

(No Model.)

K. FREEMAN.

FIRE ESCAPE.

No. 267,179.

Patented Nov. 7, 1882.

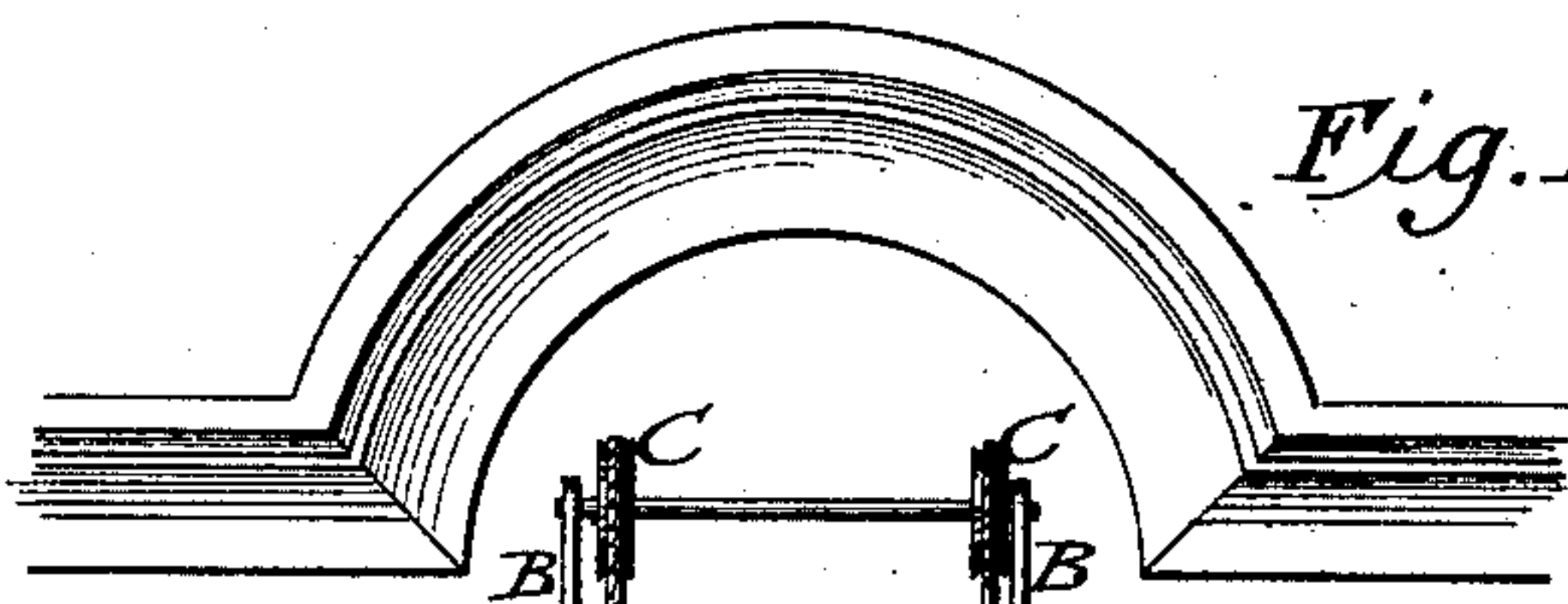


Fig. 1.

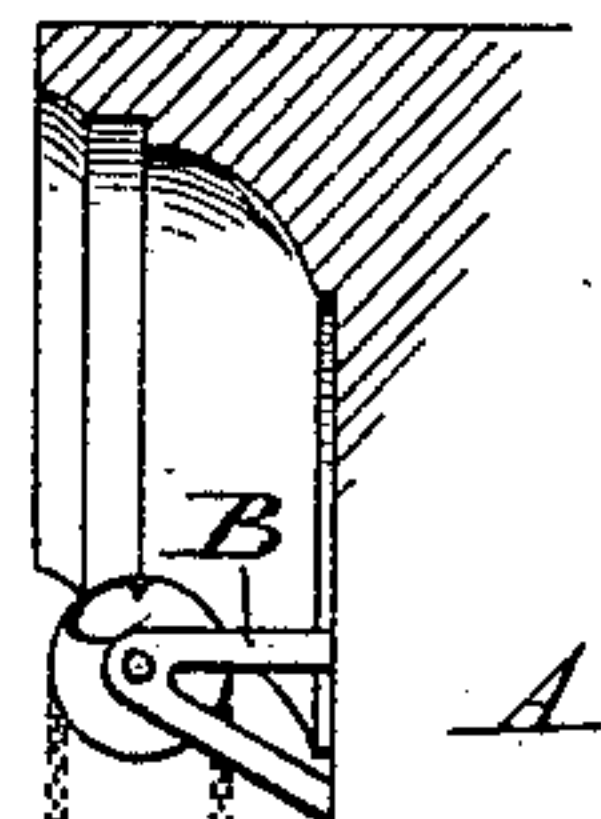


Fig. 2.

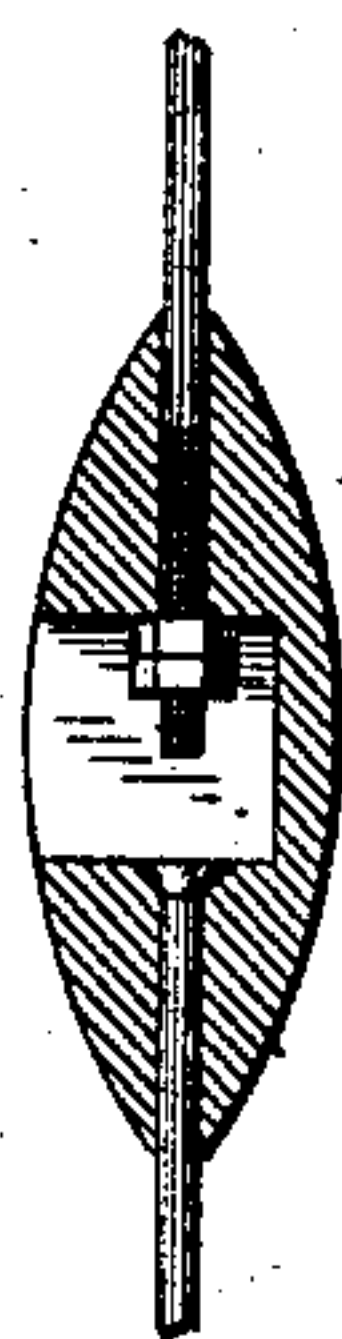


Fig. 3.

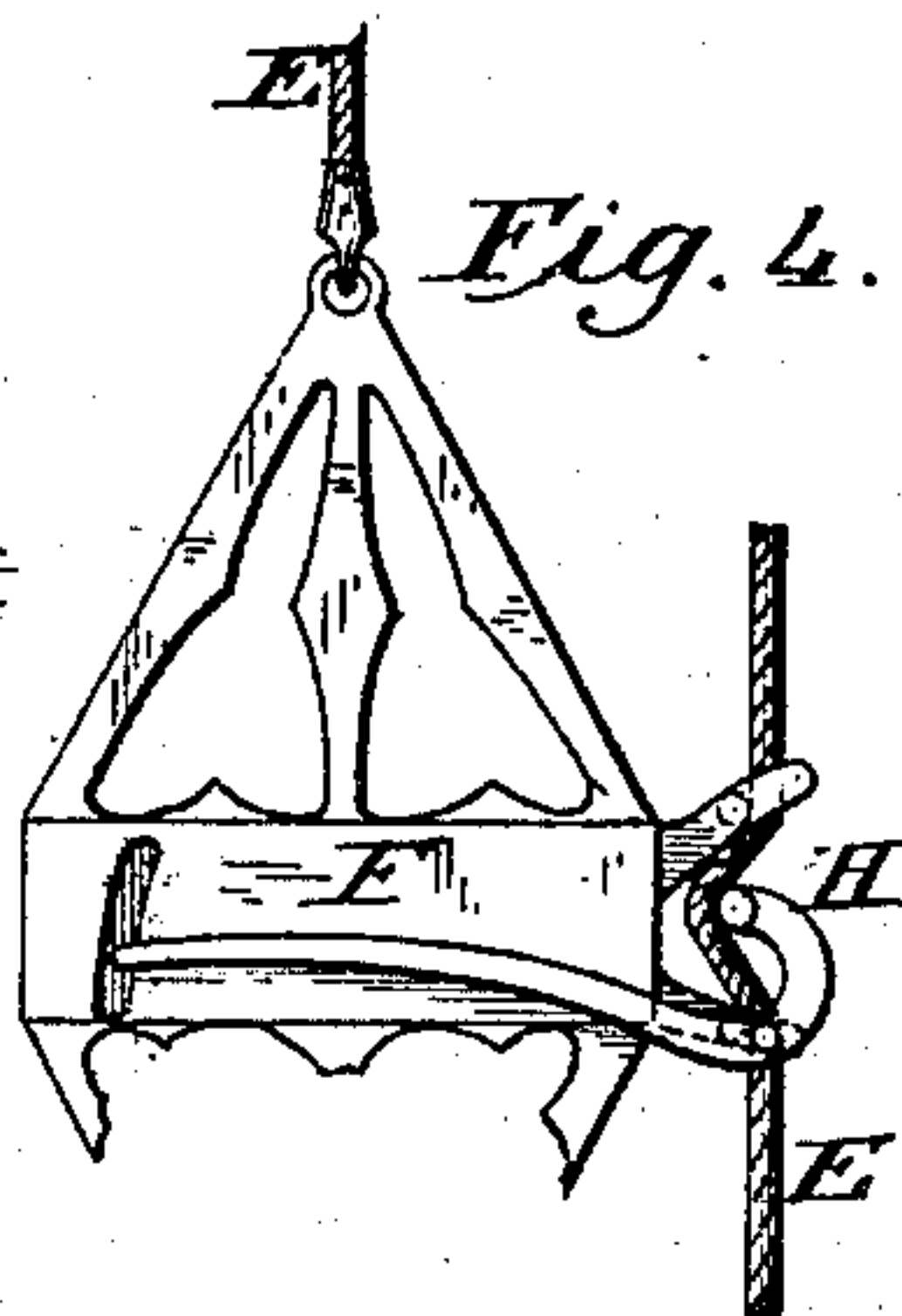


Fig. 4.

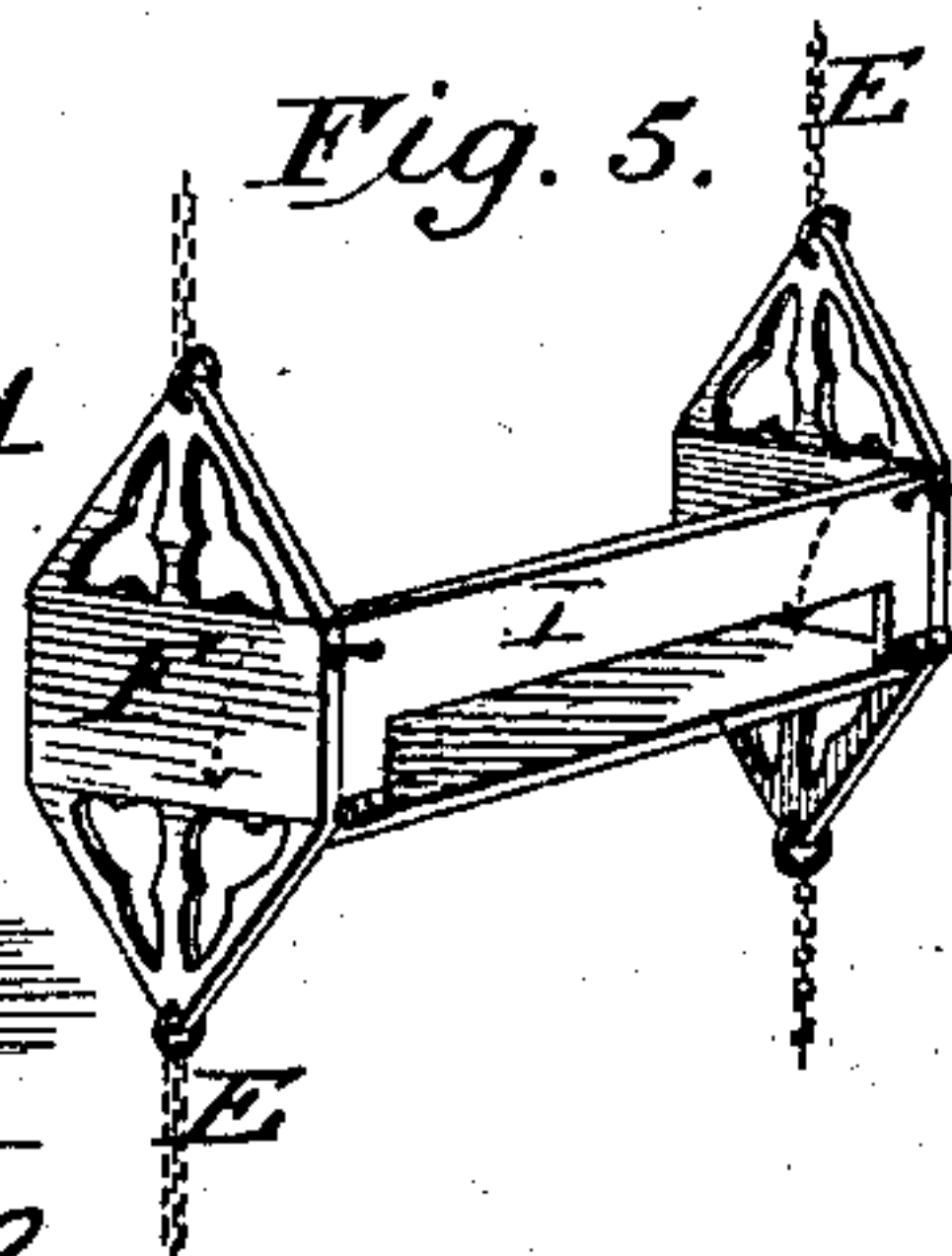


Fig. 5.

Attest.

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UNITED STATES PATENT OFFICE.

KASSON FREEMAN, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-FOURTH TO HENRY DURBIN, OF OAK CREEK, WISCONSIN.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 267,179, dated November 7, 1882.

Application filed February 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, KASSON FREEMAN, of Grand Rapids, in the county of Kent and State of Michigan, have invented certain Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to fire-escapes; and it consists in a platform or cage carried by endless chains or cables passing about pulleys at the upper and lower parts of the building, the chains or cables being provided with weights, which cause the cage or platform to ascend when empty, and which serve in a greater or less degree to counterbalance the weight of a person or article descending on the platform or cage, and cause the descent to be gradual or easy of control.

In the accompanying drawings, Figure 1 represents a face view of my improved escape applied to the front of a building; Fig. 2, a side elevation of the same; Fig. 3, a sectional view of the weight; Fig. 4, an enlarged view of the brake, and Fig. 5 an enlarged view of the cage.

Escapes have hitherto been constructed in a great variety of forms, among which may be mentioned endless chain or flexible ladders, hoists, &c. It is to this general style of escapes that my invention particularly relates.

As hitherto commonly constructed endless flexible ladders have been furnished with gearing by which to operate them, necessitating, in most instances, the services of one or more persons upon the ground to operate them, and thus greatly impairing the usefulness and efficiency of the apparatus, while hoists and like appliances have added to this objection the difficulty of causing them to ascend and descend vertically—a very serious fault, because of the danger of swinging against obstructions or into the flames escaping from windows or openings. To overcome these objections I construct my escape as indicated in the accompanying drawings, in which—

A represents a building to be protected, from the upper portion of which strong metal brackets or supports B project, as shown in Fig. 2, for the purpose of sustaining sheaves or pulleys C, which are journaled in the brackets, as shown. At the base or lower portion of the building I provide a second pair of pul-

leys, D, which may, if desired, be made vertically adjustable.

E E represent chains or wire cables passing about the pulleys or sheaves C and D, and carrying one or more platforms or cages, F, and counter-weights G, the weights being located on one side of the pulleys and the cage or platform on the other, and at such distance apart that when the platform or cage is at its highest elevation the weights will be at their lowest point, and vice versa. The weights G are made to considerably exceed the weight of the cage or platform F, in order that said platform shall be raised by them to its highest point when empty, and thus carried to a position which will render it readily available to persons in the upper stories of the building, and in order, also, to neutralize to a great extent the weight of children or of women, who, being readily excited, would be unable to control the descent of the cage by the use of a brake, or taking hold of the ascending cable, as would be done by a less excitable person. It will thus be seen that it would simply be necessary for such persons to step upon the platform or into the cage, when it would descend at a comparatively slow rate and carry them safely to the ground. The weights are pointed at both ends, as indicated, in order that they may freely ride over any obstructions met with, and may also be made to act as tighteners for the cables which pass through their ends, as shown in Fig. 3, by providing one end of the cables with a threaded section and placing a nut thereon, as shown, so that by turning the nut the cable can be taken up or let out.

In practice I prefer to provide a brake, H, to regulate the descent of the cage or platform, and this brake may be applied near the ground to be operated by persons below, or to the cage, as in Fig. 4, to be controlled by persons therein. The construction of the brake is not important, but may be varied. A cramping device such as shown in Fig. 4 will be found to answer well.

The cage or platform may be made quite ornamental, and either formed with a roof to it or a small projecting roof or cover may be built to protect it at the top of the building, as indicated and as will be preferred.

It will be observed that the cage may be

raised, lowered, and controlled by persons therein, on the ground, or at the windows of the building by taking hold of the cables.

5 The cage will be made of fire-proof material, and is furnished with a guard or fender, I, on its outer side, cut away at the lower edge and hinged at the floor of the cage, as shown in Fig. 5, whereby it is adapted to fold down upon the floor when not in use to render the cage neater and more sightly in appearance, 10 the cut-away portion permitting the legs of passengers to be thrust out and to hang over the edge while the guard prevents all danger of falling out.

15 Ordinarily I prefer to apply the weight to one cable only, especially when a brake is applied to the cage or platform, though by simply arranging the cable to bear against supports or arms on the cage at one side and to be borne against by a lever on the opposite 20 side a proper movement of the lever will afford a free passage of the weight.

If desired, a special cable may be employed for the brake, though ordinarily this additional 25 expense will be unnecessary, the main cables being sufficient.

I do not broadly claim a counterweighted cage adapted to automatically ascend, nor do I claim the application of a brake thereto.

Having thus described my invention, what 30 I claim is—

1. The herein-described fire-escape, consisting of pulleys C D, cage or platform F, endless cables E, and weight G, applied directly to said cables and adapted to automatically 35 elevate the cage, all combined and operating as set forth.

2. In combination with a fire-escape cage and its supporting-cable, a counter-weight, G, having its ends pointed, as shown and de- 40 scribed, whereby it is adapted to ride over obstructions, as set forth.

3. The cage F, provided with guard I, hinged at its lower edge and cut away, as shown and described, for the purpose specified.

KASSON FREEMAN.

Witnesses:

WILLIAM W. DODGE,
WALTER S. DODGE.