No. 876,893. PATENTED JAN. 14, 1908.

W. R. ARNOLD.

FIRE ESCAPE.

APPLICATION FILED JUNE 10, 1907.

Fig. 1.

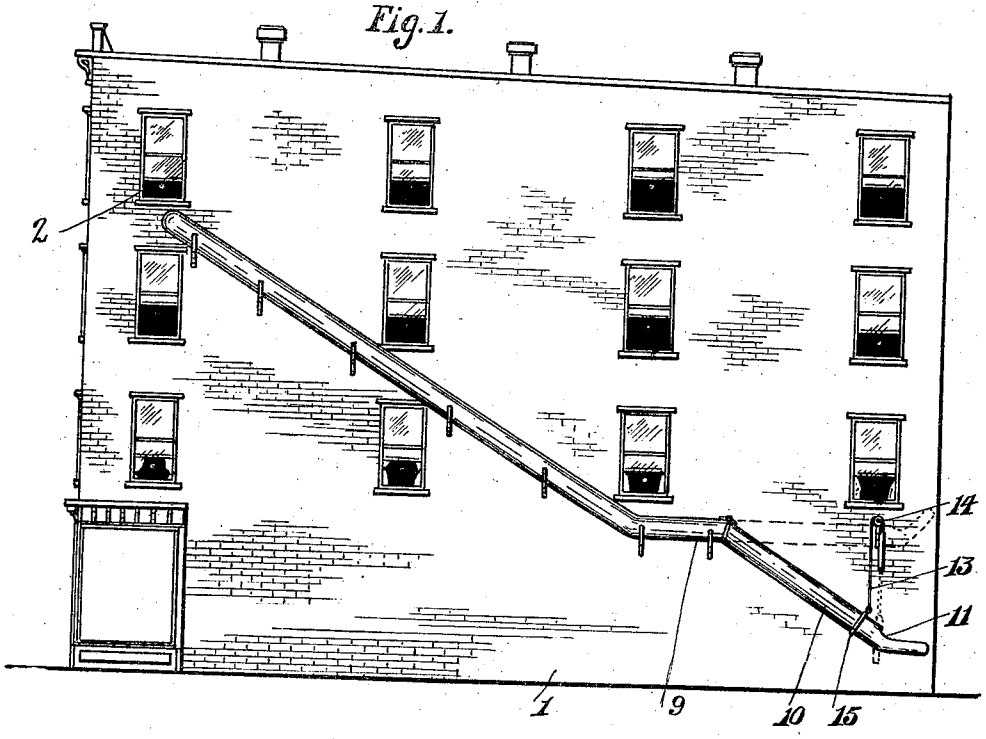


Fig. 2.

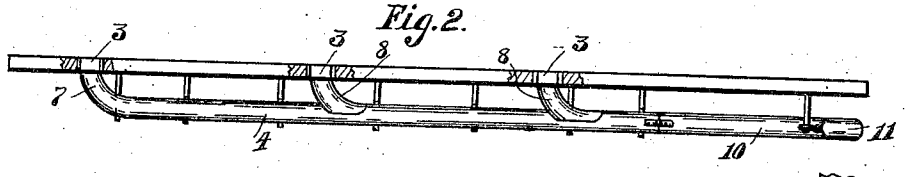


Fig. 3.

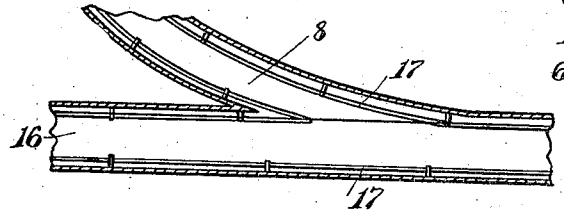
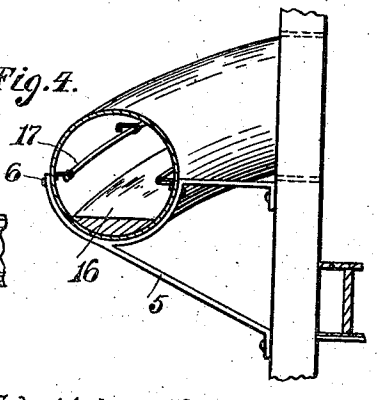


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM R. ARNOLD, OF CHICAGO, ILLINOIS.

FIRE-ESCAPE.

No. 876,893. Specification of Letters Patent. Patented Jan. 14, 1908.

Application filed June 10, 1907. Serial No. 378,212.

To all whom it may concern:

Be it known that I, WILLIAM R. ARNOLD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to fire escapes.

One object of the invention is to provide a fire escape embodying such characteristics that in the event of a fire a person may have safe and rapid exit from the burning structure without exposure to flames or heat.

Another object resides in the provision of an external passage way having communication with different floors of a dwelling or other structure for the safe passage of persons leaving building at the time of a fire.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacrificing any of the advantages thereof.

In the drawings:—Figure 1 is a side elevation of a building illustrating my invention. Fig. 2 is a top plan view of the invention. Fig. 3 is a horizontal sectional view of a portion of the main tube and one of its branches. Fig. 4 is a view illustrating the interior of the main section of the tubular passage way.

Referring now more particular to the accompanying drawings, the reference character 1, indicates a dwelling, building, or other structure provided with windows 2 and with openings 3 beneath certain of the windows. These openings 3 may be quickly located in the event of a fire by reason of their particular disposition beneath windows, and in the event of a fire in the structure, a person may readily pass through the same into the fixed section 4 of the tubular passage way or chute supported along the outside of the dwelling by means of suitable brackets 5 secured to the building in any suitable manner, the fixed section 4 being secured to the brackets by rivets 6 or in any suitable manner. The upper end of the fixed section 4 is curved inwardly, as at 7 for communication with the uppermost opening 3 of the structure, while the remaining openings 3 of the structure have communication with the fixed section 4 through the branch conductor tubes 8, as clearly shown in Fig. 2.

The lower end 9 of the fixed section 4 of the chute is preferably arranged substantially upon a horizontal plane and has hingedly connected to its free end the pivoted chute section 10 whose lower end opens through its top and sides as indicated at 11. This pivoted or hinged section 10 is held normally in a substantially horizontal plane by means of the weighted cable 13 passed over the pulley 14, as shown in dotted lines in Fig. 1. This pivoted section may be thrown downwardly toward the ground and held in the inclined position shown in full lines in Fig. 1 in any suitable manner, and if it is not held in said inclined position it would assume such inclination by reason of the weight of the person sliding down the chute from the dwelling. It will be seen that the cable 13 is connected with an eye of a band 15 embracing the outer end of the pivoted section 10.

The fixed and pivoted sections of the chute are preferably of such diameter that a person may pass through the same in a sitting position, and as the sections, which are preferably composed of metal, may be subject to intense heat incident to fire, I preferably arrange in the bottom of the sections, a wooden false bottom 16 which would remain cool for a long time even if the tubular sections should become exceedingly hot. As a matter of fact the descent of the person in the chute would be so rapid that the exposure to heat, if any, would be but an instant, although if desired, the person may limit the speed of his descent by gripping the handle rails 17 disposed upon each side of the chute, which guide rails are clearly shown in Figs. 3 and 4.

From the foregoing it will be understood that in the event of a fire persons within the dwelling may readily enter the chute and in a sitting position slide down the same upon the slide or false bottom 16, and whether the pivoted section 10 of the chute be at an incline or horizontal plane, reach the ground in safety.

The lower end 9 of the fixed section 4 of the chute is preferably arranged substantially upon a horizontal plane, so as to retard the speed of a person sliding down the tube just before reaching the ground and prevent a too violent impact therewith. Children and invalids unable to control the speed of their descent by gripping the hand rails could thus

be placed in the tube and the speed of their descent would be retarded in the manner aforesaid.

What is claimed is:—

1. In a fire escape, the combination with a building or other structure provided with openings, of a tubular chute having its upper end directed into communication with the uppermost opening and provided intermediate its ends with fixed branch passage ways for communication with the remaining openings of the building or other structure, a bottom arranged within the chute, and a guide rail arranged within the chute.

2. In a fire escape, the combination with a building or other structure provided with openings, of a tubular chute having its upper end directed into communication with the uppermost opening and provided intermediate its ends with fixed branch passage ways for communication with the remaining openings of the building or other structure, the lower end of the chute being directed out of the plane of the remaining portion thereof, a member hingedly connected to the chute and forming an extension thereof, a false bottom arranged within the chute and its extension, and a guide rail arranged within the chute and its extension.

3. In a fire escape, the combination with a building or other structure provided with openings, of a chute having its upper end directed into communication with the uppermost openings and provided intermediate its ends with fixed branch passage ways for communication with the remaining openings of the building or other structure, the lower end of the chute being directed out of the plane of the remaining portions thereof, a member hingedly connected to the chute and forming an extension thereof, a false bottom arranged within the chute and its extension, false bottoms arranged in the branch passage ways, and a guide rail arranged within the chute, the extension of the chute and the branch passage ways.

4. A fire escape comprising a chute having branch passage ways and also having one end directed out of alinement with its body portion, a false bottom arranged in the chute and its branch passage ways, a guide rail arranged in the chute and its branch passage ways, an extension for the chute hingedly connected to the latter, and a false bottom and a guide rail disposed in said extension.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM R. ARNOLD.

Witnesses:

GEORGE OLTSCH,

G. M. COLE.