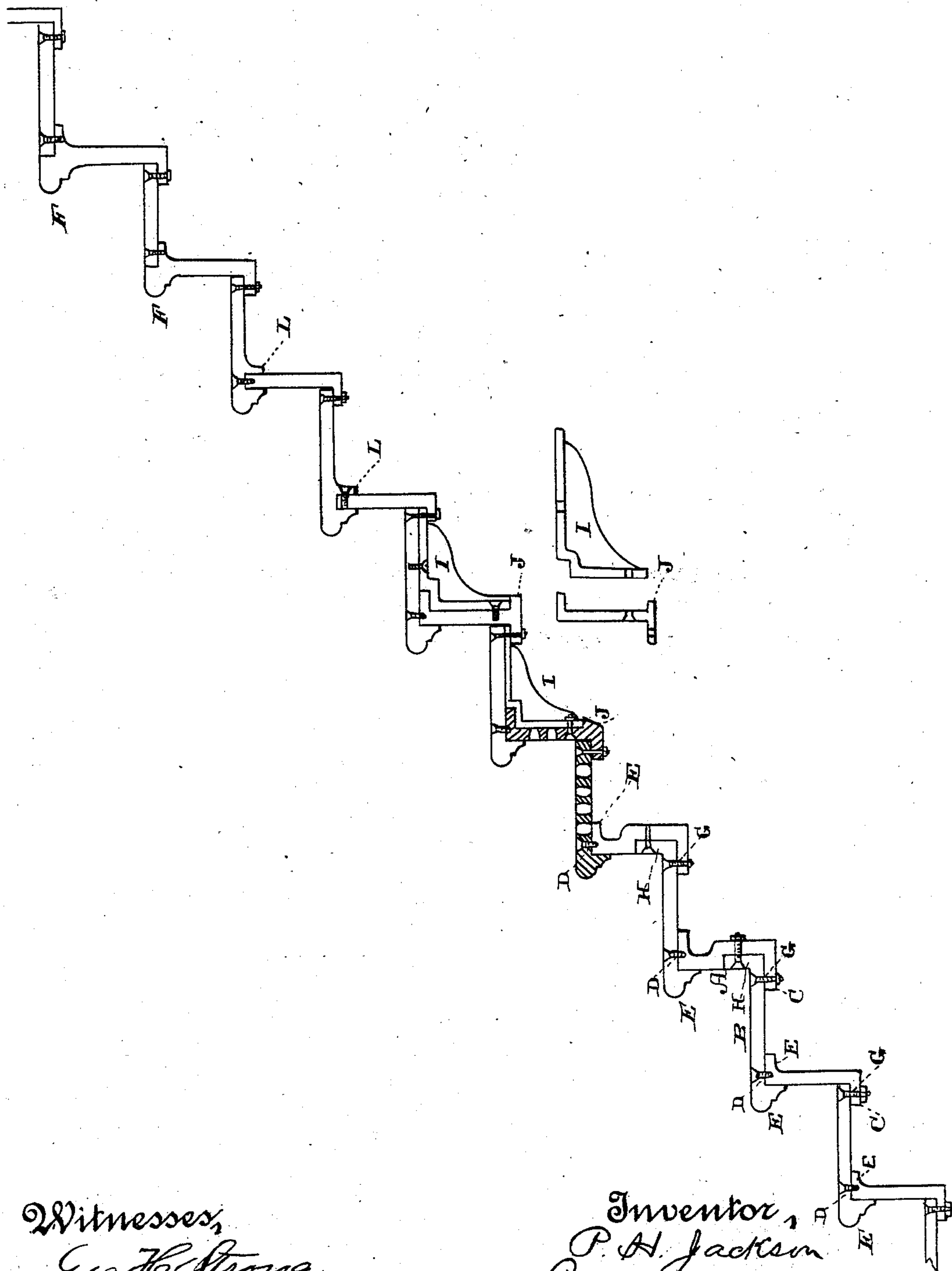


(No Model.)

P. H. JACKSON.
STAIRS FOR BUILDINGS.

No. 302,339.

Patented July 22, 1884.



Witnesses,
Geo. H. Strong
J. H. House.

Inventor,
P. H. Jackson
By Dewey & Co
attorneys

UNITED STATES PATENT OFFICE.

PETER H. JACKSON, OF SAN FRANCISCO, CALIFORNIA.

STAIRS FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 302,339, dated July 22, 1884.

Application filed May 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, PETER H. JACKSON, of the city of San Francisco, and county of San Francisco, and State of California, have invented an Improvement in Stairs for Buildings; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in stairs which are used in buildings, more especially those in which the treads and risers are made of iron, either plain or with openings for the glass for illuminating.

It consists of risers so constructed as to form deep vertical beams supported at the ends only, of treads extending from the top of one riser to the foot of the next, with means for securing the two together to resist the tendency of the riser to turn under heavy loads, a means for supporting the central portion of the treads and riser, and in certain details of construction, all of which will be more fully explained by reference to the accompanying drawing, which is a view of several steps, showing the different features of my invention.

In the construction of buildings, especially where basements and basement-extensions are used for business purposes, where stairs pass up over the front of the basement, it is necessary to so construct the stairs as to leave the greatest amount of space beneath them, and so that, when desired, illuminating-tiles may be set into the stairs to furnish light to the basement with the least possible obstruction. In order to do this it is necessary to build the stairs without any support or beams beneath, and this is the object of my present invention.

In the drawing, A represents the risers, and B the tread, of my stairs. The risers form deep vertical beams extending from side to side, over which the stairs are to be built, and the ends of the risers are suitably supported at these sides, no stringers being used at any point between, because they would take up room and obstruct the light, as well as being more expensive. From the lower edges of the risers flanges or lugs C project outward, so that the rear edge of each tread rests upon one of these flanges or lugs, while the front edge rests upon the top of the next riser below. When the stairs are subjected to heavy loads, the tendency of the weight upon the tread is to turn the lower edge of the riser backward.

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In order to unite the treads and risers and make them solid, and to resist any tendency of this sort, I have shown the front edge of the tread as secured to the top of the riser by bolts D. In the lowermost riser of the drawing, I have shown the flange E projecting horizontally backward from the top of the riser, and to this the front edge of the tread may be bolted at intervals throughout its length. If the stairs are to be perforated for illuminating purposes, these projecting flanges may take the form of lugs at intervals, through which the bolts may pass, and between which will be places left for the glass lens. In either case the front of the tread has a flat level bearing upon the surface to which it is bolted, and the nosing or finish may be formed with the tread, as shown at E, projecting down over the front upper edge of the riser, or in some cases it may be formed, as shown at F, in the upper step, directly upon the riser, while the tread rests upon the flange at the top of the riser, as before described, but with its upper surface flush with the upper part of the nosing, the nosing of the riser protecting the tread from severe usage. This construction may be employed where it is desired to make the tread-surface of wood, artificial stone, or other suitable material.

In order to unite the rear part of the tread and the bottom of the riser, so as to resist the tendency of a load to turn the riser, as before described, bolts G pass through the rear portion of the tread and through the flange which projects forward from the bottom of the riser, as before described. In the second and third steps from the bottom in the drawing, I have shown the lower part of the riser recessed above the bottom flange and toward the front, and the tread has an upwardly-projecting flange, H, at the rear, which fits into this recess, while the horizontal part of the tread rests upon the flange and bolts pass through this upwardly-turned flange, H, and through the lower part of the riser, so that with the bolts passing through the flange at the bottom of the riser they form a very solid construction and resist any tendency of the riser to turn.

In the drawing the third and fourth steps from

the top, I have shown the tread having the nosing formed upon its front edge extending down, so that the front of the upper edge of the riser rests against it, and a vertical flange, L, projects downward from the tread, so as to pass just behind that part of the riser, thus forming a channel between itself and the nosing, within which the upper edge of the riser fits.

It will be seen that places which may occur in a fitting of the parts together may be filled with lead or other soft metal, so as to form a close joint and perfect bearing of the parts.

In some cases, where the stairs are of considerable length, I use strengthening-bearers I, which may be placed at one or more points between the ends of the treads and extend from the flange at the bottom of the riser beneath the tread to the back of the riser next in front and below, where they have a vertical edge, which fits against the rear of the riser, and may at the same time be supported upon a projecting lug or piece, J.

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

1. In stairs, the risers forming deep vertical beams with outwardly-projecting flanges at the lower edges and inwardly-projecting flanges at the upper edges, upon which the front rear edges of the treads may be supported and bolted, substantially as herein described.

2. In stairs, the risers forming deep vertical beams supported at their outer ends, having outwardly-projecting flanges from their front

lower edges, with recessed channels above these flanges and backwardly-projecting flanges at their upper edges, together with treads, the front of which are supported upon and bolted to the upper flanges, while the rear edges have upturned flanges fitting recesses in the risers where they are bolted, substantially as herein described.

3. In stairs, the risers forming deep vertical beams supported at their ends, having the horizontal flanges projecting in opposite directions from their upper and lower edges, the treads supported upon these flanges and bolted thereto, as shown, together with the bearers I, extending from the rear of one riser to the flange at the foot of the next, and supporting the central portions of the treads, as herein described.

4. In stairs, the risers forming deep vertical beams supported at the ends, having outwardly-projecting flanges upon which the rear edges of the treads may rest, said treads having nosings formed upon their front edges and vertical flanges parallel with and to the rear of the nosings, so as to form channels within which the upper edges of the risers may fit and be secured, as herein described.

In witness whereof I have hereunto set my hand.

PETER H. JACKSON.

Witnesses:

H. C. LEE,

S. H. NOURSE.