No. 732,946. PATENTED JULY 7, 1903.

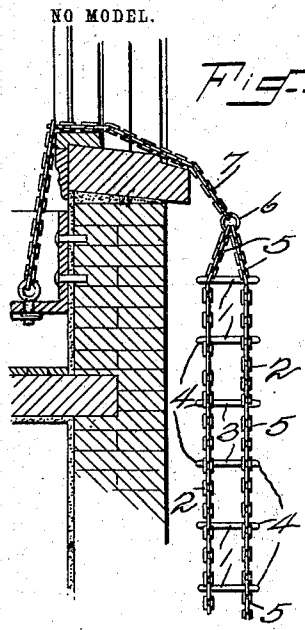
C. N. JOHNSON.

FIRE ESCAPE.

APPLICATION FILED MAR. 24, 1903.

NO MODEL.

Fig. 1.



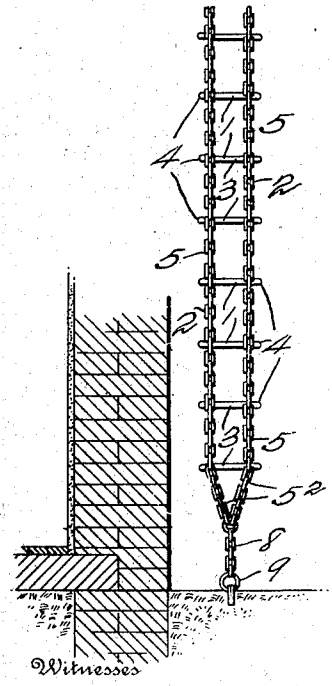


Fig. 2.

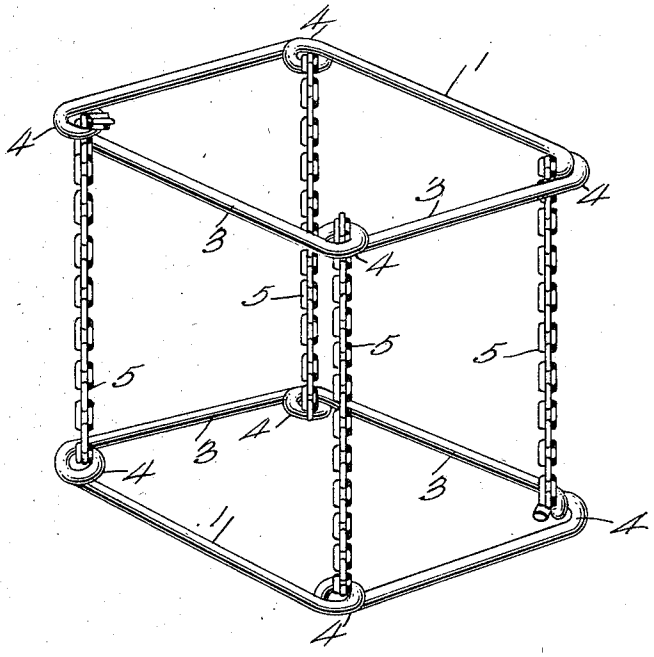
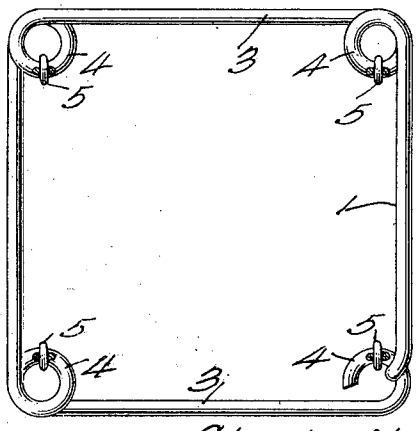


Fig. 3.



Witnesses

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No. 732,946.] Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

CHARLES N. JOHNSON, OF VINCENNES, INDIANA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 732,946, dated July 7, 1903.

Application filed March 24, 1903. Serial No. 149,361. (No model.)

To all whom it may concern:

Be it known that I, CHARLES NEWTON JOHNSON, a citizen of the United States, residing at Vincennes, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Fire-Escapes; and I do 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 certain new and useful improvements in fire-escapes.

The object of the invention is to provide a flexible ladder which may be folded to occupy but little space when not in use and which in case of fire may be quickly thrown into position for use.

A further object is to provide a device of this character which is simple in construction, very efficient in use, and comparatively inexpensive of production.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a cross-sectional view through the front wall of a building, showing in side elevation my improved fire-escape applied thereto. Fig. 2 is a perspective view of a portion of the flexible ladder. Fig. 3 is a horizontal sectional view through the same.

The invention consists, essentially, in a flexible ladder constructed of rigid treads or steps 1, united by the flexible connectors 2 and adapted to be suspended from the upper portion of a building. The treads or steps are constructed of a single piece of metallic rod bent, preferably, in the form of a square or rectangle to provide the rungs or rounds 3 and the eyes 4 at each corner upon the inside of the same. The treads are suspended one below the other by the flexible connectors or lengths of chain 5, which have their ends engaging the eyes 4. The chains or connectors 5′, which are attached to the eyes of the top tread, are brought together and united at 6 to the single suspending chain or cable 7. The chains 5^2, which are attached to the eyes of the bottom tread, are also brought together and united to the fastening chain or cable 8, upon the lower end of which the ring 9 is secured.

The ladder may be suspended in any desired manner from any portion of a building. I have shown in the drawings the end of the suspending-chain 7 secured to the bottom of a box or receptacle 8, which is attached to the wall or floor adjacent to a window in a room upon the upper floor of the building. When the ladder is not in use, it is drawn up and folded in the box 8, and thus occupies but a small amount of space. When it is desired to use the ladder, the free end of the same is removed from the box 8 and dropped to the ground, as shown in Fig. 1. Owing to the construction of the ladder and the manner in which it is suspended, it will always hang properly and not become twisted or tangled. When a person descends the ladder, the fastening-chain 7 may be held or secured to the ground in order to steady the ladder.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A tread for flexible ladders, comprising a rod or bar bent in polygonal form to provide side rounds and coiled corner-attaching eyes, the ends of the rod or bar having hooked terminations which are interlocked together, substantially as described.

2. A fire-escape comprising a flexible ladder, constructed of treads or steps, each consisting of a metallic rod bent in rectangular form to provide side rounds and coiled corner-attaching eyes, the ends of the said rod or bar having hooked members which are interlocked together, flexible connectors uniting the corner-eyes of adjacent treads, a box or casing adapted to be attached to the building inside the window-sill, upper and lower sets of converging chains connected to the eyes of the upper and lower treads of the flexible lad-

der, a suspending-chain connected to the converging ends of the upper set of converging chains and fixed to the bottom of the box, and an anchor-chain connected to the converging ends of the lower converging set of chains and provided with an anchoring device adapted to be embedded in the ground to steady the lower end of the ladder, the construction being such that when the anchor is free the ladder may be folded with the treads superposed one upon the other and stored within the said box or casing, substantially as described.

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

CHARLES N. JOHNSON.

Witnesses:
RAY PETTIS,
T. G. SPALDING.