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PATENTED AUG. 28, 1906.

L. E. HALE & A. M. FOX,

FOLDING DOOR FOR FIRE DEPARTMENTS AND OPENER THEREFOR.

APPLICATION FILED DEC. 8, 1905.

2 SHEETS—SHEET 1.

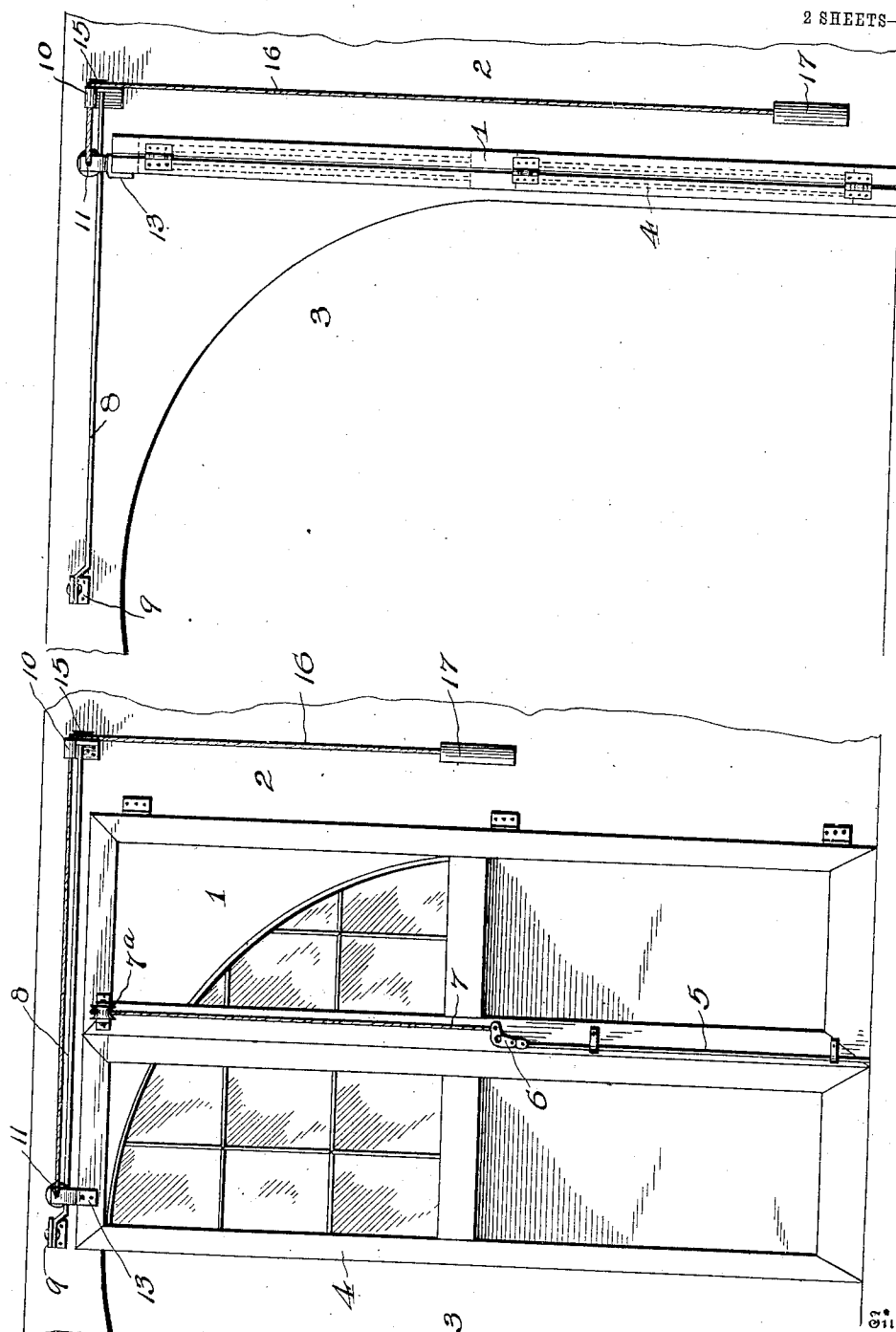


Fig. 2.

Fig. 1.

Witnesses

Frank J. Veihmeyer.
E. S. Elliott

By

Lorin E. Hale and
Aldin M. Fox

Edwin Pitt

Attorneys

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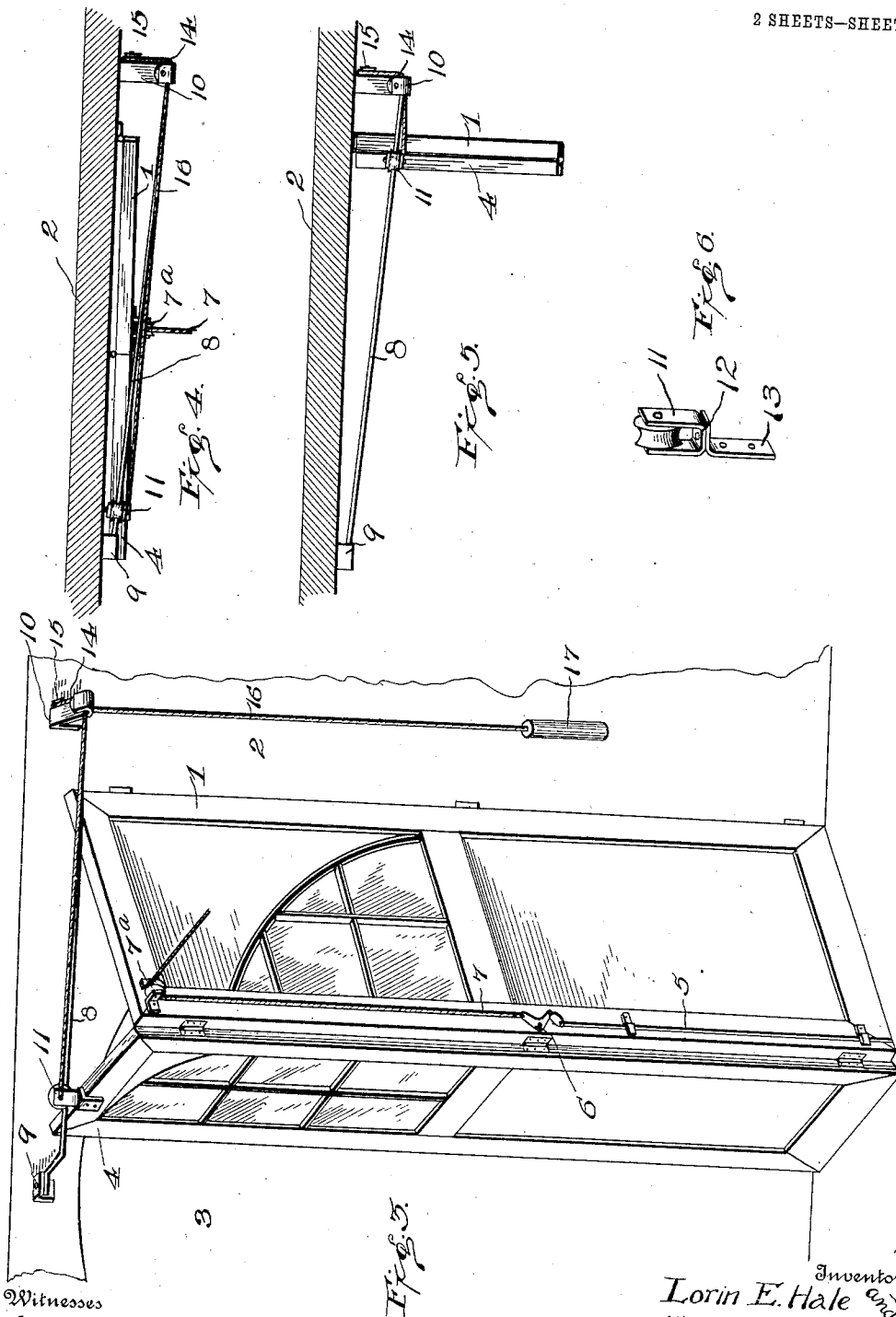
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Frank J. Veilmeyer.
C. S. Elliott

Fig. 5.

Inventors
Lorin E. Hale and
Alvin M. Fox.

By

Edson Bros.
Attorneys

UNITED STATES PATENT OFFICE.

LORIN E. HALE AND ALVIN M. FOX, OF KANSAS CITY, MISSOURI.

FOLDING DOOR FOR FIRE DEPARTMENTS AND OPENER THEREFOR.

No. 829,523.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed December 8, 1905. Serial No. 290,968.

To all whom it may concern:

Be it known that we, LORIN E. HALE and ALVIN M. FOX, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Folding Doors for Fire Departments and Openers Therefor; and we do hereby 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.

Our invention relates to improvements in fire-department folding doors and openers therefor.

It has for its object to provide a folding door which is adapted to be automatically opened and which is so supported that it will not sag.

The invention consists in the features of construction and combination of parts herein-after described, and more particularly pointed out in the claims concluding this specification.

In the accompanying drawings, illustrating the preferred embodiment of our invention, Figure 1 is an elevation of one set of doors closed. Fig. 2 is a similar view with the doors opened. Fig. 3 is a perspective view of the doors swung part way open. Fig. 4 is a plan view showing the doors closed. Fig. 5 is a plan view showing the doors open, and Fig. 6 is a detailed view of the hanger used on the inner member or door.

While the preferred embodiment of our invention is illustrated in the accompanying drawings and its construction and operation are described in this specification, the right is reserved to make such changes in the construction shown and described herein as the scope of the claims hereto appended will permit.

Referring more particularly to the drawings, in carrying out our invention we hinge the outer member or door 1 of the folding door to the wall 2, preferably far enough inward of the door-opening 3 to permit said door 1 and the inner door or member 4, which is hinged thereto, when folded flat upon one another to stand entirely within the casing or frame and leave the doorway unobstructed. It should be understood that two sets or pairs of doors such as we have shown are used, one on each side of the doorway.

A latch-rod 5 for locking the doors shut is arranged near the inner edge of the outside

door and is adapted to be operated by the lever 6, which is pivoted to said door and in turn actuated by a cord 7, running to the top of the door over a pulley 7^a and then over another pulley in the ceiling (not shown) within reach of the driver when he sits in the seat of the fire apparatus. A supporting-rod 8 is secured at the top of the doorway between two brackets 9 and 10, the former secured to the wall near the middle of the opening and the other fastened to said wall on a level with the bracket 9, but arranged on the inside of the door-frame. Said rod is arranged at the proper angle to permit the pulley-hanger 11, secured to the top of the inner member or door, to run back and forth thereon as the door is opened and closed. Said hanger is swiveled, as at 12, to the bracket 13, secured to the door. It will thus be seen that the hanger and rod support the door near the inner edge thereof and prevent it from sagging. The bracket 10 also carries pulleys 14 and 15, over which runs a cord or rope 16, secured at one end to the hanger 11 and at the other end carrying a weight 17. By means of this device the door is automatically opened when the latch-rod is raised, and the door tripped by the driver as already described. The pulleys 14 and 15 are preferably so arranged on the bracket 10 that the cord 16 acts in a line substantially parallel to the supporting-rod as the door is opened.

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

1. A folding door, of the character described, comprising a plurality of doors, or members, brackets arranged near the edge of said door, the bracket near the hinged edge of the door carrying pulleys, a supporting-rod arranged between said brackets, a hanger, on the outer door or member, adapted to run on said rod, and a weight-cord secured to said hanger and running over said pulleys, for the purpose specified.

2. A folding door, of the character described, comprising a plurality of members or doors, brackets arranged near the edges of said door, the bracket near the hinged edge of the door carrying pulleys, a supporting-rod arranged between said brackets, a hanger, on the outer door, or member, adapted to run on said rod, means to lock the door closed, means for unlocking and tripping the door, extending in reach of the driver when in his seat on the fire apparatus, and a weight-cord se-

cured to said hanger and running over said pulleys, for the purpose specified.

3. A folding door, of the character described, comprising a plurality of members or
5 doors, a short bracket secured near the free edge of the door, a longer bracket secured near the hinged edge of said door, a supporting-rod secured to said brackets near their
10 outer ends, said long bracket carrying pulleys, a hanger on the outer door or member

adapted to run on said rod, and a weight-cord secured to said hanger and running over said pulleys.

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

LORIN E. HALE.
ALVIN M. FOX.

Witnesses:

GEO. M. ROBERTS,
T. E. FLEMING.