

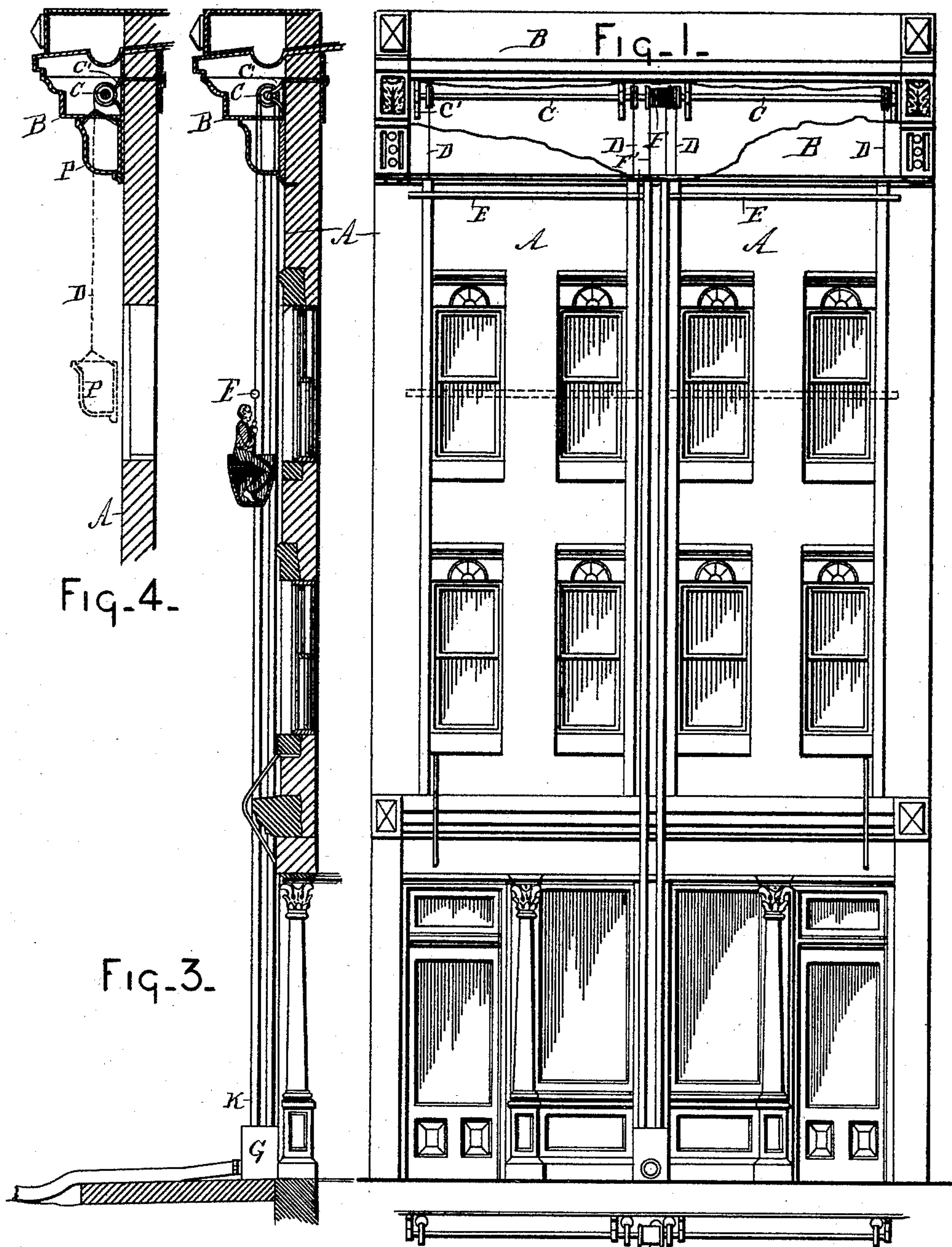
(No Model.)

2 Sheets—Sheet 1.

C. BRESNAHAN.
FIRE ESCAPE.

No. 441,819.

Patented Dec. 2, 1890.



WITNESSES
C. J. Shipley
Adolph Hertzberg.

INVENTOR
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By Wells T. Leggett & Co.
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(No Model.)

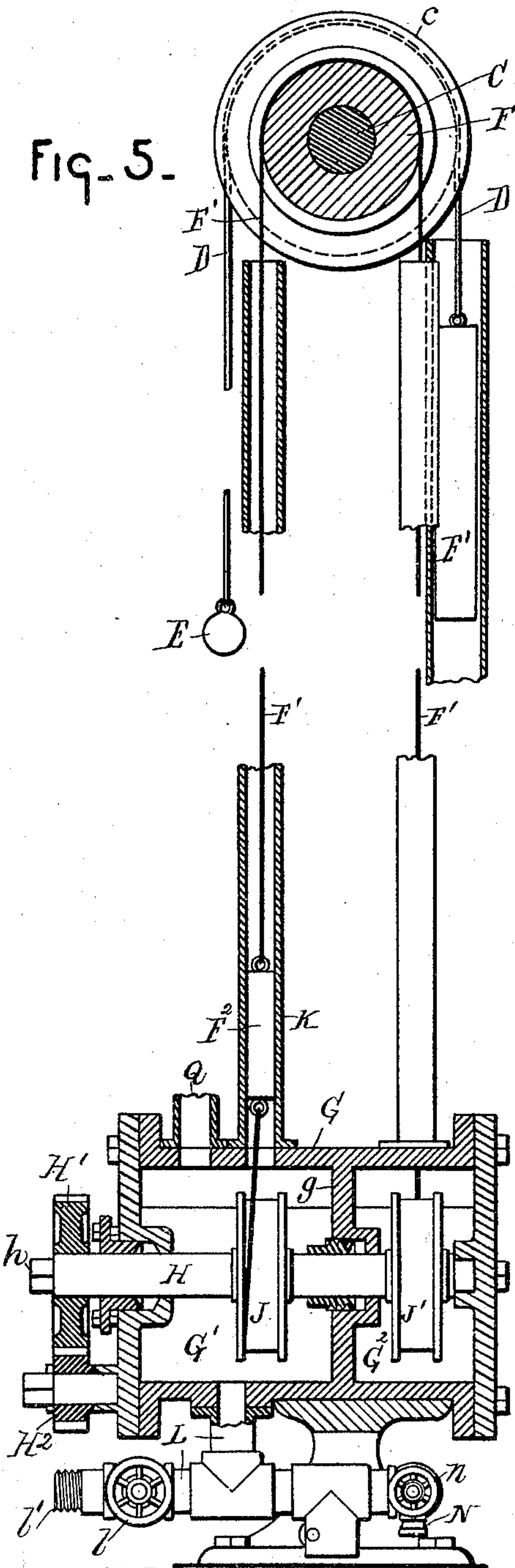
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Fig. 5.



WITNESSES

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Adolph Kuyburg

Fig. 6.

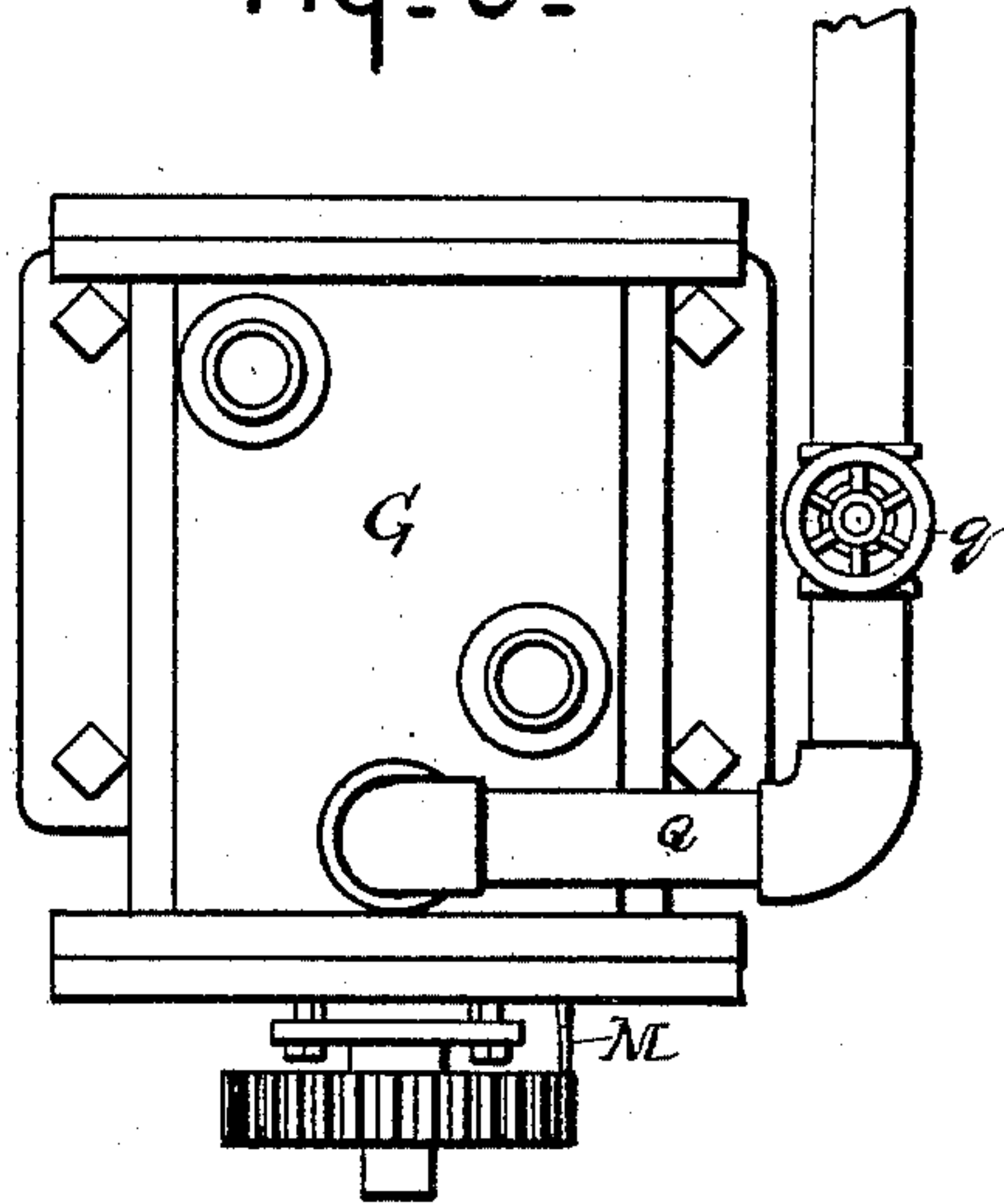
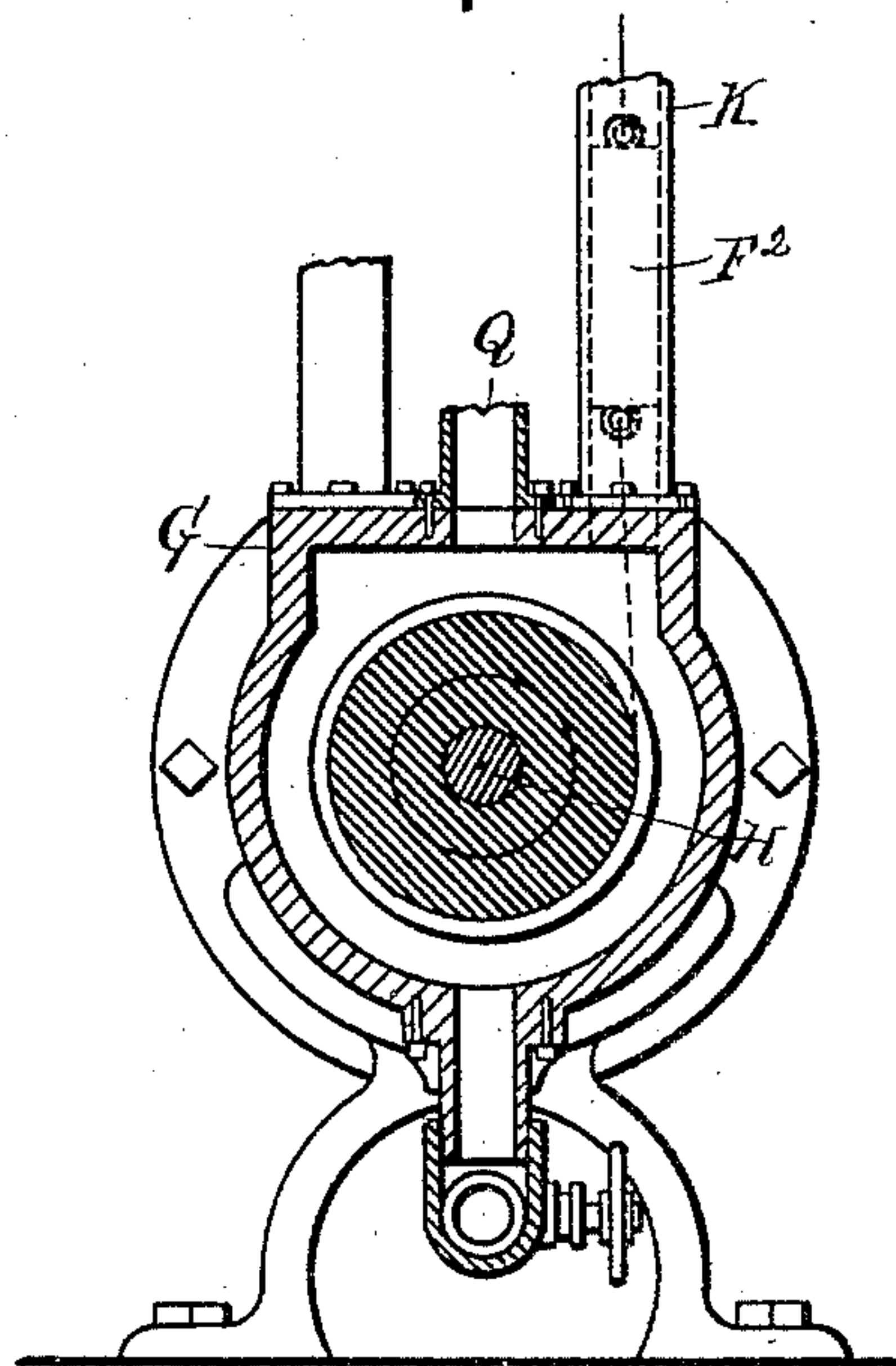


Fig. 7.



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UNITED STATES PATENT OFFICE.

CORNELIUS BRESNAHAN, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF
TO MICHAEL A. MCGOWAN, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 441,819, dated December 2, 1890.

Application filed July 31, 1890. Serial No. 360,492. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS BRESNAHAN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Fire-Escapes; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention is designed to produce a fire-escape for use on buildings of all kinds; and it consists of a combination of devices and appliances hereinafter described and claimed.

In the drawings, Figure 1 is a view of the front of a building illustrating the general construction of my apparatus. Fig. 2 is a horizontal section of the base. Fig. 3 is a vertical section of the same. Fig. 4 illustrates a variation in the form of the carrier. Fig. 5 is a sectional view of the driving apparatus. Fig. 6 is a plan view of the same. Fig. 7 is a cross-section in elevation.

In carrying out my invention, A represents the front of a building, and B the cornice at the top. Extending lengthwise underneath this cornice is a rod or shaft C, mounted in suitable brackets C'.

D D are cables composed of suitable ropes or belts passing over the pulleys c on the shaft C. To one end of the cables or ropes is secured the rod E, while to the other end is attached the counter-weight E', which may run in a suitable pipe or guides on the front of the building, or the cables or ropes D may extend over pulleys to the rear of the building and the weight slide up and down at the rear.

F is a drum located on the shaft C, over which is wound the cable or rope F', the two ends of which are engaged at the ground to the hoisting apparatus, which I will now describe.

G is a case located on the ground and divided by the partition g into chambers G' G², a shaft H extending through both compartments of the case. On this shaft are the drums J J', one in each compartment, one end

of the rope F' being engaged to the drum J, while the other end is engaged to the drum J'. A pipe or conduit K extends from the chamber G' up to the cornice. Through this conduit the rope F' extends, a piston-head F² being located within the pipe, to which the rope is attached on both sides.

L is a water-inlet into the chamber G', and is controlled by the valve l, a suitable coupling l' being provided, whereby the ordinary fire-hose may be attached.

The operation is as follows: At the time of a fire a hose is coupled onto the inlet L and the stand-pipe filled with water until pressure is exerted on the piston-head and the mechanism is released from any suitable holding mechanism, as that shown at M, for holding the rod E, and consequently the piston, at the top of the building. An outlet N, governed by the valve n, is then utilized to allow the water to escape from the chamber G' and stand-pipes K, thus allowing the piston-head and consequently the rod to descend. When it reaches, say, the windows of the top floor, the occupants of that floor may either grasp the rod, or life-buckets, which had been previously placed on the different floors, might be hooked onto the rod and the occupants thus be sustained. More water can then be let out and the apparatus lowered to the next floor, and so on until the space on the rod is filled. The water may then be let out rapidly from the stand-pipe and the rod quickly lowered to the ground. Then by forcing water into the stand-pipe the piston-head and consequently the carrier-rod will be rapidly elevated to the desired floor to receive a new load of occupants, and be lowered as before.

If desired, and I would so prefer it, the end of the shaft H might be squared, as shown at h, to receive a crank, and the apparatus could be lowered by this means if a water force was not available, and in order that when the carrier was full the strain might not come directly on the crank, I provide the shaft H with a gear H' and a smaller gear H² meshing therewith, the shaft of the latter spur being also squared to receive the crank when a load is being lowered.

In Fig. 4 I have illustrated a construction

in which, instead of the carrier-rod E, I utilize the lower portion of the cornice, as at P; or, in other words, I detach the lower portion of the galvanized-iron cornice and attach it to the ropes D, thus forming a shell or boat into which persons may step from the windows as it is lowered. Of course other forms of this carrier will suggest themselves to the mechanic, and I would be understood as including by my invention any form of carrier. So also various details of the construction might be changed without departing from the spirit of my invention. I would also be understood as including by the term "rope" any form of flexible connection, such as wire cables, sprocket-chains, &c., as well as hemp rope.

Another means for raising and lowering the apparatus is to locate on the roof or other high elevation a tank and connect it with the chamber G' by the pipe Q, controlled by the valve q. By opening this valve and allowing the water to enter the chamber G', the same effect will be obtained as when a hose is attached to and the water forced into the chamber G'.

What I claim is—

1. In a fire-escape, the combination, with a rotary shaft located at the top of a building and cables extending over the shaft and supporting a carrier, of a hydraulic cylinder having an inlet and an outlet for the ingress and egress of water, a stand-pipe containing a piston raised by the water entering the cylinder and lowered by the escape of the water therefrom, and a cable extending round the rotary shaft and connected with the upper and lower ends of the piston for turning the rotary shaft to raise and lower the carrier, substantially as described.

2. In a fire-escape, the combination, with a rotary shaft located at the top of a building

and cables extending round the shaft and supporting a carrier, of a hydraulic cylinder having an inlet and an outlet for the ingress and egress of water, a stand-pipe rising from the cylinder and containing a piston, a pair of drums, and a cable passing round the rotary shaft, connected with the piston in the stand-pipe, and extending in reverse directions round the two drums, substantially as described.

3. In a fire-escape, the combination, with a rotary shaft located at the top of a building and cables engaging the shaft and supporting a carrier, of a hydraulic cylinder located on the ground and having an inlet and an outlet for the ingress and egress of water, a shaft journaled within the cylinder and having a pair of drums, a stand-pipe rising from the cylinder and containing a piston raised and lowered by the inflow and outflow of the water, and a cable extending round the rotary shaft, connected with the piston, and passing in reverse directions round the two drums in the cylinder, substantially as described.

4. In a fire-escape, as herein described, the combination, with the shaft H, having the drums J J' located thereon and adapted to receive the rope F', of the case inclosing the drum J and forming the chamber G, a stand-pipe K, extending from said chamber G to the top of the building and inclosing the rope F', a piston-head in said pipe, to which the rope is connected, suitable connections whereby the chamber and stand-pipe may be filled with water, and a suitable outlet, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

CORNELIUS BRESNAHAN.

Witnesses:

W. H. CHAMBERLIN,
C. J. SHIPLEY.