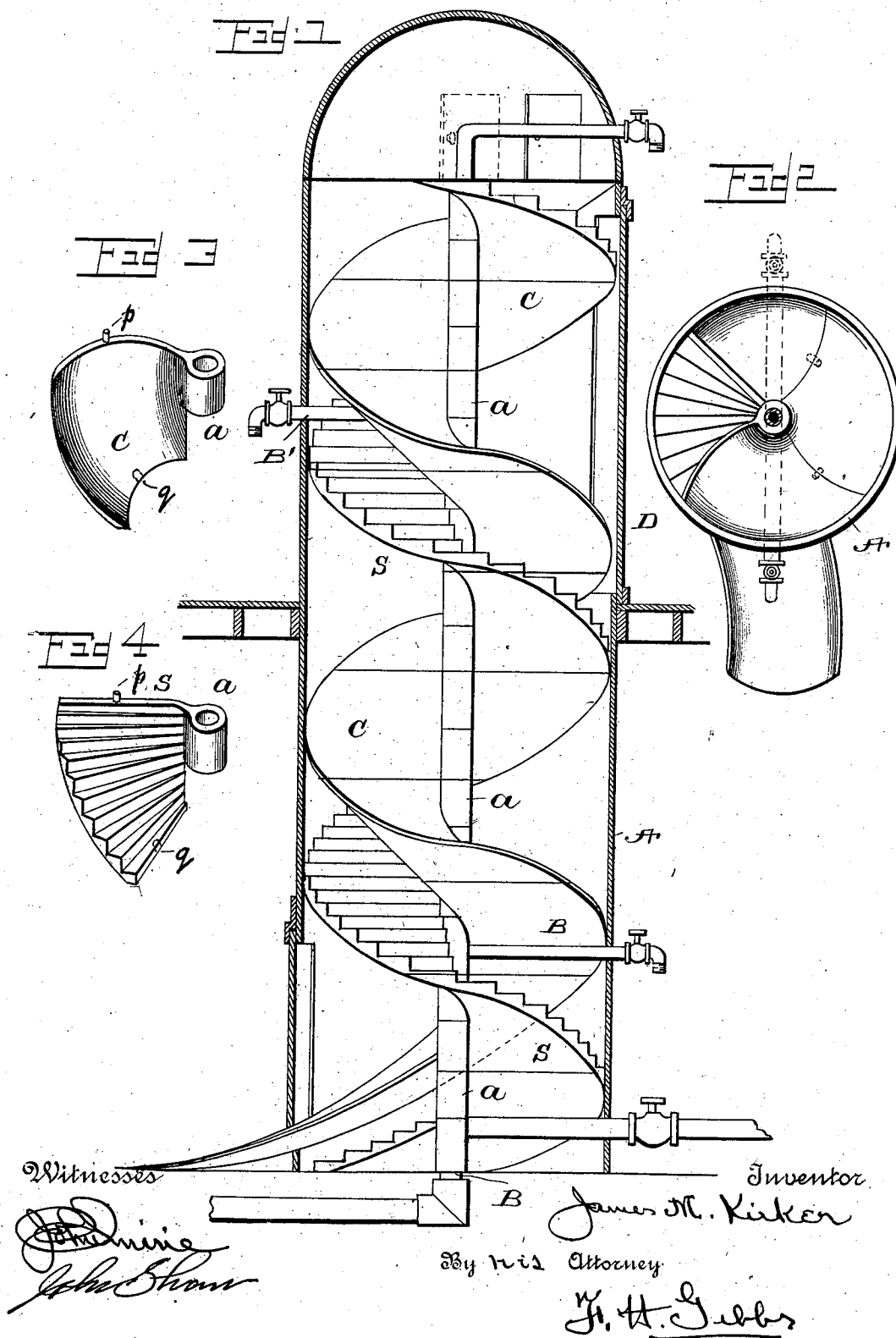


(No Model.)

J. M. KIRKER.
FIRE ESCAPE.

No. 506,238.

Patented Oct. 10, 1893.



UNITED STATES PATENT OFFICE.

JAMES M. KIRKER, OF LOUISVILLE, KENTUCKY.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 506,238, dated October 10, 1893.

Application filed February 13, 1892. Serial No. 421,413. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. KIRKER, of Louisville, in the county of Jefferson, in the State of Kentucky, have invented new and useful Improvements in Fire-Escapes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in fire-escapes, and consists in certain details of construction, all as hereinafter more particularly set forth and specifically pointed out in the claims.

In the annexed drawings similar letters of reference denote corresponding parts in all the views, wherein—

Figure 1 is an elevation of my improved fire-escape, with the inclosing case shown in section for the purpose of better illustrating the internal arrangement of the parts. Fig. 2 is a top plan view of the tower taken below the dome at the top end thereof. Fig. 5 is a view in detail of one of the leaves or sections of which the slide is formed, and Fig. 4 is a similar view of one of the sections—S— which form the stairs of the device, both said leaves and sections being held centrally on the standard or pipe in the center of the device.

In the drawings—A— is a suitable tower of sheet metal, wood or any suitable material.

B— is a standard or water pipe extending nearly or entirely to the top of the tower or shell.

B'— are lateral arms leading from the main standard or pipe to the several floors past which the device is carried, and are connected to the stand pipe in such manner that water may be carried to one or more points in the elevation of the whole as it may be needed to extinguish the fire.

The stand pipe—B— may be made of one single length of pipe or it may be made of sections properly joined together by means of suitable unions or couplings, and I provide the leaves of the slide—C— and the sections of the stairway—S— with collars—*a*— to encircle said stand pipe, which collars are of less width than the width of the said sections so that there may be strung on one central pipe two or more sets of leaves for two concave spiral slides, or two spiral stairways, or one slide and one stairway, as may be de-

sired, though I prefer to use a single slide and a single spiral stairway suspended below the same, so as to leave it optional with the one who may desire to use the escape to descend by the slide or the stairway as may be desired.

Where two or more slides, or stairways, or one of each are used there must be two sets of openings in the tower—A— at different points so as to afford access to said slides and stairways, and I prefer to use doors—D— which will act automatically in closing so that as soon as the person using them has passed the opening it will be immediately closed to prevent accidental escape of any other person or persons coming down the slides from a higher elevation, and any suitable device or devices may be adopted to automatically close said doors, such as spring-hinges, weights, &c.

Another point in providing an automatically acting door is that where the doors are kept closed all the draft will be cut off and prevent fire entering the main tower or shell, and heating the slide and stairway and thus rendering it unfit for use.

At the upper end of the tower I provide a dome with two doors so as to afford access to the slide and the stairway from the roof of the building in which the device is located, and I prefer to run a branch of the water pipe out at the top end to carry water to the roof of the building in case of need. By forming the leaves of the slide in concave form I very effectually prevent accidental escape of any package slid down the slide and a human being will be more securely guarded against possibility of sliding out of any door opening below the line at which he may start to descend the slide, and also will be guarded against undue friction against the inner periphery of the tower inclosing the slide, so that, even though a door may have been accidentally left open, below the elevation at which the person may have started to pass down the slide, he will be held within the concave spiral of the slide, will merely touch the door, and pass it without danger of being injured, even though the door may open inward.

The "pitch" of the spiral slide—C— may vary for different purposes, and for a freight

slide may be made more steep than for a passenger slide, without danger of injuring the packages slid down the same.

The central supporting column upon which the leaves of the slide and the sections of the stairway are hung may be connected to the street-main for water supply, or it may be also provided with a lateral branch to which the hose of the fire engines may be attached so as to furnish a sufficient supply of water to be used in extinguishing the fire in the building, and will be found to answer the purposes of a water tower in extinguishing the fire with the advantage that the tower is located at the immediate point where needed, and has not to be raised as with the portable towers in use.

At the top of the tower I provide a dome which is provided with two doors leading respectively to the slide and the stairway, and these doors are also made so as to be automatically closed for the double purpose of shutting off draft and also to keep out rain and snow from the tower.

At the bottom end of the slide —C— I extend the same outward sufficiently far so that a person sliding down the same will come to a gradual stop at the bottom end and land at that point uninjured, though the door at the lower end should open outward, rather than inward, as in the case of the other doors leading to the main shell or tower, so as to afford ready escape for any person using the slide.

It will be seen that to afford proper pitch to the concave slide there will be a considerable amount of vacant space in the tower, and I prefer to utilize this by placing therein a flight of spiral stairs leading to the upper end of the tower, so that the space occupied by the fire-escape slide will afford additional means of ingress to the building on which it is used and will be useful at all times, and by using glass in the tower dome and the several doors the spiral stairs will be at all times properly lighted to aid in their ascent.

The sections of the slide or slides C and of the stairway S are provided at their upper edges with projections *p* adapted to enter recesses *q* in the lower edges of the sections next above them. Thus the lower edge of each section is supported on the upper edge of the section next below it, and the weight of each section, while to some extent taken up by the resistance of the central column or stand pipe, is in a greater degree transmitted to the section next below it and so on to the ground in the line of curvature of the spiral chute.

Obviously any devices equivalent to the projections and recesses *p* and *q* may be used

by which one section may be held in its position with regard to the section below it so as to transmit its weight thereto as above described.

Having described my invention, what I claim is—

1. In a device of the character described, the combination of a central vertical column, a cylindrical outer casing inclosing said column, and a series of concave leaves of spiral curvature supported from said central column by means of collars thereon, the lower portion of each leaf engaging with and being supported on the upper portion of the adjoining leaf of the series, and means for securing the contiguous portions of the leaves in position, so as to form a continuous spiral chute within said casing, substantially as described.

2. In a device of the character described, the combination of a central vertical stand pipe, a cylindrical outer casing inclosing said stand pipe, and a series of concave leaves of spiral curvature secured on said central column by means of collars thereon, the upper and lower edges of each leaf having projections and recesses engaging with corresponding recesses and projections on the edges of the adjoining leaves of the series, so as to form a continuous spiral chute within said casing, substantially as described.

3. In a device of the character described, the combination of a central vertical column, a cylindrical outer casing inclosing said column, and a plurality of series of leaves of spiral curvature, secured on said column by means of collars thereon, each leaf being contiguous at top and bottom to the adjoining leaves of its own series so as to form therewith a continuous spiral, and each collar being contiguous at top and bottom to the collars of the adjoining series, whereby a plurality of series of spiral chutes may be supported upon a single central column, substantially as described.

4. In a device of the character described, the combination of a central vertical column, a cylindrical outer casing inclosing said column, and a plurality of series of leaves of spiral curvature, secured on said column by means of collars thereon, each leaf extending below its supporting collar, to a sufficient depth to pass the collar or collars of the adjoining series and engage the adjoining leaf of its own series, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of January, 1892.

JAMES M. KIRKER.

Witnesses:

FREDERICK H. GIBBS,
FRANK L. REEDER.