

(No Model.)

J. J. SCHURR.
TRAP DOOR STAIRS.

No. 568,704.

Patented Sept. 29, 1896.

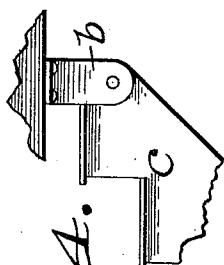
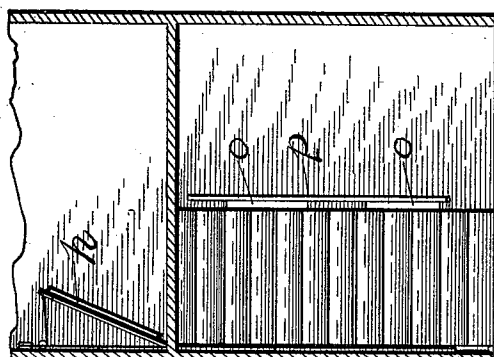
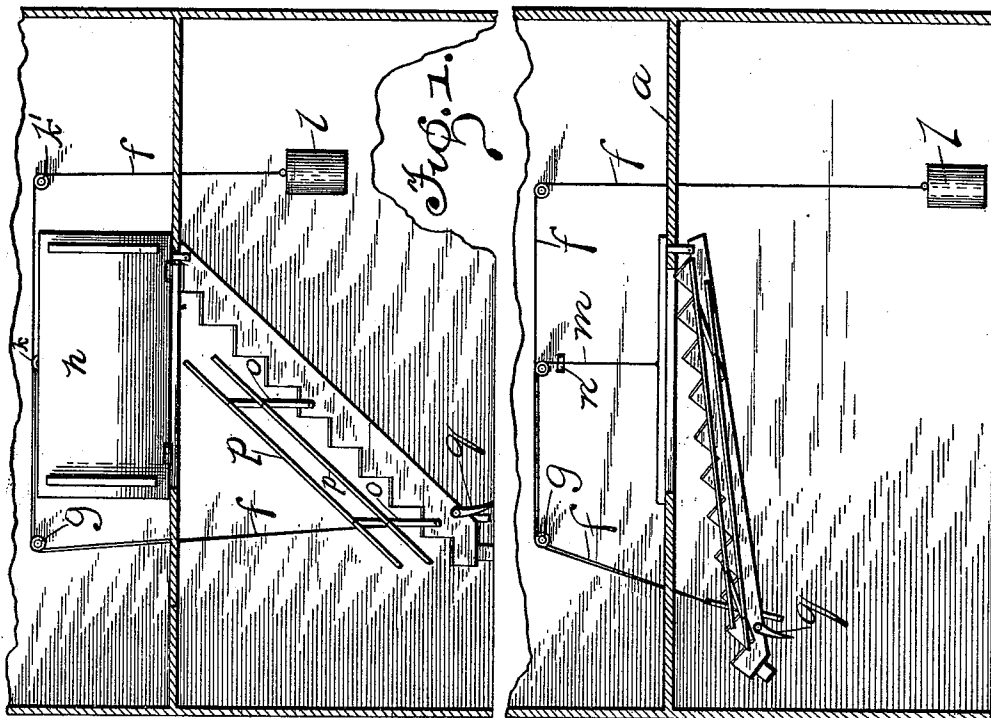
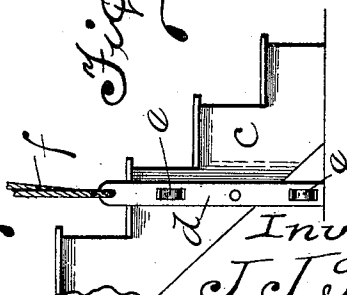


Fig. 2.



Witnesses:
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Inventor:
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By Henry C. Overst, Atty.

UNITED STATES PATENT OFFICE.

JOHN JACOB SCHURR, OF PITTSBURG, PENNSYLVANIA.

TRAP-DOOR STAIRS.

SPECIFICATION forming part of Letters Patent No. 568,704, dated September 29, 1896.

Application filed June 25, 1896. Serial No. 596,843. (No model.)

To all whom it may concern:

Be it known that I, JOHN JACOB SCHURR, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Trap-Door Stairs, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in trap-door stairs, and has for its object the provision of novel means whereby stairs of the above-referred-to class may be easily and conveniently operated.

15 The invention has for its further object to provide means to allow the stairs to be compactly stored under a trap-door, so that the entire room beneath the trap-door may be utilized.

20 The invention has for its still further object to place the stairs adjacent to the wall and provide means whereby the stairs proper will be prevented from coming in contact with the same.

25 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claim.

30 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

35 Figure 1 is a vertical sectional view of a room, showing my improved trap-door stairs applied in position. Fig. 2 is a similar view showing the stairs in a raised position with the trap-door closed. Fig. 3 is a transverse sectional view of a room, showing front elevation of the stairs and the trap-door in the elevated position. Fig. 4 is a side elevation of the upper portion of the stairs, showing manner of securing same. Fig. 5 is a similar view of the lower portion of the stairs.

45 In the drawings, *a* represents the floor of the second story, to which is secured the braces *b*, said braces being pivotally attached to the upper end of the side pieces *c* of the stairs and supporting the same. The stairs are

formed in the ordinary manner and rest on their base on the lower floor, and to the side piece next the wall is pivotally secured a 55 brace *d*, carrying friction-rollers *e e*, to engage the wall, the lower end of said brace resting on the floor when the stairs are in the lowered position, while to the upper end is attached the cord *f*, or other device employed 60 for lifting the stairs to the elevated position. This cord *f* passes over a pulley *g*, attached to the wall of the second floor of the building at a point slightly above the height of the trap-door *h* when same is raised, and also 65 over pulleys *k* and *k'*, arranged on the wall in alinement with the pulley *g*, said cord *f* carrying on its lower extremity a weight *l*. To the top of the brace *d* is also attached a cord *m*, which likewise passes over the pulleys *g* and *k* and a roller *n*, secured under 70 neath the pulley *k*, and is attached to the trap-door *h*, both cords operating in unison, as will be hereinafter more specifically described. To the outer side piece of the stairs 75 is pivotally attached upright braces *o o*, to which is pivotally secured side rails *p p*, forming a balustrade adapted to fold as the stairs are elevated, and the aforesaid outer side piece is also provided near its base with a pawl 80 or dog *q*, adapted to engage the floor and assist in holding the stairs rigid.

The operation of my improved trap-door stairs will be readily apparent from the views of the same that I have shown in the drawings, but in order to illustrate the same I will describe it as follows: We will assume for 85 this purpose that the parts have all been secured in their respective positions, and the stairs are in the lowered position, as shown in Fig. 1, the trap-door being necessarily raised, and it is desired to elevate the stairs and close the trap-door. By lifting on the bottom of the stairs the same will be easily 90 elevated by reason of the weight *l*, and as the same ascend to their suspended position the trap-door will automatically close, the weight *l* holding the stairs in the elevated or suspended position. When the stairs are again brought to the position for use, the 95 lowering of the same will open the door, and the stairs may be rigidly secured and prevented from any lateral movement by the dog or pawl *q* engaging in the floor. As the 100

stairs are elevated the balustrades will automatically fold, as is fully shown in Fig. 2 of the drawings.

It will be observed that various changes
5 may be made in the details of construction without departing from the general spirit of my invention.

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

In combination a stairs pivoted to a bracket on the upper floor, side rails, posts pivoted to the stairs and supporting the side rails, a standard on the side of the steps, friction-

rollers journaled in recesses of the standard, 15 a flexible connection extending from the top of the standard, a trap-door to which the opposite end is attached, said connection being so made as to cause the stairs and door to operate in conjunction, and means for hold- 20 ing the stairs rigid, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN JACOB SCHURR.

Witnesses:

H. C. EVERT,
H. E. SEIBERT.