

M. S. FINKELSTEIN.

FIRE ESCAPE.

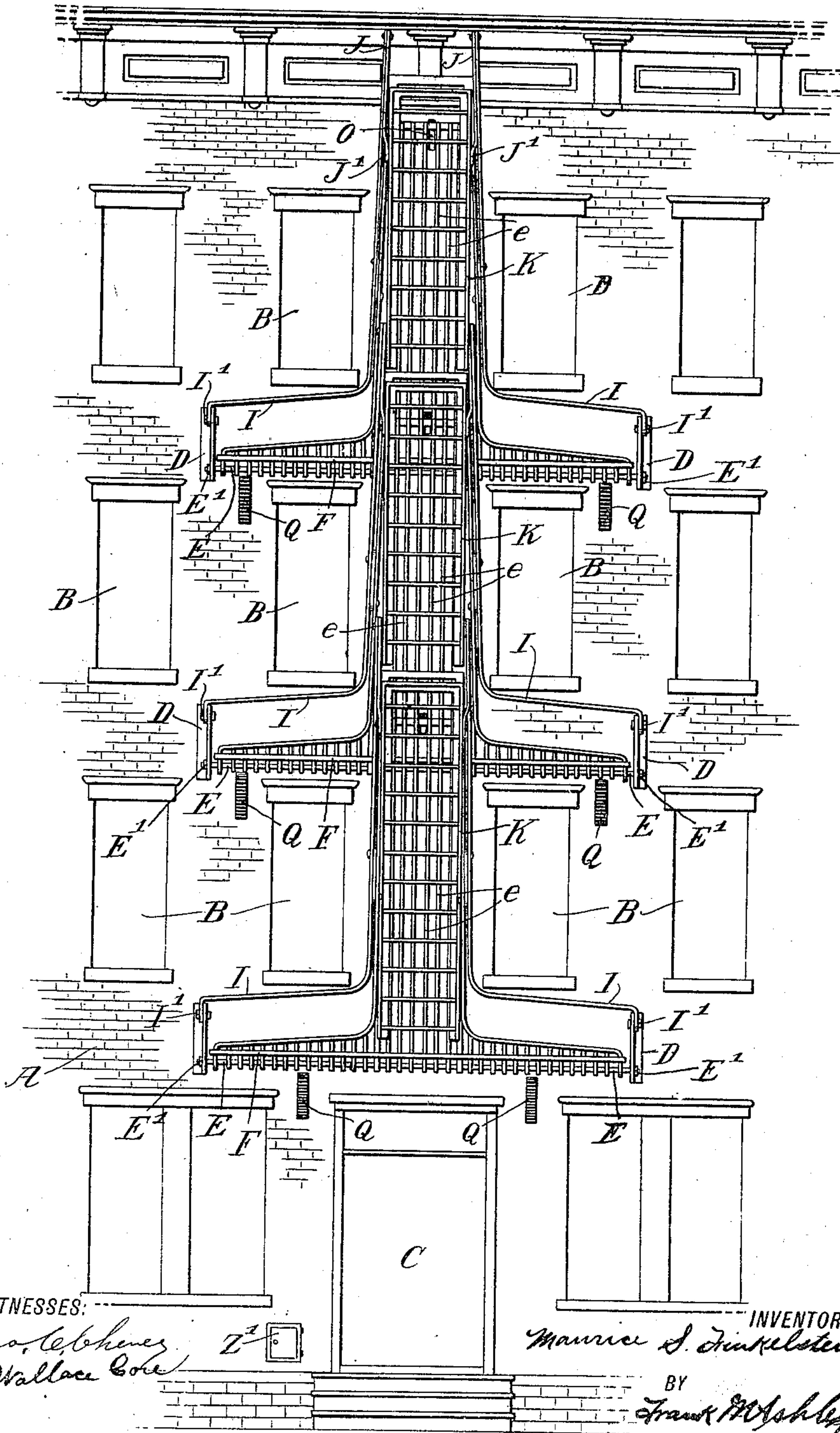
APPLICATION FILED JULY 9, 1908.

974,781.

Patented Nov. 8, 1910.

6 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

Geo. C. Chumey
W. Wallace Gore

Z'

INVENTOR

Maurice S. Finkelstein

BY

Frank M. Ashley
ATTORNEYS

M. S. FINKELSTEIN.

FIRE ESCAPE.

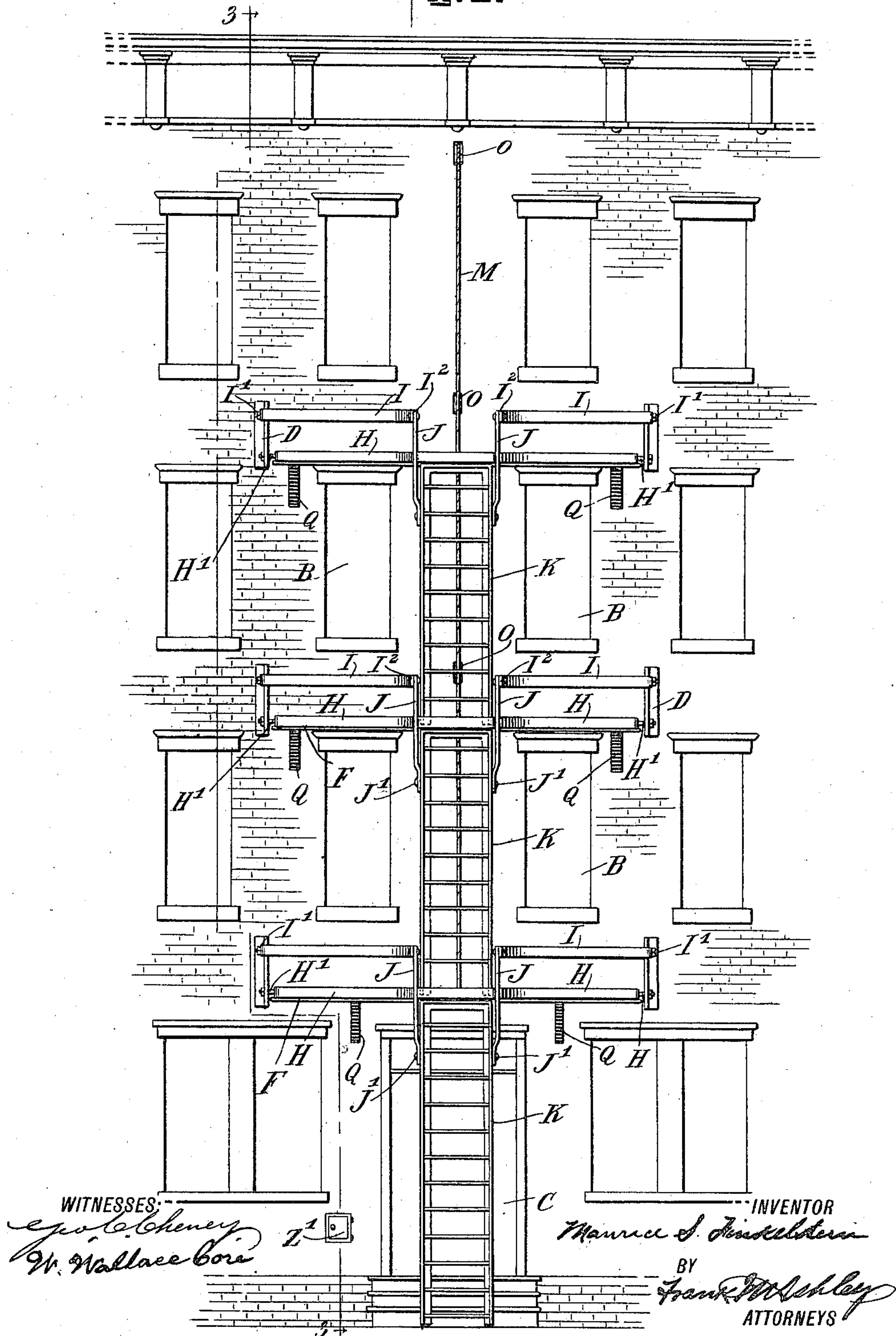
APPLICATION FILED JULY 9, 1908.

974,781.

Patented Nov. 8, 1910.

5 SHEETS—SHEET 2.

Fig. 2.

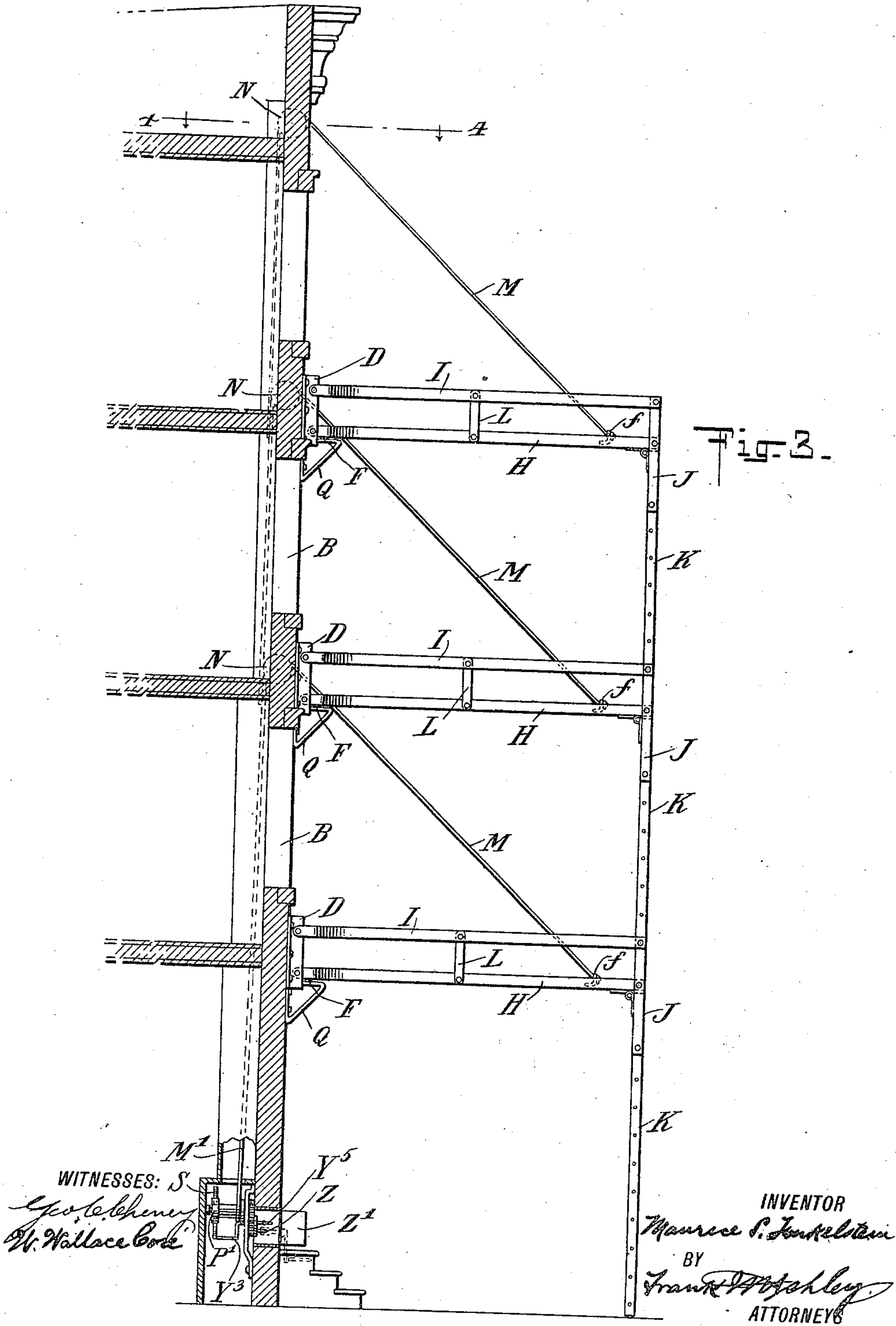


974,781.

M. S. FINKELSTEIN.
FIRE ESCAPE.
APPLICATION FILED JULY 9, 1908.

Patented Nov. 8, 1910.

5 SHEETS—SHEET 3.



M. S. FINKELSTEIN.

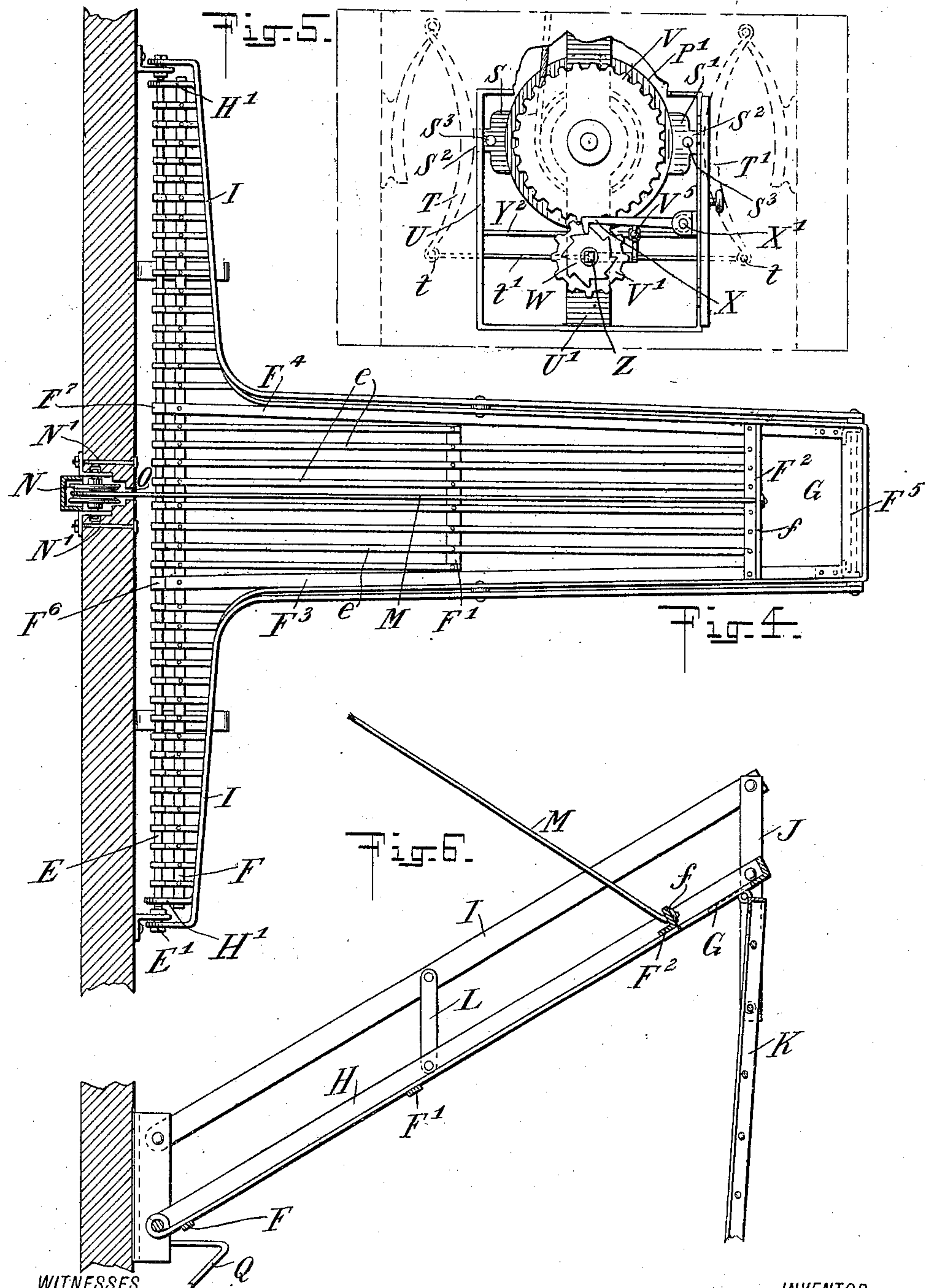
FIRE ESCAPE.

APPLICATION FILED JULY 9, 1908.

Patented Nov. 8, 1910.

5 SHEETS-SHEET 4.

974,781.



WITNESSES
J. C. Cheney
W. Wallace Gore

INVENTOR
Maurice S. Finkelstein
BY
Frank M. Moley
ATTORNEY

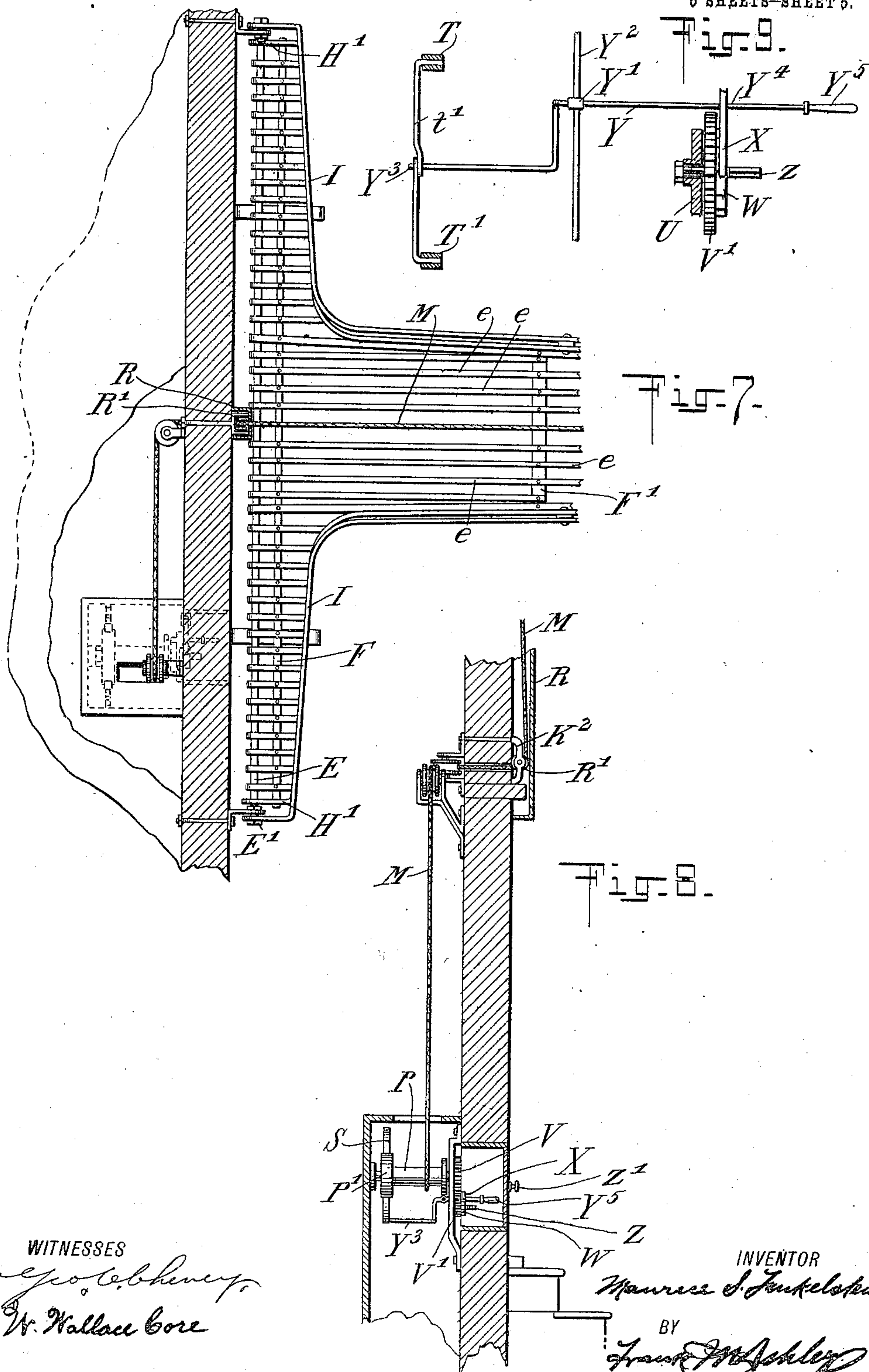
FIRE ESCAPE.

APPLICATION FILED JULY 9, 1908.

Patented Nov. 8, 1910.

5 SHEETS—SHEET 5.

974,781.



WITNESSES

W. Wallace Gore

INVENTOR

Maurice J. Finkelstein

BY

Frank M. Ashley
ATTORNEY

UNITED STATES PATENT OFFICE.

MAURICE S. FINKELSTEIN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JOSEPH MOSKOWITZ, OF NEW YORK, N. Y.

FIRE-ESCAPE.

974,781.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed July 9, 1908. Serial No. 442,660.

To all whom it may concern:

Be it known that I, MAURICE S. FINKELSTEIN, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to fire escapes of that type which are fastened to a building as a permanent fixture, and the object of my invention is to provide means of the character that will be efficient and durable.

Referring to the drawings which form a part of this specification, Figure 1, shows a building with my improved fire escape mounted thereon in its normal position. Fig. 2, is a similar view showing the device in its lowered position. Fig. 3, is a vertical side sectional view through the wall of the building on which the escape is mounted, disclosing the general arrangement and location of the hoisting apparatus by means of which the escape is raised and lowered, and also disclosing a side view of the escape in its lowered position. Fig. 4, is a plan sectional view through the wall of a building, and also a plan view of one of the platforms of the device. Fig. 5, is a front view of the hoisting apparatus. Fig. 6, is a side detail view of a portion of the platform and guard rail and also discloses a portion of the ladder connected thereto. Fig. 7, is a plan view of a portion of one of the platforms, and discloses a portion of the hoisting apparatus and details of construction relating thereto. Fig. 8, is a side sectional view of a part of the wall of a building to which the hoisting apparatus is connected, and illustrates the construction of a portion of the hoisting apparatus; and Fig. 9 is a plan view of the lever used in the hoisting apparatus, and also discloses the pawl and ratchet gear used.

A, indicates the front wall of a building having windows B—B etc. therein, and a doorway C on the ground. Fastened to the said wall are brackets D—D etc., which are duplicates of each other, and are arranged in pairs as shown, and each pair is connected by a bar E, which is held in position by a nut E' which is screwed on said rod at each end as shown. Fastened to said rods E—E etc. is a platform structure comprising a plurality of light iron strips or other suitable

fire proof material *e—e* etc., which are spaced apart from each other a predetermined distance, and connected together by cross bands or braces F—F' and F², and by a rectangular frame-work consisting of strips F³, F⁴ and F⁵ as shown. An opening G is formed between the braces F² and F⁵ and side strips F³ and F⁴, to permit a person passing through same when in use. The side strip F³ clasps the rod E at F⁶ and the strip F⁴ clasps the same rod at F⁷. A side strip H extends around the sides of the platform and the ends are connected to the rod E at H' in swinging relation thereto. Connected to the brackets D—D etc. at each of their upper ends, are railing strips I—I etc. respectively, which are free to swing on connecting bolts I', and the other ends of which are connected to the members J—J respectively, which in turn are hinged at J'—J' respectively, to the ladders K—K—K respectively, thus supporting said ladders at their upper ends as will be readily understood. Connecting the respective strips H with the respective rails I are links L, L, respectively, said links being connected to the outside of one strip to the inside of the rail above, as shown, and free to swing relative to both rail and strip.

The cross braces F² are each provided with a flange *f*, to which is connected a cable M, M, etc. respectively, which pass through openings O, O, O, respectively, and over pulley wheels N, N, N, respectively which are supported by the wall A and held thereto by the bolts N' in operable position as shown, the ends of said cables M being fastened to a main cable M' which in turn is connected to a drum P, which forms a part of the hoisting apparatus. To assist in supporting the structure when it is supporting or carrying a number of persons, a number of triangular shaped braces are provided which are connected to the wall A by bolts or other suitable means, and are located just below the main hinge comprising rod E, and in position to allow the bottoms of the strips *e, e, e*, etc. to rest thereon and thereby support rod E. Any number necessary to safety may be employed. In case it is desired to make the platforms exceptionally long, vertical braces may be hinged to the links L, or strips H, or the said links may be united by vertical strips, which may extend to the ground to serve as additional supports, as will be easily understood, and in some cases

this may be very desirable. Also the top ladder of the series may be extended in length upward, so as to extend above the top of the building if desired.

5 The device is preferably located between the windows as shown, and the base of the platform is made considerably wider at its base than at its outer end, and located just above the tops of the windows so that when
10 the device is in its normal inoperative position on the front of the building, it will not obstruct the view from the windows.

The device is preferably supported at a short distance from the front of the building
15 to prevent rust from the iron structure from defacing or marring the surface thereof, and to permit the painting of same behind the parts of same without much trouble.

Referring to Figs. 7 and 8, I have shown
20 a form in which the cables M may be carried down the front of a building to nearly the bottom of the wall A, before it is carried within the building, and in this construction I prefer to use a sheet metal conduit R to
25 inclose the cables, and also the pulleys R' which are held to the wall A by the brackets K² and connecting bolts. The cable is passed over properly arranged pulleys as illustrated, to where the hoisting apparatus
30 is located, which in the present case is shown to be at one side of the center line of the platforms. By using the outer conduit, the necessity of cutting slots or openings in the wall of the building is reduced to one, which
35 is located near the base of the building as indicated.

It is obvious that the pulleys and supporting bearings which are mounted in the wall of the building may be inclosed in metal
40 boxes and formed to constitute a completed part which may be inserted in an opening in the wall and secured there, instead of bolting the said parts directly to the wall in separate units as shown.

45 The hoisting apparatus serves to both hoist the platforms to the normal position on the wall of the building, and to lower the same in operative position under the control of the operator. It comprises a drum P
50 having a ring P' of larger diameter, the periphery of which engages with friction shoes S and S' which are mounted on leaf springs T and T'. The shanks of the shoes are supported in slots in the frame U, and are provided with cross pins S³, the ends of which
55 are supported in slots in the casing U in line with the said pins.

Fastened to one end of the drum P is a gear wheel V which is in gear with a pinion gear V' carried on the frame strip U', and a ratchet wheel W, is connected to the same shaft as that to which pinion V' is attached. A lever carrying a pawl X is pivoted at X' to the frame U.
60

65 The ends *t*, *t*, respectively, are connected

together by a cable of wire, or by two rods joined by a hinge connection, and indicated by *t*'.

Y, indicates a lever which is fulcrumed at Y' to a cross rod Y² supported in the frame U at its ends. The end Y³ of the lever Y is located above or connected to the element *t*', and the portion Y⁴ passes below the lever carrying the pawl X, and is provided with a handle Y⁵. It is obvious that if the handle
70 Y⁵ is raised a proper distance, it will raise pawl X from engagement with ratchet W, thus releasing the drum P from locked position, and at the same time the end Y³ will force element *t* out of its alinement, thus
75 shortening the distance between the ends of the springs T and T' and thereby forcing the shoes more tightly in contact with the drum ring P', so that by a proper use of the lever, the speed of the drum may be controlled by the operator. The pinion shaft Z is provided with a squared end to engage with the end of a crank socket, so that it may be manually turned.
80 85

When the device is in its normal position on the building, its parts are folded together as illustrated in Fig. 1, and held in this position by the cables and hoisting apparatus. When it is desired to lower the device into operative position shown in Fig. 2,
90 95 the door Z' in the wall is opened, and the lever handle Y⁵ is raised, releasing the ratchet wheel, and allowing the platforms to drop by gravity to their position shown in Fig. 2, the speed being governed by the degree of pressure of the shoes acting on drum ring P', as will be readily understood.
100

It is obvious that the platforms are supported at their outer ends by the ladder formation, and that the number of the platforms may be increased or decreased according to the number of stories the building may have without departing from the concrete invention embodied herein, and that many changes of the detail construction may be made to suit the particular shape or style of building on which the device may be mounted.
105 110

The advantages of this construction comprise simplicity, durability, and utility in a high degree and will be obvious to those skilled in this art.
115

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is,
120

1. A fire escape comprising a wall, a platform one side of which is hinged directly thereto and having a central portion extending at right angles to the face of said wall, and a ladder hinged to the end of said extending portion and adapted to reach to the surface of the street.
125

2. A fire escape comprising a wall, a platform one side of which is hinged directly thereto and having a central portion extend-
130

ing at right angles to the face of said wall, a ladder hinged to the end of said extending portion and adapted to reach to the surface of the street, and means for raising and lowering said platform and for controlling the rate of speed of the lowering movement.

3. A fire escape comprising a wall, a plurality of platforms one side of each of which is hinged directly thereto each of which is provided with a projecting portion extending at right angles to said wall, a ladder connected to the end of each platform, means for placing said ladders in communication with each other, and means for raising and lowering said platforms in unison and for controlling the rate of speed of the lowering movement.

4. A fire escape comprising a wall, a plu-

ality of platforms located one above the other and each hinged directly to said wall and each provided with a projecting portion extending at right angles to said wall, a ladder hinged to the ends of each of said projecting portions and means located near the base of the wall for raising and lowering said platforms in unison and for controlling the rate of speed of the lowering movement.

Signed at New York in the county of New York and State of New York this 22nd day of June A. D. 1908.

MAURICE S. FINKELSTEIN.

Witnesses:

FRANK M. ASHLEY,
WM. H. BULL.