

(No Model.)

T. PETERSON.  
FOLDING STAIRS.

No. 300,395.

Patented June 17, 1884.

Fig. 1.

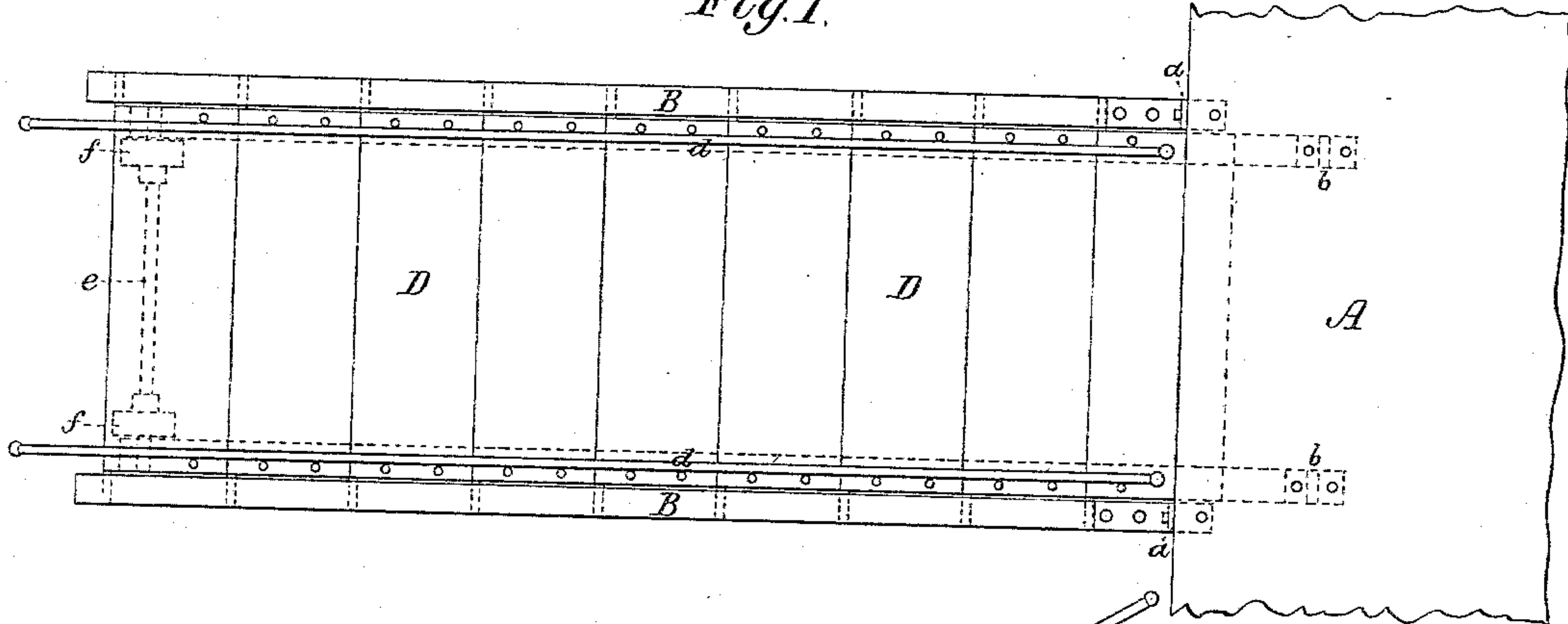


Fig. 2.

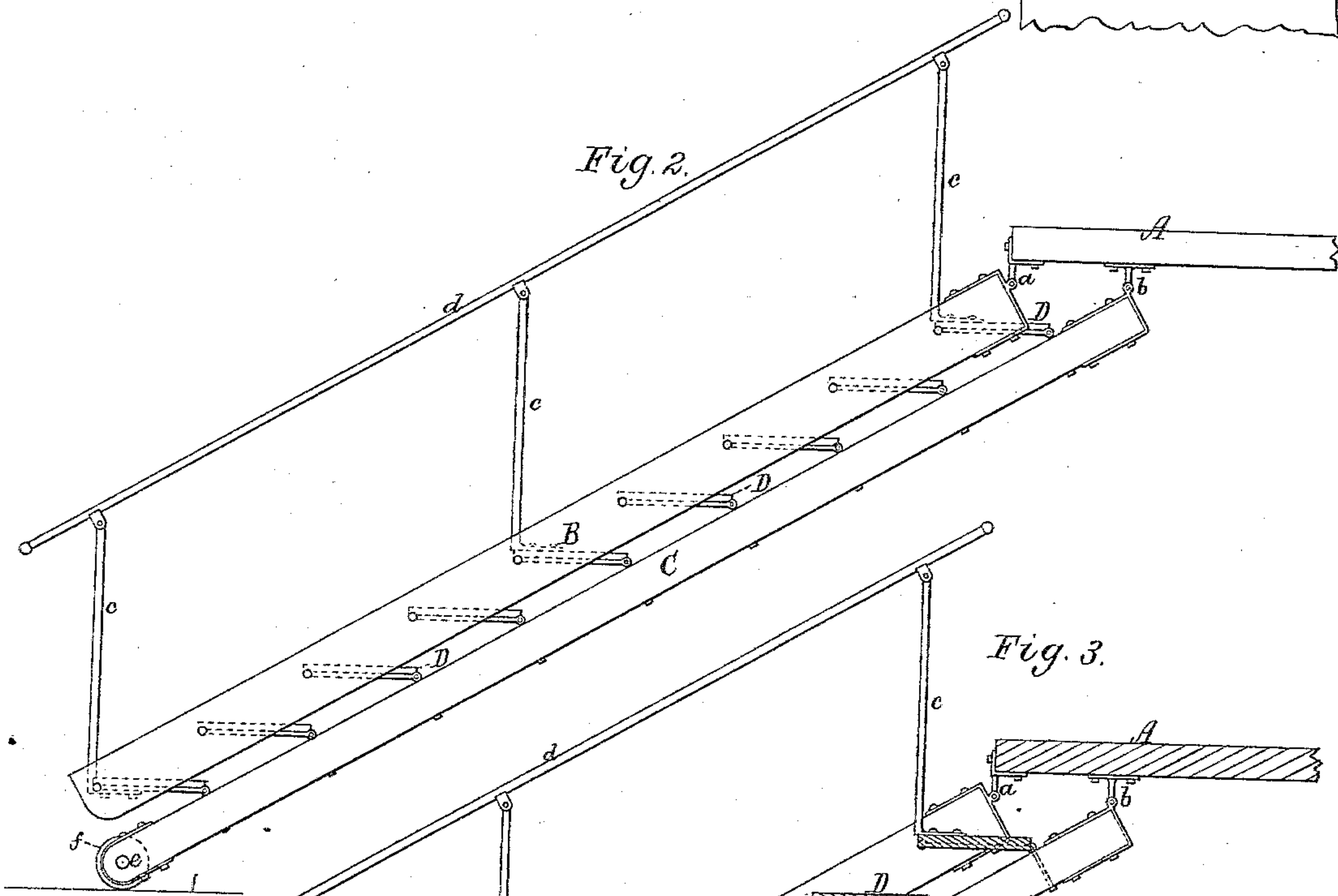
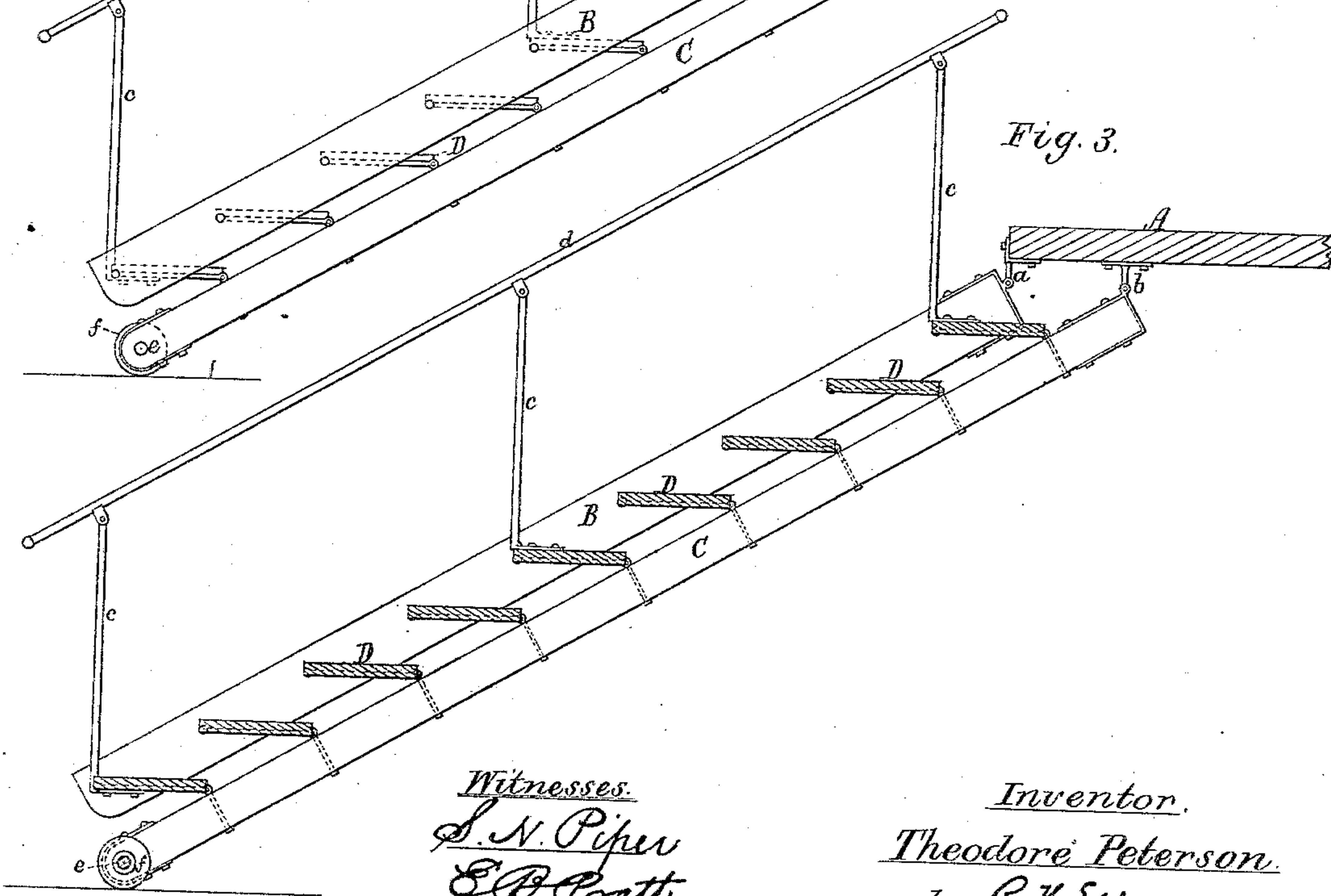


Fig. 3.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## FOLDING STAIRS.

SPECIFICATION forming part of Letters Patent No. 300,395, dated June 17, 1884.

Application filed March 3, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE PETERSON, of Boston, in the county of Suffolk, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Folding Stairs; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a longitudinal section, of a folding stair of my invention, the nature of which is defined in the claims hereinafter presented.

In the said drawings, A denotes a stair head or platform having extended downward from it four short projections, *a a* and *b b*, those marked *a a* being at the front edge of the platform, and situated apart from each other a distance somewhat greater than those marked *b b*.

There are hinged at their upper ends to the projections *a a* two bars, B B, arranged parallel to each other, and extended, as shown, from the platform A. Two others, but narrower bars, C C, are, at their upper ends, hinged to the projections *b b*, the distance between the outer sides of the said two bars C C being equal to or a little less than the distance between the inner sides of the bars B B. A series of steps, D, is arranged between the bars of the front pair, and extended to the front edge of the rear pair, each of the steps being, at its front corners, pivoted to the two bars B B, and at its rear corners to the two bars C C, the whole being so as to enable the stair composed of the four bars and the series of steps to be swung from a horizontal position down into a vertical or nearly vertical one relatively to the head or platform A. Each of the steps in the meantime always maintains its horizontal position, and the bars C C being directly between the bars B B when the stair is horizontal. From the lowest of the steps two posts, *e e*, extend upward at the front edge of the step. To the uppermost step there are likewise two posts *e e*, arranged in like manner. The middle step has also two such posts *e e*, fixed and arranged in like way with it. The several posts on each side of the stair are at their upper ends hinged to one of two rails, *d d*, arranged with them as shown,

such rails being in parallelism with the stair, and they constantly maintain their parallelism with it and at the same vertical distance from it, whatever may be its inclination to the horizon. A rod, *e*, connecting the two bars C C at or near their lower ends, carries two wheels or rollers, *f f*, that revolve freely on it. These rollers are to support the stair at its lower end upon a platform or float. This stair is intended for use at a wharf or pier, and to rest on a floating stage or platform movable with and by the tide, as such may rise or fall, in which case the stair is to be or may be connected with the wharf or pier in manner in which such stair is shown as combined with the stair head or platform A. The said platform A, however, may be used with the stair, and be so applied to the cap or coping of the pier or wharf as to extend or project more or less therefrom, and aid in connecting the stair with it.

My invention, though in some respects analogous to what is described in the United States Patent No. 259,846, differs materially therefrom, inasmuch as it possesses the stair head or platform, and its projections *a a* and *b b* connecting it with the four bars B B and C C by being hinged thereto. To my folding stairs there is at its lower part no carriage to operate like that of the gangway described in such patent. Furthermore, in the folding stairs of such patent there are stationary hand-rails supported by posts projecting from two of the step-bars and braced by knees and curved bars.

In my folding stairs the posts that support the two hand-rails are pivoted to the said rails and extend upward from certain of the steps, to which they are permanently fixed perpendicularly thereto, whereby the two rails are rendered movable with the side bars and maintained in parallelism with them, and always at the same vertical distance from the steps, however the stairs may be inclined, such not being the case in the stairs or gangway shown in said patent.

I claim—

1. The combination of the four bars B B and C C and the series of steps D, arranged with and pivoted to such bars as described, with the posts *e*, projecting upward from and permanently fastened to certain of the said steps,



and with the hand-rails  $d$   $d$ , pivoted to such posts at their upper ends, all being substantially and to operate as set forth.

2. The combination of the four bars B B and  
5 C C and the series of steps D, arranged with and pivoted to them as described, with the stair head or platform A, disposed at the upper ends of such bars, and connected there-  
with by means substantially as described.

10 3. The combination of the four bars B B and C C, the series of steps D, arranged with and

pivoted to such bars as described, the stair-head A, adapted, as explained, to the upper ends of such bars, the posts  $c$ , extended up from and permanently fixed to certain of the  
steps, and the hand-rails  $d$   $d$ , pivoted to the upper ends of the said posts, all being substantially and to operate as represented. 15

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Witnesses:

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