

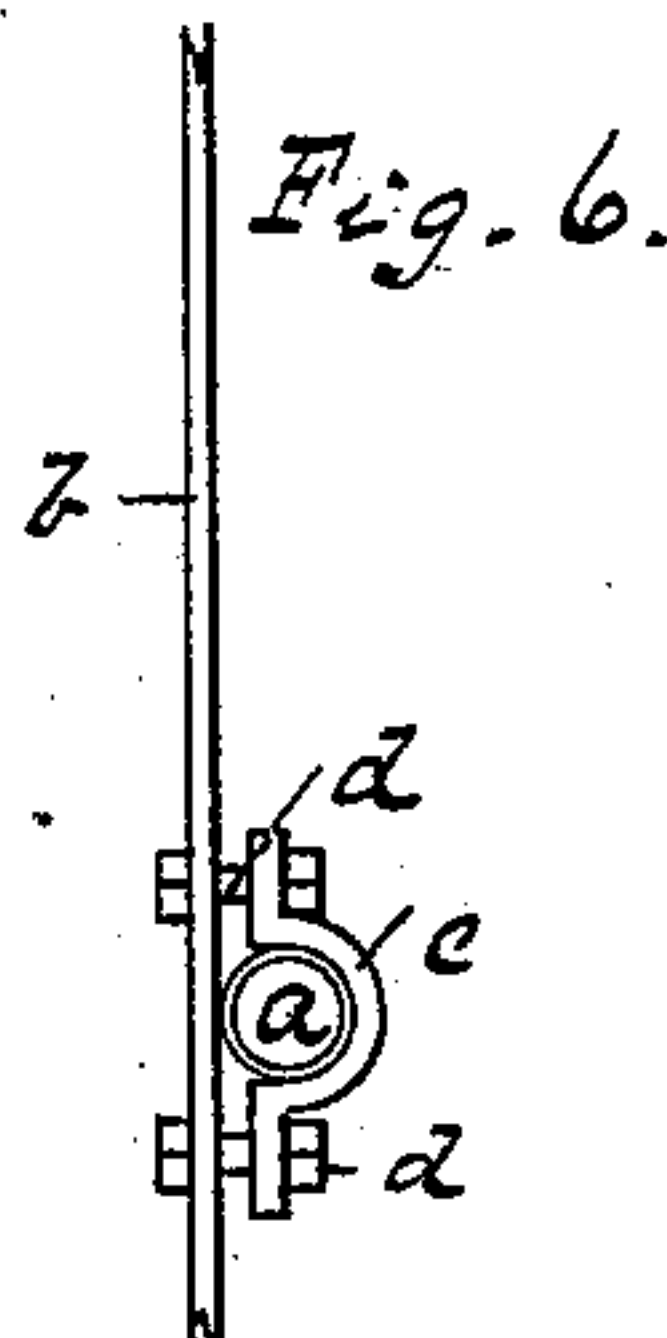
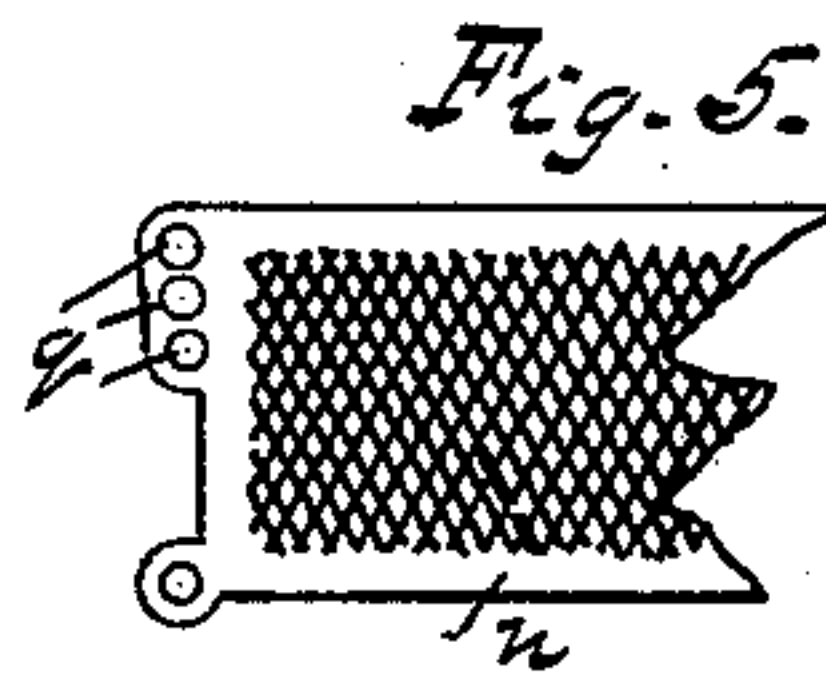
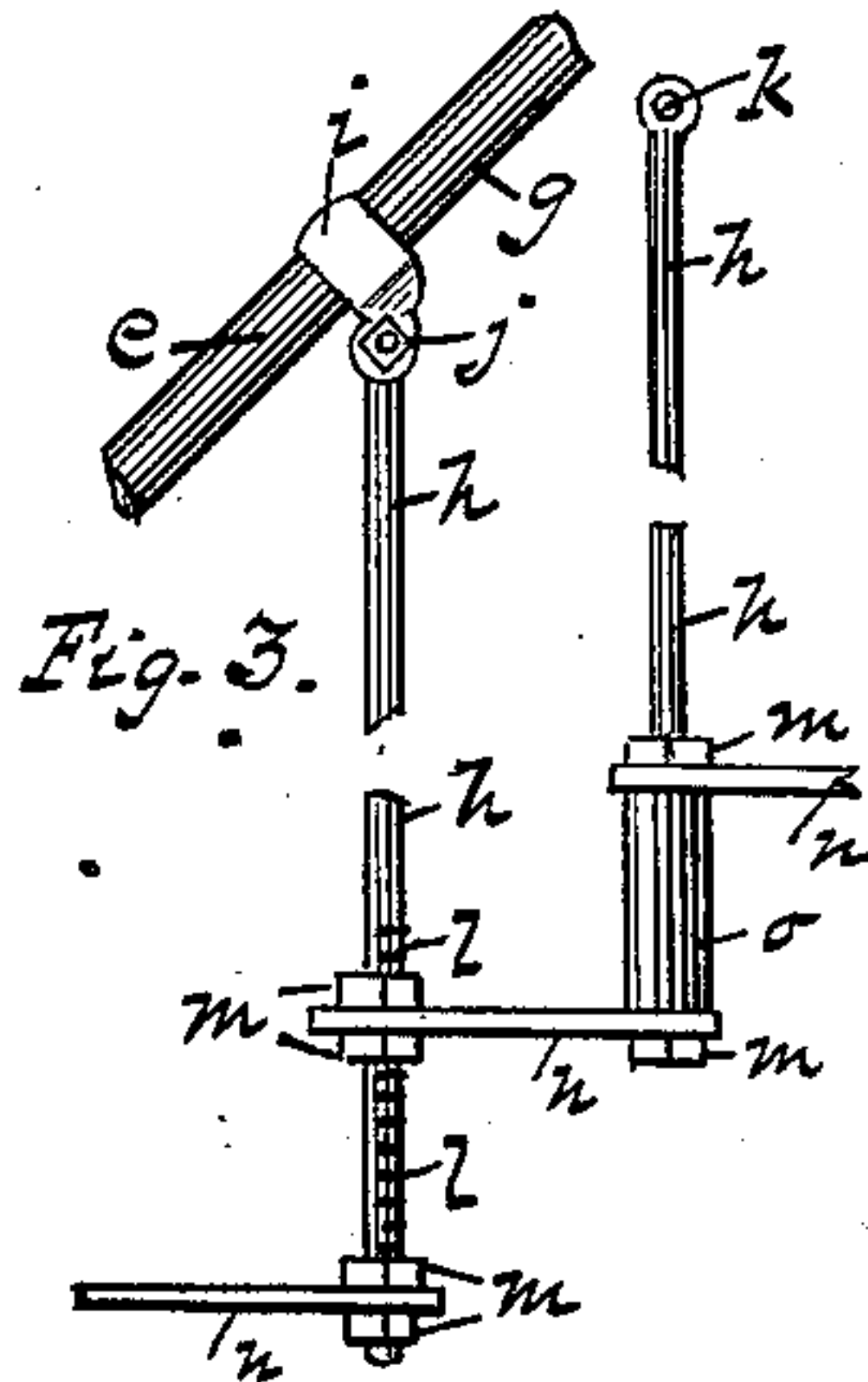
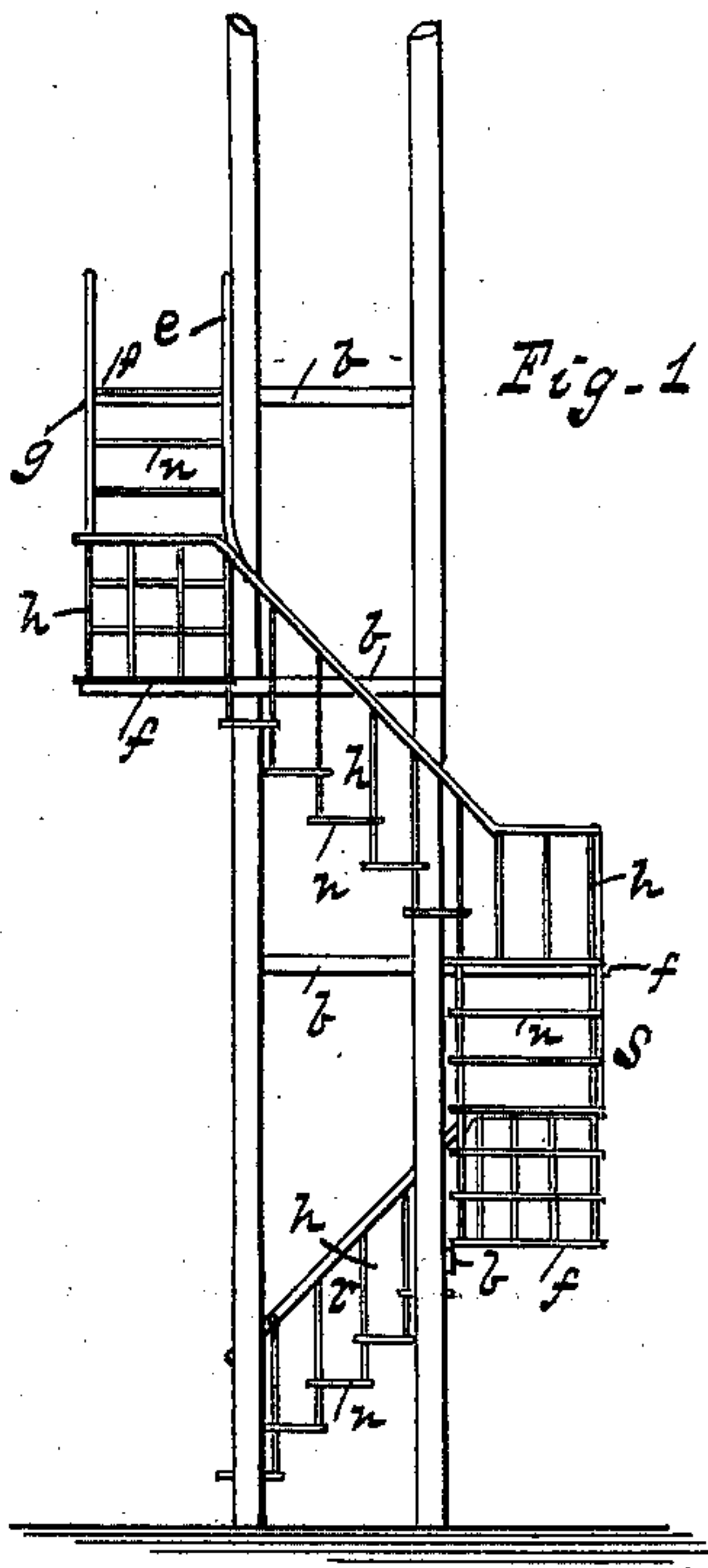
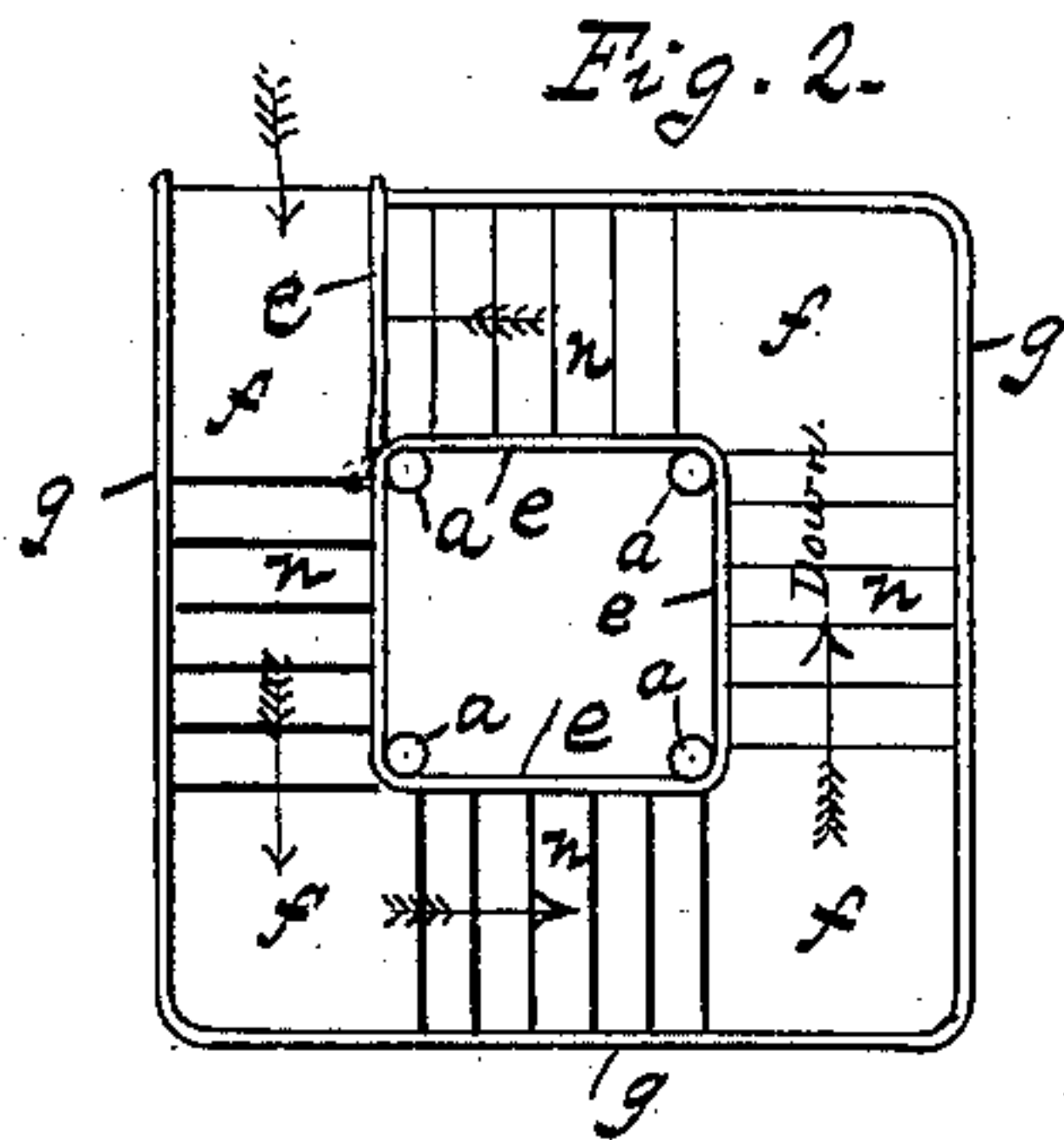
(No Model.)

P. RIESECK.

CONSTRUCTION OF STAIRWAYS.

No. 362,537.

Patented May 10, 1887.



Witnesses:
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UNITED STATES PATENT OFFICE.

PETER RIESECK, OF ALLEGHENY, PENNSYLVANIA.

CONSTRUCTION OF STAIRWAYS.

SPECIFICATION forming part of Letters Patent No. 362,537, dated May 10, 1887.

Application filed September 17, 1886. Serial No. 213,842. (No model.)

To all whom it may concern:

Be it known that I, PETER RIESECK, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Construction of Stairways; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a stairway such as is used on fire-escapes or outside structures, the objects being to provide a stairway that will be adjustable in all of its parts; also, to provide a stairway that will be easily ascended or descended; and with these ends in view my invention consists in certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of my improved stairway constructed spirally about one or more vertical posts, constructed in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detailed side elevation of a portion of the stairway, showing the manner in which the hand-rail, balusters, and steps are attached to each other. Fig. 4 is an end view of the strap or clamp which connects the hand-rail and balusters together. Fig. 5 is a plan view of one end of a step, showing the means of adjusting the tread of the same. Fig. 6 is a plan view of the bracket for supporting the platform and stairways, and the means by which the same is secured to the vertical columns.

To put my invention into practice, I prefer to erect a number of columns, *a*, in the form of a square, and secure the same in that position by braces at the top until the stairway has been completed. I now secure a long metallic strip, *b*, of the desired size to the side of two of the columns *a* by clamp *c* and bolts *d*. This clamp *c*, I construct smaller in diameter than the columns *a*, which allows the same to be securely attached thereto. I now secure an inner hand-rail, *e*, to the columns *a* in an oblique position, which winds about the columns *a*. A second or outside hand-rail, *g*, is placed

in position, as shown, of the same length and form of construction as that before described, each of which has at intervals short horizontal parts corresponding to the platforms *f* of the stairway. To these two hand-rails *e* and *g*, I secure the balusters *h* by means of a band or clamp, *i*, which encircles the hand-rails, and provided with a bolt, *j*, which I pass through an opening, *k*, in the top of the baluster *h*. This bolt *j* serves to clamp the band *i* about any portion of the hand-rails *e* or *g*, and also secures the balusters to the bands *i*. At the lower end of the balusters *h*, I form a long screw-thread, *l*, on which I place four nuts, *m*, one above and below each step *n*; or a distance-piece, *o*, may be placed between the steps *n*, consisting of a hollow section of tubing cut to the proper length and placed over the threaded portion of the balusters *h* between the steps *n*. At the rear of each of the steps *n*, I form two or more circular openings, *q*, in any one of which the balusters *h* may be placed, thus changing the tread of the stairway. The first flight of steps, *r*, consists in those erected from the ground, beginning at one column and ending at the next, at which point a small square platform, *f*, is constructed and supported by the hand-rails *e g* and brace or bracket *b*. Another flight, *s*, is commenced at the column where the first flight stopped, but at right angles, thus leaving a landing space or platform; another flight at the top of the last mentioned, and continued as before until the desired height is reached. By this construction I form a continuous flight of steps, each having a square or equal-sided tread, which is much easier and safer to ascend or descend.

By means of the clamp *i*, the threaded portion of the balusters, and the several openings *q*, formed in the steps *n*, the tread of the same may be altered, adjusted, or changed at will.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A stairway consisting of four columns arranged relatively at right angles to each other, a winding band surrounding the said columns, platforms supported by the columns, a winding hand-rail, the balusters having their lower ends threaded, and provided with nuts for securing the same to the steps, and the clamps embracing the hand-rail and bolted to eyes in

the upper ends of the balusters, substantially as specified.

2. In a winding stairway, the combination, with steps and one or more columns, of the balusters having their upper ends perforated, the hand-rail, the clamps *i*, embracing the said rails, and the bolts *j*, for connecting the same with the balusters, substantially as specified.

3. The combination, in a stairway, of steps having perforations, as described, balusters adapted to be adjustably secured vertically to the said steps, and a clamp at the upper end of the said balusters, whereby the hand-rail may be connected at desired points, substantially as specified.

4. In a stairway such as described, the combination consisting of the hand-rails *e* and *g*, the balusters *h*, and the adjustable clamps *i*, for securing the same to the hand-rails, the threaded portion of the baluster *h* and nuts *20 m*, and a step having two or more openings, *q*, formed in the same, whereby the tread of the step may be changed or adjusted to any required height and width, substantially as described.

PETER RIESECK.

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