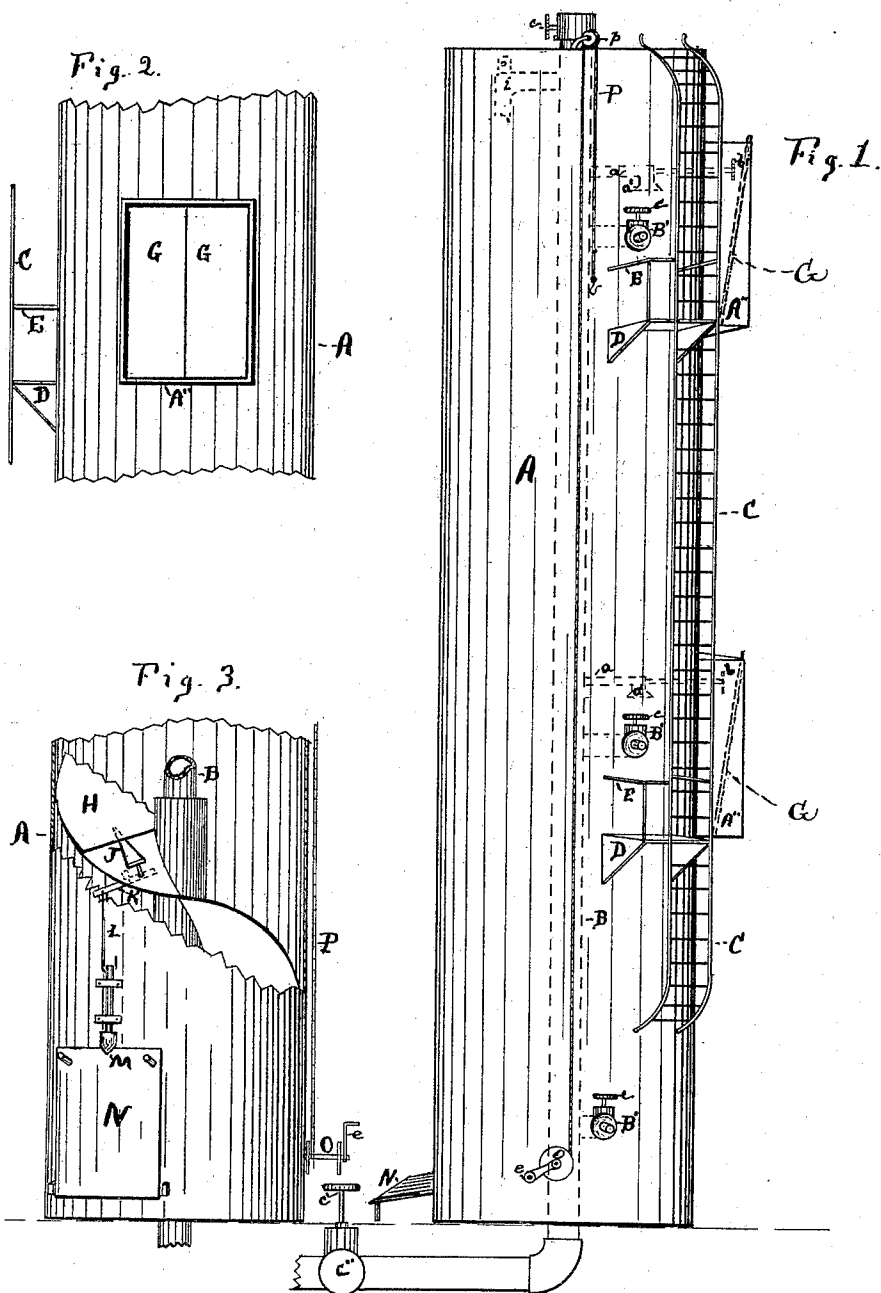


(No Model.)

J. M. KIRKER & F. M. BENDER.
FIRE APPLIANCE.

No. 487,418.

Patented Dec. 6, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES M. KIRKER AND FREDERICK M. BENDER, OF LOUISVILLE, KENTUCKY.

FIRE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 487,418, dated December 6, 1892.

Application filed March 21, 1892. Serial No. 425,833. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. KIRKER and FREDERICK M. BENDER, of Louisville, in the county of Jefferson, in the State of Kentucky, have invented new and useful Improvements in Fire Appliances, 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 appliances; and it consists in certain details relating thereto, all as hereinafter more fully set forth, and specifically pointed out in the claims.

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

Figure 1 is an elevation of our improved appliance. Fig. 2 is an exterior view of one portion of the outer tower, showing the doors leading into the same and the ladder and platform connected thereto; and Fig. 3 is an elevation of the lower part of the tower turned one-quarter around from the position shown in Fig. 1.

Our improved appliance consists of a main supporting-tower A, within which we provide a spiral slide or chute preferably concave in cross-section, down which passengers or freight may slide in effecting an escape from the burning building, and this tower we prefer to set entirely outside of the structure with which it is to be connected, for the reason that when so situated it will afford ready means for attachment of the several needed appliances commonly used by firemen in extinguishing fires, and at the same time will be removed in great measure from the source of heat and free from the many disadvantages common to fire-escapes in general use.

Referring to the drawings, A indicates a tower, of which the main portion is built entirely outside of the building, and the projecting passage-ways A'' are capable of being built into the wall of the building with which it is connected, while doors G G are hung in the said passage-ways, preferably as indicated by the dotted lines, so as to close by gravity and cut off upwardly-rising air-currents which would but for the doors enter the building and tend to fan the flames already therein. These passage-ways A''

may be built longer or shorter, as may be desired, so as to permit the main tower A being placed in contact with the building or situated at some distance therefrom.

Within the tower A we provide a main water-pipe B, which serves as a central supporting-column onto which the spiral concave slide is secured to hold it in its proper position, and said pipe B is provided with two sets of laterally-projecting branches B' and a, the former of which extend outwardly a sufficient distance to serve as "fire-plugs" to which the firemen may connect their hose in extinguishing the fire in the building, and the latter a are of less length and only project a sufficient distance to bring their ends a' over the spiral slide.

Secured within the lower ends a' of the pipes a we prefer to set fusible plugs, which tend to normally close the said pipes a and prevent escape of water therefrom; but when the temperature of the interior of the tower A has risen sufficiently high said fusible plugs will become melted and cause the water to run through the sprays a' on the ends of the pipes a and flow over and down the spiral slide H, so as to cool the same and render it safe for use as a fire-escape and permit passengers to slide down it to the ground.

Referring to Fig. 3, a triangular piece J will be observed secured to the upper surface of the slide H at its upper edge, between two overlapping portions of the concave slide, and a pivoted lever K secured beneath the said slide, with its outer end projecting, preferably, beyond the exterior of the tower A and connected by means of a rod L, wire, or other suitable fastening means to the latch M of the lower exit-door N, so that when pressure is applied to said triangular piece J by a person sliding down the spiral H it will depress the lower end thereof, thus lifting the free outer end of the lever K and its connections, thus releasing the catch M, which is provided to hold the door N normally closed, and thus it will not be necessary to first open the exit-door before the slide may be used as a fire-escape.

It will be apparent that the latch m may be on the interior of the shell and perform the same function where the door or doors are provided with an inwardly-extending eye or

loop with which it may engage when in its normal position.

Having the tower A at the side of a building and its passage-ways built within the outer walls of the same, it will be convenient to so locate the tower that the platforms D, with their hand-rails E, will come opposite the windows of the building, and we prefer to so locate such platforms that they may be used by the firemen in obtaining easy access to the immediate point of the conflagration from the outside of the building, and at the same time be able to stand at such safe distance from the flames as to render their position safe and permit them to direct a stream of water wherever required on any given floor of the building. To accomplish this desired end, we prefer to locate the platforms D at a point one-fourth around the tower from the passage-ways and have the fire-plugs B' project from the tower, so that they will be easily accessible from said platforms and enable a fireman with a short length of hose to throw water direct from said fire-plugs into the burning building.

As there is a growing tendency to erect buildings of great height, it will be apparent that the platforms situated at a considerable distance from the ground will be inaccessible from the tops of ordinary portable ladders, and to insure the firemen reaching those which are at such distance from the ground we connect the ladder C to the outer side of the tower in convenient proximity to the platforms, and prefer to place them in such positions that the platforms will serve as a means of connection with the tower at such distance from the tower proper as will be most convenient for the firemen in climbing the ladder.

As the ladder C will necessarily be nearly perpendicular and difficult of climbing when the fireman is loaded with a section of hose and the nozzle, we provide the drum O, with its handle *e*, and the rope or cable P, running over the pulley *p* at the top of the tower, so that the hose may be hoisted from the ground to the desired platform where it is to be used, and this drum, pulley, and cable we prefer to put in position so as to lie nearly on a perpendicular line from the outer edge of the platforms to carry the pipe where it will be within reach of the man on the platform D. To insure the best results, it is necessary that the water may be shut off from the spraying-pipes *a a'* when water is drawn from the central pipe B, and we provide the hand-wheels *b*, so that the valves in said pipes *a* may be closed, and thus prevent escape of water from said sprays after the inmates of the building have all escaped down the slide, thus insuring the full pressure of the water in the central pipe B to be used in extinguishing the fire.

We show the pipe B provided with a connection with the street-main, and it may be used with only the ordinary pressure where that is sufficient; but for very tall buildings

it will be found that the pressure is generally insufficient to carry water to the top of the building, and for that reason we provide the valve *c''* and the hand-wheel *c'*, so that the street connection may be shut off when the central pipe B is to be used as a water-tower, and the fire-engines may be connected to one or more lateral branches, as B', at the ground-level, and thus cause a greater pressure to carry water wherever needed.

We have shown the piece J triangular; but we do not wish to be limited to that shape, as we wish to have the part which answers the function of that piece extend entirely across the face of the spiral slide, so as to avoid injury to the person or clothing of those sliding down the spiral.

It will be noted that the central water-pipe B projects upwardly above the top of the tower A, so that a line of hose may be connected to the same at a point above the roof of the building when desired, and we provide a valve at the upper end of said pipe, so as to be able to shut off all pressure, when desired, at that point.

Another feature of advantage in using the lateral branch pipes B' is in case a section of hose connected to the upper end of the pipe B becomes broken it will materially expedite the repair to be able to open said lateral branch pipes to reduce the pressure of water at the top, and thus enable the firemen to reconnect their hose at that point while the pressure is reduced by the escape at the lower point, though it would be impossible to so reconnect their hose unless the water were shut off or pressure reduced in some manner, which can only be done generally by communicating with the engineer at the engine, sometimes at a considerable distance from the point of the break.

It will be apparent that in large buildings it is practicable to use the water-pipe B as a main supply-pipe for the entire building and connect the house supply-pipes therewith, thus utilizing said pipe at all times about the building.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a fire appliance, a stationary tower A, a central water-pipe and a spiral-slide fire-escape held therein, a series of entrance-passages leading to the interior of said tower, automatically-operating doors normally closing said entrance-passages, an exit-door at the lower end of said tower, a spring-plate J on the upper surface of the slide, a pivoted lever held beneath said slide and plate, a vertically-movable latch M, normally in engagement with said door N, and suitable connections between said latch and the outer end of said lever to raise said latch and release the door when downward pressure is applied to said plate, substantially as and for the purpose specified and shown.

2. In a fire appliance, a stationary tower A,
a central vertical water-pipe and a spiral slide
held therein, a series of entrance-passages
leading to the interior of said tower, auto-
5 matically-operating doors normally closing
said entrances, an exit-door at the bottom of
the tower with suitable releasing devices op-
erated by a weight moving down the spiral
slide, laterally-projecting fire-plugs leading
10 to the exterior of the tower, laterally-project-
ing spray-pipes *a a'*, and valve-operating han-
dles *b*, projecting beyond the exterior of the

tower for convenient operation, substantially
as and for the purpose set forth and shown.

In testimony whereof we have hereunto 15
signed our names, in the presence of two at-
testing witnesses, at Louisville, in the county
of Jefferson, in the State of Kentucky, this 17th
day of March, 1892.

JAMES M. KIRKER.

FREDERICK M. BENDER.

Witnesses:

FREDERICK H. GIBBS,

H. H. SENG.