

(No Model.)

2 Sheets—Sheet 1.

J. ECKLEY & J. C. STRICKLAND.
FIRE ESCAPE.

No. 521,707.

Patented June 19, 1894.

Fig. 1.

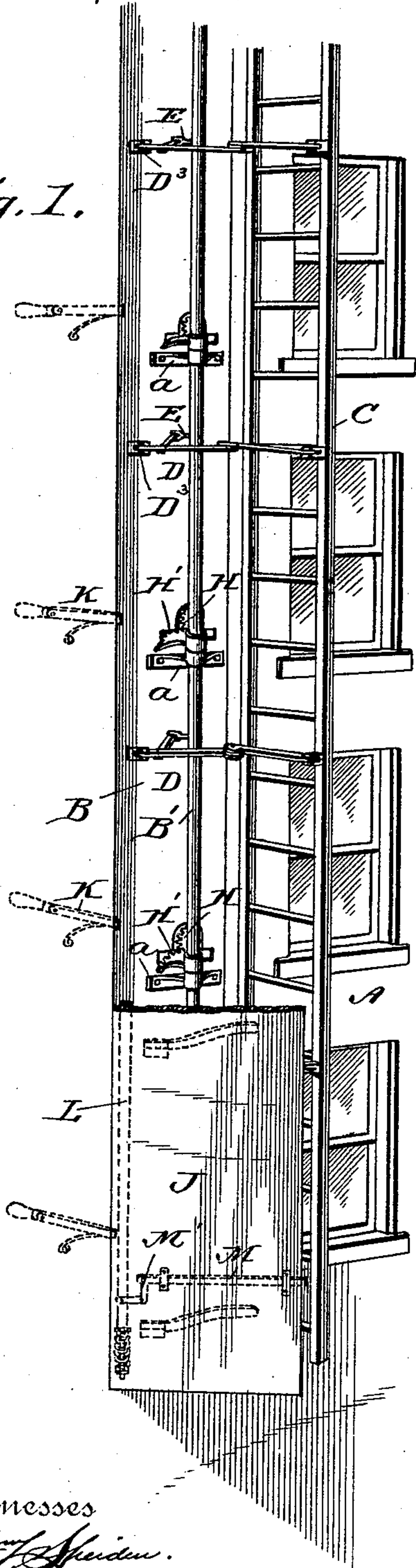
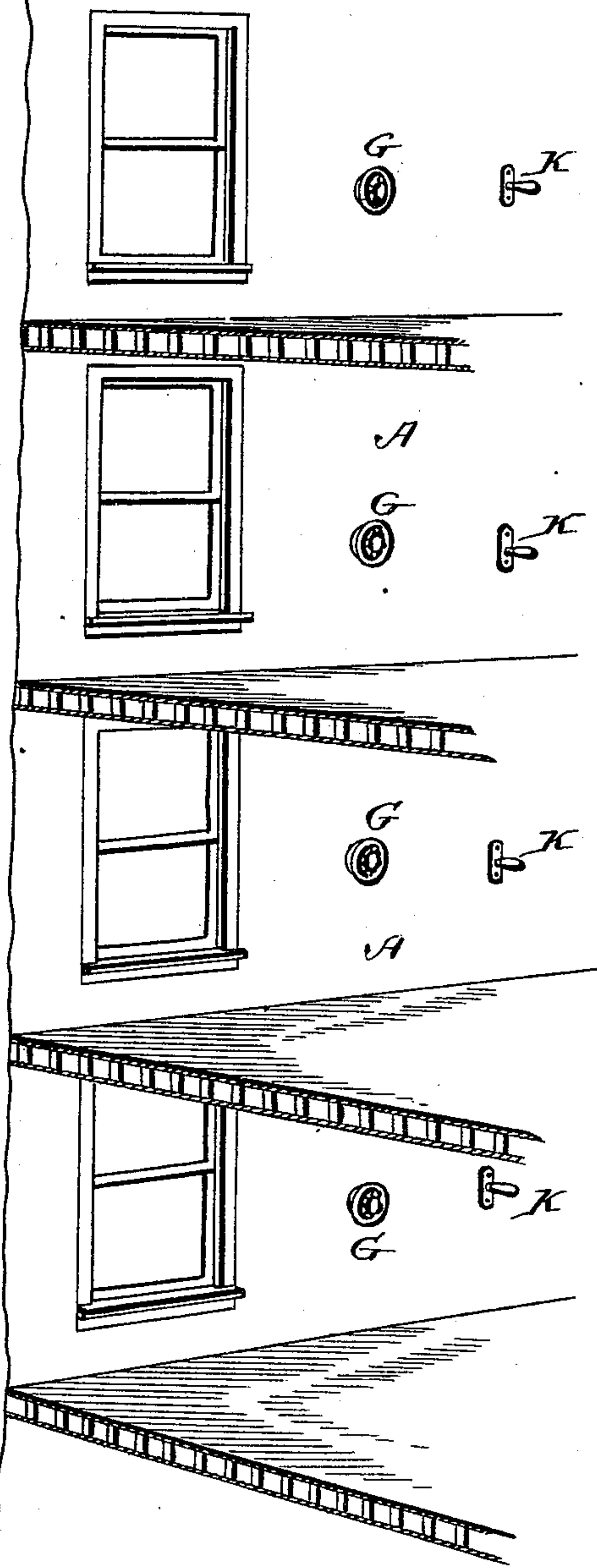


Fig. 2.



Witnesses

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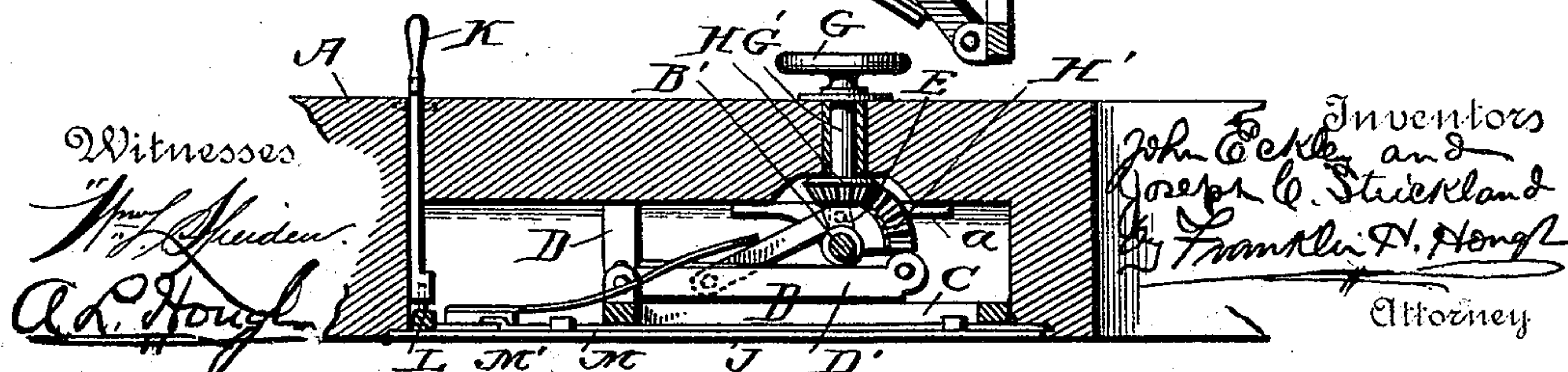
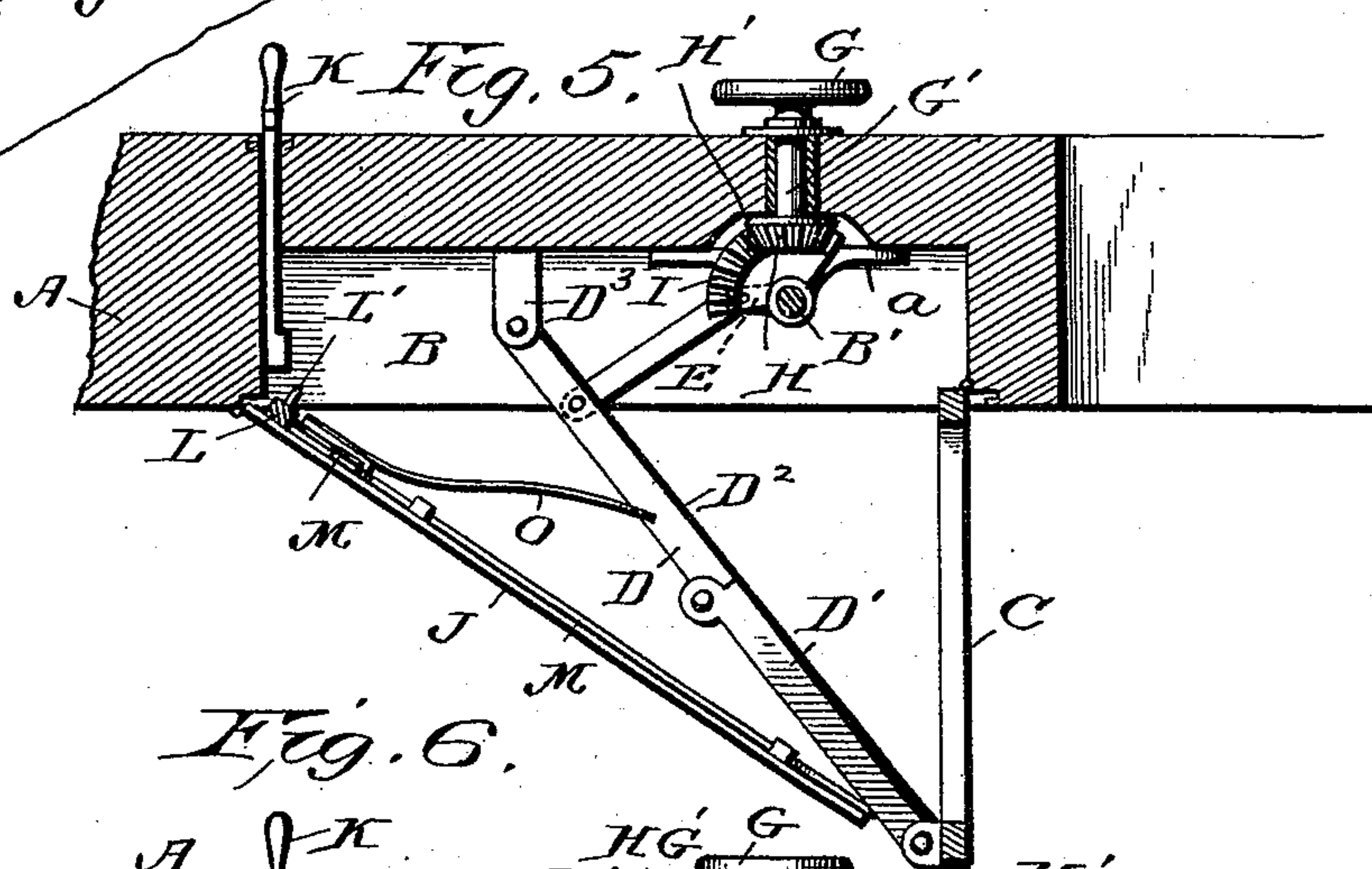
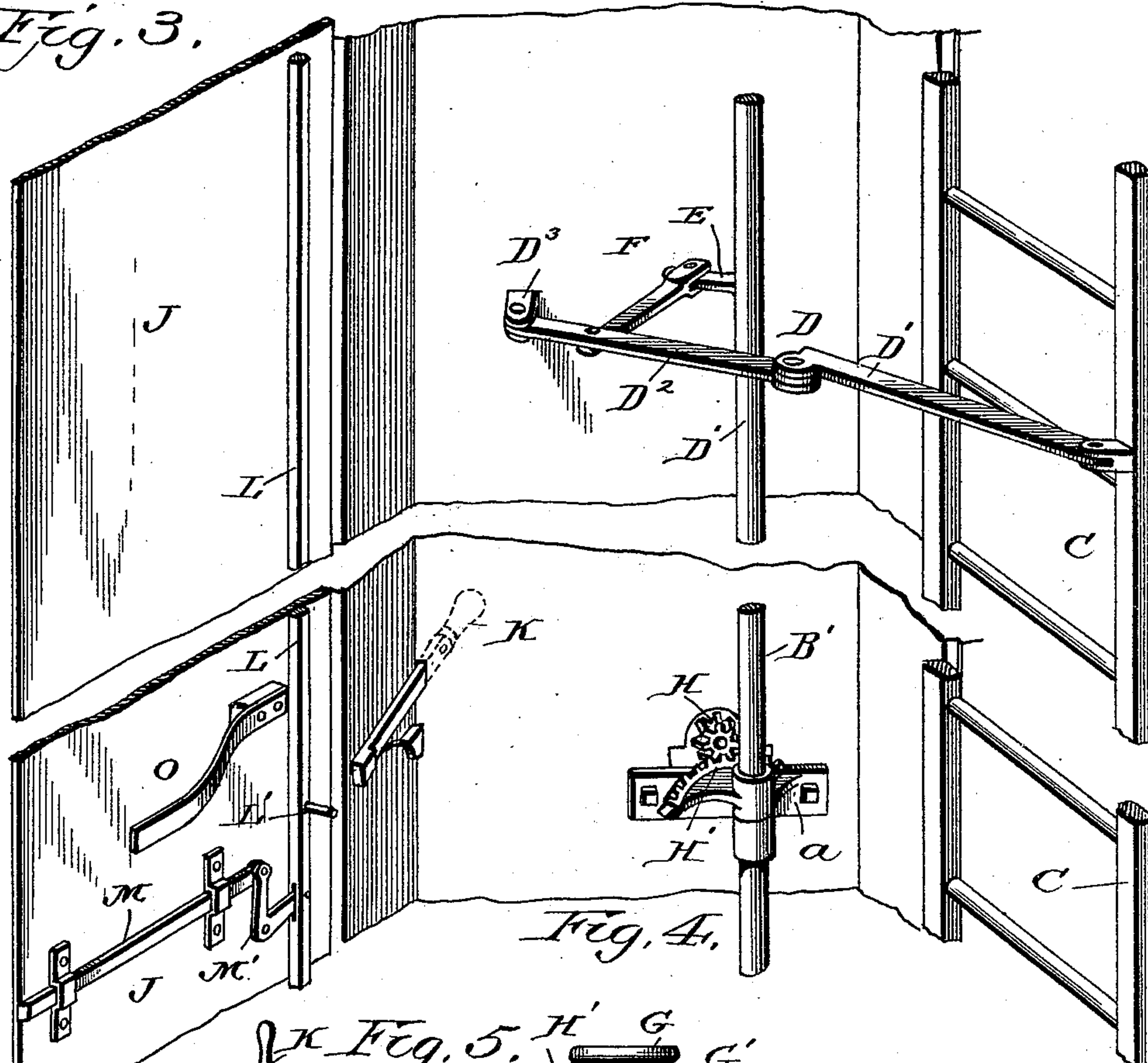
John Eckley and
Joseph C. Strickland,
By Franklin N. Hough Attorney

2 Sheets—Sheet 2.

FIRE ESCAPE.

Patented June 19, 1894.

Fig. 3.



UNITED STATES PATENT OFFICE.

JOHN ECKLEY AND JOSEPH C. STRICKLAND, OF WALLACETON,
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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 521,707, dated June 19, 1894.

Application filed March 20, 1894. Serial No. 504,447. (No model.)

To all whom it may concern:

Be it known that we, JOHN ECKLEY and JOSEPH C. STRICKLAND, citizens of the United States, residing at Wallacetown, in the county of Clearfield and State of Pennsylvania, have
5 invented certain new and useful Improvements in Fire-Escapes; and we 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
10 to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to certain new and useful improvements in fire-escapes, and it has more particular reference to that class of fire-escapes in which a ladder is permanently attached to the building, either in position
20 for use, or so arranged that it may be readily thrown into such position, and which will afford safe and convenient means whereby occupants of rooms upon any of the several stories of the building may reach the ground.
25 Heretofore, in constructing this class of fire escapes expensive platforms have been provided of iron, permanently attached to the outside of the building and communicating with the ground by means of ladders. This class
30 of fire escapes are objectionable, not only upon account of the expense involved in their construction and maintenance, but also for the reason that they disfigure the building and present an unsightly appearance.

35 The object of our invention is to provide a fire-escape ladder which is composed of a series of sections, so connected as to form one continuous ladder extending from the highest story of the building to the ground, and so arranged as to be readily folded within a recess
40 provided for its reception in the wall of the building, where it will be protected from the weather by means of a hinged door, and the several features of construction being such as
45 to readily admit of the opening of the door and throwing the ladder into position for immediate use, by a person upon any story of the building.

50 To these ends and to such others as the invention may pertain, the same consists in the

peculiar construction and in the novel combination, arrangement and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims. 55

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which drawings—

Figure 1, is a perspective view of a portion 60 of the outside of a building provided with our improved fire-escape apparatus, the same being shown as thrown into position for use, and parts being shown as broken away. Fig. 2, is a like view of the interior of the building, 65 showing the positions of the latch lever and operating wheel. Figs. 3 and 4, are enlarged views in perspective of the operating mechanism. Fig. 5, is a horizontal section showing the parts as in operative position. Fig. 6, is a 70 like view, showing the parts closed.

Reference now being had to the details of the drawings by letter, A designates the wall of a building.

B is a recess formed in the wall and extending from the top to the bottom of the wall 75 adjacent to a series of windows one above another, in the several stories of the building. Suitably journaled, by means of brackets *a*, *a* within this recess or chamber, is a vertical 80 shaft B', said shaft being preferably made in sections and when united as shown, form a continuous shaft extending from the top to the bottom of the recess.

C is a ladder, preferably constructed of 85 metal and of several sections united to form a ladder of such length as to extend from the top to the bottom of the recess. This ladder is provided along one of its longitudinal sides with hinged connection with the edge of the 90 recess adjacent to the window openings, as shown. The outer edge of the ladder, or, more properly speaking the edge of the ladder opposite that which is hinged to the building, is connected with the shaft B' at suitable intervals, by a series of pivoted and hinged levers 95 D. Each lever D, it will be observed, is composed of two members, D' and D². The lever D' has pivotal connection at one of its ends with the outer edge of the ladder, while 100

at its opposite end it has a hinge or "knuckle" joint connection with the outer end of the section D^2 , while the opposite end of said section D^2 is pivoted to the outer end of a fixed bracket arm D^3 extending outward from the inner wall of the recess B. At a point near its inner end, the section D^2 of the lever D is connected to the outer end of a stub shaft or arm E upon the shaft B' , by means of a hinged arm or link F. It will be at once seen that by this arrangement, when the shaft B' is rotated the ladder will be thrown in or out of the recess.

To rotate the shaft B' , we provide the following mechanism: Each floor or story of the building is provided with a wheel G upon the inner end of a shaft G' which shaft extends through the wall of the room into the recess B, and carries upon its outer end, within said recess a beveled pinion H which engages a sectional gear H' upon the shaft B' . J is a door, preferably of sheet-metal. This door is hinged to the edge of the recess B opposite to the edge to which the ladder is hinged, and it extends from the top to the bottom of said recess. Upon each floor of the building a lever K is provided, which lever extends through the wall of the room, into the recess B' , and its outer end engages a pin or projecting arm L' upon the vertically movable rod L. The said rod L extends from the top to the bottom of the recess, and its movement however slight, either up or down, serves to actuate the hinged latches M through the intervention of the pivoted angular lever M' , as will be readily understood. From the foregoing description it will be seen that by turning the wheel G upon any story of the building, after unlatching the door J by means of the lever K, the ladder will be thrown outward at right angles to the outer wall of the building and within convenient reach of the windows, the door being forced open by the ladder.

To insure the return of the ladder to a closed position, when the ladder is returned to the recess we provide the inner face of the door with a series of arms O which engage

the ladder, and the movement of the ladder will thus cause the door to be drawn inward.

The construction shown and described in the present application, is such as would be employed in cases in which the apparatus was applied to a new house in the course of construction; the recess B being provided by leaving out the brick in the wall, but we also contemplate the use of the apparatus upon buildings which have been constructed, and in which it would be inexpedient to form the recess or chamber in the wall proper. In such case a cupboard outside of the wall and entirely independent thereof, may be substituted for the chamber B, as will be readily understood.

Having thus described our invention, what we claim to be new, and desire to secure by Letters Patent, is—

1. In combination with a rigid hinged ladder, lever mechanism for turning said ladder upon its hinges, consisting of a hand wheel G having geared connection through the shaft G' , pinion H and segment H' with a series of levers connecting the rotary shaft B' to the edge of the ladder, and the arms O secured to the door J adapted to engage with the ladder and close said door as the ladder is folded into the recess B, all substantially as shown and described.

2. In combination with the wall of a building provided with a vertical recess extending from the top to the bottom thereof, a ladder within the recess and having one of its sides hinged at one of the side edges of the recess, a shaft also within the recess, lever connections between the shaft and the ladder adapted to cause the ladder to turn upon its hinges upon rotation of the shaft, and mechanism upon the inside of the building for rotating the shaft, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN ECKLEY.

JOSEPH C. STRICKLAND.

Witnesses:

S. M. JONES,

ALEXANDER FRANCE.