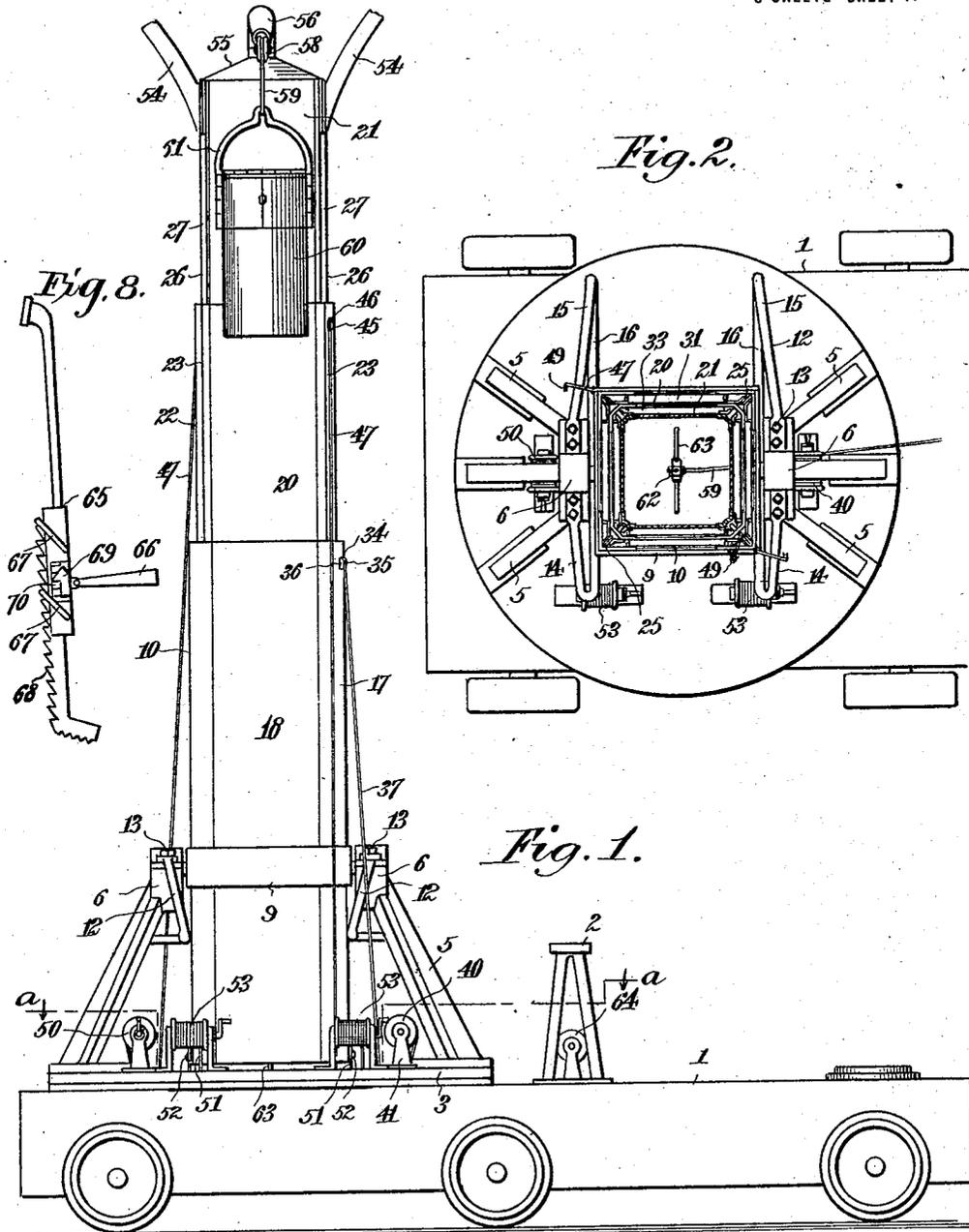


H. L. LE BLANC.
 PORTABLE FIRE ESCAPE TOWER.
 APPLICATION FILED NOV. 27, 1914.

1,188,283.

Patented June 20, 1916.

3 SHEETS—SHEET 1.



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Witnesses

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3 SHEETS—SHEET 2.

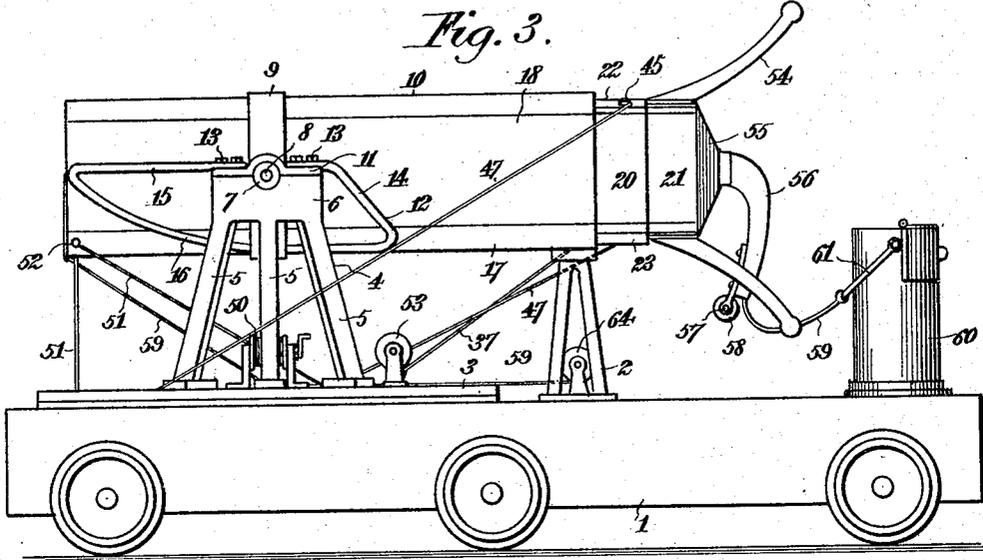
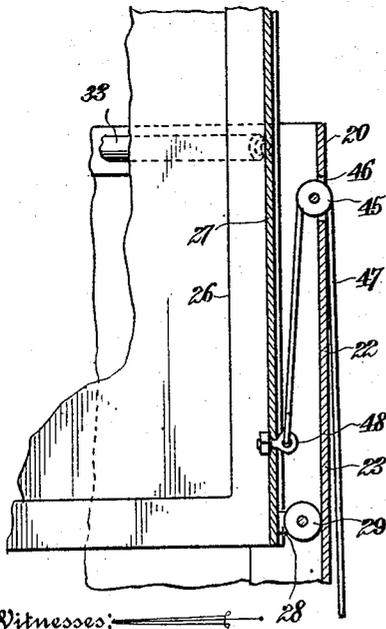
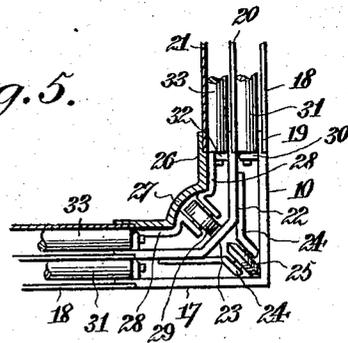


Fig. 4.



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Fig. 5.



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 3 SHEETS—SHEET 3.

Fig. 6.

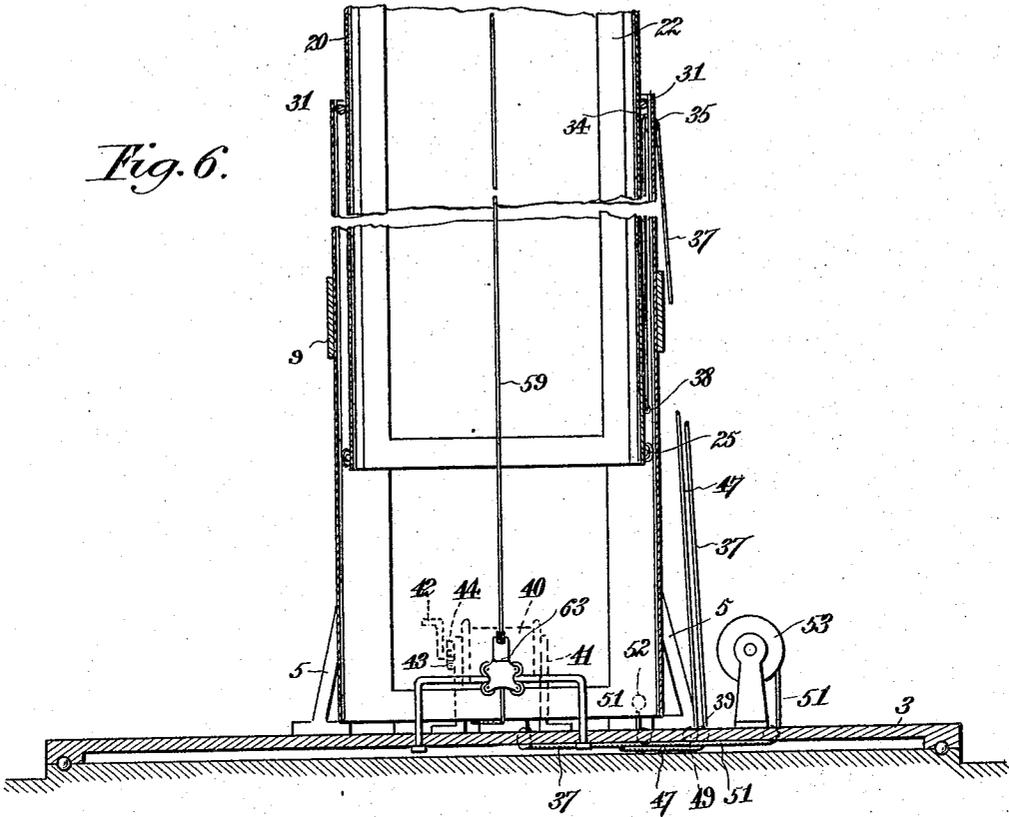
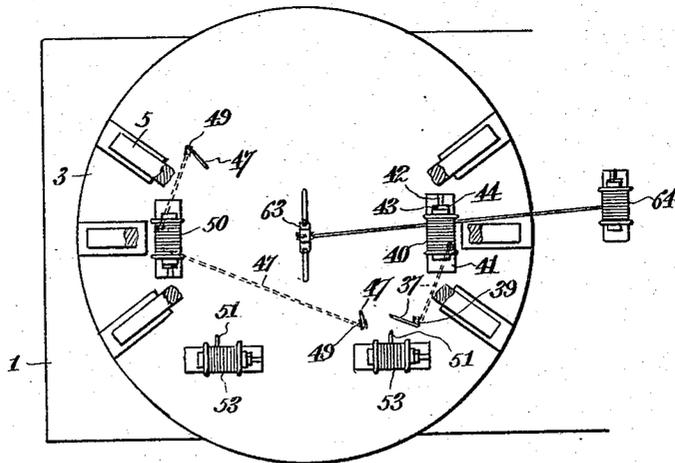


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PORTABLE FIRE-ESCAPE TOWER.

1,188,283.

Specification of Letters Patent. Patented June 20, 1916.

Application filed November 27, 1914. Serial No. 874,243.

To all whom it may concern:

Be it known that I, HENRY L. LE BLANC, a citizen of Canada, residing at Millinocket, in the county of Penobscot and State of Maine, have invented new and useful Improvements in Portable Fire-Escape Towers, of which the following is a specification.

This invention is an improved fire escape tower to be used at burning buildings to enable persons to escape therefrom, the object of the invention being to provide an improved tower of this class which may be readily moved from place to place, may be readily raised and lowered and arranged in position for use at a burning building and which when in lowered position is compactly arranged so as to take up but comparatively little space.

A specific object of the invention is to effect improvements in the construction of the members of the tower.

Another object is to effect improvements in the means for pivotally mounting the tower.

Another object is to provide improved means to guide and brace the tower when the latter is being raised and to prevent the tower from swaying.

The invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a fire escape tower constructed in accordance with my invention, showing the same raised. Fig. 2 is a plan and partly a horizontal sectional view of the same. Fig. 3 is an elevation of the same. Fig. 4 is a detail vertical sectional view of the tower. Fig. 5 is a detail horizontal sectional view, and partly a detail plan, of one corner of the tower. Fig. 6 is a vertical sectional view of the tower. Fig. 7 is a horizontal sectional view through the device taken on the line *a—*a** of Fig. 1. Fig. 8 is a side elevation of a bracing member used in connection with the improved fire escape tower.

The tower is mounted on a truck 1 which may be of any suitable design and construction and may be propelled either by horsepower or by means of a motor and when the truck is of the motor type the engine may be utilized for operating the several parts for raising and lowering the tower and also for operating the bucket or cage employed for lowering persons from a burning build-

ing. A standard 2 is arranged at a suitable point on the truck and is employed as a support for the free portion of the tower when the latter is contracted and turned to lowered, horizontal position as shown in Fig. 3.

A turn table 3 is arranged on the truck, near one end thereof, and on the turn table are a pair of standards 4 each of which comprises a series of radially arranged, inclined upwardly converging members 5. The upper ends of the members of each standard are connected together by a block 6 which may be formed integrally therewith. Each block is formed with a bearing 7 for a trunnion 8 on one side of a band 9 which is secured to and passes around the lower section 10 of the tower. Each block 6 is also provided, on its upper side, with a plate or member 11 to bear on the upper side of the trunnion and guides and braces 12 are secured on the said plates or members 11 by the same bolts 13 which are employed to secure said plates on the blocks.

Each brace and guide 12 is formed from a single piece of steel or iron which is bent to form oppositely extending arms 14—15 and an arm 16 which connects said arms 14—15, the said arms 16 of the guides and braces being arranged parallel with each other as shown in Fig. 2 and bearing on opposite sides of the lower section 10 of the tower. Said guides and braces permit the tower to be turned to a vertical or to a horizontal position, serve as guides for the tower and also serve to prevent the tower from swaying in a line parallel with its pivotal axis formed by the trunnions 8, the standards 4, by reason of their construction also prevent the tower from swaying in other directions.

The lower tower section 10 is composed of frames 17 which form its corners and webs 18, the edges of which are connected by lap joints 19 to the flanges 17, as shown in detail in Fig. 5. The frames and the webs are in practice made of suitable material such as iron or steel.

The tower also comprises sections 20—21, the sections of the tower being telescopically arranged so that the tower may be extended or contracted in length. The section 20 is arranged in the section 10 and the upper section 21 is arranged in the section 20. The section 20 is considerably smaller in cross sectional dimensions than the section 10 and

the section 21 is correspondingly smaller than the section 20. The frames 22 which form the corners of the section 20 are flattened at the angles as at 23 and said frames are provided with pairs of arms 24 at their corners and rollers 25 are mounted between the said arms. Said rollers are beveled on opposite sides and are arranged to bear and operate in the angles between the sides of the frames 17. The frames 26 of the upper tower section 21 are curved inwardly as at 27 in the angles between the sides and said frames are provided also with pairs of arms 28 in their corners. Rollers 29 are mounted between the arms 28 and bear on the inner sides of the flattened portions 23 of the frames of the intermediate section 20.

It will be understood from the foregoing description and upon reference to the drawings, especially Fig. 5 that the sections of the tower are substantially similar in construction, each having frames which form its corners and the said frames being connected by webs or sheets of metal. The frames 17 of the section 10 have inwardly extending lugs 30 in which are the bearings of anti-friction rollers 31 which bear against the webs of the intermediate section 20. The frames 22 of the intermediate section have similar lugs 32 in which are the bearings of anti-friction rollers 33 which bear against the webs of the upper tower section 21. Hence the tower sections, while being telescopically arranged are slidably connected together at their corners and the intermediate points, and by the provision of the rollers friction between said tower section is diminished to the minimum and the tower may hence be readily extended or contracted as desired and by the application of only moderate power.

The lower tower section 10 is provided with openings 34 near its upper end, in diagonally opposite corners and is also provided with pulleys 35 which are mounted as at 36 and extend through said openings. Cables 37, for raising and lowering the section 20, pass over said pulleys and have their inner ends attached to eye bolts 38 near the lower end of said section 20. Said cables pass out through the openings 34 and down through openings in the turn table, engage direction sheaves 39 with which the turn table is provided and have their ends attached to a drum 40, which is mounted in standards 41 and may be turned by any suitable means, either manually, or by power. The drum is here shown, for the purposes of this specification as provided with a hand crank 42 and as also provided with a ratchet wheel 43 and a pawl 44. Thereby the drum may be turned to cause the cables 37 to raise or lower the tower section 20 and may be locked against rotation, as will be understood. The section 20 is also provided near its upper end, in diagonally opposite cor-

ners with pulleys 45, which extend through openings 46. Cables 47 pass over said pulleys and have their inner ends attached to the section 21 as at 48. The said cables pass down through openings in the turn table, engage suitable direction sheaves 49 with which the turn table is provided and said cables 47 are attached to a drum 50, which is similar to the drum 40 and which may be operated to cause said cables to raise or lower the tower section 21.

It will be understood from the foregoing that the tower may be extended according to the height of the building at which it is to be used.

To enable the tower to be turned from a horizontal position to nearly a vertical position, for use, I provide cables 51 which are attached to the tower member 10 near its bottom as at 52. These cables are attached to drums 53 which are similar to the drums 40—50 herein before described.

At its upper end the tower member 21 is provided with arms 54 to bear against the side of the house at which the tower is used and to space the upper end of the tower appropriately from the wall of the building. The upper tower member or section 21 has a conical roof 55 provided with a central opening. A tubular arm 56 has its inner end swivelly mounted in said opening and is provided at its outer end with supporting bearings 57 for a pulley 58. A hoisting cable 59 engages this pulley, passes through the tubular arm 56 and thence downwardly through the tower. A cage or bucket 60 of suitable construction, made of fire proof material, and adapted to hold one or a number of persons has its bail 61 attached to the hoisting cables 59. Said cable engages a pulley 62 which is connected to a traveler 63 on the center of the turn table and the end of said hoisting cable is attached to a suitable drum 64 which may be operated either manually or by a suitable engine.

In using the tower it is first arranged to bear against the wall of a burning building and opposite a window and by means of the hoisting cable the cage or bucket may then be raised to enable persons to get into the same through the window and to be lowered therein safely to the ground.

While I have herein shown and described a preferred form of my invention, I would have it understood that changes may be made in the form, proportion and construction of the several parts without departing from the spirit of the invention and within the scope of the appended claims.

When the tower is raised and extended it is adapted to be supported by means of a brace 65 which is extensible, the sections of such brace being extended by means of a pawl and ratchet mechanism which is operable by means of a lever 66. Links 67 are

adapted to be engaged with ratchet teeth 68 to hold the brace when extended. The pawl 69 is adapted to cooperate with ratchet teeth 70.

5 Having thus described the invention, what is claimed as new is:—

1. In a portable fire escape, a truck, a turn table thereon, standards on the turn table, a tower comprising telescoping sections and
10 having its lower section pivotally mounted in said standards and arranged between them, means to raise and lower the tower and guiding and bracing devices attached to and extending inwardly from the standards
15 and arranged to bear against opposite sides of the lower section of the tower.

2. In a portable fire escape, the combina-

tion of a truck, a tower mounted on the truck and comprising telescoping sections having angular corner plates provided with
20 channeled side edges, webs extending between the corner plates and secured to said side edges, means for raising and lowering said sections, arms on the corner plates of some of the sections, and rollers journaled
25 between the arms and disposed in the angle between the side edges of the corner plates on an adjacent section.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY L. LE BLANC.

Witnesses:

EDMOND BABIM,
ELIZABETH M. DOYLE.

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