

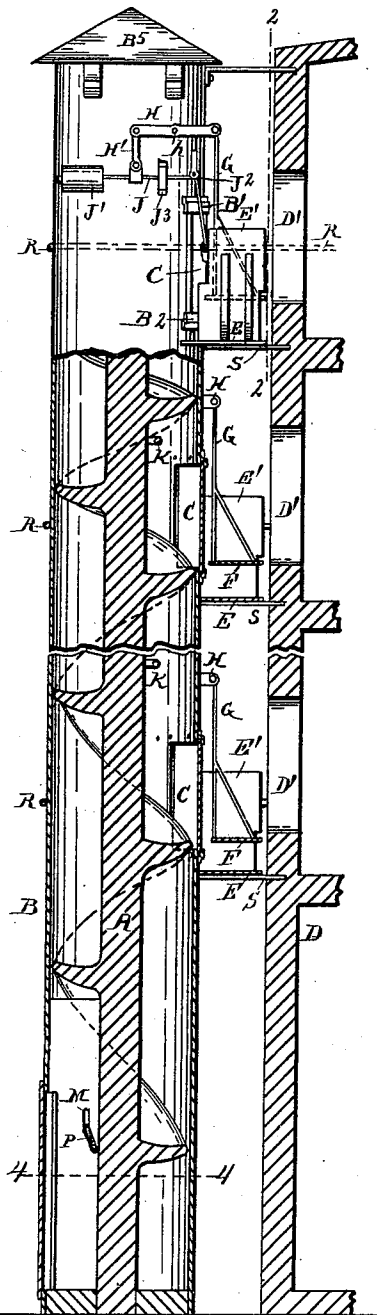
(No Model.)

2 Sheets—Sheet 1.

T. LEMOND.
FIRE ESCAPE.

No. 538,333.

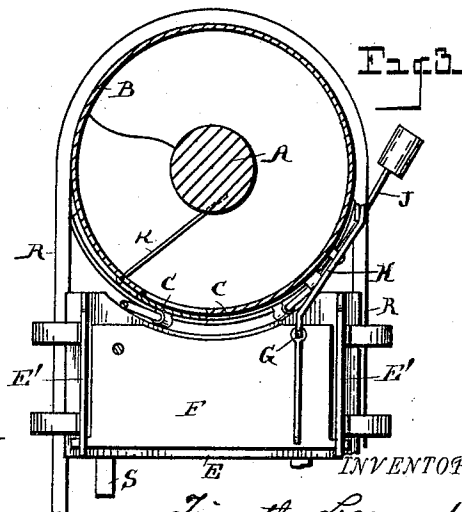
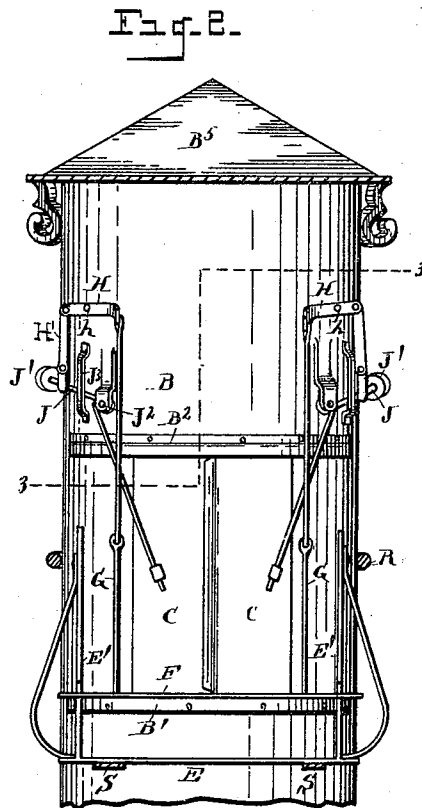
Patented Apr. 30, 1895.



WITNESSES

O. F. Benziger.

M. A. Martin



INVENTOR

Timothy Leonard

By his Attorney

Newell S. Wright

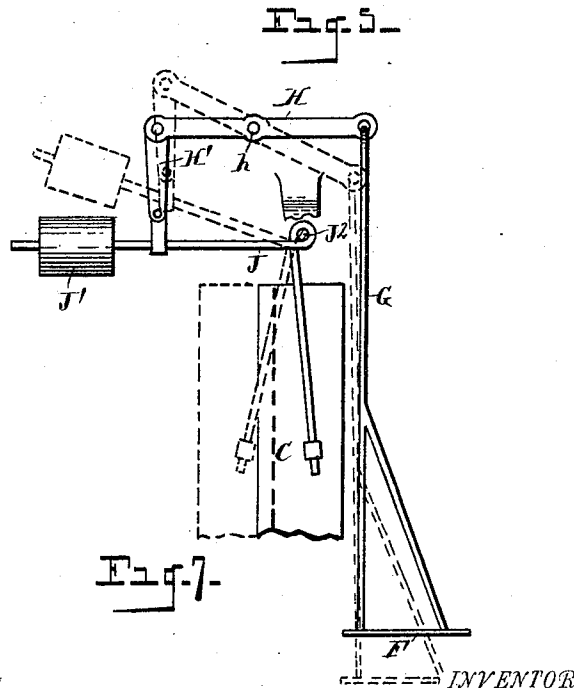
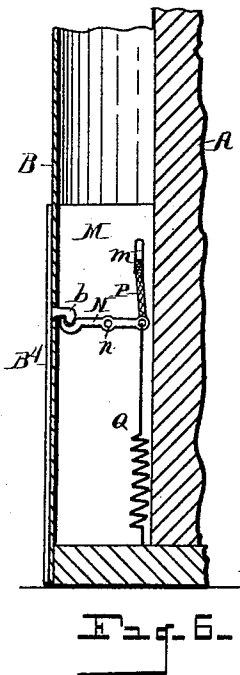
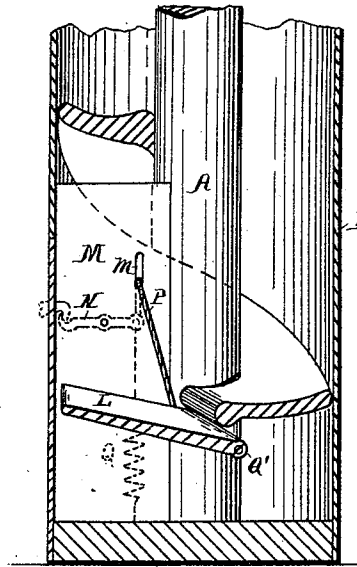
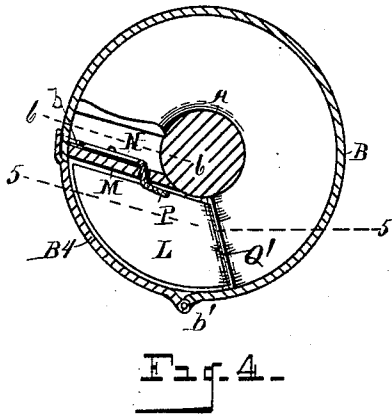
(No Model.)

2 Sheets—Sheet 2.

T. LEMOND.
FIRE ESCAPE.

No. 538,333.

Patented Apr. 30, 1895.



WITNESSES

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UNITED STATES PATENT OFFICE.

TIMOTHY LEMOND, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
WILLIAM LEMOND AND EDWARD LEMOND, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 538,333, dated April 30, 1895.

Application filed December 15, 1894. Serial No. 531,900. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY LEMOND, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Fire-Escapes; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention has reference to an improved fire escape, and it consists of the construction, combination and arrangement of devices hereinafter specified and claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a view partly in side elevation and partly in vertical section. Fig. 2 is an enlarged view of a part of the structure in front elevation. Fig. 3 is a cross section on the line 3 3, Fig. 2. Fig. 4 is a horizontal section on the line 4 4, Fig. 1. Fig. 5 is a vertical section illustrating parts of the mechanism on the line 5 5, Fig. 4. Fig. 6 is a similar view on the line 6 6, Fig. 4. Fig. 7 is an enlarged view in detail, of the lever mechanism for operating one of the sliding doors.

My invention has for its object a fire escape of superior efficiency, utility, and safety, which may be permanently placed adjacent to a building and made accessible therefrom.

I carry out my invention as follows:

An essential feature of my invention is a spiral run way or shaft A inclosed in a surrounding case B. The spiral shaft or run-way A may be made of wood or of other suitable material, while the case B I prefer to make of sheet metal arranged in tubular form about the run-way A. The case B at the several stories of the building adjacent to which the escape is located is provided with sliding doors C C, Fig. 2 showing the same in front elevation. These doors C C are to be arranged adjacent to a window or door in the adjacent building, D representing an adjacent building and D' window openings therein. Below the window opening my invention contemplates locating a fixed platform E pro-

vided with upwardly extending guards or railings E' E'. Above the fixed platform E is a vertically movable platform F. The movable platform F is guided in its vertical movement by the guards or railings E'.

It will be understood that there is a movable platform adjacent to each window.

G G indicate connecting rods engaged at their lower ends with the movable platform, the upper ends of the rods having a jointed engagement with a lever H fulcrumed upon the case B, as shown at h.

J is a bell crank lever provided with a weight J' on one arm thereof, the extremity of the other arm being engaged with one of the doors C. This bell crank lever J is fulcrumed, as at J², intermediate its ends. The weighted arm is connected with the lever H by a connecting rod H' at the end opposite the connection of the rod G with the lever H. J³ is a guide bracket to hold the bell crank J adjacent to the case B. The case B is provided with tracks B' B² in which the doors C C travel. The case B being tubular, the doors C C and tracks B' and B² are obviously of corresponding form. Each of the doors C is connected with a bell crank J connected with a rod G by intervening toggle lever mechanism as above described. The sliding platform F is normally so located that a person wishing to enter the escape on stepping out of the window opening D' must first step upon the movable platform F. By so doing, their weight will cause the platform to descend, thereby pulling downward the corresponding ends of the levers H, raising the weighted arm of the bell cranks J and causing the doors C C to slide back into an open position, thereby permitting entrance on to the run-way A within the case B. When a party has stepped from the sliding platform F on to the run-way, the weighted arms of the bell cranks J will automatically close the corresponding doors C C. This operation will be repeated as often as a party steps from the window opening upon the sliding platform and enters the case B upon the inner run-way A. Once upon the run-way within the case B the party will readily descend to the base of the runway.

A hand rail or rod K extends from the shaft of the runway A to the case B adjacent to the doors C C upon which a party may lay hold on entering the case B. Once upon the runway the party will slide down as on a toboggan slide, but in safety.

At the base of the case B and at the foot of the runway A, I locate a spring platform L, adjacent to which is a door B⁴ arranged to be automatically opened by the weight of the party on the spring platform L. This may be accomplished in any suitable manner within the scope of my invention. As shown, the door B⁴ is provided with a catch b projecting within the case B, the door B⁴ being hinged at the opposite side as shown at b'. Between the central shaft of the runway A and the case B at the lower end of the escape, I prefer to locate a partition M, upon one side of which is a latch N fulcrumed as at n upon the partition, one end of the latch engaging the catch b. With the opposite end of the latch N I engage a cord or cable P extending through a slot m in the partition M, the cable being connected at the opposite end with the platform L. A spring Q is also connected with the arm of the latch N opposite the catch b. This construction it will be evident, gives a spring tension upon the platform L which has a jointed engagement at its inner end with the case B and runway A, as indicated at Q'. It will also appear that the weight of a party upon the platform L will throw downward the arm of the latch N adjacent to the catch b and out of engagement with said catch, permitting the door B⁴ to open automatically. The fastening and unlocking mechanism of the door B⁴ being on the inside of the escape cannot be tampered with. The case B is provided with a suitable covering at the top as indicated at B³ to protect the interior. The escape may be held in place adjacent to the building in any suitable manner, as by rods or bails R passed about the case B and joined in any suitable manner to the building. Beneath the stationary platform E also, I locate supporting bars S S connected

at one end to the building and at the opposite end to the case B.

The construction and operation of my improved fire escape will now be understood.

What I claim as my invention is—

1. In a fire escape the combination of a spiral runway, an inclosing case provided with doors to permit access through the case upon the runway, and a movable platform engaged to open the doors when the platform is forced downward, substantially as set forth.

2. In a fire escape, the combination of a spiral runway, an inclosing case provided with sliding doors to permit entrance through the case upon the runway, a weighted bell crank lever engaged with each of said doors, and a sliding platform connected with said bell crank lever whereby a weight upon the sliding platform will open the corresponding doors, substantially as set forth.

3. In a fire escape, the combination of a spiral runway, an inclosing case, doors of admission into said case, a fixed platform adjacent to said doors, and a movable platform above the fixed platform engaged to open the doors when the movable platforms are forced downward, substantially as set forth.

4. In a fire escape the combination of a spiral runway, an inclosing case, doors of admission therein, a movable platform adjacent to the doors, weighted bell cranks connected with the doors, toggle lever mechanism connected with the weighted bell crank and rods connecting the platform with the toggle lever mechanism whereby the doors will be opened when the platform is moved downward and whereby the platform will be raised to normal position and the doors be closed automatically when the platform is free to rise, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

TIMOTHY LEMOND.

Witnesses:

O. B. BAENZIGER,
MARY A. MARTIN.