

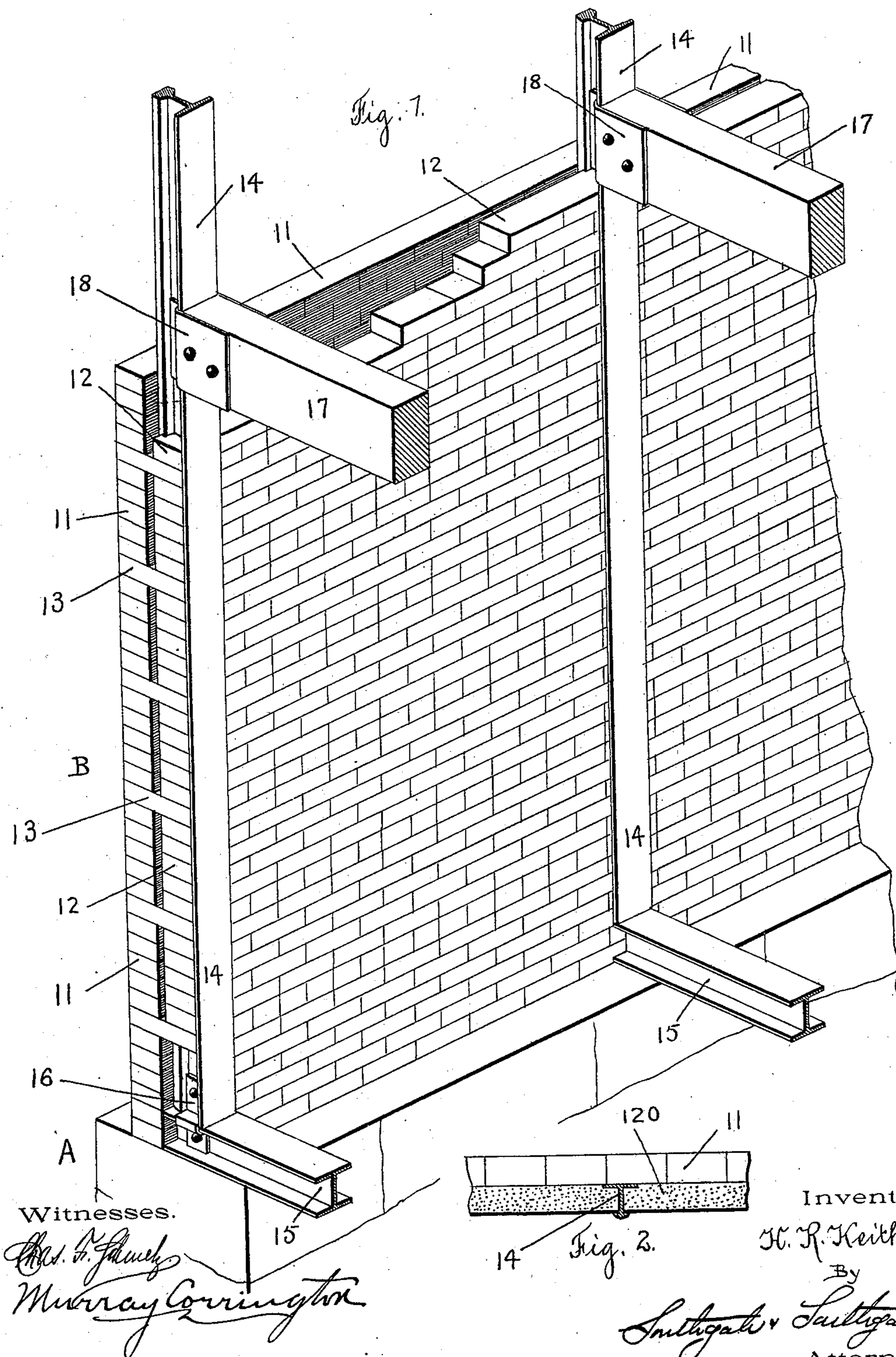
(No Model.)

2 Sheets—Sheet 1.

H. R. KEITHLEY.  
BUILDING CONSTRUCTION.

No. 574,433.

Patented Jan. 5, 1897.



THE MORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.)

2 Sheets—Sheet 2.

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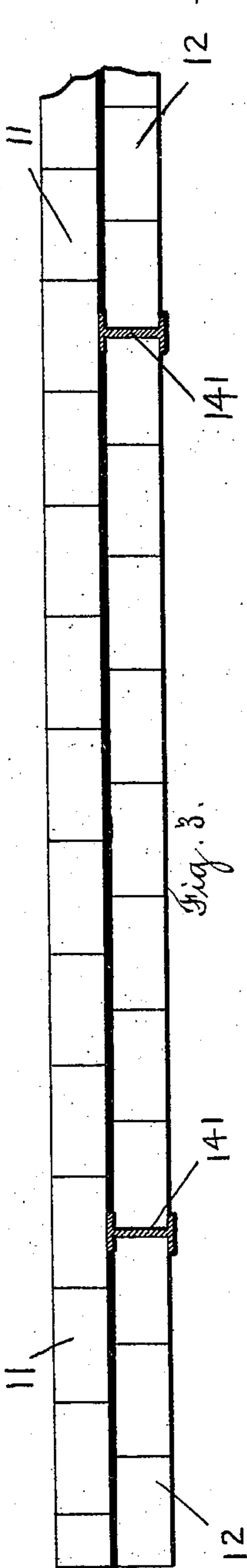


Fig. 3.

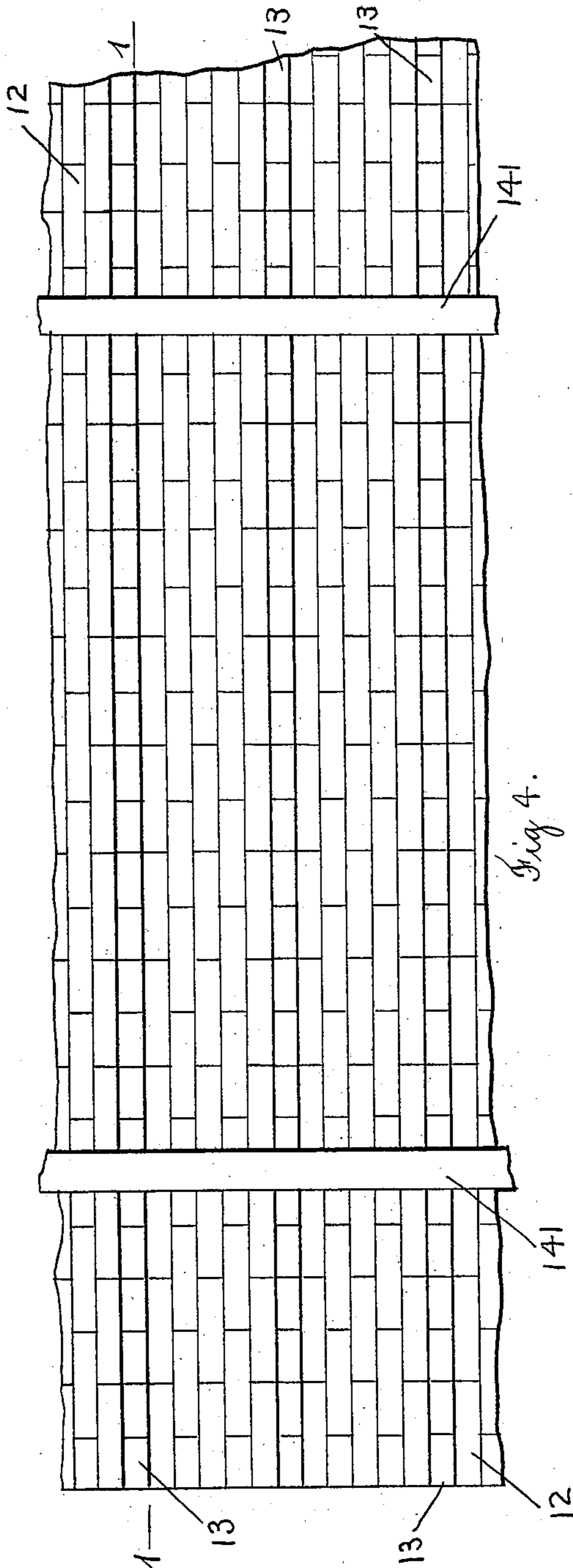


Fig. 4.

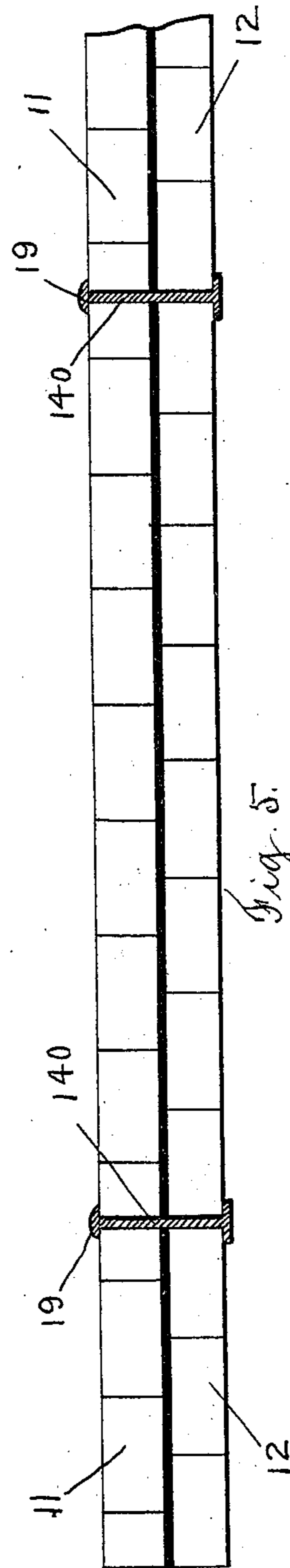


Fig. 5.

Witnesses

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# UNITED STATES PATENT OFFICE.

HERBERT R. KEITHLEY, OF NEW YORK, N. Y.

## BUILDING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 574,433, dated January 5, 1897.

Application filed March 23, 1896. Serial No. 584,380. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT R. KEITHLEY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Building Construction, of which the following is a specification.

My invention relates to an improved building construction; and the special object of my invention is to provide a strong, simple, durable, and inexpensive composite wall by employing railroad-rails for reinforcing the masonry.

To these ends my invention consists of the construction and combinations as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying two sheets of drawings, Figure 1 is a perspective view of a portion of a building constructed according to my invention; and Figs. 2 to 5, inclusive, illustrate modified forms of construction.

Whenever it becomes necessary to replace the old rails of a railroad-track with new rails, either because the rails have become worn out and unfit for railroad usage or to supply the road with heavier rails, a large number of rails are necessarily placed upon the market and can be purchased comparatively cheap.

The object of my invention is to provide constructions in which the worn-out or partially-used railroad-rails can be utilized to reinforce masonry or brickwork either in their original form or as slightly rerolled or altered. To accomplish this purpose, I preferably employ railroad-track rails to form vertical beams, which are embedded in the brickwork or masonry of a wall.

As illustrated in Fig. 1, A designates a foundation of the ordinary construction. Built upon and supported by the foundation A is a wall B. The wall B comprises an outer layer or facing 11 of brick and an inner facing or layer 12. The layers 11 and 12 are bonded or tied together in the usual manner by means of bonding-courses 13. Embedded in the inner layer or facing 12 are the vertical beams 14, preferably formed of railroad-track rails. At their lower ends the beams 14 may be anchored or secured to the stringers 15, which support the first floor by means

of clamping-plates 16. Above the first floor in buildings of moderate height the floors may be supported by wooden stringers or rafters. As illustrated, the wooden stringers 17 are fastened to and supported by the vertical beams 14 by means of clamping-plates 18. In this construction it will be seen that the masonry wall B will be reinforced and stiffened by the vertical beams 14, and that the stringers or rafters for the successive floors will form ties which will reinforce and stiffen the entire structure. Moreover, a building constructed in this manner can be comparatively cheaply erected, as the vertical beams 14 may be formed from the discarded or second-hand railroad-track rails, which can be purchased much cheaper than the ordinary I-beams employed for architectural purposes.

In Fig. 2 I have illustrated the manner in which railroad-track rails may be used to reinforce the composite walls, which are not formed entirely of brick. Referring to this figure, the outer layer or facing 11 is formed of brick in the ordinary manner, and the wall is provided with an inner facing or layer 120 of concrete. The vertical beams 14, formed of railroad-track rails, as before described, are embedded in the concrete layer 120. In some cases the railroad-track rails may not be of exactly the right dimensions to suit all locations in which vertical beams may be employed for the purpose of reinforcing the masonry walls. In such cases the railroad-track rails may be rerolled or altered to the desired shape, or, if preferred, the ordinary architectural I-beams may be employed.

As illustrated in Figs. 3 and 4, the wall is formed of an outer layer or facing 11 and an inner facing or layer 12, said layers being connected by bonding or tying courses 13. Embedded in the inner facing or layer 12 are vertical I-beams 141. The I-beams 141, which are employed in such localities, may be formed by rerolling or altering old railroad-track rails or may be manufactured in other manners, as desired.

Instead of having the vertical beams embedded simply in the inner layer or facing the beams may be made of greater width.

As illustrated in Fig. 5, the vertical beams 140 are made to extend through both the in-

ner and outer layers 11 and 12. Where this construction is adopted, the outer heads of the beams 140 are preferably rounded over, as at 19, so as not to disfigure or mar the face  
5 of the building.

I am aware that changes may be made in building constructions by those who are skilled in the art without departing from the scope of my invention as expressed in the  
10 claims. I do not wish, therefore, to be limited to the forms which I have shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

15 1. In a building construction of the class described, the combination of a wall formed of masonry, vertical beams inclosed in said wall, stringers for the various floors, and means for fastening said stringers to the  
20 beams, substantially as described.

2. In a building construction, the combination of a masonry wall, vertical beams embedded in the wall, said beams being formed of railroad-track rails, stringers for the va-

rious floors, and means for fastening said  
25 stringers to the beams, substantially as described.

3. In a building construction, the combination of a wall comprising a plurality of layers or facings, vertical beams embedded in  
30 the inner layer, stringers for the various floors, and means for fastening said stringers to the beams, substantially as described.

4. In a building construction, the combination of a masonry wall comprising a plurality  
35 of brick layers or facings, vertical beams embedded in the inner layer of bricks, said beams being formed by railroad-track rails, stringers for the various floors, and means for fastening the stringers to the independent, vertical  
40 beams, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HERBERT R. KEITHLEY.

Witnesses:

MAURICE SPILLANE,  
MURRAY CORRINGTON.