No. 799,865. PATENTED SEPT. 19, 1905.

T. McCONNELL.

TRAVELING ATTACHMENT FOR BUILDINGS.

APPLICATION FILED DEC. 6, 1904.

2 SHEETS—SHEET 1.

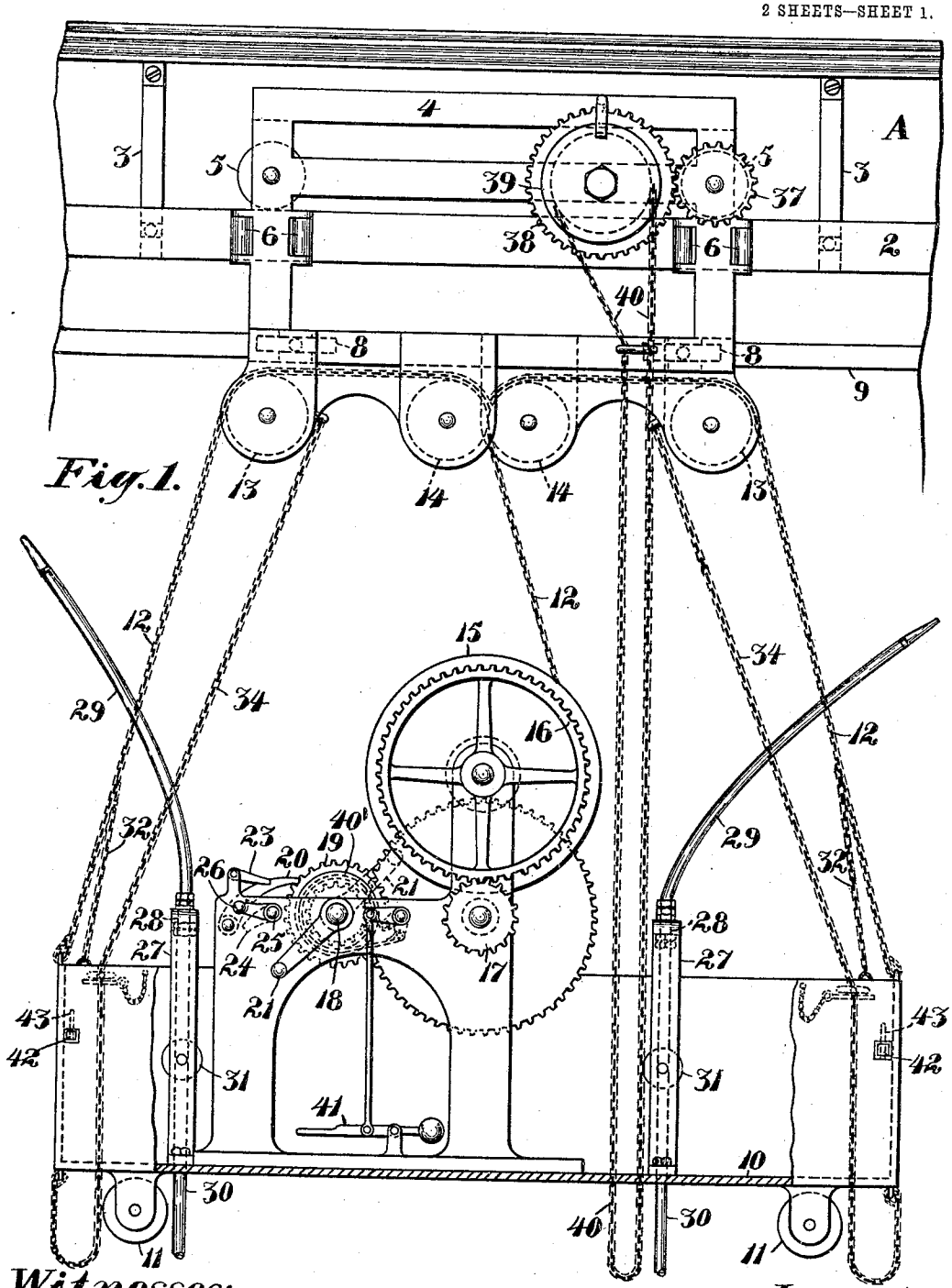


Fig. 1.

Witnesses:-
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[illegible]

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By Geo. H. Strong. Atty

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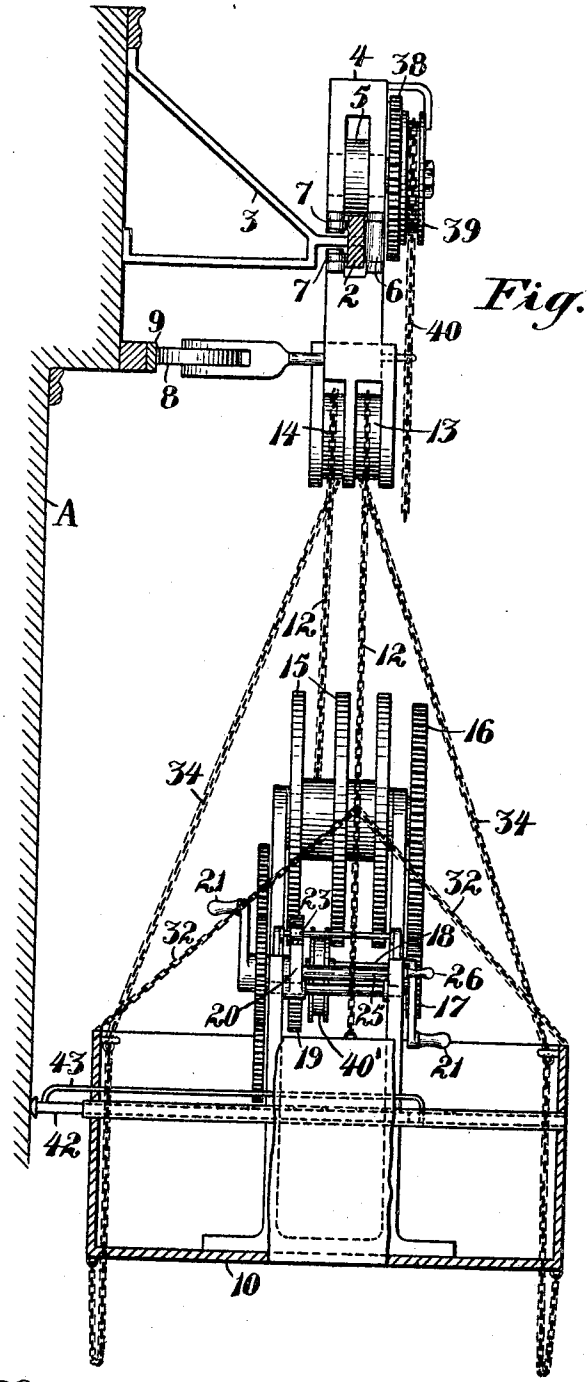


Fig. 2.

Witnesses:-
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UNITED STATES PATENT OFFICE.

THOMAS McCONNELL, OF SAN FRANCISCO, CALIFORNIA.

TRAVELING ATTACHMENT FOR BUILDINGS.

No. 799,865. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed December 6, 1904. Serial No. 235,766.

To all whom it may concern

Be it known that I, THOMAS McCONNELL, a citizen of the United States, residing at the city and in the county of San Francisco and State of California, have invented new and useful Improvements in Traveling Attachments for Buildings, of which the following is a specification.

My invention relates to attachments which are especially designed for buildings and for the purpose of saving life and property in case of fires and generally to make access to any part of the building convenient from the front.

It consists in a combination of mechanism whereby the desired results are effected and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a front elevation showing the application of my device. Fig. 2 is an end view of same.

Great difficulty is experienced with the present apparatus in use in obtaining access to buildings in which fire takes place, and especially to high buildings and various parts of the front.

It is the object of my invention to make such access easy and rapid, to assist in the removal of persons or property from the windows at various heights in the building, to enable the firemen to conveniently apply water at different points, and to obtain easy access to any part of the building front.

As shown in the drawings, I have represented a building front A, and to this is attached in any suitable or desired manner a stout rail or track 2, which is properly supported by brackets, as at 3. If only one front of the building is exposed to the street, the rail upon this side will be sufficient; but if the building be isolated the rail may be carried around as many of the sides as are conveniently within reach, being curved at the angles, so that the car to be hereinafter described can be moved about these angles and be made to travel upon either side of the building, as required.

4 is a stout frame, here shown as being rectangular in shape and having journaled between the front and back portions pulleys or rollers 5, which are adapted to travel upon the top of the rail. Upon the front of the frame may be journaled vertical single rollers, as at 6, so placed as to travel against the front side of the rail, and at the rear are journaled other rollers 7, adapted to travel against the back of the rail. These rear rollers are made short, so that one rolls near the top of the rail 2 and the other near the bottom, and they are sufficiently separated so that they will pass the shanks of the brackets 3, from which the rail is supported, thus allowing the frame to be rolled from one end to the other of the track.

8 represents rollers journaled so as to stand horizontally outward from the lower part of the frame 4, and these rollers are adapted to travel against the guide-rail 9, which is fixed along the building front and below the line of the track 2. These various guide-rollers insure the steadiness of the frame and prevent it from swinging unduly.

10 is a car made of any suitable size and material. Such a car may be conveniently made of stout iron top and bottom rails with wire lattice-work sides and a close sheet-metal bottom fixed thereon. This car should be made of sufficient size to receive any required number of operators, firemen, or passengers, depending upon the character of the building to which it is to be attached. The bottom of the car may be provided with wheels, as at 11, so that when resting upon the ground it may be disengaged from its other attachments and moved or stored in any convenient place. This car is suspended from the frame 4 by means of chains 12 passing around rollers 13 at the ends of the frame and other rollers 14, centrally located. One of these chains thus passes up over one roller at the end of the frame, thence over a corresponding inner roller, thence down over a winding-drum 15. The other chain in like manner is fastened to the opposite end of the car, extends up over the roller at that end of the car, thence over a corresponding central roller, thence down to the winding-drum 15. This drum is mounted upon the same shaft with a gear-wheel 16, the shaft being journaled in a suitable frame carried within the car 10.

17 is a pinion engaging the teeth of the gear 16, and by means of a train of gearing connecting with the shaft of the pinion 17 motion is transmitted thereto from a winding-shaft 18. Upon this shaft is also a ratchet-wheel 19, which is engaged by a pawl 20 to prevent its revolving and to thus hold the car at any desired level to which it may have been raised. The raising of the car is effected by cranks upon the winding-shaft, as shown at 21, and when the car is to be raised, the cranks being turned in the proper direction

for that purpose, the winding of the chains 12 upon the drum 15 will raise the car and the pawl will hold every tooth of the ratchet-wheel as fast as it is brought into engagement therewith.

In case it is desired to lock the pawl and prevent its being lifted from the ratchet I have shown a supplemental pawl 23, pivoted above the pawl 20 and turnable, so that it may engage a notch in the back of the first-named pawl, and thus prevent its being disengaged from the ratchet-wheel when this second pawl is thrown out of engagement, and if it is desired to engage the first-named pawl and free the ratchet, so that the car may be lowered, this is effected by means of a lifter 24, mounted upon a shaft 25, having a crank or other convenient attachment, as 26, and by means of this device the lifter may be raised so as to contact with the lower side of the pawl, and thus disengage the pawl and allow the ratchet-wheel, shaft, and connected parts to turn freely. This being effected, the car may be lowered by revolving the shafts in the opposite direction and unwinding the chain from the drum. In this manner it is possible to raise or lower the car to the level of any story or part of the building to which it is desired to obtain access.

At some convenient point or points within the car are located standards 27, within which are fixed substantially vertical pipes 28, having couplings of any suitable description at the upper and lower ends and adapted to receive the corresponding coupling ends of hose, as at 29. To the upper end of this pipe may be coupled a length of hose sufficient to be introduced into the building through the windows or other openings when the car stands in suitable position for this purpose. To the lower end of the pipe is attached a length of hose, as 30, which drops down through the bottom of the car and thence may extend along the ground to a hydrant, engine, or other source of water-supply. Thus the weight of a great length of hose may be carried up to any desired height by raising the car to which it has been connected, and the only portion that it will be necessary to move about will be the shorter and lighter upper sections.

Suitable movable rollers or pulleys, as at 31, may be journaled upon the standards 27, and these will serve for easily moving the hose or ropes or chains which may be passed over them.

32 represents short chains extending from either side of the ends of the car upward and connecting with the hoisting-chains at such an angle that they serve as braces to prevent the car from being tilted unduly about its suspending-points. In addition to this I have shown other chains 34 connected with the bottom of the frame 4 near each end, diverging therefrom and passing through openings in the bottom of the car and near the ends. These chains are of sufficient length to drop down through the guides and openings upon the car and thence to be returned with the ends attached to the car. By suitable pins or clamps these chains may be locked to the sides of the car, and any tilting of the car will be thus prevented.

In order to traverse the car around the track 2, I have shown the shaft of one of the rollers 5 as having a pinion 37 fixed upon it, and this is engaged by a gear-wheel 38 upon a shaft which is journaled upon the frame 4. Upon the same shaft is a sprocket-wheel 39, around which passes an endless chain 40. This chain passes down through suitable guides and through the bottom of the car and has sufficient length to hang close to the ground, so that by pulling upon one side or the other of the chain the sprocket 40 and connected gears will be revolved and the frame will be caused to travel along the rail 2 in either direction.

The chain may be operated either from the ground or from the car, as required.

The car carries upon it ladders, hooks, axes, and supplemental ropes and chains, and all the paraphernalia which may be required about a fire. These ladders can be extended from the car to a window which is opposite or near to the car, but too distant for persons to reach the car from the window. Thus a safe passage may be effected.

It will be seen that if portions of the building are burning, other portions not yet ignited, the car may be raised or lowered so as to pass such portions and thence be moved down or up again to openings which it may be desired to reach.

Lanterns may be conveniently fixed to the chains or parts of the car to provide all required light that may be needed.

If it is desired to drop the car rapidly and safely, it may be effected by means of a powerful band or other brake. In the present case I have shown a brake-drum at 40′ mounted upon the crank-shaft and surrounded by a band-brake. A foot-lever 41 with connecting rod and crank intervening serve to apply power to the band-brake sufficiently to hold the car in suspension when the pawl has been released from the ratchet. Then by carefully releasing the pressure the shaft will be allowed to revolve and the car to descend at any desired rate of speed. The brake will serve to check it before reaching the ground to prevent accident.

In order to prevent the apparatus from swinging to and from the building, I have shown bars 42 slidable in guides transverse to the ends of the car, and these guides are locked by suitable holding devices, as at 43. By releasing the locking devices the bars may be slid in their guides until the ends contact against the side of the building, when they may be again locked. Thus the apparatus is held steadily in place at any desired point.

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

1. An attachment for buildings comprising a rail, brackets upon which it is supported parallel with the upper portion thereof, a frame having rollers adapted to travel upon the rail, rollers journaled vertically upon the frame exterior to the rail and rollers similarly journaled interior to the rail, said interior rollers being separated to allow them to pass the supporting-brackets, and means carried by the frame below the aforesaid rollers adapted to contact with the building and prevent transverse vibration of the frame.

2. An attachment for buildings consisting of a rail brackets by which it is supported parallel with the upper part of the building, a frame with rollers adapted to travel upon the rail, inner and outer guide-rollers, other rollers journaled to revolve horizontally, and in contact with the building against which said rollers travel to prevent transverse vibration.

3. An attachment for buildings consisting of a rail, brackets by which it is fixed parallel with and away from the upper part of the building, a guide on the building below the level of the rail, a frame having rollers adapted to travel upon the rail, guide-rollers traveling upon each side of said rail, other rollers journaled to travel against the said guide on the building, pulleys journaled in the lower part of the frame, a car, chains connecting with the end of the car passing over said pulleys, a winding-drum located within the car around which said chains pass, and means for revolving said drum to raise or depress the car.

4. An attachment for buildings, consisting of a substantially horizontal rail supported from the building front, a frame having rollers adapted to travel upon said rail, and means to maintain it substantially vertical, a car, chains connected with the ends of the car, pulleys in the lower part of the frame over which said chains pass from opposite ends to the center, a winding-drum carried upon the car around which said chains pass, a train of gearing and a crank-shaft whereby power may be applied to raise or lower the car with relation to the traveling frame, and pawl-and-ratchet mechanism by which it may be held at any desired elevation.

5. An attachment for buildings comprising a fixed horizontal rail, a frame having rollers adapted to travel upon the rail, mechanism by which the frame may be caused to travel along the rail, a car suspended from the lower part of the frame, a winding-drum mechanism by which the car may be raised or lowered independently of its horizontal movements, a pawl and ratchet by which the winding mechanism may be arrested, and a locking-pawl adapted to engage the main pawl and hold it in engagement with the ratchet.

6. An attachment for buildings comprising a horizontally-disposed rail parallel with the upper part of the building, a traveling frame and means by which it is caused to move along said rail, a car having suspending-chains passing over pulleys upon the lower part of the frame, a winding-drum and mechanism by which it is actuated to raise and lower the car-gearing, pawl-and-ratchet mechanism by which the movement of the winding-drum may be arrested, and a crank-shaft and lifter whereby the ratchet may be disengaged.

7. An apparatus and attachment for buildings comprising a horizontally-disposed rail fixed parallel to the upper part of the building front, a frame with rollers and mechanism by which it is guided and caused to travel upon the rail, a car suspended from the lower part of said frame, a winding-drum carried by the car, and gear mechanism and cranks by which said drum may be rotated to raise or lower the car, and a brake acting upon said winding mechanism to control its descent.

8. An apparatus comprising a rail fixed parallel with the upper portion of the building, a frame with supporting and guide rollers and chain-pulley and gearing by which it may be advanced along the track, a car, chains by which it is suspended from the lower part of the frame, a winding-drum and mechanism by which said drum is rotated to raise or lower the car, said winding-drum and raising and lowering mechanism being operable from the car and pipe-standards fixed in the car and couplings at the upper and the lower end adapted for the connection of hose to the lower and upper ends respectively.

9. An apparatus and attachment for buildings comprising a horizontal traveling frame, a car suspended therefrom, mechanism by which said car may be raised or lowered independently of the horizontal movement, means for steadying the car, said means comprising chains divergent from the lower part of the traveling frame passing through the corners of the car, and pins or clamps by which said chains may be locked to prevent the tilting of the car.

10. An attachment for buildings comprising a horizontal traveling frame, and a rail upon which it is carried contiguous to the upper part of the building, a car, chains extending from the ends of the car passing over pulleys upon the frame, a winding-drum carried by the car, mechanism by which said drum is revolved to raise or lower the car, brace-chains extending from the sides on each end of the car and connecting with the hoisting-chains, and other chains diverging from the ends of the traveling frame passing through guides upon the ends of the car, and means for clamping said chains to prevent the oscillations of the car.

11. An apparatus and attachment for buildings comprising a frame, a track upon which said frame may travel parallel with the upper

part of the building, a car suspended from said frame, mechanism by which it may be raised or depressed with relation thereto, means for preventing the swinging of the car, said means comprising horizontally-guided slidable bars adapted to project from the ends of the car and contact with the sides of the building and locks for said brace-bars.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS McCONNELL.

Witnesses:
S. H. Nourse,
Henry P. Tricou.