W. F. HAJEK.

FIRE ESCAPE.

APPLICATION FILED AUG. 19, 1912.

1,111,794.

Patented Sept. 29, 1914.

2 SHEETS—SHEET 1.

Fig. 3

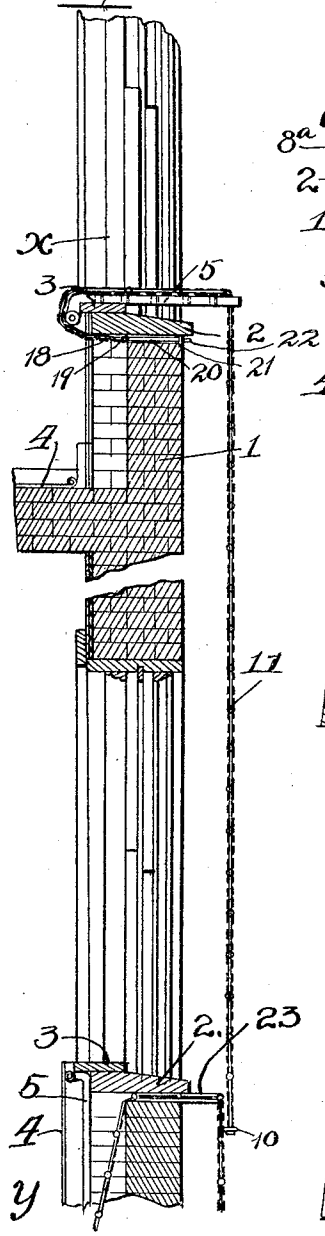


Fig. 1

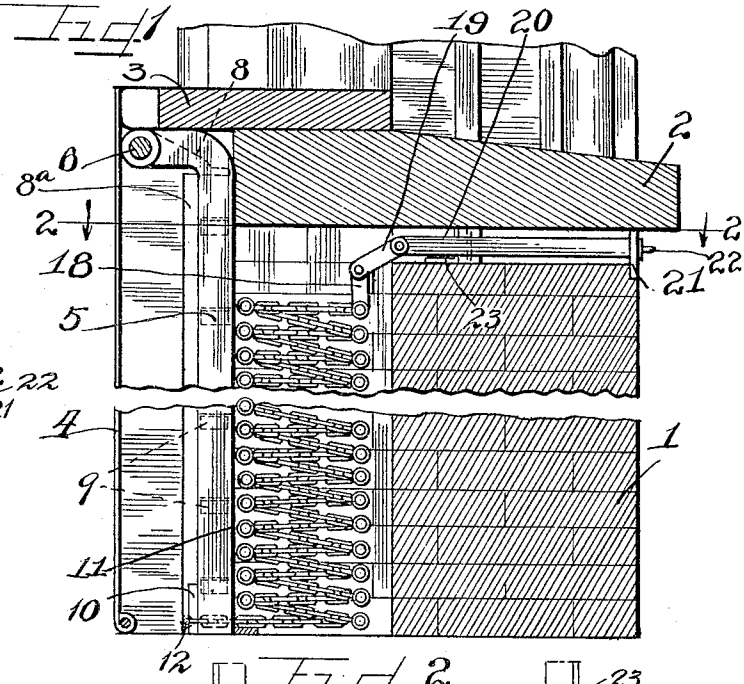
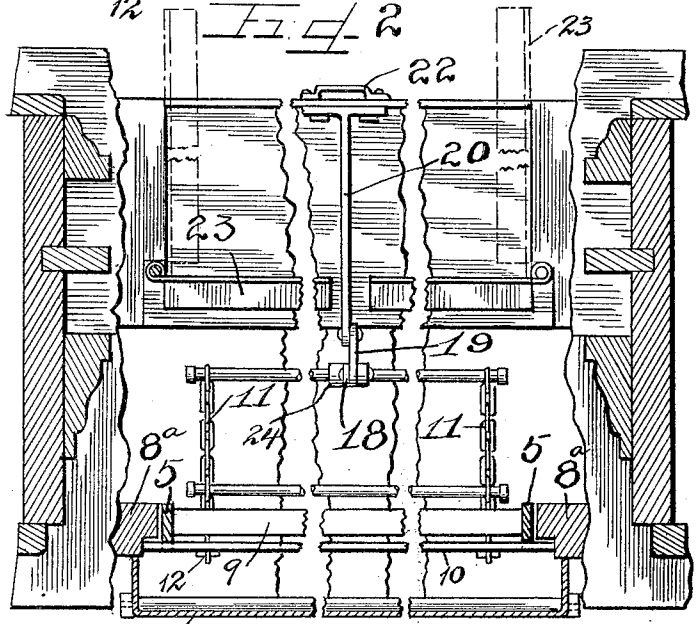


Fig. 2



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4

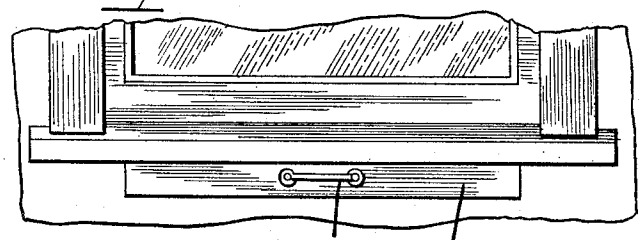


Fig. 5

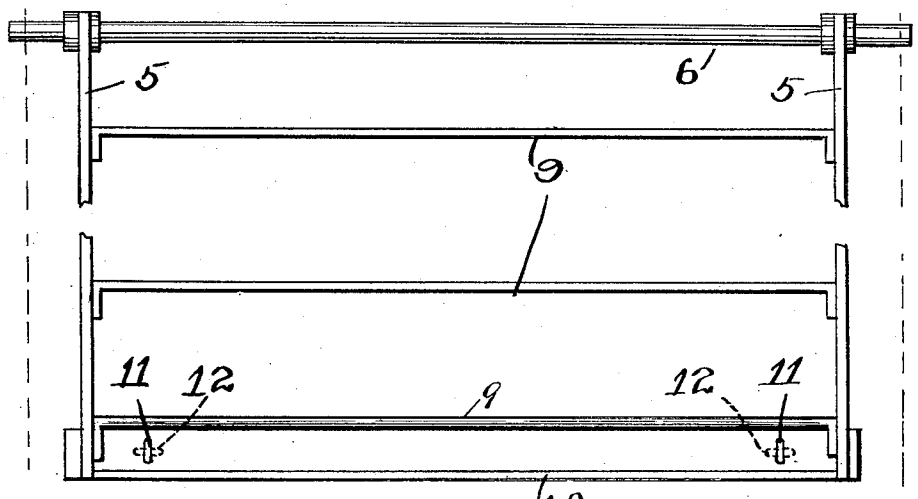


Fig. 6

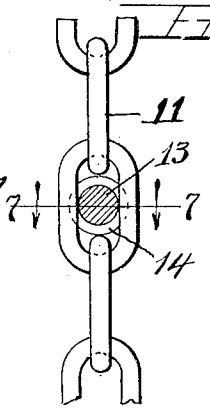
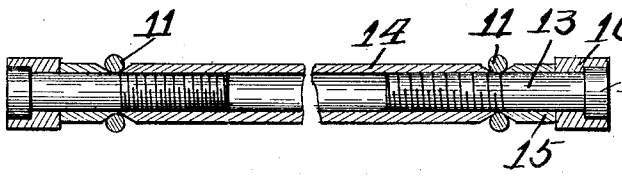


Fig. 7



Witnesses

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FIRE-ESCAPE.

1,111,794. Specification of Letters Patent. Patented Sept. 29, 1914.

Application filed August 19, 1912. Serial No. 715,768.

To all whom it may concern:

Be it known that I, WILLIAM F. HAJEK, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numbers of reference marked thereon, which form a part of this specification.

Fire escapes have heretofore been installed in each of the individual rooms of hotels and other public buildings. These, however, are usually of such construction as to render it exceedingly difficult, if not impossible, for the occupants of the room or place to readily make use of the same. They sometimes are of inflammable material such as rope, and in practically all instances, when not in use, are exposed to view within the room and appear objectionable. Furthermore, where devices such as cables or ropes are employed, it frequently happens that the same are not sufficiently long to reach the street in safety, and when use is attempted, the user is frequently subjected to great danger thereby. Furthermore, where such devices are used in high (or comparatively high) buildings, should one of said devices be insufficient to reach the street, it is practically impossible for the user to reach safety by utilizing the device for another and lower room unless such device has been previously extended by some other person, and in consequence, such devices have not come into general use, and have not been regarded with favor even in those localities where the law or ordinances require the same to be installed.

The object of this invention is to afford a fire escape which is normally wholly concealed from view, but which may be extended into operative position by one within the room or by one outside of the room, and supported either upon the sill or upon another fire escape depending from the upper window.

It is also an object of the invention to afford a construction which will be self-reeling or folding when returned to place, and which cannot, by any possibility, become jammed, locked or tangled when being extended for use.

It is an object of the invention to afford a fire-proof and safety ladder by the use of which the occupant of a room may escape either to the ground or to a lower window, and, if necessary, may extend the safety ladder for that window for further descent without the necessity of entering the room.

The invention (in a preferred form) is illustrated in the drawings, and hereinafter more fully described.

In the drawings: Figure 1 is an enlarged, fragmentary detail and section of a device embodying my invention, showing the same folded into place and concealed. Fig. 2 is a fragmentary section on line 2—2 of Fig. 1. Fig. 3 is a fragmentary, vertical section of the wall of a building, showing two windows, one above the other, and illustrating the operation of my invention. Fig. 4 is a fragmentary outer face view illustrating the outer pull for the device. Fig. 5 is a fragmentary face view of the inner ladder bracket. Fig. 6 is an enlarged sectional view of the ladder, showing one of the side chains in elevation, and one of the rounds in section. Fig. 7 is a view taken on line 7—7 of Fig. 6.

As shown in the drawings: 1, indicates the wall of a building, which may be, of course, of any suitable material or construction.

2, indicates the window ledge or sill, and 3, the inner or sub-sill. Beneath the sill, and conveniently extending from sill to floor (or for any desired space) is a compartment or recess of sufficient size to hold the desired length of ladder, and the door 4, is pivoted at the bottom of the recess to swing downwardly, as shown in Figs. 1 and 3, to permit access to said recess to manipulate the device.

An angled bracket comprising side bars 5, and provided with a pintle rod 6, which extends through the short or curved ends thereof, is pivotally supported immediately beneath the sub-sill 3, on said pintle, the ends of which are journaled in suitable bearings 8, therefor rigidly anchored in the construction 8^a at each side of said recess. Said bracket arms 5, are connected transversely by means of any desired number of bars 9, arranged parallel the pintle 6, and forming a strong grating. At their outer ends, said bracket bars 5, are releasably engaged on one side by an angle bar 10, near each end of which is provided an aperture to receive a link 11, of one of the ladder chains and through which is extended a cotter pin 12, as shown in Fig. 5, to hold the end of the chain firmly

engaged thereto. The construction of the bracket thus formed is such that the bracket may be turned upwardly and outwardly over the window sills, as indicated by X, in Fig. 3, and said bracket arms are of a length to extend sufficiently beyond the wall of the building to enable the user to swing clear while descending or ascending.

The chain may be of any desired size or construction, and links of any desired form may be used, and through oppositely disposed links in said chains, as shown, are extended threaded pintles 13, which thread into a sleeve 14, between the chains, and which serve as ladder rungs and space the chains uniform distances apart on said links. A relatively short spacing member 15, is provided on the outer end of each of said pintles, and engaged thereagainst is a roller 16, in which the head 17, of the pintle seats, as shown in Fig. 7.

A sufficient length of said chain ladder is provided to reach the distance between several floors, and at the otherwise free end of said chain ladder to the lowest round thereof, is secured a link 18, as shown in Fig. 2, with which is connected a link 19, which is pivotally connected on a bar 20, which is secured centrally on a closing plate 21, which fits into and closes a space or recess beneath the sill opening from said inner recess through the wall immediately beneath the sill, said closing plate fitting into the wall substantially flush with the outer face thereof, as shown in Fig. 1. A suitable handle 22, is provided on said closing bar, and pivotally supported in the walls of said recess at each side of the ladder, are angle bars or guide bars 23, each of which, as shown, is an angle bar pivoted at one of its ends outside of the ladder, and serving as guide brackets when the ladder is drawn outwardly through said outwardly opening recess, as shown at Y in Fig. 3.

The operation is as follows: When attempting to escape from an upper room, the occupant releases and throws the door 4, down, opening the ladder recess. The angled bracket is then turned upwardly and outwardly to project beyond the window, as shown at X, in Fig. 3, whereupon the bar 10, drops out of engagement with arms 5 and the ladder is drawn out of the recess and suspended, as shown. The ladder is of course supported in this position by the outwardly projecting arms 5, and is retained at its inner end by the closing bar 21, to which it is connected by the links 18, 19 and 20, as illustrated in the upper portion of Fig. 3.

Should the length of the ladder be insufficient to reach the street, or to a floor beyond the zone of the fire, the operator may extend a lower ladder by grasping the handle 22, and pulling the closing bar 21, outwardly, thereby drawing the ladder outwardly to the position shown at Y, in Fig. 3, and may continue his descent in this manner from practically any height to the street or to a window at which he may safely enter.

The construction affords great strength, and the brackets on which the ladders are supported, are very firmly engaged to the structure, for example, the angled bracket 5 affords a grating over which the user of the ladder may pass with safety to the ladder projected beyond the wall of the building, while in a similar manner, the guide bars 23, which, when swung outwardly afford the brackets for the ladder, in their other adjustment, afford an equally positive support, the rounds of the ladder extending thereacross affording a grating and enabling the operator to safely pass thereover.

The rollers 16, at the ends of the rounds, facilitate the outward adjustment of the ladder in either way, and prevent the ladder becoming jammed or tangled while being extended.

Of course, it should be understood that minor details of construction may be varied. I have shown but a preferred form of my invention, and I therefore do not purpose limiting the patent granted on this application, otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described a collapsible ladder concealed in a recess in a wall, and detachable retaining means for each end thereof, said means permitting extension of either end of said ladder for use and for holding the same in such position at the other end thereof.

2. In a device of the class described a collapsible ladder concealed in a recess beneath the window sill of a building, a bracket pivotally mounted on the inner wall of said building and releasably connected to one end of said ladder, a passage communicating with said recess in the wall of the building, and a detachable closure therefor connected to the other end of said ladder.

3. A device of the class described embracing a non-combustible ladder adapted to be folded in a recess beneath a window, a bracket releasably engaged to said ladder and permanently attached to the window and adapted to swing outwardly from the window to support the ladder free from the wall, a recess opening beneath the sill from the ladder containing recess, a closing member thereon provided with a hand pull and attached to the end of the ladder opposite to that end attached to the bracket whereby the ladder may be pulled outwardly beneath the sill, and swinging guide arms affording brackets to support said ladder free from the wall when drawn outwardly beneath the sill.

4. A fire escape embracing a non-combus-

tible ladder concealed within a recess in a room and adapted to be extended for use from either one of its ends, the one end from inside the room, and the other end from outside the room, the unextended end serving to support the ladder in extended position.

5. A building equipped with fire escapes, one for each window, each comprising a fireproof ladder foldable in a recess beneath the window, a bracket on said recess adapted to be swung upwardly and outwardly through the window and to which one end of the ladder is engaged, means permitting extension of said ladder from outside the building, embracing a pull extending through a recess beneath the sill and detachably engaged to the other end of the ladder, guide arms adapted to engage the ladder and project the same free from the wall when so extended.

6. A ladder of the class described, embracing means attached to each end of said ladder, the one adapted to support the ladder outside the window from over the sill, the other removably mounted and accessible from outside the window and beneath the sill, the former of said devices being detachably engaged to its end of the ladder.

7. In a device of the class described a collapsible ladder concealed in a recess in a wall of a building, one end of said ladder releasably engaged within said recess to support the ladder in extended position, a passage communicating with said recess through which said ladder may be run into extended position, and a closure for said passage secured to the other end of said ladder, the arrangement permitting extension of said ladder into use by either of its ends to be retained in such position by the unextended end of the ladder.

8. In a device of the class described a ladder concealed in a recess in the wall of a building, projecting means hingedly connected on the inner side of the wall and releasably connected to one end of the ladder, a passage in the wall of said building communicating with said recess, and a closure therefor on the outer side of the wall connected to the other end of said ladder, said arrangement permitting the ladder to be extended for use from either of its ends.

9. In a device of the class described the combination with a support of a collapsible ladder, retaining means for each end thereof, the arrangement permitting extension of the ladder from either one of its ends without manual adjustment of the retaining means, the other end thereof acting automatically to afford a support for the extended ladder.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

WILLIAM F. HAJEK.

Witnesses:
CHARLES W. HILLS, Jr.,
GEORGE R. MOORE.

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