

No. 631,174.

Patented Aug. 15, 1899.

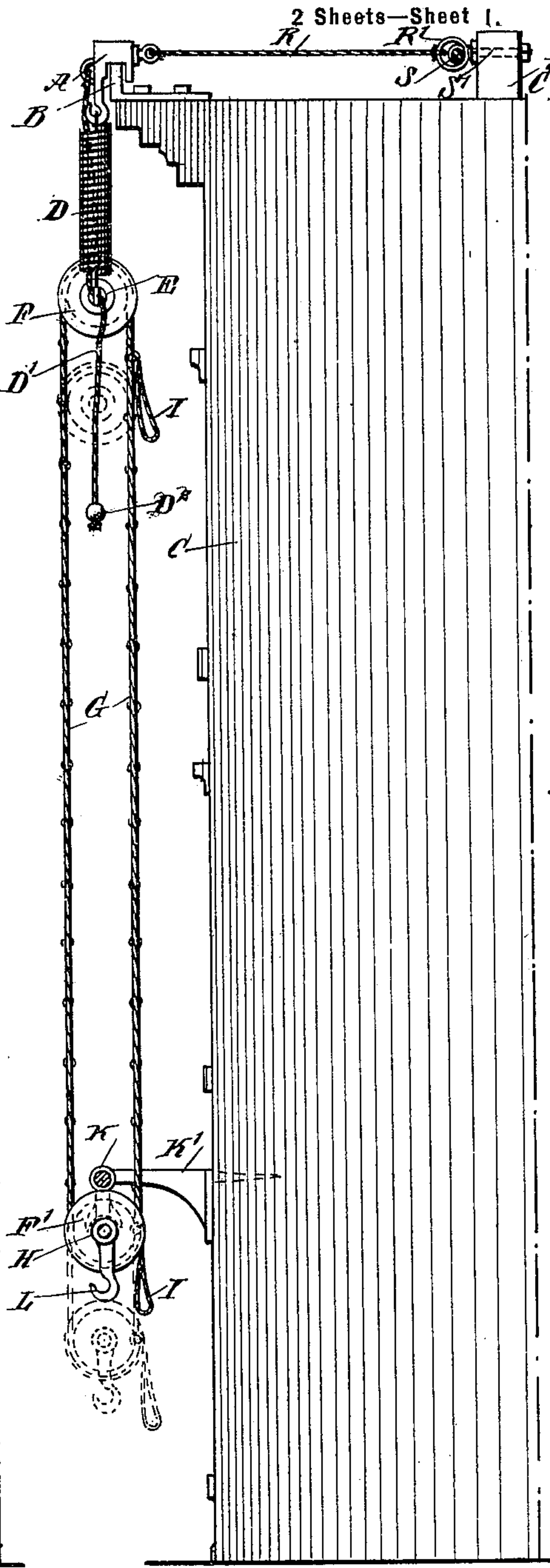
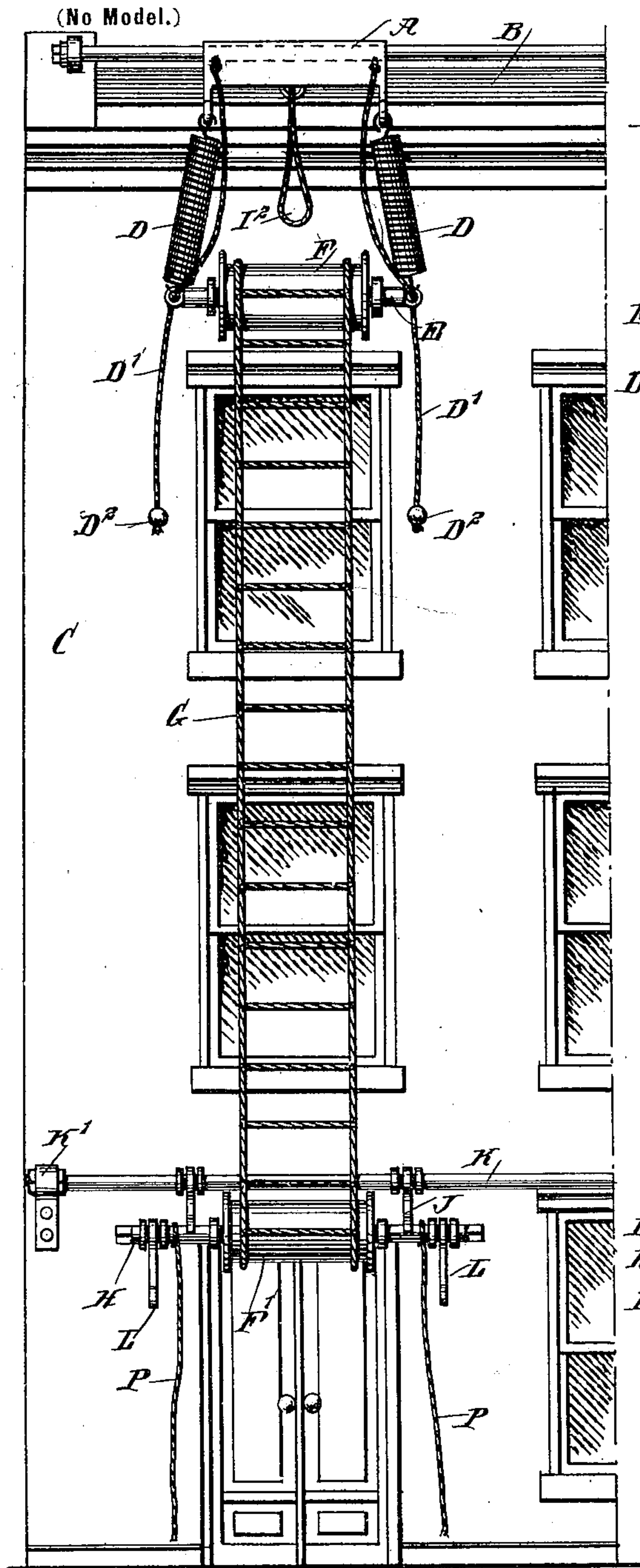
M. K. MCGOWAN.

FIRE ESCAPE.

(Application filed June 10, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

John A. Thompson
Rev. J. H. H. H.
Fig. 1

INVENTOR

Mary K. McGowan
Fig. 2
BY *Mumby*
ATTORNEYS

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2 Sheets—Sheet 2.

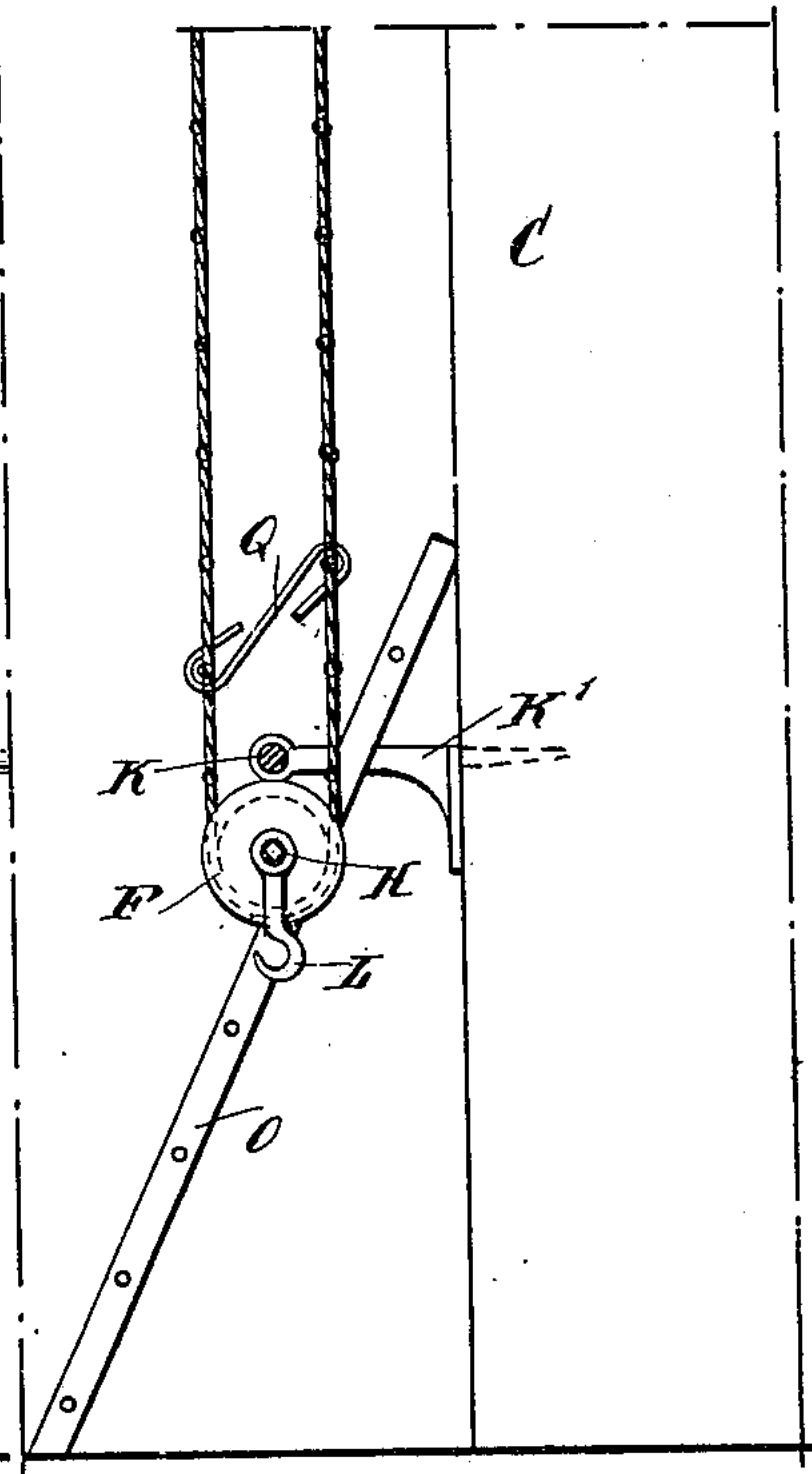
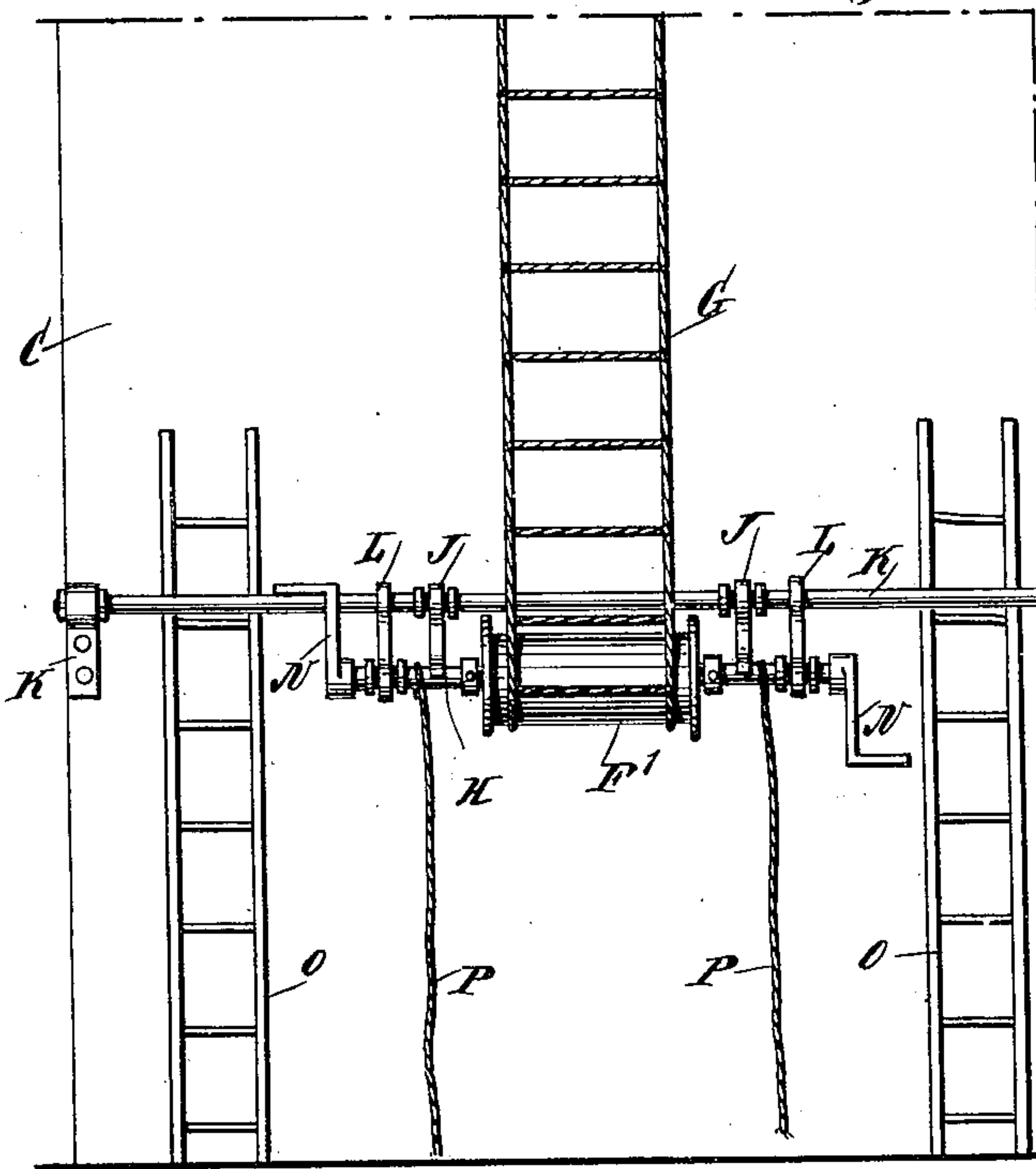
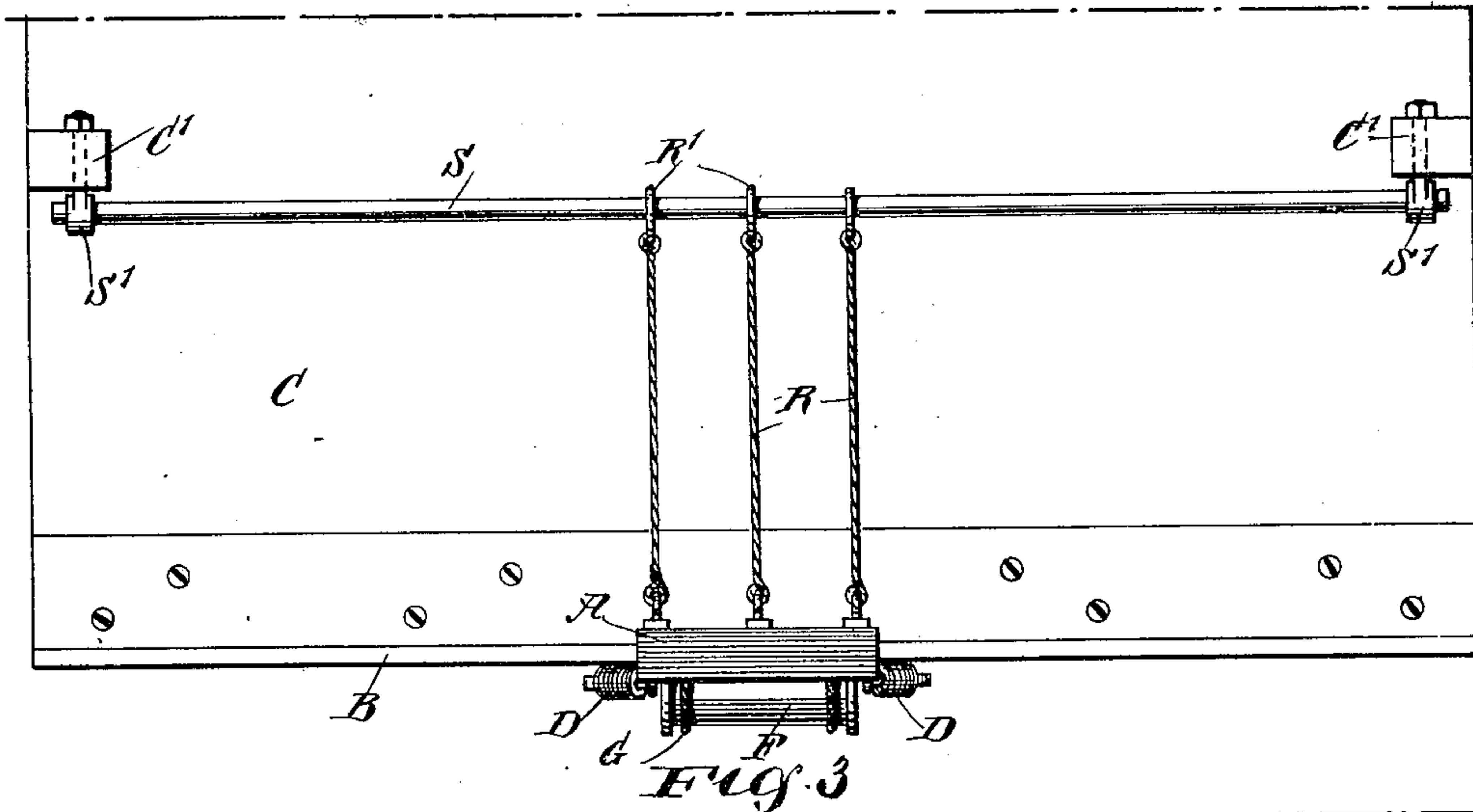


Fig. 4

WITNESSES:

Johna Berghman

Rev. Hester

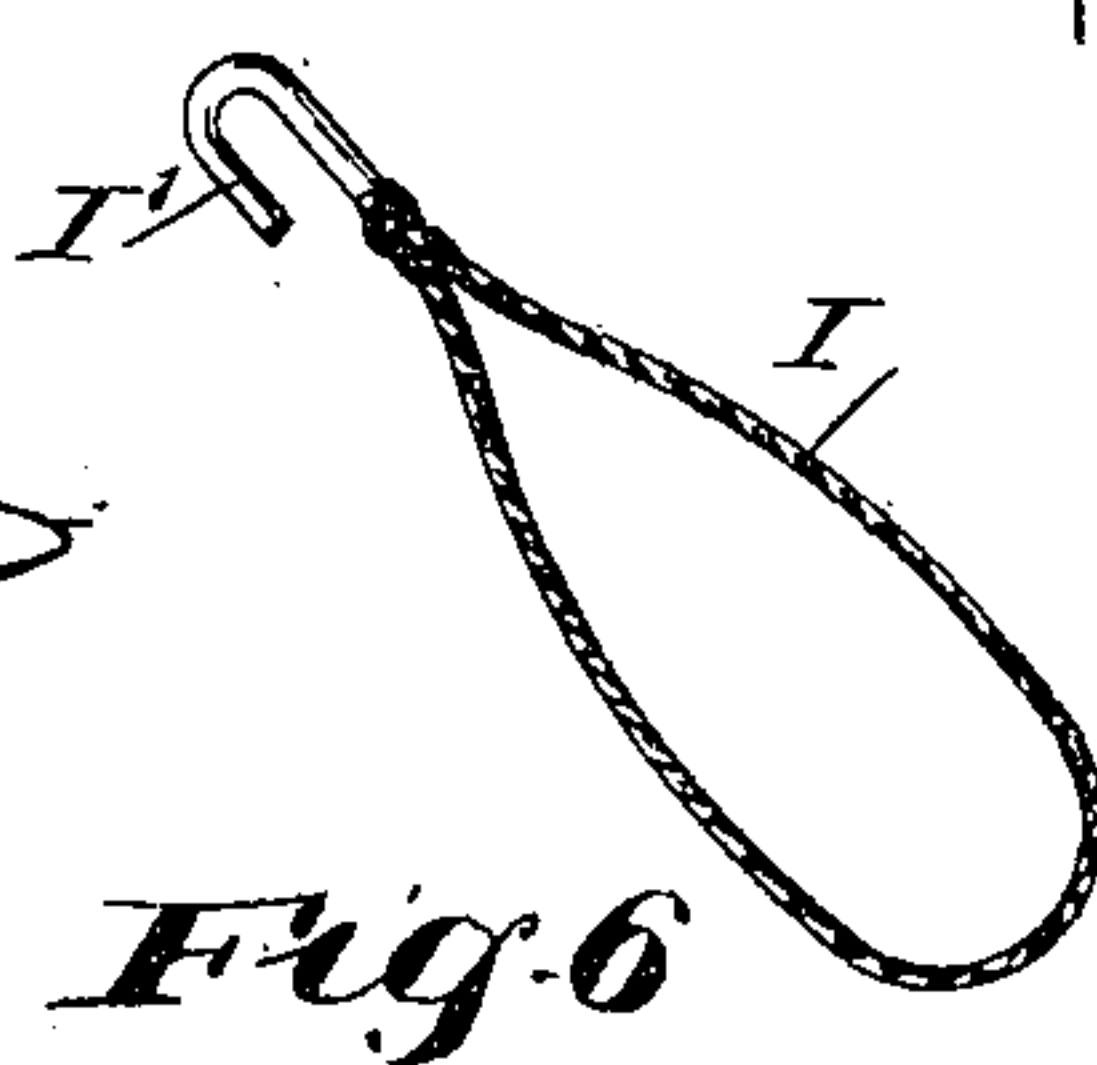


Fig. 5

INVENTOR

Mary K. McGowan

BY

ATTORNEYS

UNITED STATES PATENT OFFICE.

MARY K. MCGOWAN, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 631,174, dated August 15, 1899.

Application filed June 10, 1899. Serial No. 720,055. (No model.)

To all whom it may concern:

Be it known that I, MARY K. MCGOWAN, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved fire-escape which is simple and durable in construction and is designed as a permanent fixture for a building, being arranged to enable persons to readily and safely escape from a burning building and to permit firemen and other persons to readily reach any story of the building for rescuing people or for dragging fire-hose up for fire-extinguishing purposes.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improvement as applied. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the same. Fig. 4 is a front elevation of the lower portion of the improvement arranged for actuating the device for firemen and other persons to check the descent of the person to be rescued or to hoist a fireman to an upper story. Fig. 5 is a side elevation of the same arranged as a fixed ladder, and Fig. 6 is a perspective view of the loop for supporting a person on the endless ladder.

The improved fire-escape is provided with a carriage or slide A, mounted to travel on a guideway B, preferably arranged on the coping of the building C or underneath the same to permit of moving the carriage or slide A along the building, so as to suspend the remaining portions of the fire-escape at the proper place.

On the carriage or slide A are secured downwardly-extending coil-springs D, connected with and supporting a shaft E, on which is mounted to turn loosely a drum F, over which

passes an endless flexible ladder G, made of rope, wire, or other suitable material. The lower end of this downwardly-hanging ladder G passes around the drum F', secured on a shaft H, arranged with the drum F' normally at or near the first story of the building C, as indicated in the drawings.

Now in case of a fire the carriage or slide A can be readily shifted along the guideway B so as to bring the ladder G within convenient reach of the persons to be rescued from the burning building. Persons desiring to escape preferably make use of a loop I, provided with a hook I', adapted to be hung on one of the rungs of the inner run of the endless ladder G, the loop either engaging the body of the person or being engaged by the hands of the person. When a person is thus suspended from the ladder, the latter begins to travel, the inner run of the ladder from which the person is suspended moving downward and the outer run of the ladder traveling upward. It is evident that when the ladder is thus weighted by the escaping person the springs D are extended, and consequently the drums F F', with the ladder G, are moved downward bodily, so that when the person suspended from the ladder finally reaches the lower end thereof he can readily alight on the ground or sidewalk, as the extension of the springs D and the length of the loop I readily compensate for the height of the first story, near which the drum F' is normally held.

From the foregoing it is evident that a large number of persons may be rescued in very quick succession, as the rope ladder is mounted to travel and unoccupied portions of the ladder pass near the face of the building, so that persons can readily suspend themselves from the inner run of the ladder.

In order to enable persons at or near the roof to reach the ladder, I provide the loop I², permanently secured to the carriage A and depending therefrom to within a short distance of the ladder G, to enable the person to readily reach the ladder from the roof and then descend by way of the ladder in the manner above described.

In order to prevent the shaft H and the drum F' from moving upward, I provide arms

J, slidable on a rod K, extending lengthwise of the building and secured in brackets K', attached to the front of the building.

In order to enable firemen or other persons to be hoisted up on the ladder, I provide the following arrangement: On the shaft H are pivoted the hooks L, adapted to be swung upward and hooked on the rod K, as shown in Fig. 4, so that the shaft is held against downward movement by the hooks and against upward movement by the arms J. Crank-arms N are now applied on the square ends of the shaft H by firemen ascending short ladders O, placed against the building, and then after a fireman has mounted the lower end of the ladder other firemen turn the crank-arms, so as to rotate the drum F' to impart a traveling motion to the ladder for lifting the firemen on the upwardly-moving run of the ladder. Thus a fireman can readily reach any story of the building and can take with him fire-hose or other fire-extinguishing apparatus, if necessary.

On the shaft H are arranged ropes P, adapted to be taken hold of by firemen to pull the shaft downward when the hooks L are disengaged from the rod K to allow a fireman to readily pass onto the ladder G.

If desired, the ladder may be held temporarily stationary, and for this purpose I provide an S-hook Q, (see Fig. 5,) adapted to engage adjacent rungs in the runs of the ladder G to hold the ladder G against movement. When in this condition, a fireman can readily ascend or descend on the outer run of the ladder without assistance from other firemen turning the shaft H, as before explained.

In order to prevent the carriage or slide A from falling off the guideway B, I provide the arrangement shown in Figs. 2 and 3, the arrangement consisting of rearwardly-extending ropes R, having rings R', mounted to slide on a longitudinally-extending rod S, secured in brackets S' to projections C' on the roof of the building, as is plainly indicated in the figures referred to. The rings R' permit a ready sliding of the carriage or slide A on the guideway B as the said wings travel along the rod S.

In order to prevent the springs from opening too far and becoming broken or injured on an overload, I provide cables or ropes D', attached to the slide A and extending through eyes in the shaft or spindle E, to then hang downward a suitable distance, with balls D² or other projections at the ends to limit the downward movement of the spindle and to prevent the springs from opening farther. Thus the cables protect the springs and limit the downward movement of the whole ladder. The cables can also be used as a help for persons escaping from the roof to the ladder. If the ladder projects quite a distance from the face of the house, a person in a window can readily make use of a hook or like tool

to reach a rung and draw the ladder over to the window for conveniently mounting it. Such hook may be arranged stationary on the outside or inside of the building and within convenient reach of the person.

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

1. A fire-escape, comprising a carriage adapted to be supported on the upper portion of a building, springs secured to and depending from said carriage, a shaft secured to said springs, a drum on the shaft, and an endless ladder mounted on said drum, as set forth.

2. A fire-escape, comprising a carriage adapted to be supported on the upper portion of a building, springs secured to and depending from said carriage, a shaft secured to the lower ends of said springs, a drum on said shaft an endless ladder mounted on said drum, and a second drum around which passes the lower end of said ladder, said latter drum being free to move downward when the springs are stretched by the weight of a person on the ladder, as set forth.

3. A fire-escape, comprising a carriage supported on the upper portion of a building, springs secured to and depending from said carriage, a shaft secured to the lower ends of said springs, a drum loose on said shaft, an endless ladder mounted on said drum, a second drum loosely held within said ladder at the lower end thereof whereby it is free to move up or down as the springs are stretched or compressed, and means for holding the shaft of the second drum against upward or downward movement, as set forth.

4. A fire-escape, comprising springs adapted to be held pendent from the upper portion of a building, a shaft secured to the lower ends of said springs, a drum on said shaft, and an endless ladder on said drum, the lower end of said ladder normally terminating above the lowest story of the building, whereby it will be normally out of the way, but will move downward to the sidewalk with the weight of a person by the stretching of the supporting-springs, as set forth.

5. A fire-escape, comprising a carriage movable lengthwise on the upper portion of a building, means for lowering a person from said carriage to the ground, a longitudinally-extending rod secured on the roof of the building, rings mounted to slide on said rod, and a connection between said carriage and rings, as and for the purpose set forth.

6. A fire-escape comprising a carriage moving lengthwise on the upper portion of a building, springs carried by the carriage, a shaft supported on the said springs, a drum on the said shaft, an endless ladder mounted on the said drum, and a movable support for the said carriage and arranged on the roof of the building, as set forth.

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7. A fire-escape comprising a carriage moving lengthwise on the upper portion of a building, springs carried by the carriage, a shaft supported on the said springs, a drum on the said shaft, an endless ladder mounted on the said drum, a second drum around which passes the lower end of the said ladder, a rod fixed to the building near the lower story, and arms slidable on the said rod and adapted to engage the shaft of the lower drum, substantially as shown and described.

8. A fire-escape comprising a carriage moving lengthwise on the upper portion of a building, springs carried by the carriage, a shaft supported on the said springs, a drum on the said shaft, an endless ladder mounted on the said drum, a second drum around which passes the lower end of the said ladder, a rod fixed to the building near the lower story,

arms slidable on the said rod and adapted to engage the shaft of the lower drum, and hooks carried on the said drum-shaft and adapted to engage the said rod, as set forth.

9. A fire-escape comprising a carriage moving lengthwise on the upper portion of a building, springs carried by the carriage, a shaft supported on the said springs, a drum on the said shaft, an endless ladder mounted on the said drum, a second drum around which passes the lower end of the said ladder, and an S-hook for engaging rungs of the said ladder to hold the ladder against movement, as set forth.

MARY K. MCGOWAN.

Witnesses:

THEO. G. HOSTER,

EVERARD BOLTON MARSHALL.