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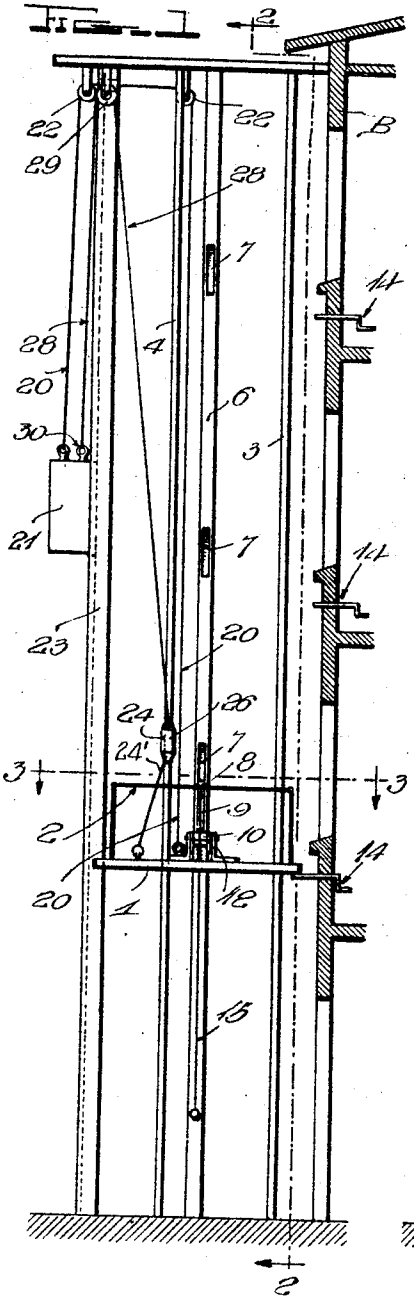
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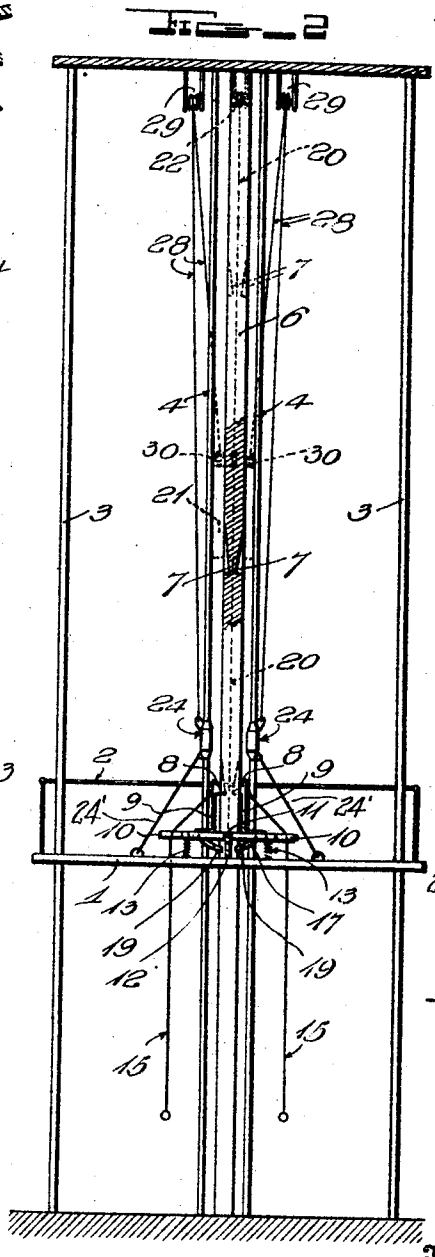
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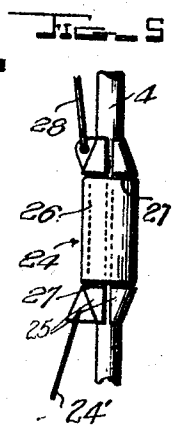
FIRE ESCAPE

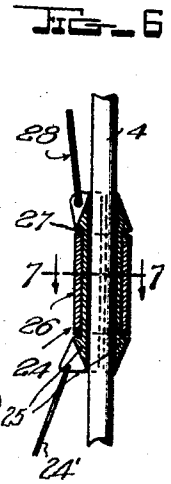
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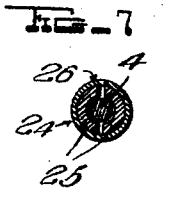
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Witness

Inventor

Benjamin Gilowitz

By H. B. Williamson & Co.

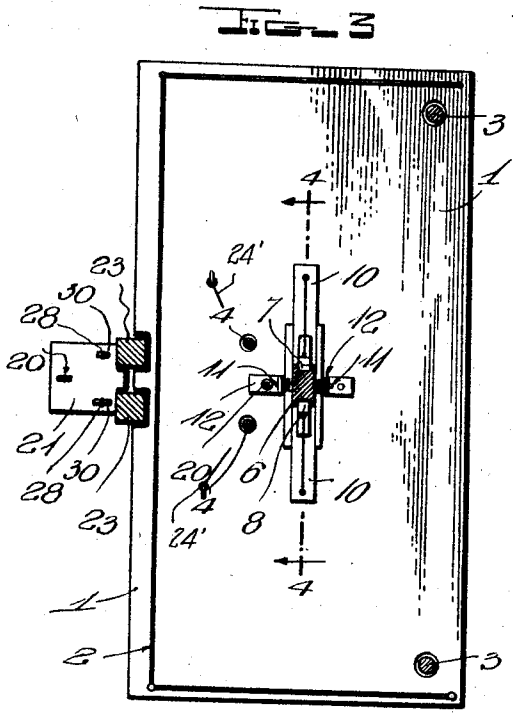
Attorneys

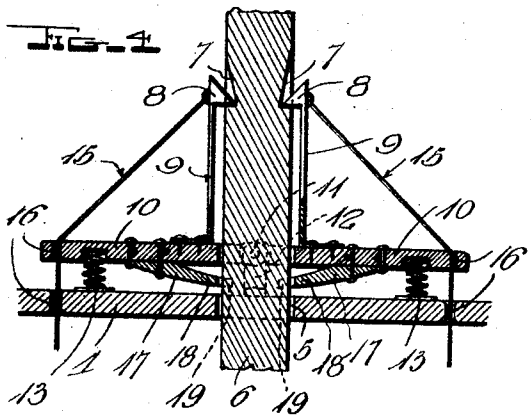
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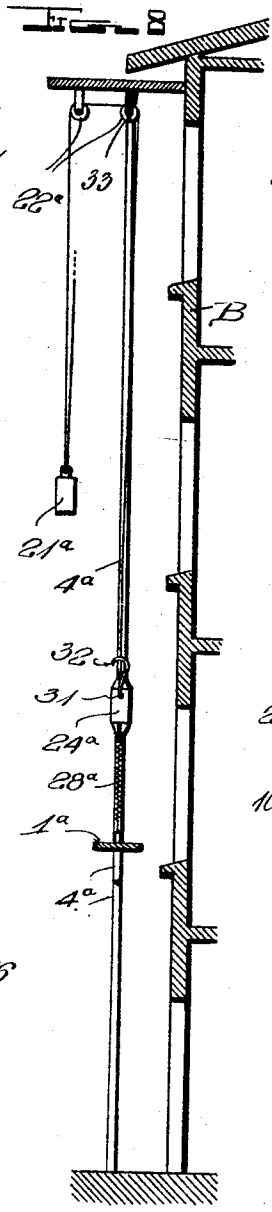
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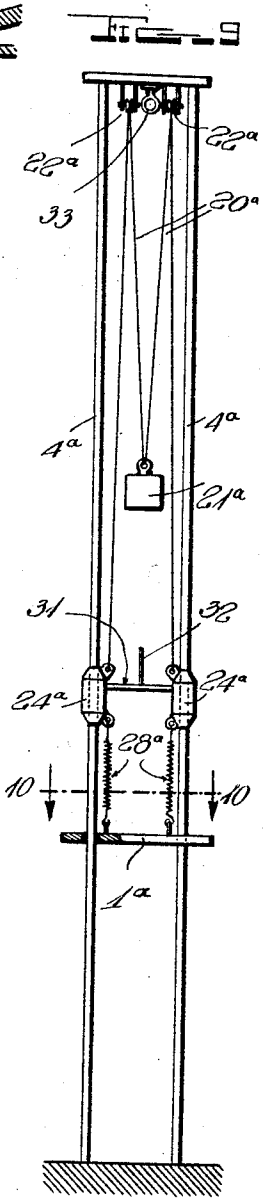
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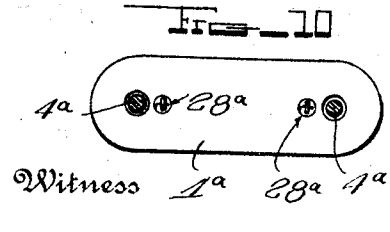
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Witness

Inventor

Benjamin Gilowitz

By H. B. Williamson & Co

Attorneys

May 25, 1926.

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B. GILOWITZ

FIRE ESCAPE

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FIG. 11

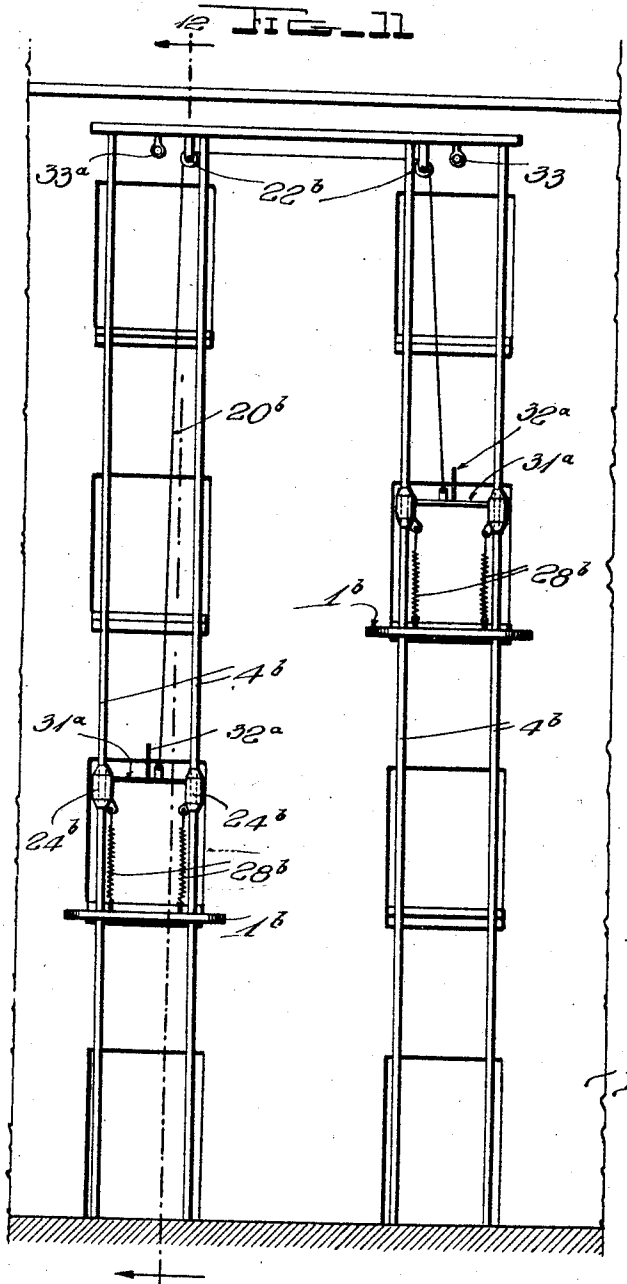
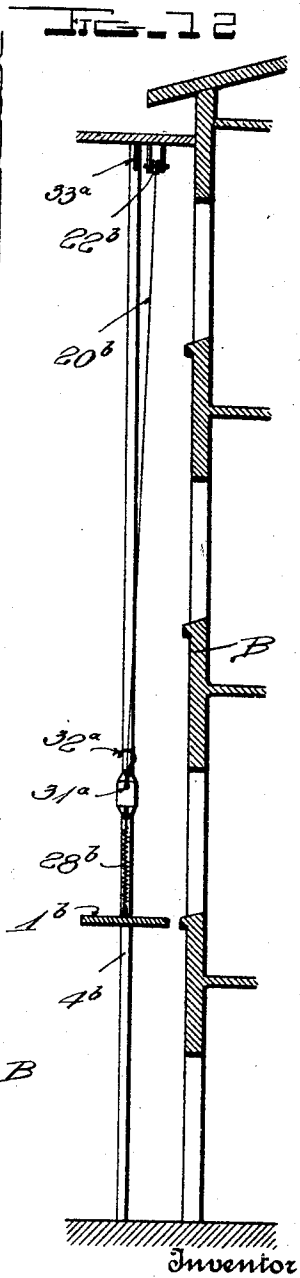



FIG. 12




Witness

Inventor

Benjamin Gilowitz

By H. B. Williamson & Co

Attorneys

Patented May 25, 1926. 1,586,424

# UNITED STATES PATENT OFFICE.

BENJAMIN GILOWITZ, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HARRY GOLDSTEIN AND ONE-HALF TO HARRY ARONSTAM, BOTH OF NEW YORK, N. Y.

## FIRE ESCAPE.

Application filed February 21, 1925. Serial No. 10,914.

My invention relates to improvements in fire escapes of the type which includes a carriage mounted to descend at the exterior of a building so that in case of fire, the occupants of upper stories may readily lower themselves to safety.

It is the object of the invention to provide a rather simple and inexpensive, yet a very reliable fire escape, which may be easily controlled, unique braking means being provided whereby the carriage may be caused to descend either slowly or rapidly, as occasion may demand.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawings.

Figure 1 is a vertical sectional view through a portion of a building, showing a side elevation of one form of the invention associated with such building.

Figure 2 is a vertical sectional view as indicated by line 2—2 of Fig. 1.

Figure 3 is an enlarged horizontal sectional view on line 3—3 of Fig. 1.

Figure 4 is a further enlarged, detail vertical section on line 4—4 of Fig. 3.

Figure 5 is a detail side elevation on an enlarged scale showing one of the hand brakes.

Figure 6 is a vertical sectional view of the hand brake shown in Fig. 5.

Figure 7 is a detail horizontal section on line 7—7 of Fig. 6.

Figure 8 is a view similar to Fig. 1 but showing a simplified construction.

Figure 9 is an outer side elevation of the device shown in Fig. 8, a portion of the carriage being in section.

Figure 10 is a detail horizontal sectional view on line 10—10 of Fig. 9.

Figure 11 is a side elevation showing a still further form of construction.

Figure 12 is a vertical sectional view on line 12—12 of Fig. 11.

In the form of construction illustrated in Figs. 1 to 7, the numeral 1 designates a carriage which is preferably in the form of a platform, which platform may well be provided with a rail 2 which prevents the occupants from accidentally falling therefrom. The platform may be mounted in any desired manner for vertical movement. In the present showing, the inner corners are formed with openings which slidably receive a pair of stationary vertical rods 3, while similar rods 4 (two in number) pass through openings near the central portion of the platform, the upper and lower ends of all of the rods being anchored in any desired manner at the exterior of a building B.

Near the openings which receive the rods 4, the platform 1 is formed with a relatively large opening 5 which slidably receives a central, vertical bar 6 whose upper and lower ends are suitably anchored. At spaced points, notches 7 have been shown in the bar 6, the lower ends of said notches constituting shoulders which co-act with the upper ends 8 of a pair of latch arms 9. These arms are formed preferably of resilient material and they are secured at their lower ends to a pair of horizontal foot levers 10 which are spaced a slight distance above the platform 1, are disposed at opposite sides of the bar 6, and have their inner ends fulcrumed on horizontal axes 11, to appropriate brackets 12 which are secured to the platform. Appropriate springs 13 of any desired form normally shift the foot levers 10 upwardly, so that as the platform is raised, the ends 8 of the latch arms 9 will successively engage the notches 7, permitting the platform to be locked at any desired floor of the building. In order to further support the platform at any desired floor, appropriate projectible and retractible stops 14 may well be carried by the wall of the building B, and for releasing the latches from the ground, so that the platform may be pulled downwardly to any desired projected stop 14, cables, ropes or chains 15 may be connected with the latch arms 9, said cables preferably passing through openings 16 in the levers 10 and platform 1.

The levers 10 are provided with extensions 17 which are rigidly secured thereto and decline toward the bar 6, the inner extremities of these extensions, indicated at 18, being normally spaced outwardly from said bar 6. They are however intended to move into frictional contact with the bar when the levers 10 are depressed to release the latches from the notches 7, so that a braking action may be effected to assist in checking the descent of the carriage. Preferably, the extensions 17 are provided with fingers 19 which project beyond the braking surfaces 18 and straddle the bar 6, to overcome any

possibility of said extensions being laterally displaced.

For returning the carriage to a raised position, after each descent thereof, I have provided a cable or the like 20 which is connected at one end to said carriage, is connected at its other end to a weight 21, and has its intermediate portion trained over appropriate sheaves 22. If desired, the weight 21 may be guided by a vertical track 23.

To assist in checking the speed at which the carriage descends, I provide a pair of hand brakes 24 which are in the nature of sleeves slidable upon the rods 4, or if desired upon cables which could be substituted for these rods. These hand brakes are contractible about the rods or the like 4 and they have some adequate connection 24' with the carriage or platform 1, so that when an operator of the device stands upon the levers 10 to control the latter, he grasps the brakes 24 in his hands and may thus contract them about the rods 4, so that the desired amount of braking power may be applied, according to the load on the platform or carriage. In the present showing, each hand brake 24 comprises a plurality of segmental sections 25 which are surrounded by a flexible sleeve 26 which sleeve may well be disposed in a groove 27 in the exterior of the sleeve formed by said segments, so that said sleeve 26 is held against vertical movement with respect to said segments. Simply by gripping the sleeve 26, the brake is effectively contracted around the rod or the like 4, to exert a frictional braking action thereon.

In the construction illustrated, cables 28 are connected to the hand brakes 24, are trained over sheaves 29 at the upper end of the carriage-guiding means, and at 30 are connected with the weight 21, and as this weight is in turn connected with the carriage or platform 1, by the cable or the like 20, it will be seen that said hand brakes 24 will move vertically with said platform or carriage.

Normally, the platform or carriage 1 stands at rest at the top floor, but may be lowered to any desired floor and checked by the stop 14. When the carriage is at rest at any story, the latches 8—9 engage the notches 7 at said story and the stop 14 is projected. Thus, a number of people may leave the building and stand on the platform or carriage without any danger of immediate descent of the latter. Then, the stop 14 is released and some person skilled in the operation of the device, will stand upon the levers 10 and grip the hand brakes 24 in his hands. By shifting his weight outwardly along the levers 10 to the proper extent, the action of the springs 13 may be overcome and thus the latches released from the notches 7, so that descent of the carriage will take place. During this descent, by squeezing the hand brakes 24 to a greater or lesser extent, and by shifting his weight outwardly or inwardly along the levers 10, said hand brakes and the braking surfaces 18 of the lever extensions 17, may be made to properly control the descent of the carriage. After the occupants have left the device, the weight 21 will function to again raise it, and if it is found after the device has reached the upper story, that it is needed at another story below, the cables 15 may be pulled, thus releasing the latches 8—9 and lowering the carriage to the desired point.

In the more simple construction illustrated in Figs. 8, 9 and 10, two stationary, vertical guide rods $4^a$ are provided which serve as guiding means for a carriage or platform $1^a$, as well as slidably engaging a pair of hand brakes $24^a$ which may be considered as identical with the brakes 24. While these hand brakes may be connected with the carriage $1^a$ by any suitable means, coil springs $28^a$ have been shown for this purpose. Preferably, the brakes $24^a$ are connected by a cross bar 31, to which cables $20^a$ may be attached, said cables being trained over sheaves $22^a$ and being connected with a weight $21^a$ which serves to raise the carriage, after each descent thereof. I have shown a hook 32 on the cross bar 31, engageable with an eye 33 at the upper end of the carriage guiding means so that the carriage may be releasably held in raised position. Whenever a person stands upon the carriage however, releases the hook 32, and contracts the brake sleeves $24^a$ upon the rods or the like $4^a$, he may descend to safety.

In the construction disclosed in Figs. 11 and 12, two pairs of guide rods $4^b$ are shown, and carriages $1^b$ are slidable along the same, said carriages being connected by springs or the like $28^b$ with hand brakes $24^b$, similar to the brakes before described. Each pair of these brakes $24^b$ may well be connected by a cross bar $31^a$, and the cross bar of one pair of brakes is connected with the bar of the other pair, by a cable $20^b$ which is trained over sheaves $22^b$. By this arrangement, when one carriage descends, the other ascends, and either or both of the carriages may be held in raised position by hooks $32^a$ engageable with eyes $33^a$.

As good results may be obtained from the details of construction disclosed, they may well be followed. However, within the scope of the invention as claimed, modifications may of course be made.

I claim:

1. A fire escape comprising a vertical stationarily mounted bar, a pair of stationary vertical rods adjacent said bar, a carriage mounted for vertical movement along said bar and rods, a pair of depressible members mounted on the carriage at the opposite sides of said bar and adapted to support the

weight of an operator when he stands on said members, means for normally holding the carriage against descent, said means being co-operable with aforesaid bar and being operatively connected with said depressible members to be released by depression of the latter, braking means for the carriage operatively connected with said depressible members and adapted to be brought into play by depression of said members, and a pair of contractible sleeves movable with the carriage and slidable upon the aforesaid rods, said sleeves serving as hand grips to permit the operator to stand in a vertical position upon the aforesaid depressible members and acting also as friction brakes when contracted upon the rods.

2. A fire escape comprising a carriage having a pair of spaced openings from its upper to its lower side, a pair of stationary vertical rods passing through said openings to guide the carriage, contractible sleeves slidably surrounding said vertical rods at points spaced above the carriage, said sleeves having sufficient connection with said carriage to move therewith and being adapted to be gripped by an occupant of the carriage and contracted upon the rods, whereby to frictionally brake the descent of said carriage.

3. A fire escape comprising a stationary vertical bar provided with a stop shoulder, a carriage mounted for movement along said bar, a foot lever mounted on the carriage at one side of said bar, and a latch operatively connected with said foot lever, said latch being cooperable with said shoulder to normally hold the carriage against descent and being releasable by depression of the foot lever, said lever having a braking portion adapted to frictionally engage the bar when said lever is depressed.

4. A structure as specified in claim 3; said braking portion of said lever comprising an arm declining from the body of the lever toward the vertical bar and having its lower end normally spaced outwardly from said bar, said lower end being engageable with the bar when the lever is depressed and having fingers straddling the bar to prevent lateral displacement of the arm.

5. A fire escape comprising a stationary vertical bar provided with a stop shoulder, a carriage mounted for movement along said bar, a depressible foot-operated member mounted on the carriage, means for normally holding the carriage against descent, said means being co-operable with said bar and connected with said depressible member to be released by depression of the latter, and braking means also co-operable with said bar, said braking means being operatively connected with said depressible member to be operated by depression thereof.

In testimony whereof I have hereunto affixed my signature.

BENJAMIN GILOWITZ.