

No. 712,913.

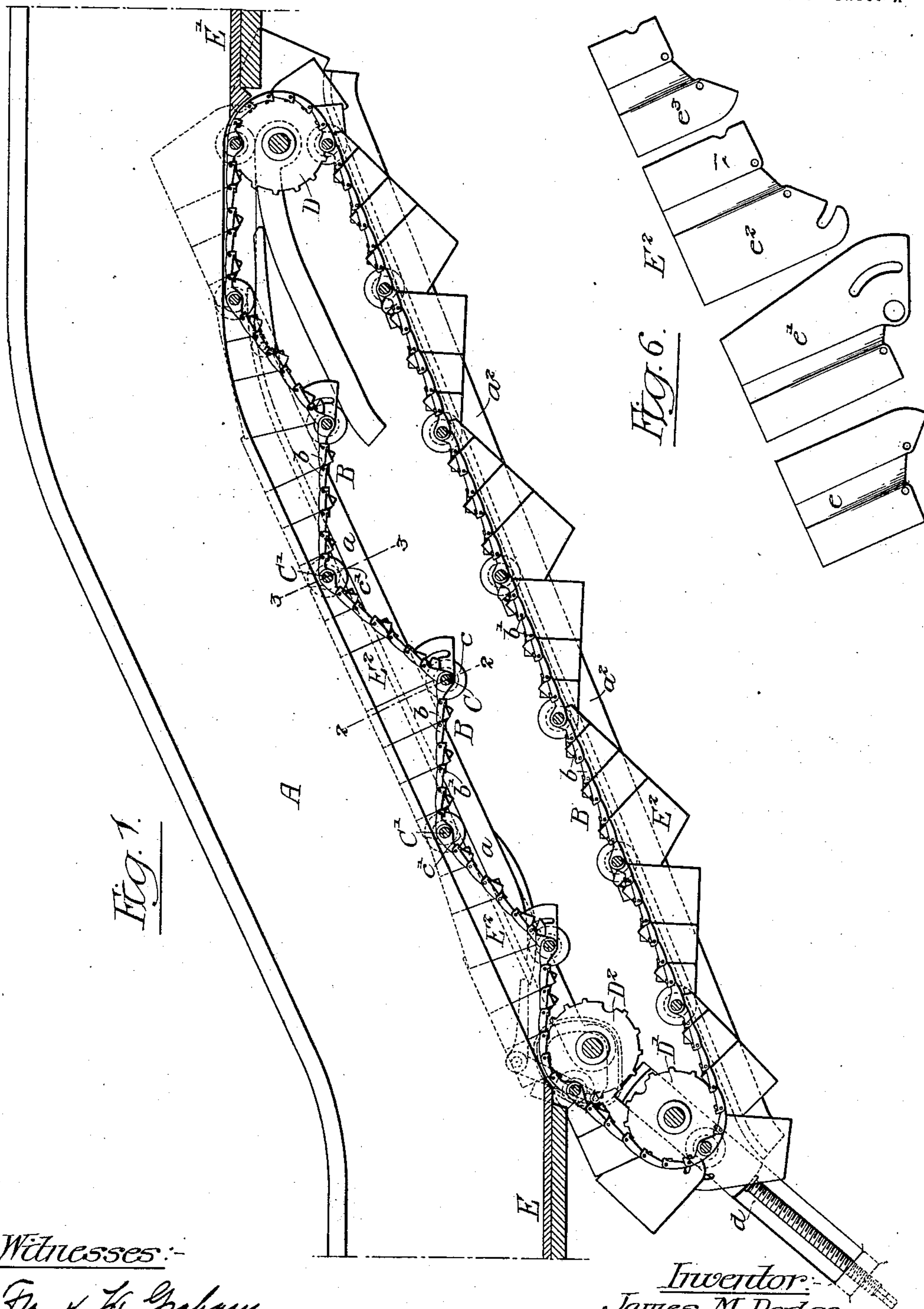
Patented Nov. 4. 1902.

J. M. DODGE.  
STAIR LIFT.

(Application filed Mar. 30, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:-

*Frank H. Graham.*  
*Louis H. T. Whitehead.*

Inventor:-  
*James M. Dodge.*  
by his Attorneys:-  
*Hosson & Hosson*

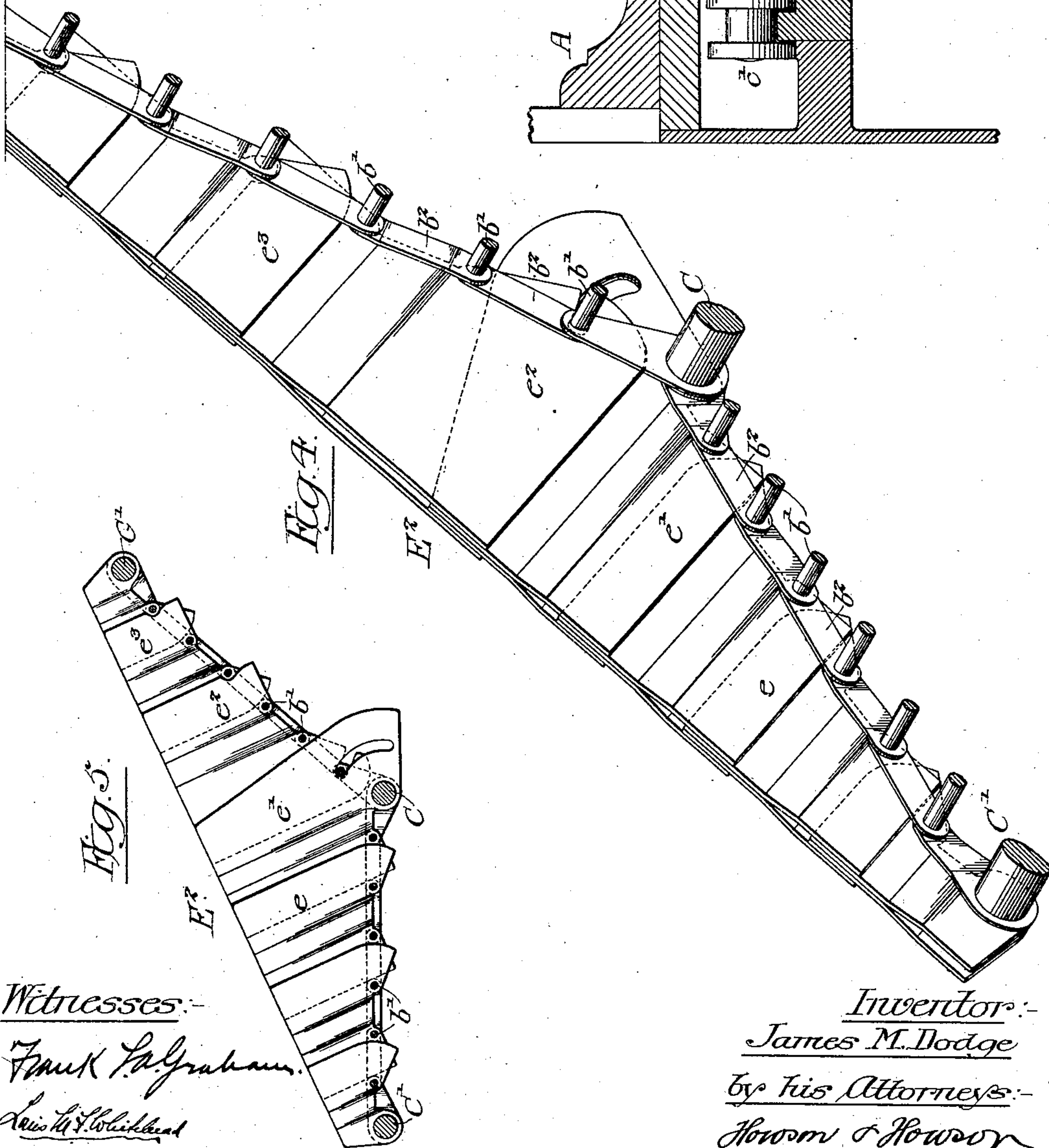
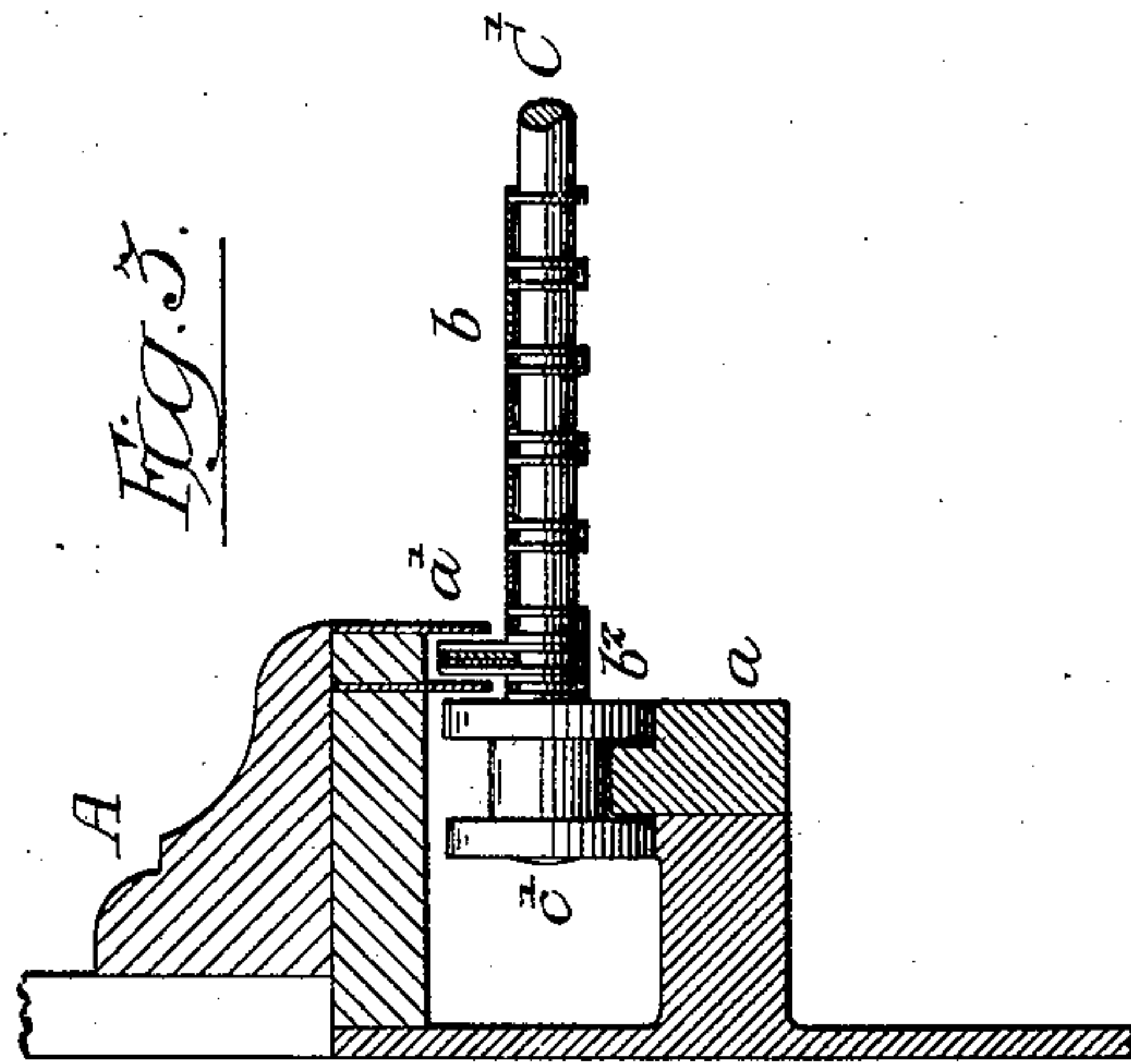
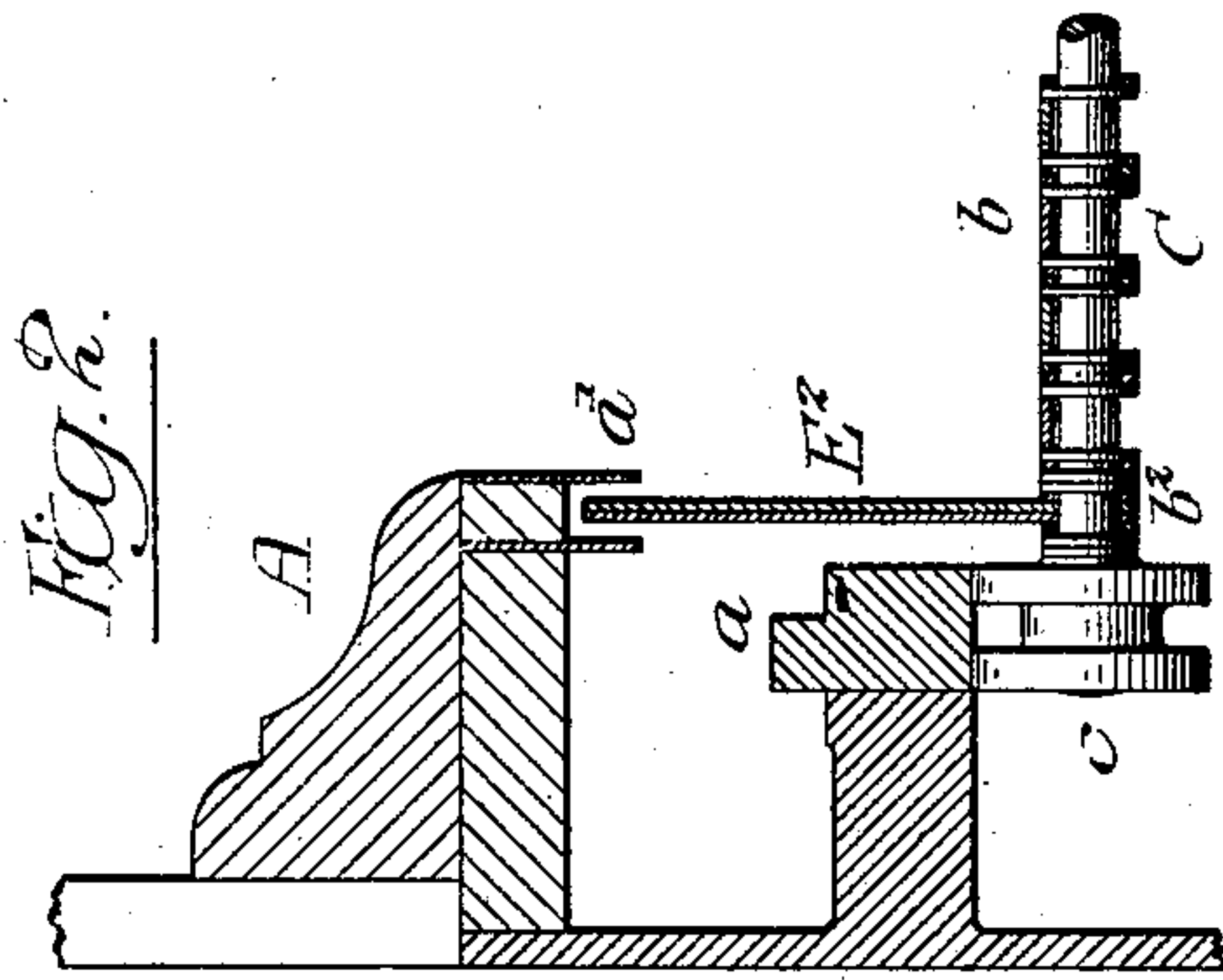
J. M. DODGE.

STAIR LIFT.

(Application filed Mar. 30, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

Frank L. Graham.  
Lewis L. Whithead

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# UNITED STATES PATENT OFFICE.

JAMES M. DODGE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE STAIR LIFT COMPANY, OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## STAIR-LIFT.

SPECIFICATION forming part of Letters Patent No. 712,913, dated November 4, 1902.

Application filed March 30, 1901. Serial No. 53,630. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. DODGE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
5 Improvements in Stair-Lifts, of which the following is a specification.

My invention relates to certain improvements in stair-lifts; and the object of my invention is to provide means for closing the  
10 gap between the moving portion of the stair-lift and the sides of the stairway, so as to make it impossible for any portion of a garment or any piece of loose material being caught between the moving portion and the fixed portion of the stair-lift. This object I attain in  
15 the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of sufficient of a stair-lift to illustrate my invention. Fig. 2 is a section on the line 2 2,  
20 Fig. 1. Fig. 3 is a section on the line 3 3, Fig. 1. Fig. 4 is a perspective view showing one form of side shield. Fig. 5 is a sectional view through the shield illustrated in Fig. 4,  
25 and Fig. 6 is a view showing sections of the shield detached.

In stair-lifts or moving stairways, in which the carrying-belt or conveyer is deflected to form treads and risers, as illustrated in Fig.  
30 1, there will be more or less of an opening at each side of the stairway between the nosing of one tread and the nosing of the tread above or below it, and while the conveyer can be made to fit snugly against the fixed portion  
35 of the stairway nevertheless there is more or less danger of an edge of a dress or a frayed portion of a garment being caught by the moving section, which may cause the person being conveyed to lose balance and fall, and  
40 it is to overcome this objection to a stair-lift that the device which I will now proceed to describe is designed.

A is the side wall of a stair-lift; *a*, the rails which guide the conveying-belt B, so as  
45 to form the treads and risers indicated in Fig. 1. The conveying-belt B is of the type illustrated in the patent granted to me on the 12th day of December, 1899, No. 639,154, and the links forming the endless belt are set  
50 forth and claimed in a separate application filed by me on the 9th day of March, 1901,

Serial No. 50,449. The endless belt B passes around a head-wheel D at the upper end of the structure and around a wheel D' at the lower end of the structure and over a wheel D<sup>2</sup> at the lower platform E. The wheel D' can be adjusted by any suitable means—for instance, by a screw *d*, as shown—to take up the slack in the belt. The head-wheel D at the upper end of the structure is in close proximity to the upper platform E'. At given distances apart on the belt are series of axles C C', on which are wheels *c c'*. The wheels *c* travel on the upper portion of the rail *a*, while the wheels *c'* travel on the lower portion of the rail and form the treads and risers on the carrying run of the belt, as shown. On the return run all the wheels travel on the same rail *a*<sup>2</sup>. The links *b* of the chain B are pivoted together by rods *b'*, and these rods are connected together at each end by links *b*<sup>2</sup>.  
55 60 65 70

In the present instance the side shields E are formed of a series of sections, one overlapping the other. The sections are secured to the ends of the rods *b'*, so that they will move with the rods and assume a position on the upper run. (Clearly indicated in Fig. 1.) These shields extend from the treads and risers up past a downwardly-extending shield *a'* on the fixed portion of the stairway, so as to completely close the opening which would otherwise be formed between the nosing of one step and the nosing of the adjoining step.  
75 80

The sections which form the shields E<sup>2</sup> are made in the present instance of a series of plates *e e' e<sup>2</sup> e<sup>3</sup>*, arranged in pairs, the ends of one set or pair being extended to form a pocket, into which the ends of the adjoining pair extend, as clearly indicated in Fig. 4, and these sets are so connected to the rods *b'* that they will assume the different positions indicated in Fig. 1. The plates *e'* at the axles C are much larger than the other plates and have curved slots to allow them to move independent of the first rod adjoining the axle on one side, as clearly illustrated in Fig. 5. The plates *e<sup>2</sup>* are also slotted for the same reason.  
85 90 95

It will be seen that the plates *e e<sup>2</sup> e<sup>3</sup>* are each connected to two rods *b'*, and the plates *e'* are connected to one rod and the axle C'. The form and arrangement of the plates may  
100



be varied without departing from the main feature of my invention.

I claim as my invention—

1. The combination in a stair-lift, of an  
5 endless belt, means for deflecting the belt to form steps and risers, vertically-arranged side extensions projecting above the upper surface of the belt, and a fixed flange extending over the side extensions, substantially as de-  
10 scribed.

2. The combination in a stair-lift, of an endless belt, guides for deflecting the belt to form steps and risers, a fixed flange extending near the line of the nosing of the treads,  
15 and side extensions projecting upwardly from the belt and closing the space under the fixed flange, substantially as described.

3. The combination in a stair-lift, of an endless belt made of a series of links pivoted  
20 together, guides for deflecting the belt to form treads and risers, a fixed flange extending near the line of the nosing of the treads, and side extensions projecting upwardly from the belt and closing the space under the fixed  
25 flange, said extensions being made in sections secured to the pivots of the belt, substantially as described.

4. The combination in a stair-lift, of an endless belt made of a series of links pivoted

together, guides for deflecting the belt to form  
30 treads and risers, a fixed flange extending near the line of the nosing of the treads, and side extensions projecting upwardly from the belt and closing the space under the fixed  
35 flange, said extensions being made of a series of plates which overlap each other and secured to the pivots of the belt, substantially as described.

5. The combination in a stair-lift, of an  
40 endless belt made of a series of links pivoted together, guides for deflecting the belt to form treads and risers, a fixed flange extending near the line of the nosing of the treads, and  
45 side extensions projecting upwardly from the belt and closing the space under the fixed flange, said extensions being made of plates arranged in pairs, one pair overlapping an adjoining pair, said plates being secured to the  
50 pivots of the links of the belt, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES M. DODGE.

Witnesses:

WILL. A. BARR,  
JOS. H. KLEIN.