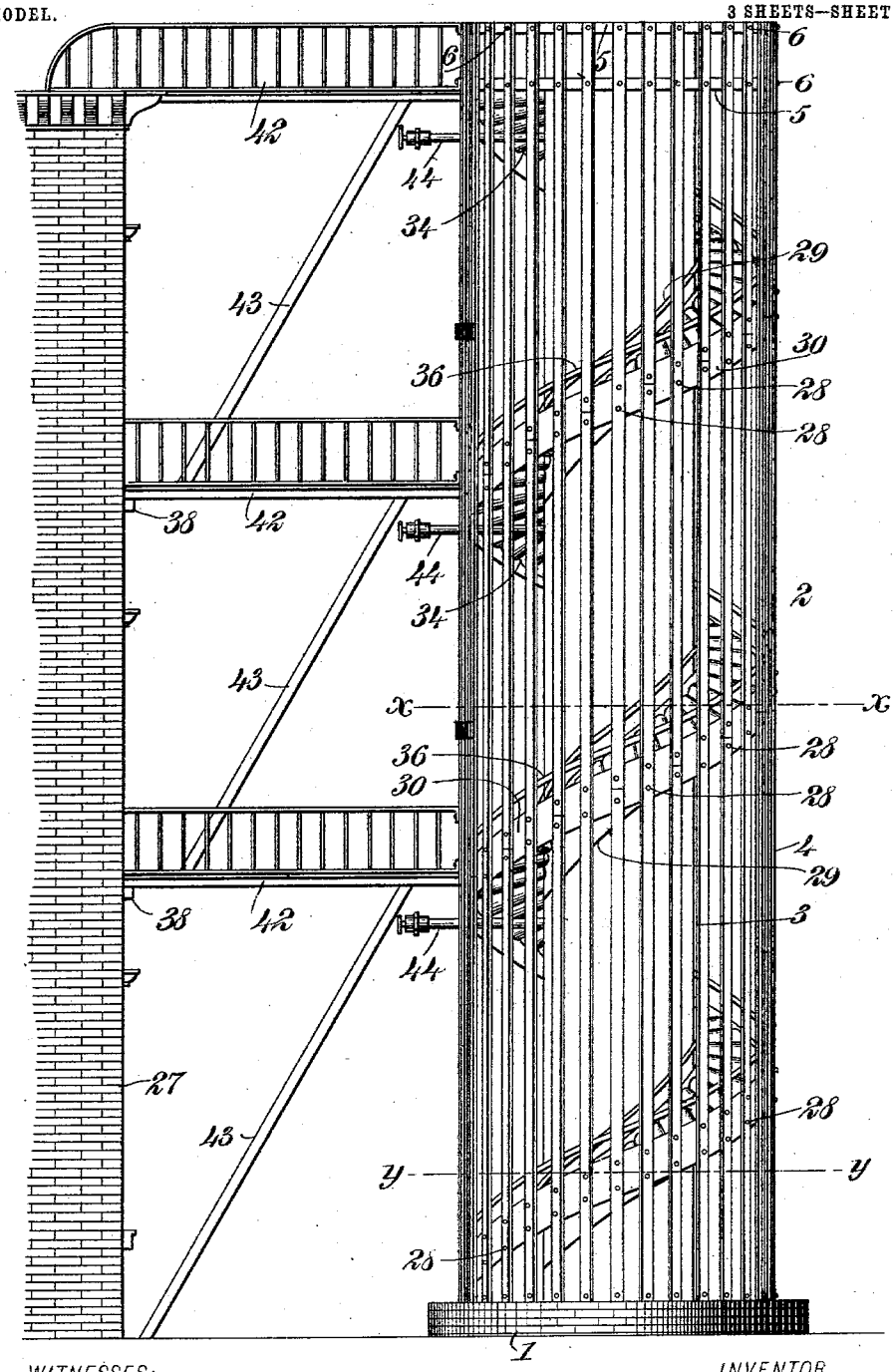
No. 740,917. PATENTED OCT. 6, 1903.

J. R. PROUTY.

FIRE ESCAPE.

APPLICATION FILED MAY 8, 1903.

NO MODEL. 3 SHEETS—SHEET 1.



WITNESSES:

A. B. Mattingly

E. C. Ellis

Fig. 1.

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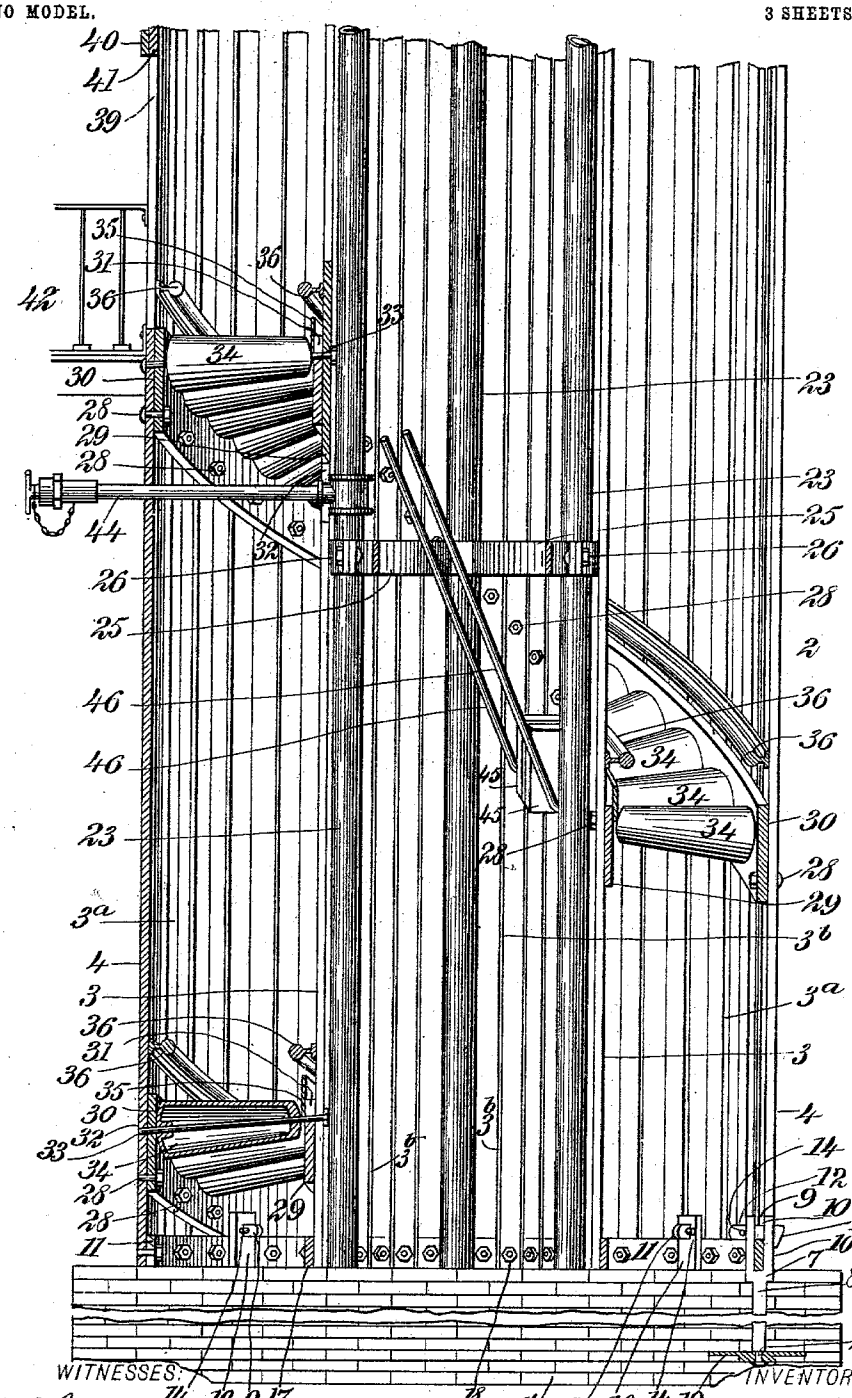


Fig. 2.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3.

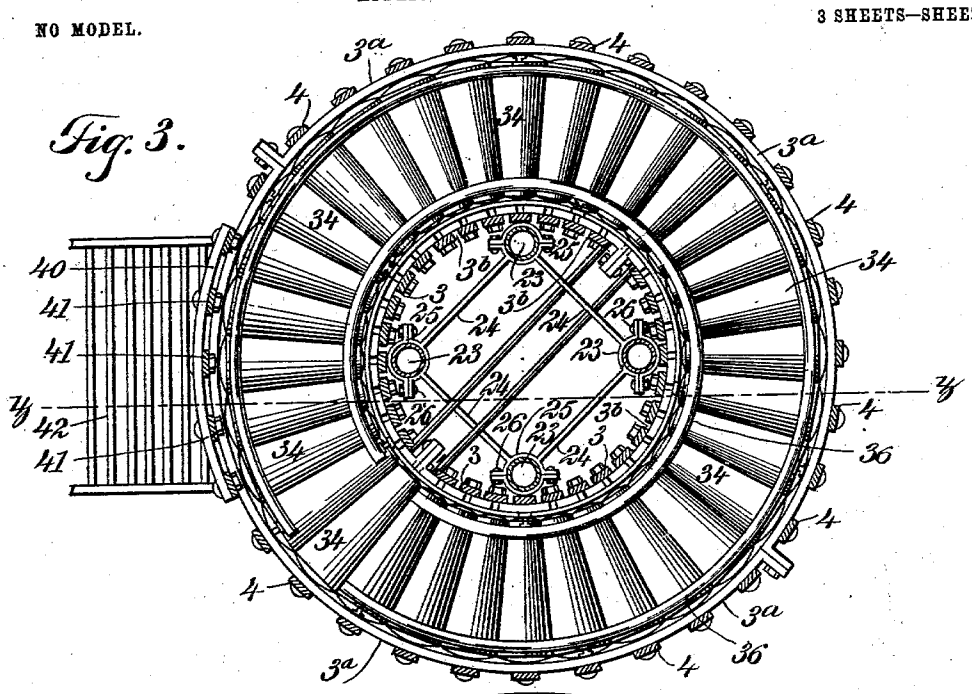
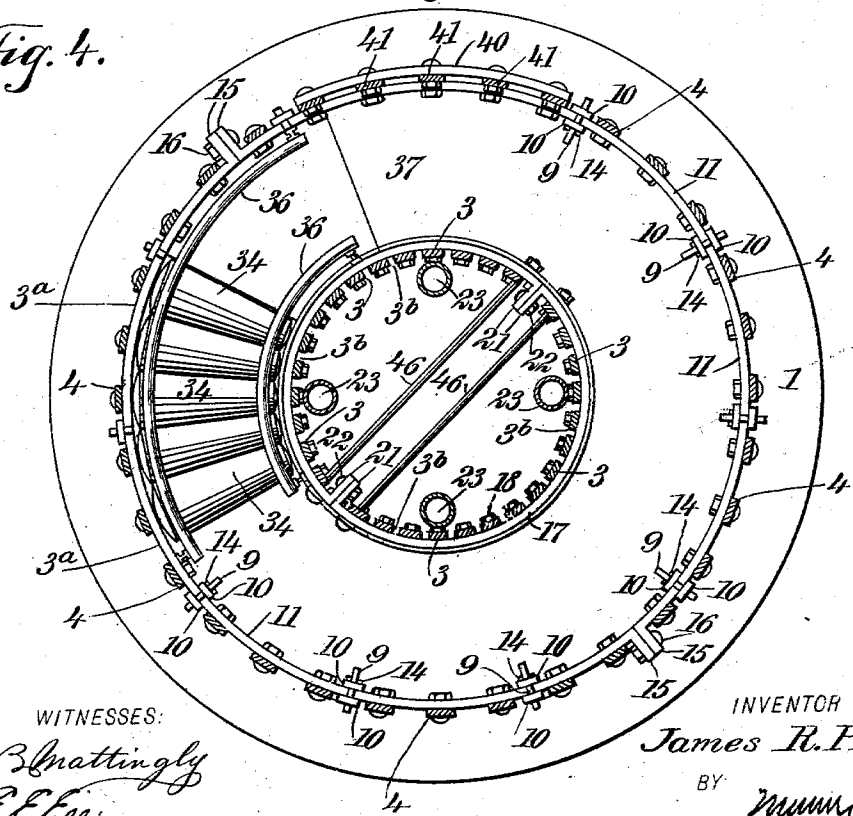


Fig. 4.



WITNESSES:

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No. 740,917. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

JAMES R. PROUTY, OF CHICAGO, ILLINOIS.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 740,917, dated October 6, 1903.

Application filed May 8, 1903. Serial No. 156,190. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. PROUTY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to fire-escapes; and it consists, substantially, in the construction, organization, and combinations of parts hereinafter particularly described and claimed.

One of the principal objects of my invention is to provide effective and reliable means for facilitating the escape of persons from burning structures without liability to injury and also to provide means whereby firemen and others may ascend to any desired height of the structure for the purpose of directing streams of water upon the flames to extinguish the same.

The invention also has for its object to provide a fire-escape which is of a permanent character and which does not require to be specially operated for enabling descent thereon to be made, thereby overcoming numerous disadvantages and dangers incident to the use of many embodiments of devices hitherto devised for a similar purpose.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical side elevation of a fire-escape embodying my improvements, said view indicating the approaches to the tower from the different landings or stories of a building. Fig. 2 is an enlarged vertical sectional elevation of the fire-escape, taken about on the line *z z* of Fig. 3 and showing the construction and organization of the different parts thereof more clearly. Fig. 3 is an enlarged sectional top plan view taken about on the line *x x* of Fig. 1, and Fig. 4 is also an enlarged sectional top plan view taken about on the line *y y* of Fig. 1.

Before proceeding with a more detailed description it may be stated that in the form of my improvements herein shown I preferably employ a permanently-erected tower of any desired height, the same being of special construction and preferably located externally of the building or structure to which it belongs, said tower being in communication with said structure at the different floors or landings thereof by means of suitable balconies or bridges, as will presently appear. The tower is preferably substantially circular in plan view, and I construct the same with a spirally-inclined plane or way extending from the upper part to the base thereof, said tower being built to inclose within the area covered thereby preferably a plurality of ordinary stand-pipes extending practically the full height of the tower, said pipes each being continually supplied with water under pressure, as is well understood and each pipe also having connection with the said building or other structure in the ordinary way. The said spirally-inclined way is also of special construction, and means are provided for connection with the stand-pipes at each floor or landing of water-hose for delivering streams of water to points desired; and while I have herein represented my improvements in a certain preferred embodiment it will be understood, of course, that I am not limited to the precise details thereof in practice, since immaterial changes therein may be made coming within the scope of my invention.

Specific reference being had to the drawings by the designating characters marked thereon, 1 represents a base, preferably of ordinary brickwork or masonry, built or mounted upon which is the tower 2 of my improved fire-escape. Said tower is preferably constructed of inner and outer concentric series of vertical members or uprights, (indicated at 3 and 4, respectively,) said members or uprights of each series being preferably spaced apart at 3^a and 3^b, as shown, and the two series being separated from each other by a space, as shown, due to the difference in diameter of the ground area covered by each. The upper parts of each of said series of upright members may be held securely together in the desired relationship in any suitable way, as by means of encircling bands 5, (indicated in Fig. 1,) each member being bolted to the band at 6, and I preferably employ special means for anchoring the lower ends of the outermost series of said upright members. (See Figs. 2 and 4.) Thus located at proper intervals of said outermost series of upright

members 4, at the bottom thereof, is a number of stay devices 7, each provided with a single straight member 8, extending to a suitable depth within the base 1, and each also notched or slotted at 9 to form duplicate jaws 10, between which of all the said stays is received parts of an inner base-band 11, and passing through coinciding openings (not shown) therefor in the said jaws 10 of each stay 7 is a locking bolt or plate 12, which engages adjacent portions of the upper edge of said band 11, the outer ends of said bolts or plates being hooked at 13 to engage outer surface portions of the band, while passing through the inner ends of said bolts or plates are fastening-pins 14 therefor, by which the elements described are firmly held together or secured, it being here noted that the said band 11 is preferably constructed of two substantially semicylindrical sections flanged at 15 at the ends and secured together by bolts and nuts 16, (see Fig. 4,) wherein is also more clearly shown a band 17, fitting around the inner series of uprights or members 3 at the base, each of said uprights being secured to said band by means of a bolt and nut, (indicated at 18.) It should be explained that the member 8 of each of said stay devices 7 is anchored in the masonry of the base in any suitable way, as by means of a plate 19, set within the masonry and connected to said member at 20, and it will also be noted from an inspection of said Fig. 4 that the said base-band 17 is preferably constructed of two substantially semicylindrical sections flanged at 21 at the ends and united or joined together in proper relation by means of bolts and nuts, (indicated at 22.) The tower is constructed in such manner that the inner series of upright members 3 thereof inclose a plurality of ordinary stand-pipes 23, the lower portions of which pass through and are supported by the base, and which pipes are connected at suitable heights thereof by means of substantially rectangularly-disposed brace-rods 24, each of which is connected at its outer end with a two-part clamp 25, embracing one of the pipes, (see Figs. 2 and 4,) the parts of each of said clamps being flanged and secured together by means of bolts 26. The said stand-pipes may each connect with the building or other structure 27 in the ordinary way, as is apparent.

Connected to the inner faces of the upright members 3 and 4 by bolts or other means 28 and extending around the tower from practically the upper end thereof to the base are winding or spirally-disposed parallel string-plates 29 and 30, respectively, and formed at regular intervals apart in the upper edge of the said string-plates 29 are slots or notches, (indicated at 31 in Fig. 2,) while formed in the string-plate 30 are opposite corresponding openings 32, each pair of said slots and openings having rotatably fitted therein the ends of a rod or shaft 33 for a hollow roller 34, each of said rollers being conical or substantially the shape of the frustum of a cone and having its smaller or tapered end disposed inwardly, as shown, and it is apparent that said rollers constitute a spiral plane or way the surface of which is independently movable for successive intervals or portions of the full extent thereof. In virtue of the disposition of the slots 31 and the openings 32 in the said string-plates and the fact that the said conical rollers are each of the same size or dimensions the upper surface produced by the whole number of said rollers is of course that of a gradual downward inclination, the general course followed by said rollers being spiral or winding and conformation to which is had by mounting said rollers with the larger ends thereof outwardly, as shown. In order to prevent displacement of either of said rollers or the supporting rod or shaft 33 thereof after properly seating the ends of the latter in the said slots and openings, I preferably secure to the inner face of the said string-plate 29 in any suitable way a spiral or winding strip 35, the lower edge of which comes just above the adjacent portions of said rods or shafts, as shown. (See Fig. 2.) Also to afford assistance to one or more persons effecting an escape down the said spiral or inclined way I secure to the adjacent inner surfaces of the upright members 3 and 4 in any suitable way and at a convenient height above the said movable conical rollers preferably continuous spiral or winding hand-rails 36, as shown. The said conical rollers 34 may, if desired, be covered with rubber or other soft material, and it is apparent that on entering the spiral way at any point thereof a person will be enabled to descend to the base of the tower at any desired rate of speed by simply seating himself or herself upon the rollers, to be carried down by movement imparted to the latter by taking hold of the hand-rails at successive points and urging the body forwardly, as will be understood. As shown in Fig. 4, the lower terminus of the said spiral way leads onto a substantially horizontal platform 37, and, as shown in Figs. 1, 2, and 3, communication is had with the interior of the tower at the different floors or landings 38 of the building through an entrance-way formed therein at 39, Fig. 2, for instance, by cutting out portions of several of the outer upright members 4, a metal strap, such as 40, Figs. 3 and 4, serving to brace or fasten together the free ends of the uprights thus cut, said uprights being shown at 41, Fig. 3. Instead of the construction latterly described, however, the upright members 4 may ordinarily be spaced apart sufficiently to freely admit the bodies of persons seeking to get on the movable spiral way within the tower, as is apparent. Bridges 42 lead from the different landings of the building 27 to the tower, and leading upwardly from the ground and from one bridge to another are ladders 43 for ascent by firemen, as shown. Each stand-pipe 23 is provided with one or more branch pipes 44, corresponding to each

landing of the building, and to these branches the attachment of ordinary fire-hose may be made for the purpose of directing streams of water on the burning structure. Each of the said string-plates may be formed practically of one continuous piece, if desired; but preferably I form the string-plates 29 in sections, and I also form the meeting ends of different sections thereof at opposite sides of the interior of the tower with substantially right-angled projections or flanges 45, fastened together in any suitable way, and secured to said string-plates also in any suitable way are duplicate upwardly-extending brace-rods 46, disposed on opposite sides of the said projections or flanges, these said rods serving to strengthen and hold the structure in rigid manner, as is apparent. Due to the plane of section in which Fig. 2 is taken the flanges 45 appear at one side only of the interior of the tower, and it may be remarked that the anchoring devices shown in Figs. 2 and 4 are preferably omitted from Fig. 1.

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

1. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, parallel spirally-disposed string-plates extending from top to bottom of the tower, between said series, and conical rollers rotatably supported by said string-plates.

2. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, parallel spirally-disposed string-plates extending from top to bottom of the tower, between the said series, and formed with corresponding notches and openings, and conical rollers having shafts with their ends supported in said notches and openings.

3. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, parallel spirally-disposed string-plates extending from top to bottom of the tower, between said series, conical rollers rotatably supported by said string-plates, and means for preventing displacement of said rollers.

4. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, parallel spirally-disposed string-plates extending from top to bottom of the tower, between said series, and formed with corresponding notches and openings, conical rollers having the ends of their shafts supported in said notches and openings, and means located above the shafts, at the notches, for preventing displacement of said rollers.

5. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members, parallel spirally-disposed string-plates extending from top to bottom of the tower, between said series, and formed with corresponding notches and openings, conical rotatable rollers having the ends of their shafts supported in said notches and openings, and a spiral strip attached to the inner string-plate, to prevent displacement of said rollers.

6. In a fire-escape, a base, a tower, a spiral way having independently-movable sections, a band-plate secured to the tower around the lower part thereof, and securing devices for said band-plate, anchored within said base.

7. In a fire-escape, a base, a tower, a spiral way having independently-movable sections, a band-plate secured to said tower at the base, and anchoring devices for said plate, comprising each a vertical member secured within the base, a member above the base, having vertical notches therein, bolts passing transversely through the sides of said notches, and fastening-pins for said bolts, each bolt being crooked to engage the plate.

8. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, stand-pipes within the area covered by said inner series and having branch pipes for attachment of fire-hose, and a spiral way disposed within the tower and extending practically from top to bottom thereof, said way being made up of rotatable conical rollers.

9. In a fire-escape, a tower, stand-pipes within the area covered thereby, and having branch pipes substantially at each landing of an adjoining building, for connection with said stand-pipes of fire-hose, and a spiral way extending around the tower from top to bottom thereof, said way being constructed of string-plates and rotatable conical rollers supported thereby, having their smaller ends extending inwardly.

10. In a fire-escape, a tower, stand-pipes within the area covered thereby, having branch pipes substantially at each landing of an adjoining building, for connection with said stand-pipes of fire-hose, and a spiral way extending around the tower from top to bottom thereof, said tower having bridges leading thereto from such landings, constructed to admit persons to the said way for the purpose of descending thereon, and said way being made up of rotatable conical rollers having spiral supports.

11. In a fire-escape a tower, and a spiral way disposed within the same from top to bottom thereof and constructed of independently-rotatable conical sections.

12. In a fire-escape, a tower, a spiral way disposed within the same from top to bottom thereof, and constructed of independently-rotatable conical rollers, having the smaller ends thereof extending inwardly, and bridges connecting the tower with different landings of an adjoining building, said tower being constructed with entrance-ways admitting persons from the bridges to said way.

13. In a fire-escape, a tower constructed of inner and outer concentric series of vertical members or uprights, parallel spirally-dis-

posed string-plates, rotatable conical rollers supported by the latter, stand-pipes within the area covered by the tower, said pipes each having a connection for a fire-hose, braces for said stand-pipes, braces for the string-plates, bridges leading to the tower at different heights thereof, and ladders leading upwardly from the ground from one bridge to the other.

14. In a fire-escape, a tower, a spiral way inclosed thereby and constructed of independently-movable conical rollers, and hand-rails at the sides of said way, above said rollers.

15. In a fire-escape, a tower, parallel spirally-disposed string-plates therein, rotatable conical rollers supported by the string-plates, and hand-rails at the sides of the way, above said rollers.

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

JAMES R. PROUTY.

Witnesses:
FRED E. WINTER,
FRANK C. SHAFER.