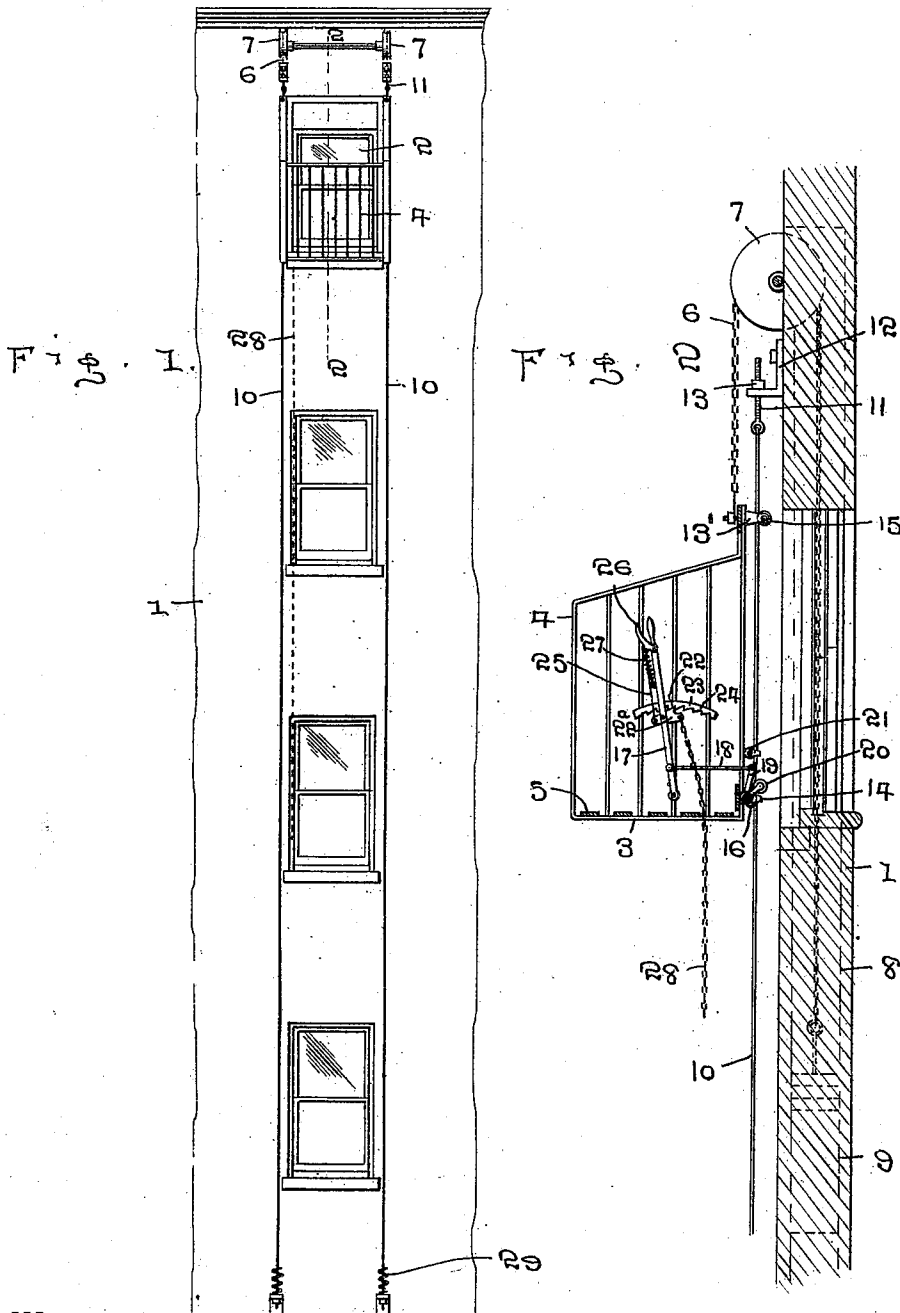


W. C. STUART.
FIRE ESCAPE.

APPLICATION FILED JUNE 3, 1910.

979,900.

Patented Dec. 27, 1910.



WITNESSES:

Thos. W. Riley
M. Newcomb

INVENTOR
W. C. Stuart

BY
W. J. Fitzgerald & Co.
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM C. STUART, OF WEATHERFORD, TEXAS.

FIRE-ESCAPE.

979,900.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed June 3, 1910. Serial No. 564,826.

To all whom it may concern:

Be it known that I, WILLIAM C. STUART, a citizen of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in fire escapes and my object is to provide a basket or carriage for the reception of passengers.

A further object is to provide means whereby the basket may travel upwardly and downwardly on the exterior of a building.

A further object is to provide a guide for the basket.

A further object is to provide means for returning the basket to the upper portion of the building after the passengers have alighted therefrom.

A further object is to provide a suitable brake mechanism whereby the basket may be locked against movement in either direction, and, a further object is to provide means for releasing the brake mechanism while the passenger is at a distance therefrom.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a detail side elevation of a building showing the elevator in operative position thereon, and, Fig. 2 is an enlarged sectional view as seen on line 2—2 Fig. 1.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the building, which may be constructed in any manner and any number of stories high, but in this instance, I have shown a building four stories in height.

Each story is provided with a window 2, which windows are arranged one above each other and in vertical alinement, in which manner the fire escape can be utilized by persons on all four of the floors, if necessary.

Adapted to travel vertically of the wall of the building and in line with the windows therein is a basket 3, which is preferably

constructed of metal, the two end walls and the side wall being preferably constructed of rods 4, while the bottom or platform is formed of flat bars 5, the side of the basket adjacent the building being left open so that passengers may readily enter the basket from the windows.

Attached to that edge of the basket adjacent the wall of the building are chains 6, which pass upwardly over grooved pulleys 7 and thence downwardly in wells 8, the inner ends of said chains being attached to counter-weights 9 within said wells, said weights being of such size as to overcome the weight of the basket and elevate the same to the upper portion of the building.

The basket is guided in its ascent or descent by placing a pair of cables 10 vertically of the wall of the building, said cables being positioned on opposite sides of the windows, the upper and lower ends of the cables being attached to bolts 11, which project through brackets 12, said brackets being secured in any suitable manner to the wall of the building and by placing nuts 13 on the threaded portions of the bolts after they have been introduced through the brackets, said cables can be drawn taut and retained in that condition.

Extending outwardly from the upper and lower edges of the basket are yokes 13' and 14, in which are mounted sheaves 15 and 16 respectively, the sheaves 15 engaging that side of the cables adjacent the building, while the sheaves 16 engage that side of the cables farthest from the building.

In order to stop the ascent or descent of the basket when desired, I provide a suitable form of grip or brake mechanism, which comprises a lever 17, the lower end of which is pivoted to one of the rods of the basket and attached to said lever at a point above its pivot is a link 18, the opposite end of which is attached to one arm of a bell crank lever 19, said bell crank lever being also pivoted to the basket. The opposite arm of the bell crank lever is provided with a gripping roller 20, which passes to the outside of one of the cables and is so arranged that when the lever is swung rearwardly, the roller 20 will be forced into engagement with the cable, thereby gripping the cable sufficiently to hold the basket against movement.

In order to insure a positive grip of the roller 20 with the cable, an auxiliary sheave

21 is extended outwardly from the basket at a point above the sheave 16, said auxiliary sheave also engaging that portion of the cable farthest from the building so that when the gripping roller is moved into engagement with the cable, said cable will be bent between the sheave 16 and the auxiliary sheave 21.

The lever 17 is provided with a latch 22, which is pivoted to the lever and extends beyond each edge thereof, said latch having a tongue 22^a thereon, which engages teeth 23 of a rack 24, said rack being fixed to the rods of the basket.

The latch 22 is operated from one end by means of a rod 25, the upper end of the rod being attached to the usual form of trip lever 26 and in order to normally hold the tongue in position to engage the teeth of the rack, a spring 27 is attached at one end to the trip lever and at its opposite end to the lever proper, so that a downward pull will be given the trip lever at all times.

If the basket is positioned at the upper window and it is desired to lower the same to one of the other windows, a chain 28 is attached to the opposite end of the latch from that engaged by the rod 25, so that by giving a downward pull on the chain, the tongue of the latch will be disengaged from the teeth of the rack and by continuing the downward pull on the chain, the basket will be lowered to the proper point.

The chain 28 is of such length as to be in reach of a person at the second or third window, but does not depend a sufficient distance to be operated from the ground, thereby obviating any possibility of the basket being lowered by anyone on the outside of the building and rendering the same substantially burglar proof.

The pulleys 7 are mounted in position upon the wall of the building in any suitable manner and may be partially set therein, but if it is desired to have the wells for the weights on the outside of the building, the pulleys may be turned at right angles from the position shown in the drawings so as to position the chains to travel into the well at the side of the basket.

In order to break the jar incident to lowering the basket, cushioning springs 29 may be placed around the cables and so arranged as to rest upon the lower brackets and it will be readily seen that when the basket strikes said springs, the jar will be practically eliminated.

In operation supposing the basket to be at the upper window, the passenger or passengers will enter the basket through said upper window, when the brake or grip is released, the weight of the passenger or passengers causing the basket to descend.

As soon as the ground is reached, the passengers alight from the basket, when the

weights will immediately elevate the same to its initial or starting point, when if there are no more passengers at the upper window, the chain may be grasped by those at the lower window and the basket lowered to that position, this operation being repeated until all of the passengers have been removed from the building.

This device can also be used for descending to the ground instead of using the stairway or an elevator within the building, as when a person is in a hurry to descend, he can step into the basket and quickly descend to the ground and after alighting, the basket will immediately ascend to the upper portion of the building. It will further be seen that by constructing all the parts of this device of metal, it will be indestructible from fire and by forming the basket of rods in the manner shown, it will not obstruct the passage of air into the room and it will further be seen that the descent of the basket can be readily controlled through the medium of the lever and gripping mechanism attached thereto.

What I claim is:—

1. In a fire escape, the combination with a basket, of supporting chains for said basket, counter-weights attached to said chains, cables, means to hold said cables taut, sheaves carried by the basket adapted to engage said cables, one set of the sheaves engaging the cables at one side and the opposite set at the opposite side, an auxiliary sheave, a gripping roller adapted to engage one of the cables between one set of the sheaves and the auxiliary sheave, a lever pivoted to the basket, a link connecting said lever with the gripping roller, a rack carried by the basket, a latch coöperating with said rack to hold the lever in its adjusted position, means carried by the lever to release the latch from the rack and additional means attached to the opposite end of the latch and depending from the basket, whereby the latch may be released when at a distance from the basket.

2. A fire escape for buildings, comprising the combination with a pair of cables and means to attach the same to a building, of a basket, supporting chains for said basket, rotatably mounted sheaves, over which said chains extend, counter-weights attached to the opposite ends of the chains, a pair of yokes adjacent the upper and lower ends of the basket, sheaves carried by said yokes and engaging said cables, the upper pair of the sheaves engaging that portion of the cables adjacent the building and the lower pair that portion of the cables farthest from the building, an auxiliary sheave engaging one of the cables at a point above the lower set of sheaves, a gripping roller adapted to engage one of said cables at a point between the lower sheave and the auxiliary sheave,

5 a bell crank lever carrying said gripping
roller, a lever pivoted to the basket, a link
connecting said lever to the bell crank lever,
a rack carried by the basket, a latch carried
10 by the lever and adapted to cooperate with
the rack to hold the lever in its adjusted po-
sition, means carried by the lever to release
said latch from the rack and a chain con-
nected to the opposite end of the latch to re-
15 lease the latch from the rack when a pull is
given said chain.

3. In a fire escape, the combination with
a basket, supporting chains therefor, pul-
leys over which said chains extend and coun-
15 ter-weights secured to the opposite ends of
said chains; of a pair of guide cables ex-
tending vertically of a building, means to
hold said cables taut, yokes carried at the
upper and lower ends of said basket, sheaves
20 mounted within said yokes, the upper and
lower sets of said sheaves engaging said
cables at opposite sides, a gripping roller
carried by said basket, and means to move
said roller into engagement with one of said
25 cables.

4. In a fire escape, the combination with
a pair of vertically disposed cables and a

basket slidably mounted on said cables; of
means to prevent the ascent and descent of
said basket, comprising a lever pivoted to 30
said basket, a bell crank lever also carried
by said basket, said bell crank lever car-
rying a sheave adapted to engage one of
said cables, a link connecting said levers,
and means to retain said first referred to 35
lever in any desired position.

5. In a fire escape, the combination with a
pair of vertically disposed cables and a bas-
ket slidably mounted on said cables; of a
lever pivoted to said basket, a bell crank 40
lever also carried by said basket, said latter
lever carrying a sheave adapted to engage
one of said cables, a link connecting said
levers, a latch carried by said first referred
to lever to retain the same in any desired po- 45
sition, and means to release said latch from
within and without said basket.

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

WILLIAM C. STUART.

Witnesses:

J. B. PRICE,

W. A. MASSIE.