A. W. SMITH.

PORTABLE FIRE ESCAPE.

APPLICATION FILED JAN. 8, 1916.

1,235,943.

Patented Aug. 7, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

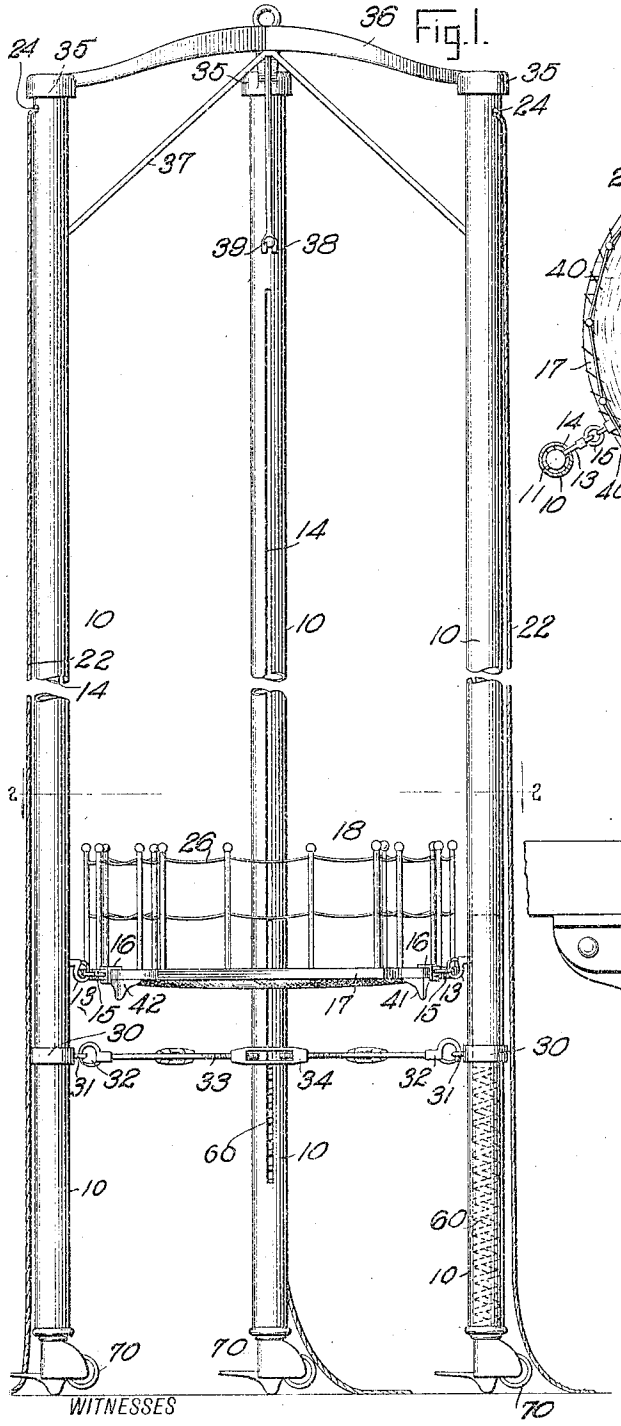


Fig. 2.

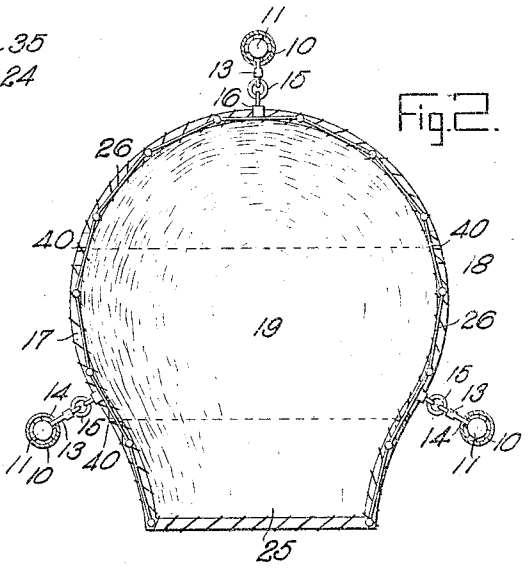
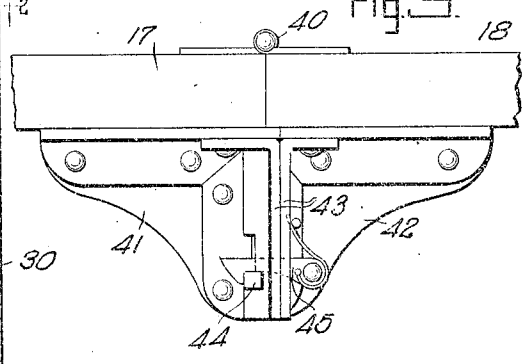


Fig. 3.



WITNESSES

C. K. Reichenbach.

Henry Hoerth Jr.

INVENTOR

Allen Warwick Smith

BY Munn & Co

ATTORNEYS

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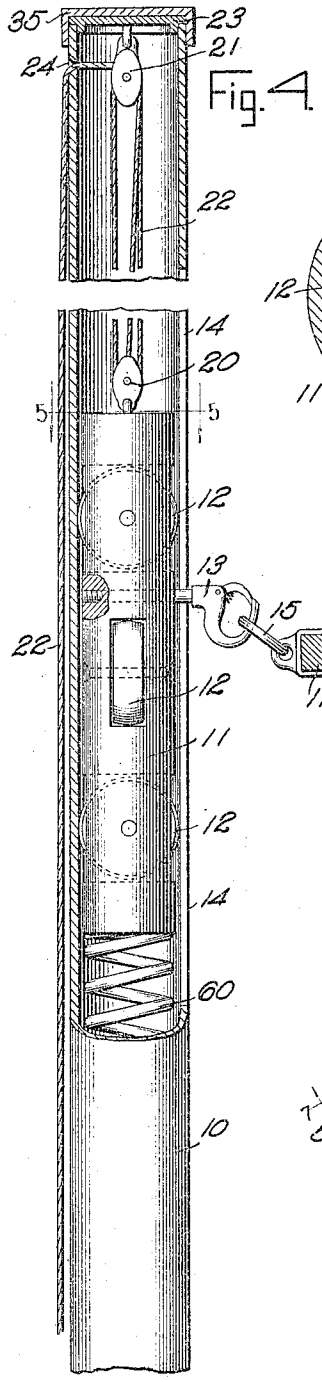


Fig. 4.

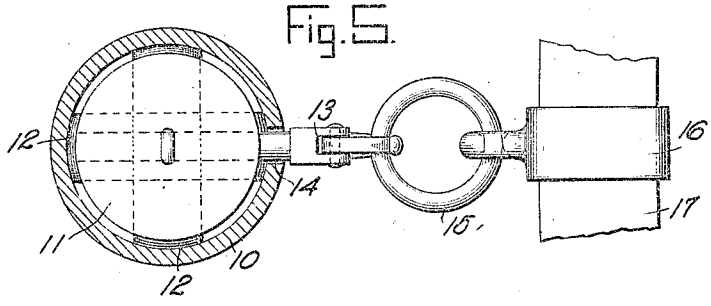


Fig. 5.

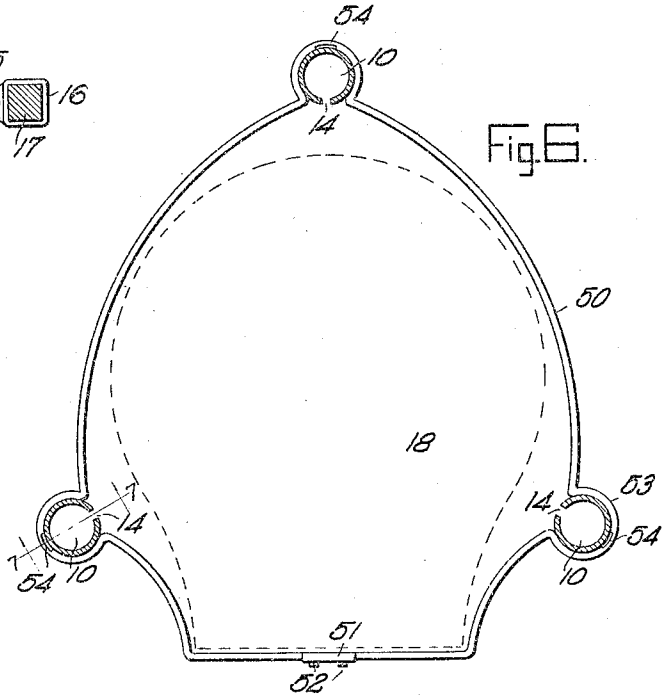


Fig. 6.

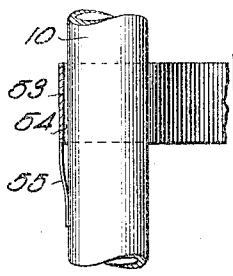


Fig. 7.

WITNESSES

E. K. Reichenbach.

Geo. J. Hooton.

INVENTOR

Allen Warwick Smith

BY

Wm. & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALLEN WARWICK SMITH, OF NEW YORK, N. Y.

PORTABLE FIRE-ESCAPE.

1,235,943. Specification of Letters Patent. Patented Aug. 7, 1917.

Application filed January 8, 1916. Serial No. 70,958.

To all whom it may concern:

Be it known that I, ALLEN WARWICK SMITH, a citizen of the United States, and a resident of the city of New York, New Brighton, borough of Richmond, in the county of Richmond and State of New York, have invented a new and Improved Portable Fire-Escape, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved portable fire escape arranged to permit firemen to quickly place it in position on the sidewalk in front of the wall of a building to allow persons in the building to pass from any window to the fire escape to be lowered by the latter to the sidewalk, and to permit firemen to be raised to any window for assisting in the escape of persons from the building, and for effectively fighting the fire at any one story.

In order to accomplish the desired result, use is made of a group of posts, carriers mounted to slide up and down on the posts, hoisting means mounted on the said posts and connected with the said carriers to raise and lower the same, and a platform extending within the space of the group of posts and attached to the said carriers.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the portable fire escape in erected position;

Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged side elevation of a portion of the foldable platform;

Fig. 4 is an enlarged sectional side elevation of one of the posts, its carrier, the hoisting means for the same and the connection between the carrier and the platform;

Fig. 5 is an enlarged sectional plan view of the same on the line 5—5 of Fig. 4;

Fig. 6 is a sectional plan view of the posts and a brace engaging the same in case the posts are of extraordinary height; and

Fig. 7 is an enlarged sectional side elevation of the same, on the line 7—7 of Fig. 6.

As shown in Figs. 1, 2 and 6, use is made of three hollow posts 10, preferably made of iron tubes, of a suitable height to reach, at least, the upper floor of a building when set up on the sidewalk in front of a wall of a building. The posts 10 are spaced equidistantly apart when set up and within each post is arranged a carrier 11 provided with rollers 12 located one above the other and in contact at their peripheral faces with the inner face of the corresponding post 10. The rollers 12 are preferably set at angles one relatively to the other, as plainly indicated in Fig. 4. To each of the carriers 11 is secured a hook 13, the shank of which extends through a vertical slot 14 formed in the corresponding post 10 from near the bottom thereof to within a short distance of the upper end, as indicated in the drawings. The several hooks 13 of the carrier 11 are engaged by rings 15 mounted on clips 16 attached to the frame 17 of a platform 18 extending within the space inclosed by the posts 10, as plainly shown in Figs. 1 and 2, the platform serving to carry persons from the building down to the sidewalk, to raise firemen to any one story to assist persons to reach the platform from a window and to also enable firemen to effectively fight the fire at any one floor when taking hose along during the ascent of the platform with the firemen thereon.

The body 19 of the platform is preferably made of a suitable fireproof fabric fastened in any suitable manner to the frame 17 of the platform 18. In order to raise and lower the platform 18 the following arrangement is made: To the top of each carrier 11 (see Fig. 4) is attached a tackle block 20 engaged by a rope, cable or a similar flexible connection 22 connected with a tackle block 21 attached to the cap 23 of the corresponding tube 10, the flexible connection 22 extending from the tackle block 21 through an eye 24 formed in the side of the post 10 so that the outer end of the flexible connection 22 hangs down on the outside of the corresponding post 10 to be within convenient reach of firemen or other persons at the sidewalk. Thus when the platform 18 is in lowermost position and a pull is exerted on the outer ends of the flexible connections 22 then the carriers 11 are lifted within the posts 10 and in doing so raise the platform 18 to any desired height to locate the platform directly opposite the window of the building for persons to pass from this window onto the platform to be next lowered by the firemen manipulating the flexible connections 22 correspondingly. In order to reach the window, the platform 18 is preferably provided with an extension 25 projecting beyond two

of the posts 10, as plainly indicated in Fig. 2, to permit a person to readily step from the window onto the platform 18. The frame 17 of the platform is preferably provided with a suitable railing 26 extending to the entrance end of the extension 25 to prevent persons from falling off the platform while being lowered to the sidewalk.

In order to permit of conveniently carrying the portable fire escape on a ladder truck of the fire department the posts 10 are detachably connected with each other and the platform 18 is made in sections to fold up into a comparatively small space for convenient transportation on the truck. For the purpose mentioned, the posts 10 near their lower ends are provided with bands 30 having eyes 31 engaged by snap hooks 32 of sectional braces 33 provided with suitable turnbuckles 34 to shorten or lengthen the braces to hold the posts the desired distances apart.

The upper ends of the posts 10 are connected with each other by caps 35 formed on the arms of a spider 36 provided with braces 37 terminating in forks 38 adapted to engage headed pins 39 attached to the posts 10 near the upper ends thereof. The braces 37 radiate from the center of the spider 36 and are inclined downwardly and outwardly so that the spider can be readily fitted with its caps 35 onto the upper ends of the posts 10 and the forks 38 can be readily engaged with the pins 39 to rigidly connect the upper ends of the posts with each other and to hold the same the desired distance apart.

It is understood that when the fire escape is not in use the hooks 32 are disconnected from the eyes 31 and the spider 36 with its braces 37 is disengaged from the upper ends of the posts 10 and the rings 15 are disengaged from the hooks 13 to allow of conveniently transporting the posts 10 in a bundle on the fire truck together with the braces 33, the spider 36 and the platform 18 until the fire is reached.

In order to allow of folding the platform 18 the frame 17 is made in sections connected with each other by hinges 40 and from the sections at the hinges 40 depend brackets 41, 42 adapted to abut against each other with their vertical members 43 and 44 to reinforce the sectional frame 17 at the hinges. The bracket 41 is provided with a keeper 44 adapted to be engaged by a spring-pressed latch 45 fulcrumed on the other bracket 42 to securely lock the brackets 41 and 42 together to prevent accidental opening of the hinged sections of the frame 17 and to reinforce the latter at the hinged ends, as will be readily understood by reference to Fig. 3.

In case the posts 10 are of considerable height then an additional brace 50 may be used intermediate the ends of the post and this brace 50 is preferably made of a single piece of metal split at one end and provided at the adjacent ends with a sleeve 51 to fasten the ends together by the use of set screws or bolts 52. The brace 50 is provided with integral bands 53 encircling the posts 10 to within short distances of the side walls of the slots 14, and each band 53 is provided at its inner face with a vertical recess 54 for passing over a spring arm 55 secured to the corresponding post 10, the said spring arm 55 engaging with its upper end the lower edge of the corresponding band 53 after the brace 50 is placed in position on the post (see Fig. 7).

The carriers 11 are cushioned when moving into lowermost position by the use of coil springs 60 held in the lower ends of the hollow posts 10. In order to permit the fire escape to be readily moved along the sidewalk to a desired position, use is made of casters 70 mounted on the lower ends of the posts 10, the casters being preferably of the combination wheel and lever type to permit of using the wheels for rolling along the sidewalk until the desired position is reached and for then moving the wheels off the sidewalk to allow the levers to rest on the sidewalk to hold the fire escape against accidental movement while being used for lowering persons desiring to escape from the burning building or for elevating firemen to any one of the floors. The combination casters referred to are of well known construction so that further detail description of the same is not deemed necessary.

It will be noticed that the fabric body 19 of the platform provides a safety net for persons to jump into from above.

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

1. A portable fire escape, comprising a group of hollow posts provided with vertical slots, removable means for holding the posts spaced apart, carriers within the said posts and having rollers in contact with the inner faces of the posts, a hook attached to each carrier and projecting through the slot of the corresponding post, hoisting means mounted on the posts and connected with the said carriers to raise and lower the latter, and a platform extending within the space formed by the posts and having rings detachably engaging the said hooks.

2. A portable fire escape, comprising a group of hollow posts provided with vertical slots, removable means for holding the posts spaced apart, carriers within the said posts and having rollers in contact with the inner faces of the posts, a hook attached to each carrier and projecting through the slot of the corresponding post, hoisting means mounted on the posts and connected with the said carriers to raise and lower the lat-

ter, and a platform extending within the space formed by the posts and having rings detachably engaging the said hooks, the said platform having an entrance extension projecting between adjacent posts.

3. A portable fire escape, comprising a group of tubular slotted posts, means for detachably connecting the posts together, carriers mounted to slide up and down in the posts and having members projecting through the slots thereof, hoisting means mounted on the said posts and connected with the said carriers to raise and lower the same, a platform extending within the space of the group of posts and attached to the members of said carriers, and springs in the lower ends of the posts for cushioning the carriers on reaching lowermost position.

4. A portable fire escape, comprising a group of posts, means for detachably connecting the posts together, carriers mounted to slide up and down on the posts, hoisting means mounted on the said posts and connected with the said carriers to raise and lower the same, a platform extending within the space of the group of posts and attached to the said carriers, the said platform being made in sections hinged together for holding the sections, and self-locking means for locking the platform sections one relatively to the other when in extended position.

5. A portable fire escape, comprising a group of hollow posts provided with vertical slots, carriers within the said posts and each provided with rollers one above the other and disposed at an angle one to the other, hooks attached to the carriers and projecting through the said slots, sets of tackle blocks for each post, one of the tackle blocks of a set being attached to the top of a carrier and the other to the top of the corresponding post, ropes engaging the said tackle blocks and extending to the outside of the posts at the upper ends thereof, and a platform extending within the space formed by the group of posts, the platform having rings adapted to engage the said hooks.

6. In a portable fire escape, a group of posts, carriers slidably mounted on the posts, means for operating the carriers, a platform in the space between the posts and detachably connected with the carriers, and a brace detachably connecting the posts together, said brace comprising a split ring-like member, having loop-shaped portions fitting upon the posts and provided at its ends with means for detachably securing them together.

7. In a portable fire escape, a group of posts, carriers slidably mounted on the posts, means for operating the carriers, a platform in the space between the posts and detachably connected with the carriers, a brace detachably connecting the posts together, said brace comprising a split ring-like member having looped shaped portions fitting upon the posts and provided with means for detachably securing its ends together, and spring members on the posts and with which the looped shaped portions of the brace engage.

8. In a portable fire escape, a group of detachably connected posts, carriers mounted to slide up and down on the posts, means for operating said carriers, and a platform detachably connected with the carriers, the platform comprising hinged sections having depending brackets adapted to abut against each other and provided with means for locking them together.

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

ALLEN WARWICK SMITH.

Witnesses:
THEO. G. HOSTER,
G. H. EMSLIE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."