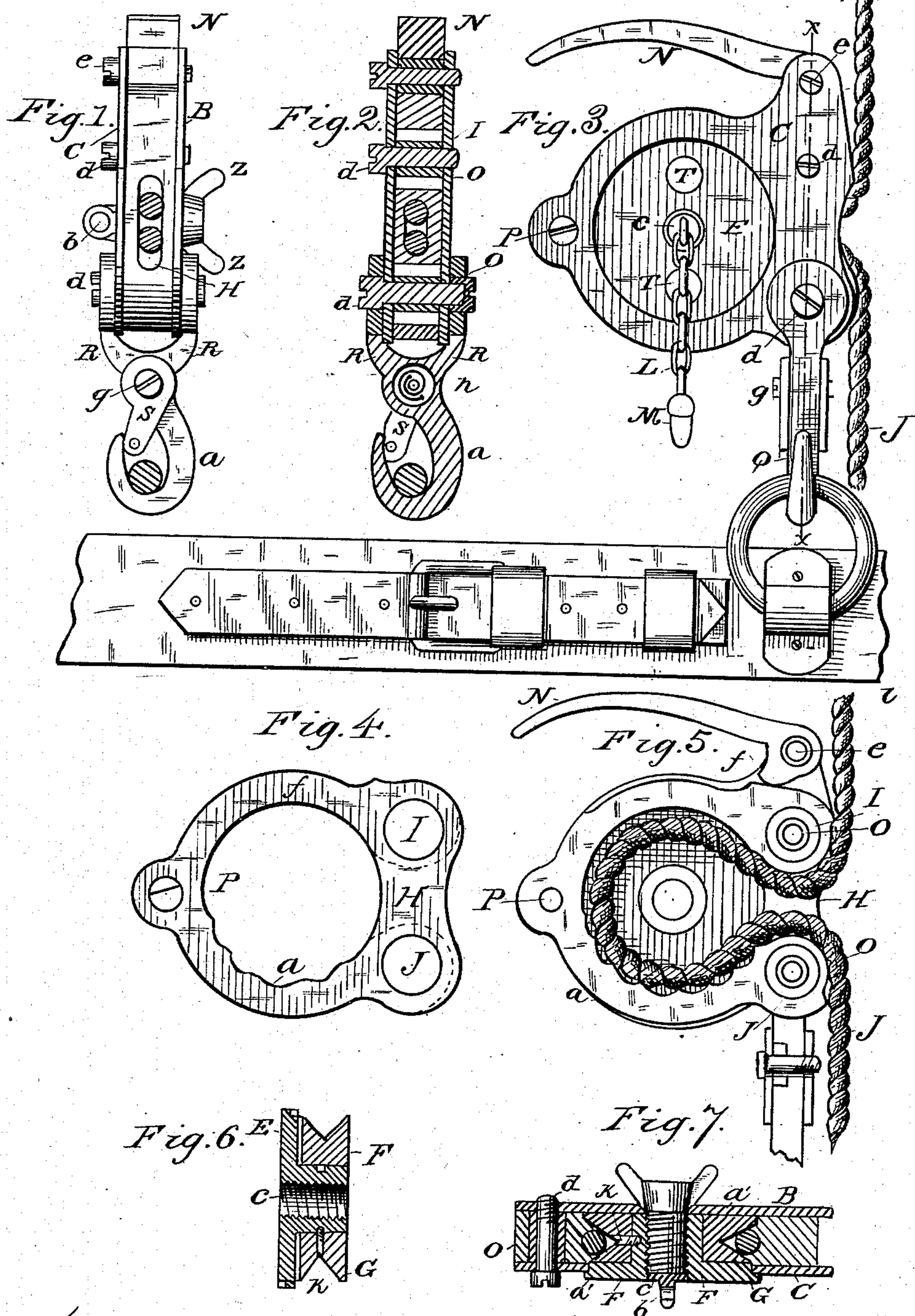
(No Model.)

L. BAUMEISTER.

FIRE ESCAPE.

No. 274,080.

Patented Mar. 13, 1883.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 274,080, dated March 13, 1883.

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To all whom it may concern:

Be it known that I, LEOPOLD BAUMEISTER, a citizen of Gaggenau, Baden, Germany, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Fire-Escapes; 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 appertains to make and use the same.

My invention relates to certain new and useful improvements in that class of devices known as "fire-escapes," and has for its object to afford such a device as shall be simple and economical, while at the same time it is especially adapted for the most trying circumstances; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter fully described, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may understand fully how to make and use my improvement, I will proceed to describe the same in detail, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of my improvement; Fig. 2, a section taken at xx of Fig. 3; Fig. 3, a side elevation, showing a belt or harness attached; Fig. 4, a plan view of the casing or shell. Fig. 5 shows the several parts in operative position, with the disk and back plate removed; Fig. 6, a central vertical section, showing the method of attaching the grooved pulley to the disk; and Fig. 7, a central vertical section through the points zz of Fig. 1.

Similar letters denote like parts in the several figures of the drawings.

A is an open casing or shell, and B C front and back plates, respectively, adapted to fit over the front and back of said casing. This casing A is serrated on the inner surface, as shown at a , Fig. 4, and has a gating, H, and openings I J therein, as will be presently explained. The back plate, C, is adapted to receive a disk, E, from the under side of which projects a cylindrical hollow interiorly-threaded barrel, F, and swiveled or otherwise secured to this barrel in such manner as to rotate freely is a

grooved pulley, G, all of which will be hereinafter fully explained.

K is a thumb-screw, having one eye, b , at the inner extremity, to which is attached a chain, L, the whole being secured through the front plate, B, and disk E by a stop, M, greater in diameter than the opening c in the disk E, and designed to prevent the chain from being pulled entirely through said opening.

N is a cam-lever pivoted through the plates B C and operating on the casing A, as hereinafter explained. Between the upper and lower surfaces of the grooved pulley G and the plate B and disk E respectively are pieces of felt, or any other suitable material, as seen at $a' a'$, Fig. 7, which serve to prevent excessive friction, which is a great hinderance in devices of this description, especially when the contiguous parts are nickel.

In assembling the several parts of my improvement I place the plates B C in a position relative to the casing A in such manner that the screws d , securing said plates, will pass through the openings I J in said casing, the effect being to allow a vibration of the casing, which of course is governed by the diameter of said openings. I preferably pass these screws d through sleeves O, placed in the openings I J, which practically increases the interior diameter of the screws, and it will be readily understood that I can limit the vibration of the casing by using a sleeve of greater or less thickness of gage. The cam-lever N is pivoted, as seen at e , in such manner that the projecting lug f will operate upon the side of the casing A so as to cause the same to vibrate, as hereinbefore set forth. The real pivotal point of said casing is at P, where the plates B C are secured together by a screw which passes through the casing snugly, so as not to admit of any play except the rotary or vibratory motion, as above set forth. The chain L, secured to the thumb-screw K, as described, is then passed through the plate B and disk E, and the stop M fastened to said chain. The device is now in a condition to be adapted for practical purposes. A rope is now inserted within the passage H and looped around and within the grooved pulley G. The latter is then placed in position within the casing, and the thumb-screw K, operating within the threaded barrel F of the disk E, thereby

firmly secures the latter to the back plate, C. The end of the rope nearest the cam-lever is secured in any way at the point from which it is desired to escape, and the other end left
5 free to dangle to the ground, as will be readily understood by reference to Figs. 3 and 5.

Q is a hook having forked projections R at its heel end, designed to extend above and below the plates B C, and fastened pivotally
10 thereto by a screw, as shown.

S is a spring-guard pivoted to the hook, as seen at *g*, Figs. 1 and 2, and which completely closes the hook-opening, and is connected with one end of a coil-spring, *h*, the other end
15 being secured to the shank of the hook in such manner that the said spring is compressed by the opening of the guard, and the latter is thereby automatic in closing. A belt or harness of any desired style or shape is secured
20 at its free end within the hook Q, as seen at Fig. 3, the spring-guard S obviating all danger of the dislodgment of said strap from the hook.

In the application of my improved fire-escape the rope is fastened at the upper end, *i*,
25 in any suitable manner, at the point from which the descent is to be made, the lower end, *j*, being left free to dangle to the ground. The belt or harness is now secured to the operator. The said belt being secured to the hook Q, the
30 weight of the operator would not of itself affect the pivoted casing A at the lower bearing around the opening J, but all the strain comes on the upper bearing at the opening I, which forces the casing upward, thereby compress-
35 ing the rope firmly between the serrations *a* in said casing and the V-groove *k* in the pulley G, and rendering it perfectly secure as against slipping. By simply depressing the lever N the cam-lug *f* acts against the casing
40 A and forces it down, thereby releasing the rope and enabling the operator to descend. It will be readily understood that the force of said bite of the serrated casing against the rope depends upon the weight attached to the
45 hook Q, so that the rope will not slip any more freely when operated by a heavy person, or when two or more are descending, while at the same time the speed of descent may be regulated by the cam-lever N, which causes the
50 serrated casing to bear more or less against the rope, and the descent ceases as soon as said lever is released.

In the disk E are holes or depressions T for the purpose of affording finger-supports, where-
55 by the said disk may be turned conveniently in assembling my improvement. It is desirable in devices of this class that the working parts are such as shall not become detached, mislaid, or lost in the manipulation, and accordingly I have secured the disk E as against
60 such displacement by means of a chain, L, and stop M.

One of the great advantages of my device is that the wear on the rope is comparatively little, since the grooved wheel G turns freely, and the serrations are not of such a nature as to cut the rope.

Prior to my invention fire-escapes of all descriptions have been in use; but the great majority of these are so complicated in their construction and adjustment as to be nearly unfit
70 for use in cases of emergency, especially when the operator is inexperienced.

No difficulty need be met with in using my improvement, since the manipulation of the
75 cam-lever is very simple and its action positive.

It will be readily understood that the serrations hereinbefore mentioned may also be cast in the groove of the pulley; but I preferably omit them, as the action of the serrations in the
80 casing is sufficiently positive.

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

1. In a fire-escape, the casing A, pivoted as
85 described, and having a vibratory motion, as set forth.

2. The casing A, pivoted as described, and having openings I J, in combination with sleeves O, through which screws *d* are passed,
90 substantially as set forth.

3. The casing A, pivoted as described, and having openings I J and serrations *a*, as set forth, in combination with lever N and pulley G.

4. The vibrating casing A, in combination with the pivoted cam-lever N, substantially as herein shown and described.

5. The disk E, having the pulley G, swiveled thereto, in combination with casing A and lever N, substantially as shown and described.

6. The disk E, with interiorly-threaded projection F, and pulley G, swiveled thereto, in combination with the casing A, having serrations *a*, and lever N, substantially as shown
105 and described.

7. The disk E, with pulley G, swiveled thereto, and adapted to be secured within the casing A and to the plate U by the thumb-screw K, and stop L, substantially as set forth.

8. The lever N, pivoted as shown, in combination with the vibrating casing A, having serrations *a*, and the pulley G, whereby the rope is confined as against slipping, substantially as shown and described.

9. In a fire-escape, in combination with the casing A B C, constructed as described, the spring *h*, secured at one end in the hook Q and at the other to the guard S, whereby the hook-opening is kept closed, as set forth and
120 described.

10. The pivoted casing A, with openings I J, serrations *a*, and gating H, in combination with the lever N and pulley G, swiveled to the disk E, substantially as hereinbefore shown and
125 described.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD BAUMEISTER.

Witnesses:

JULIUS DEISER,
RUDOLPH KOST.