(No Model.) 3 Sheets—Sheet 1.

P. H. JACKSON.

CONSTRUCTION OF BUILDINGS.

No. 302,338. Patented July 22, 1884.

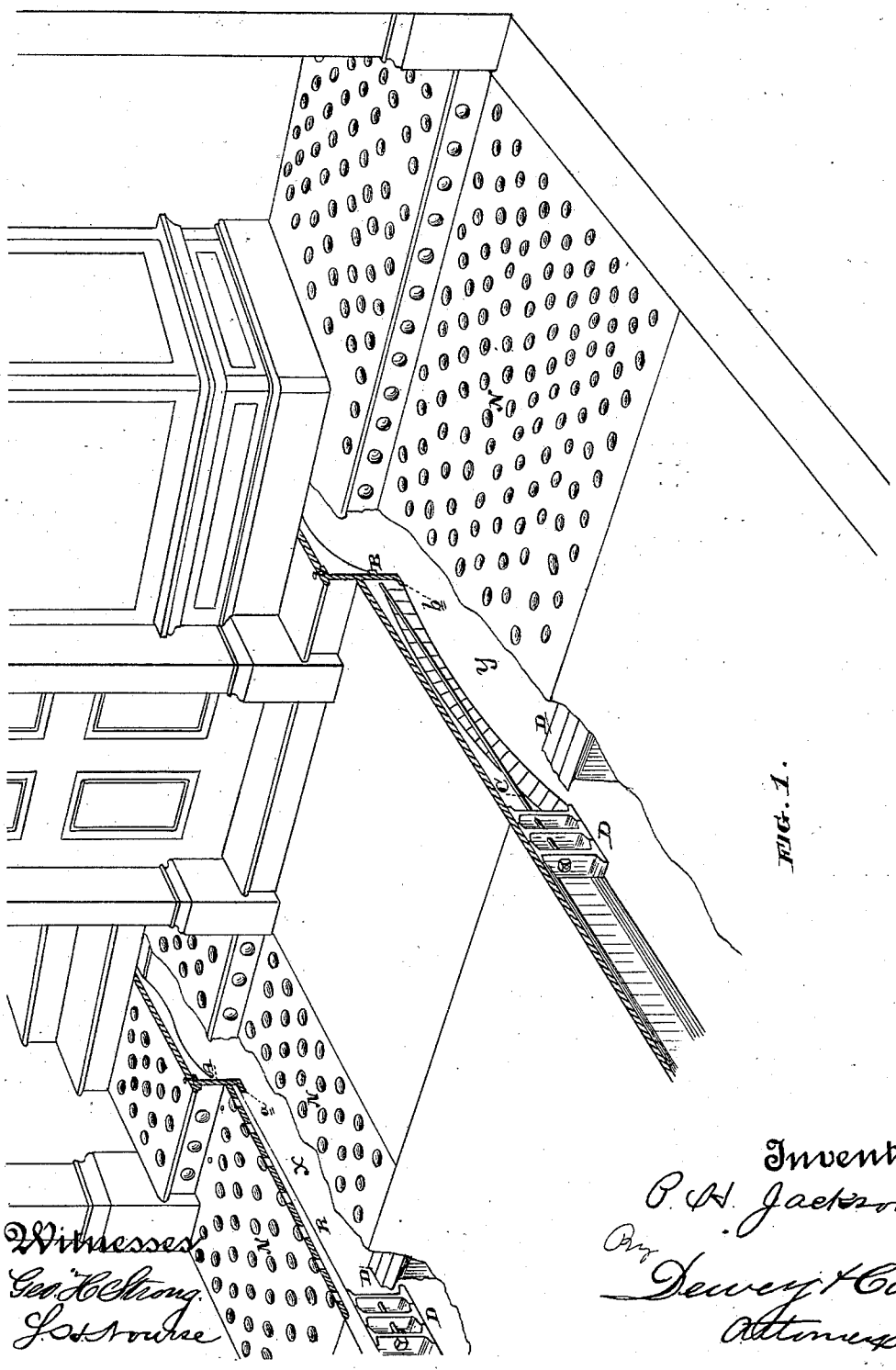

FIG. 1.

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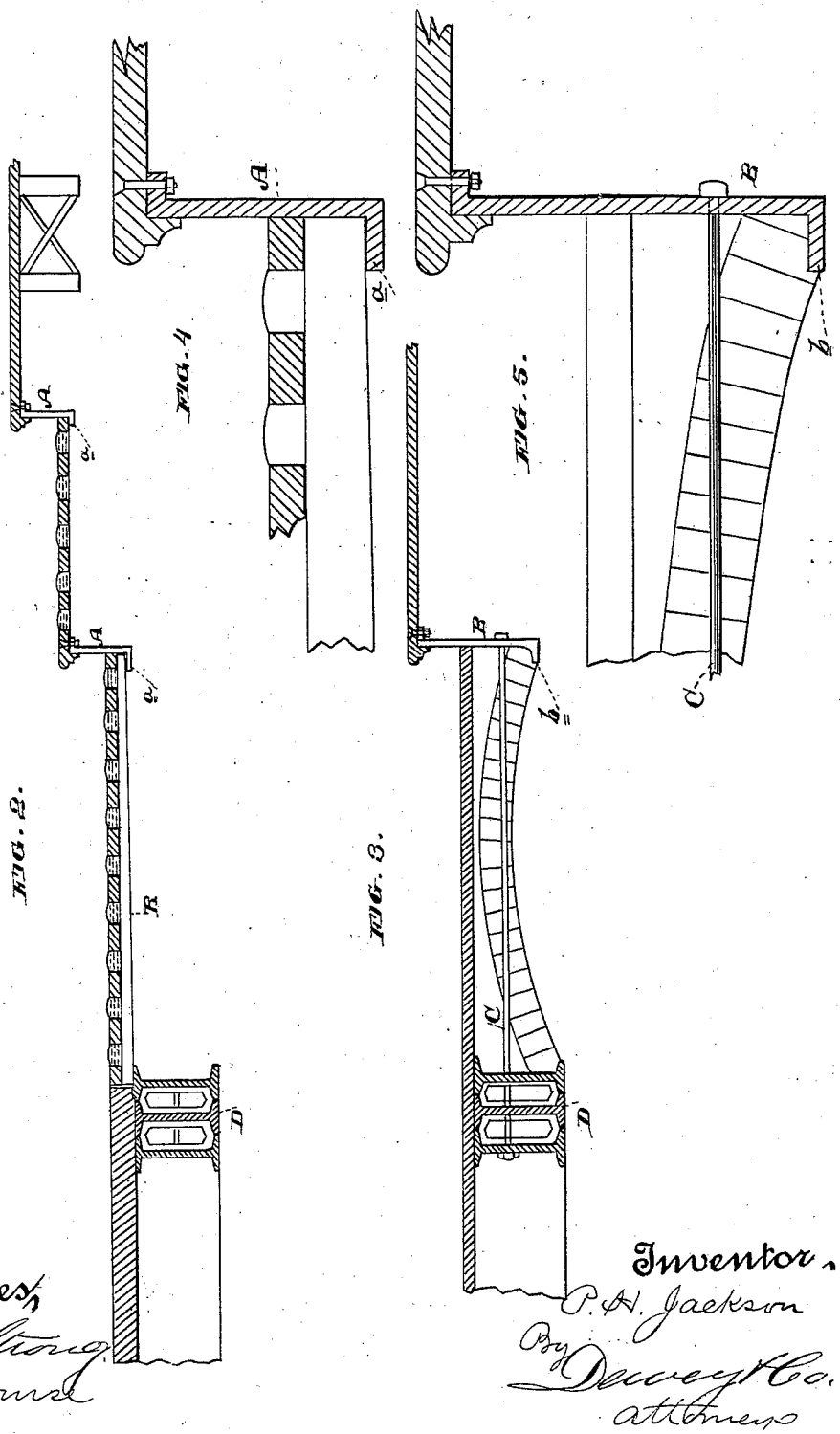

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CONSTRUCTION OF BUILDINGS.

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FIG. 7.

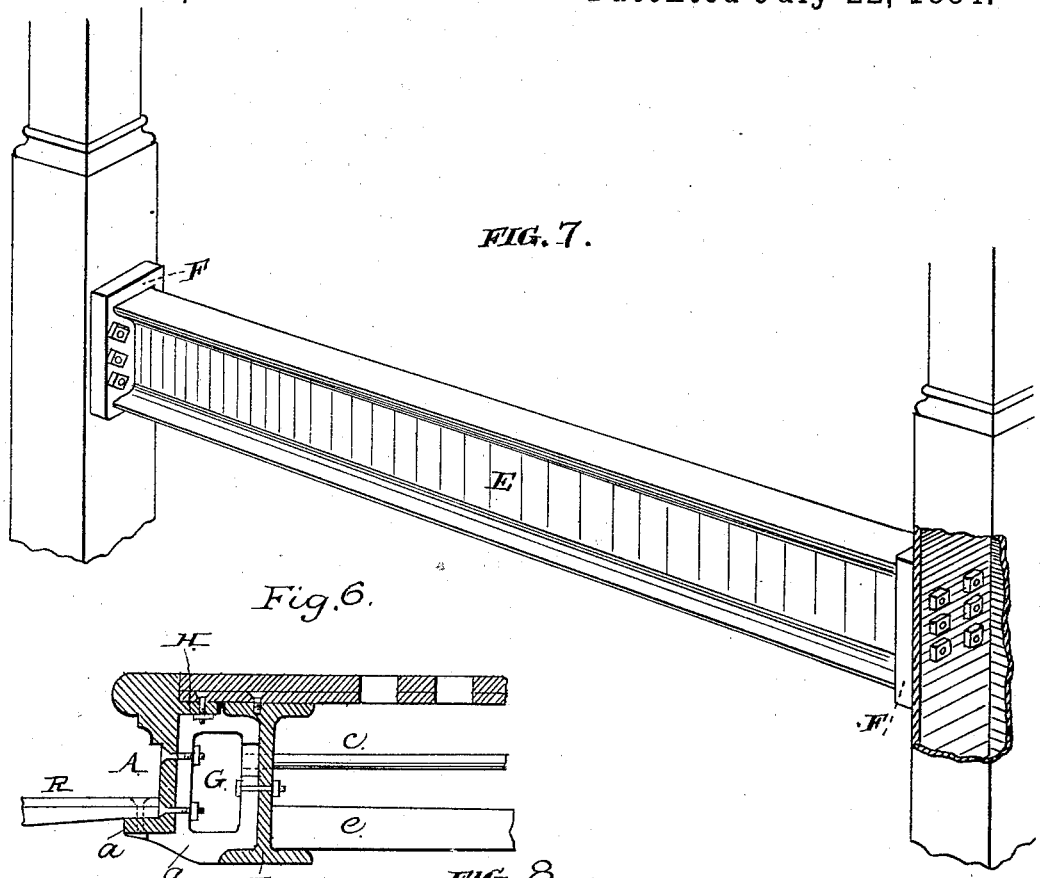
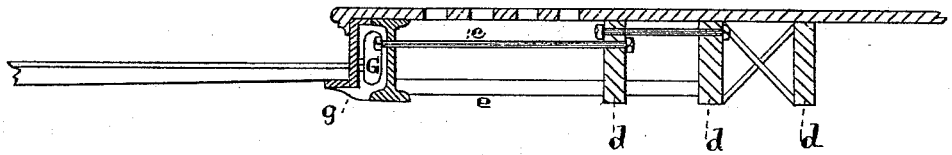


Fig. 6.

FIG. 8.



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UNITED STATES PATENT OFFICE.

PETER H. JACKSON, OF SAN FRANCISCO, CALIFORNIA.

CONSTRUCTION OF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 302,338, dated July 22, 1884.

Application filed October 25, 1883. (No model.)

To all whom it may concern:

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

My invention relates to improvements in the construction of buildings; and it consists in the novel arrangement and combination of parts, as will be hereinafter more fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a view showing my invention. Fig. 2 is a section taken at *x*, Fig. 1. Fig. 3 is a section taken at *y*, Fig. 1. Figs. 4, 5, and 6 are enlarged details of the same. Fig. 7 shows the manner of supporting the girder by shoes. Fig. 8 shows the tie-rods.

In the construction of buildings it is often necessary to illuminate certain portions of the basement or vault formed underneath the sidewalk by glazed portions of the same, while other portions of the sidewalk are to be supported by brick arches. In order to accommodate these different constructions in front of a building, I make a riser-beam, the part A having a depth sufficient for strength, but not to obstruct the light which passes through the illuminating-tiles at the point where these tiles are to be placed, and at the point where it may be required to have a brick arch supported by the riser the web is made deeper, as shown at B. The inner end of the arch then rests upon the projecting flange *b* at the bottom of the beam, and the sidewalk is supported upon this arch, so as to be level with the illuminating-surfaces, which are supported by the flange *a* of that part of the beam which has a less depth.

In order to prevent the beam from being forced over to one side by the pressure or thrust of the arch at this deeper portion, I employ a tie rod or rods, C, which pass through the web of the beam B and through the arch, as shown, their outer ends being secured in the outer sidewalk-beams, D. In some cases, where the span is considerable or the load heavy, it will be necessary or advisable to employ what I term a "beam-support," E. This beam has shoes F upon its opposite ends when not embedded in the masonry, through which it is bolted to supports at each end, so as to lie parallel with and close to the riser-beam. At any point or points intermediate between the supporting-ends I place intermediate brackets, G, which are secured to both beam and riser, and have a projecting lip, *g*, which extends beneath the riser, so as to form an additional support for it. These brackets are so shaped as to fill the space between the vertical rib portion of the supplemental beam and the riser, and between the flanges at the top and bottom, so that any depression of the riser would throw the weight upon the beam and relieve the riser.

In order to further resist any tendency of the load to turn the beam or riser over, I employ tie-rods *c*, which unite the upper part of the beam and riser with the floor-beams *d* of the building, and compression-braces *e*, which similarly extend from the lower parts of the beams, as shown. These tie and compression rods will not be necessary at points where the sidewalk-arch and tie-rods upon the opposite side are used. These risers have flanges at the bottom, as before described, to support the illuminating-tiles or sidewalk, and a flange or lug, H, extends back from the top to support the sill or plates which are bolted to it and to the top flange of the beam E, and their upper surfaces being flush with the nosing forming the front finish of the top of the riser.

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

1. In a building, the beam-riser forming the offset between the cover of the area-way and the sidewalk, having outwardly-projecting flanges at the bottom to support a sidewalk, said riser having a vertical web of different depths, so that illuminating-tiles or brick arches may be supported from the flanges and the surfaces be level or continuous, substantially as herein described.

2. In a building, a beam-riser forming the step or offset between the area-way and sidewalk, and having the outwardly-projecting flange at the bottom to support the illuminating-tiles or sidewalk, and an inwardly-project-

ing lug or flange at the top, upon which the area-way cover is secured, so as to lie flush with the nosing, substantially as herein described.

3. In a building, and in combination with a beam-riser, as shown, a supplemental beam-support extending parallel with and behind the riser, and having intermediate connecting and supporting brackets, substantially as herein described.

4. In a building, and in combination with a beam-riser and beam-support, as shown, tie and compression rods extending back from the beam or riser to the floor-timbers at the top and bottom, respectively, substantially as herein described.

5. The beam-riser B, with its outwardly-projecting flange *b*, and the sidewalk-supporting arch having its inner end resting upon the flange, and the outer supported by the flanged sidewalk - beams, as shown, in combination with the tie-rods C, substantially as herein described.

In witness whereof I have hereunto set my hand.

PETER H. JACKSON.

Witnesses:
S. H. NOURSE,
J. H. BLOOD.