

(No Model.)

W. BOURDON.
FIRE ESCAPE.

No. 553,183.

Patented Jan. 14, 1896.

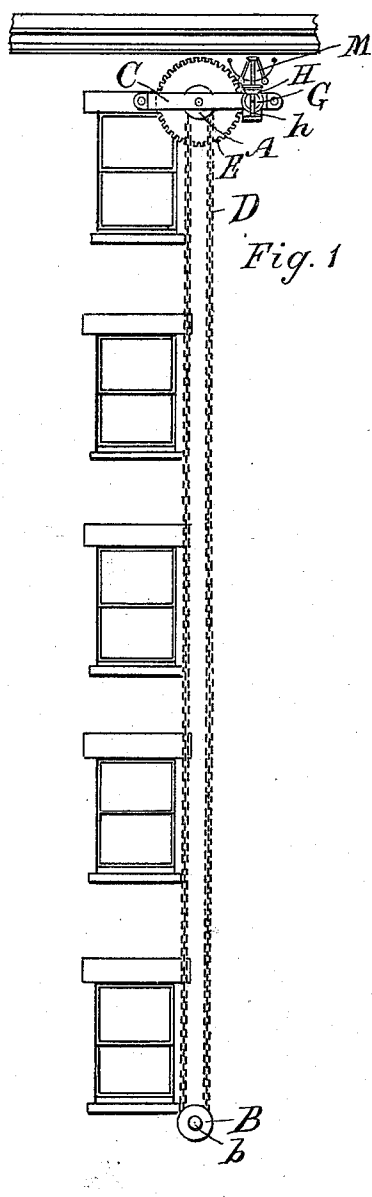


Fig. 1

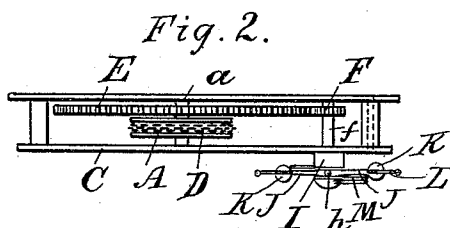


Fig. 2.

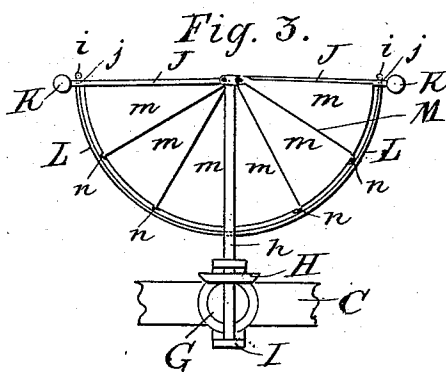


Fig. 3.

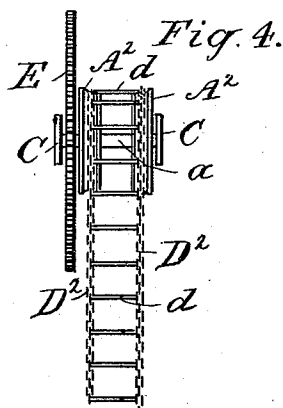


Fig. 4.

Witnesses:

Jos. Matte
K. Stringer.

Inventor,

W. Bourdon.
Per J. Coursole
Atty

UNITED STATES PATENT OFFICE.

WILBROD BOURDON, OF VALLEYFIELD, CANADA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 553,183, dated January 14, 1896.

Application filed July 2, 1895. Serial No. 554,681. (No model.)

To all whom it may concern:

Be it known that I, WILBROD BOURDON, a citizen of Canada, residing at Valleyfield, in the county of Beauharnois and Province of Quebec, Canada, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to that class of fire-escapes that is adapted to be fixed on the wall of a building near a vertical row of windows, so as to be within reach of the occupants of each flat; and it consists of an endless chain passing over grooved pulleys at the ground and at the top of the building, and means for regulating the speed of the chain when any person or persons are descending.

In the drawings, Figure 1 is a front view of my device secured to a building. Fig. 2 is a top view of the same. Fig. 3 is a detail view of the governor on a larger scale. Fig. 4 shows a modification of the device.

A and B are two chain-pulleys. The upper one, A, has its axle *a* journaled in a frame C secured to the wall of the building, preferably above the top window, and the lower one, B, is journaled on a stud *b* secured in the wall of the building near the ground, and an endless chain D travels over these pulleys, which are so located that one side the chain passes in front or close to the side of a vertical row of windows.

The operation of the device as far as described is: A person desiring to escape from any of the windows grasps the chain and by gravitation comes to the ground. Belts and hooks may be used, the hooks hooked into the links of the chain.

In order to regulate the speed of the descent I use the following device: On the axle *a* of the upper pulley, A, is secured a large gear-wheel E. This gear-wheel meshes with a pinion F and an axle *f* journaled in the frame C. This axle *f* passes through the front of the said frame and has a bevel gear-wheel G secured on its outer end, which gears into an-

other gear-wheel H on a vertical shaft *h*, journaled in a bracket I secured to the frame C. To the upper end of the vertical shaft *h* two arms J are pivoted on opposite sides of the said shaft, carrying weights or balls K at their free ends. Segmental guides L are secured to the shaft *h* near its lower end and pass through perforations *j* in the arms J, terminating in stops *i*. A folding fan M, consisting of several wings *m*, is operated by each of the arms J. There may be three or more wings *m* in each of these fans, the lower one being secured to the shaft *h*, the upper one secured by one end to the arm J and at the top pivoted on the pin pivoting the said arm J to the vertical shaft. The intermediate wing or wings are all pivoted at the same place. All the said wings have hooks *n* at their lower corners adapted to engage each other when the fan is expanded, and to be disengaged when the fan is closed. These fans constitute a governor or regulator to the speed of the chain.

When one person is descending on the chain the fans are partially expanded, but if several persons are descending at the same time the balls on the arms assume a nearly horizontal position, which expands the wings to the full extent and thereby checks the rapidity of the descent.

In Fig. 4 two chain-pulleys A² are shown secured on the axle *a* and placed a little distance apart. Over these pulleys pass the two endless chains D² which are connected by the rods *d*. In this figure only the top part of the chain is shown. Of course it will be understood that there will be two pulleys B on the stud *b* when this arrangement is used. The object of these rods is to provide a foot and hand hold for a person escaping from the building.

I claim as my invention—

1. In a fire escape the combination with the pulley A, the axle *a* suitably journaled, of the gear wheel E secured on the said axle, the pinion F gearing with the said gear wheel, a bevel gear wheel G secured on the axle of the said pinion, the bevel gear wheel H operated by the said wheel G, the vertical shaft

h carrying the said bevel gear wheel *H* at its lower end, the weighted arms *J* pivoted at the upper end of the said shaft *h*, and the folding fans *M*, substantially as set forth.

- 5 2. In a fire escape, the combination with an endless chain and pulley therefor, of a governor geared to said pulley, and consisting of weighted arms pivoted to a rotary shaft,

said arms having secured thereto folding fan like wings, substantially as set forth.

Signed at Valleyfield this 15th day of May, 1895.

WILBROD BOURDON.

In presence of—

R. S. JORON,

O. LABERGE.