

No. 645,982.

Patented Mar. 27, 1900.

H. SPERLING.
FIRE ESCAPE.

(Application filed Dec. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.

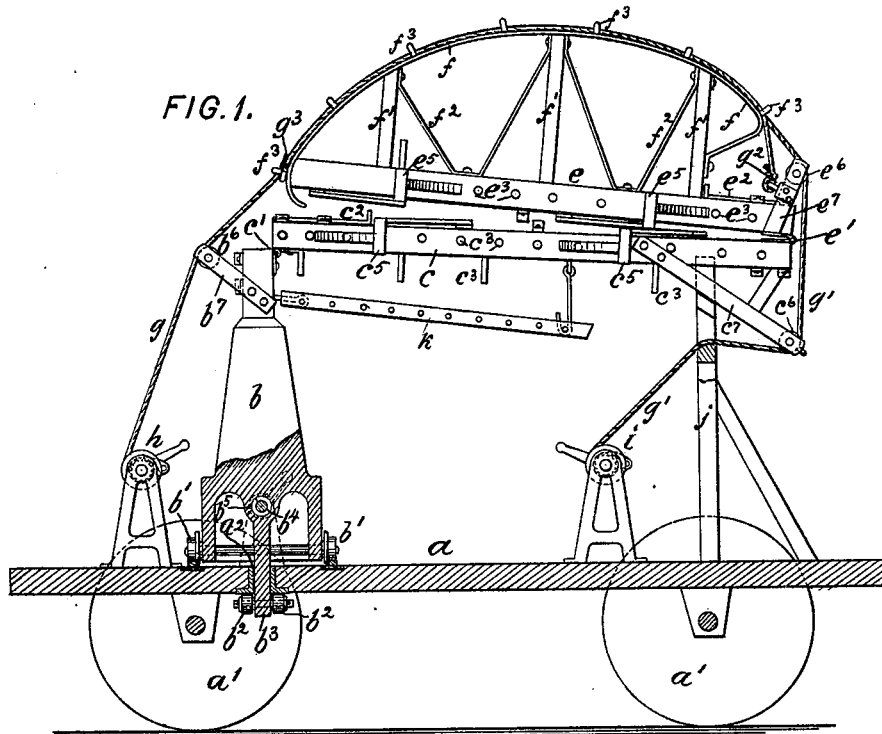
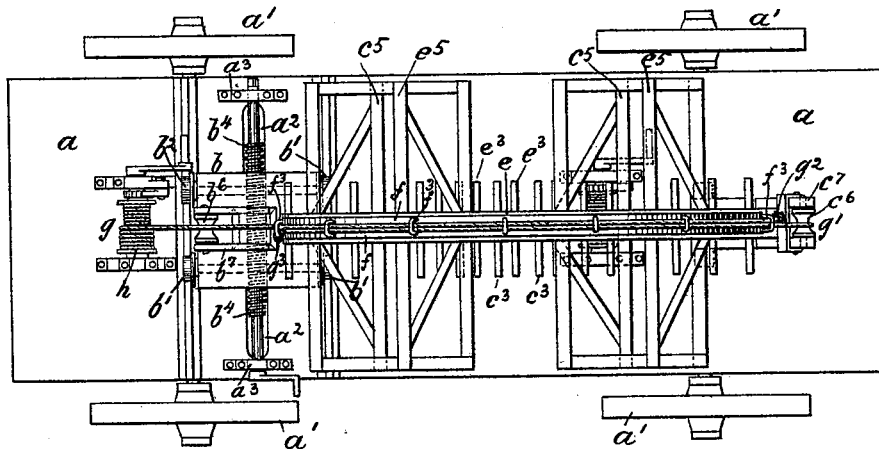


FIG.2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 645,982, dated March 27, 1900.

Application filed December 30, 1899. Serial No. 742,068. (No model.)

To all whom it may concern:

Be it known that I, HENRY SPERLING, a citizen of Germany, and a resident of Jersey City Heights, Hudson county, New Jersey, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to a fire-escape which is so constructed that a system of folding ladders can be moved into close proximity to the wall of a burning building and may then be raised or lowered directly from the platform of the truck upon which the ladders are mounted. In this way the manipulation of the apparatus is greatly facilitated and speedy relief may be rendered to the endangered persons.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved fire-escape, showing the ladders folded; Fig. 2, a plan thereof; Fig. 3, a side elevation showing the ladders raised; Fig. 4, a detail of part of the ladders, and Fig. 5 a front view of a modified construction of the ladders.

The letter *a* represents a platform mounted upon wheels *a'* to constitute a truck or carriage. The platform *a* supports near its forward end a post *b*, which is laterally movable, so that as the truck is drawn up alongside the front of a burning building the post may be moved from its normal central position toward the edge of the platform and into close proximity to the house-front. To effect this lateral movement of the post, it is mounted upon wheels *b'*, that travel upon the upper side of the platform, and with rollers *b²*, that engage its lower side. The rollers *b²* are carried by an arm *b³*, that depends from the post and passes through a transverse slot *a²* of platform *a*. A screw *b⁴*, turning in bearings *a³* of the platform and engaging a tapped hole *b⁵* of post *b*, will upon being rotated in either direction cause the post to be moved laterally to any desired position upon the platform, as will be readily understood.

To the upper end of post *b* is hinged at *c'* a lower ladder *c*, which may be locked to the post in its upright position by a bolt *c²*. The ladder *c* may be composed either of a single central upright with laterally-projecting rounds *c³*, Fig. 4, or it may be provided in addition thereto with the usual side rails *c⁴*, Fig. 5. At suitable intervals landings or platforms

c⁵ project laterally from the ladder, which may be connected directly to the window-sill of the burning building *A* by bridges *d*. The drawings show one ladder *c*; but of course a greater number may be used.

To the upper end of the ladder *c* is hinged at *e'* the uppermost ladder *e*, which may be locked to ladder *c* by bolt *e²*. This upper ladder *e* is also provided with rounds *e³* and platforms *e⁵*, similar to ladder *c*, and may have the additional side rails *e⁴*, (indicated in Fig. 5,) which may be locked to the rails *c⁴* of ladder *c* by catches *e⁵*.

To the rear face of the ladder *e* is attached an arch or segment *f*, that extends substantially over the whole length of the ladder and is firmly connected thereto by the stays *f'* and braces *f²*. From this segment project eyes *f³*, through which are guided a pair of ropes *g g'*, that serve to raise and lower the system of ladders in the manner hereinafter described.

The forward end of the front rope *g* is secured to a front winch *h*, mounted upon platform *a*, and it passes thence over a roller *b⁶*, turning in bearings *b⁷*, that project forwardly from the upper end of post *b*. From the roller *b⁶* the rope passes through the eyes *f³*, around segment *f*, and thence to a fastening-eye *g²* at the rear end of the segment. The rear rope *g'* is fastened at *g³* to front of segment *f* and passes through the eyes *f³* over a roller *e⁶*, turning in rearwardly-projecting bearings *e⁷* of ladder *e*. From roller *e⁶* the rope *g'* passes over roller *c⁶*, turning in rearwardly-projecting bearings *c⁷* of ladder *c* to be finally received upon a rear winch *i*, mounted upon platform *a*.

When the ladders are folded, they will assume a substantially-horizontal position and will be supported at the rear end of the truck by a frame *j*. A short pivoted ladder *k* permits the descending persons to reach the platform *a* from the bottom of ladder *c*.

The operation is as follows: After the truck has been drawn up alongside of the burning building and the post *b* has been adjusted in manner indicated the front winch *h* is turned. This will cause the ladders to be turned on hinge *c'* by rope *g* until the ladder *c* has assumed an upright position, the ladder *e* hanging from its top. The bolt *c²* is now closed

to lock the ladder *c* to the post *b*, and then the winch *i* is turned to turn the uppermost ladder *e* on hinge *e'* by rope *g'* and raise ladder *e* to its upright position, Fig. 3, in which it is locked by bolt *e*². Thus it will be seen that the ladders may be readily raised from the platform *a* by alternately manipulating the winches. To lower the ladders, the bolt *e*² is withdrawn and the winch *h* turned to draw the ladder *e* down, while the winch *i'* is slowly turned backward, so that the ladder will swing down gradually. After the ladder *e* has been lowered the bolt *c*² is withdrawn and the ladder *c* is laid upon frame *j* by turning winch *i*, the descent of the ladder being checked by a slow reverse rotation of winch *h*.

What I claim is—

1. A fire-escape comprising a slotted platform, a post having an arm that extends through the slot, rollers on the post and arm that engage the upper and lower sides of the platform, a screw engaging the post and adapted to move the same laterally, and a folding ladder hinged to the post, substantially as specified.

2. A fire-escape comprising a number of pivotally-connected ladders, means for sup-

porting the lowermost ladder, a segmental arch on the uppermost ladder, a pair of ropes secured to opposite ends of the arch, and a pair of winches engaging the ropes, substantially as specified.

3. A fire-escape comprising a platform, a laterally-movable post projecting upwardly therefrom, a set of ladders hinged to said post, an arch on the uppermost ladder, a pair of ropes engaging the arch and secured to opposite ends thereof, and a pair of winches engaging the ropes, substantially as specified.

4. A fire-escape comprising a platform, a laterally-movable post projecting upwardly therefrom and having a forwardly-projecting roller *b*⁶, a lower ladder *c*, hinged to the post and having rearwardly-projecting roller *c*⁶, an upper ladder *e*, hinged to ladder *c*, and having arch *f*, eyes *f*⁸, and rearwardly-projecting roller *e*⁶, a pair of ropes engaging the rollers and eyes, and a pair of winches engaging the ropes, substantially as specified.

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Witnesses:

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