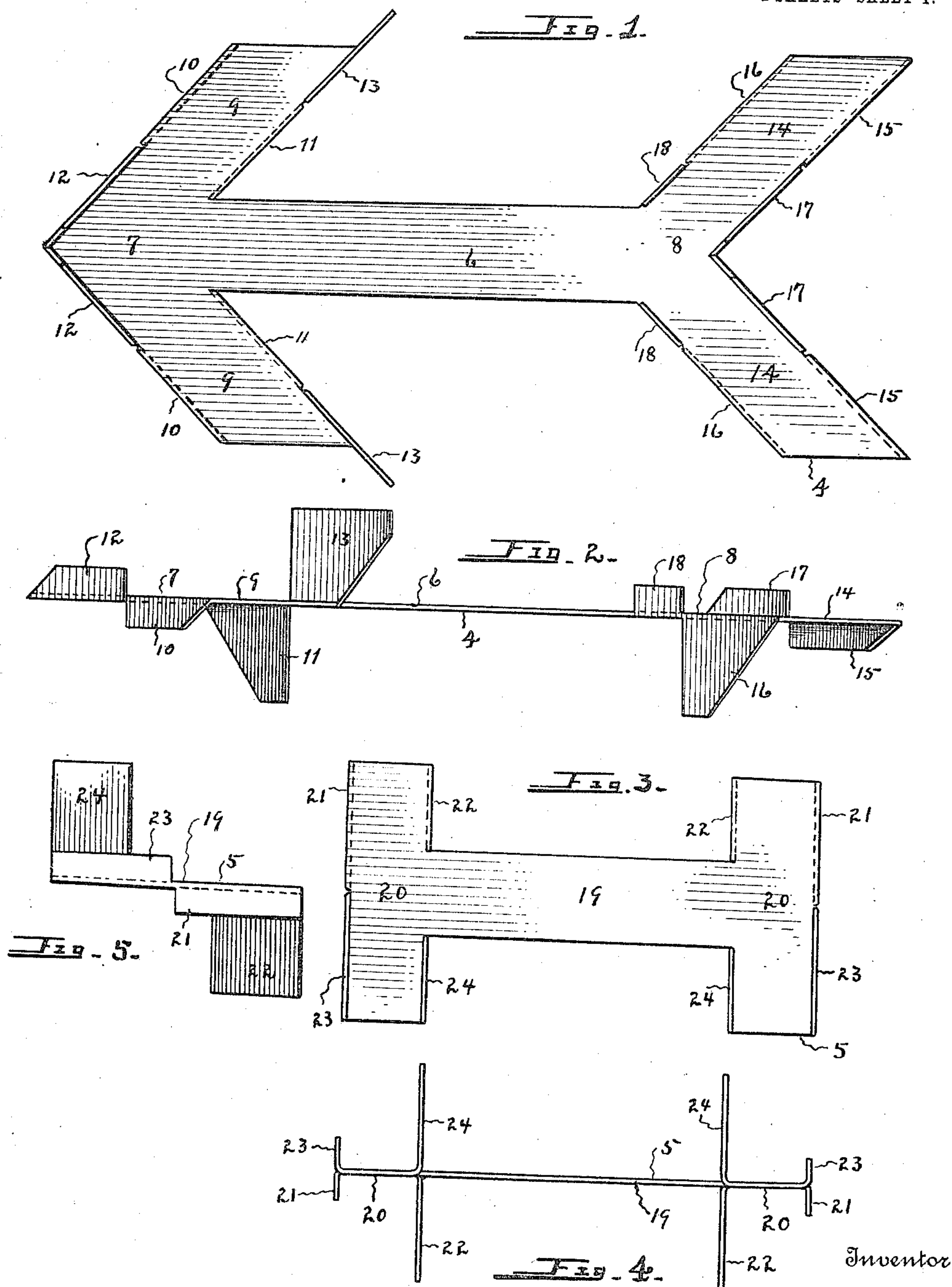


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WALL TIE FOR BUILDINGS.  
APPLICATION FILED MAR. 3, 1910.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



Witnesses  
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M. L. Parrotte

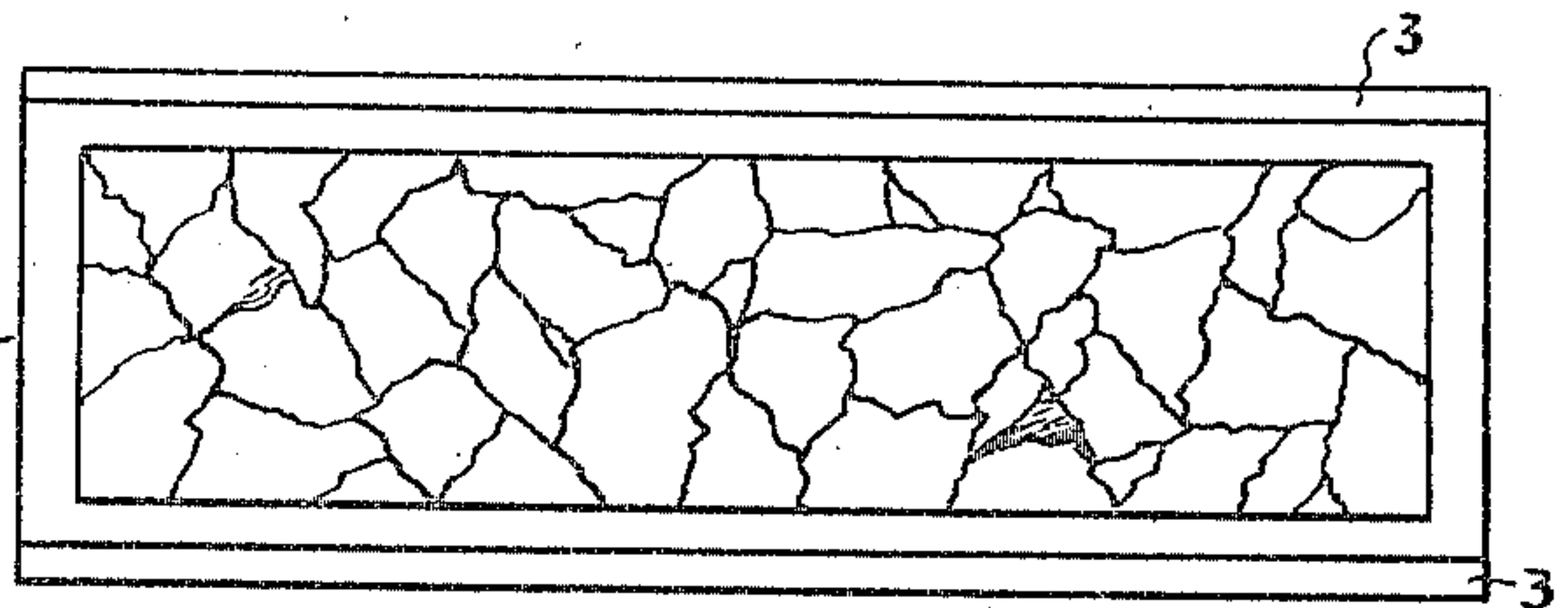
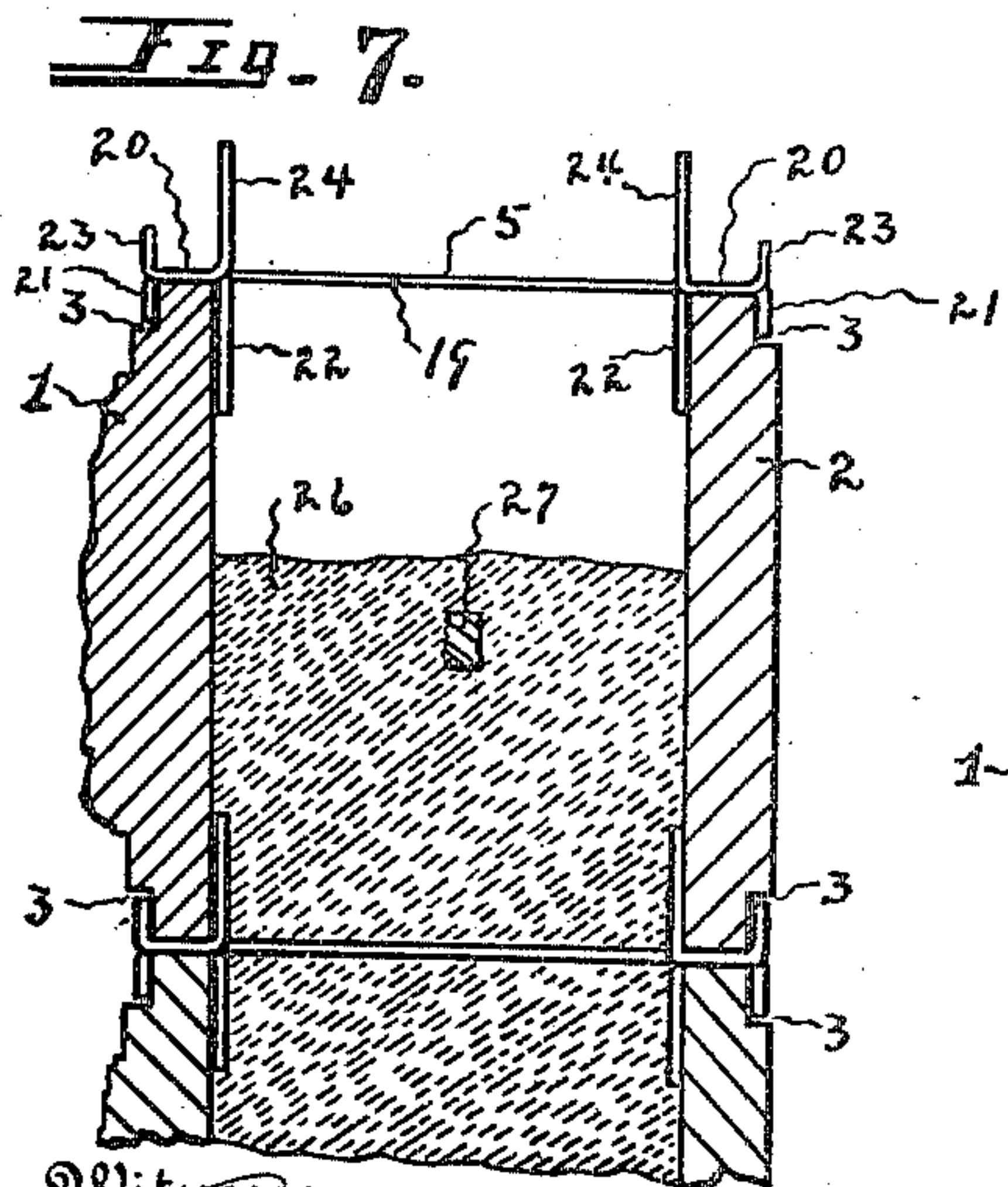
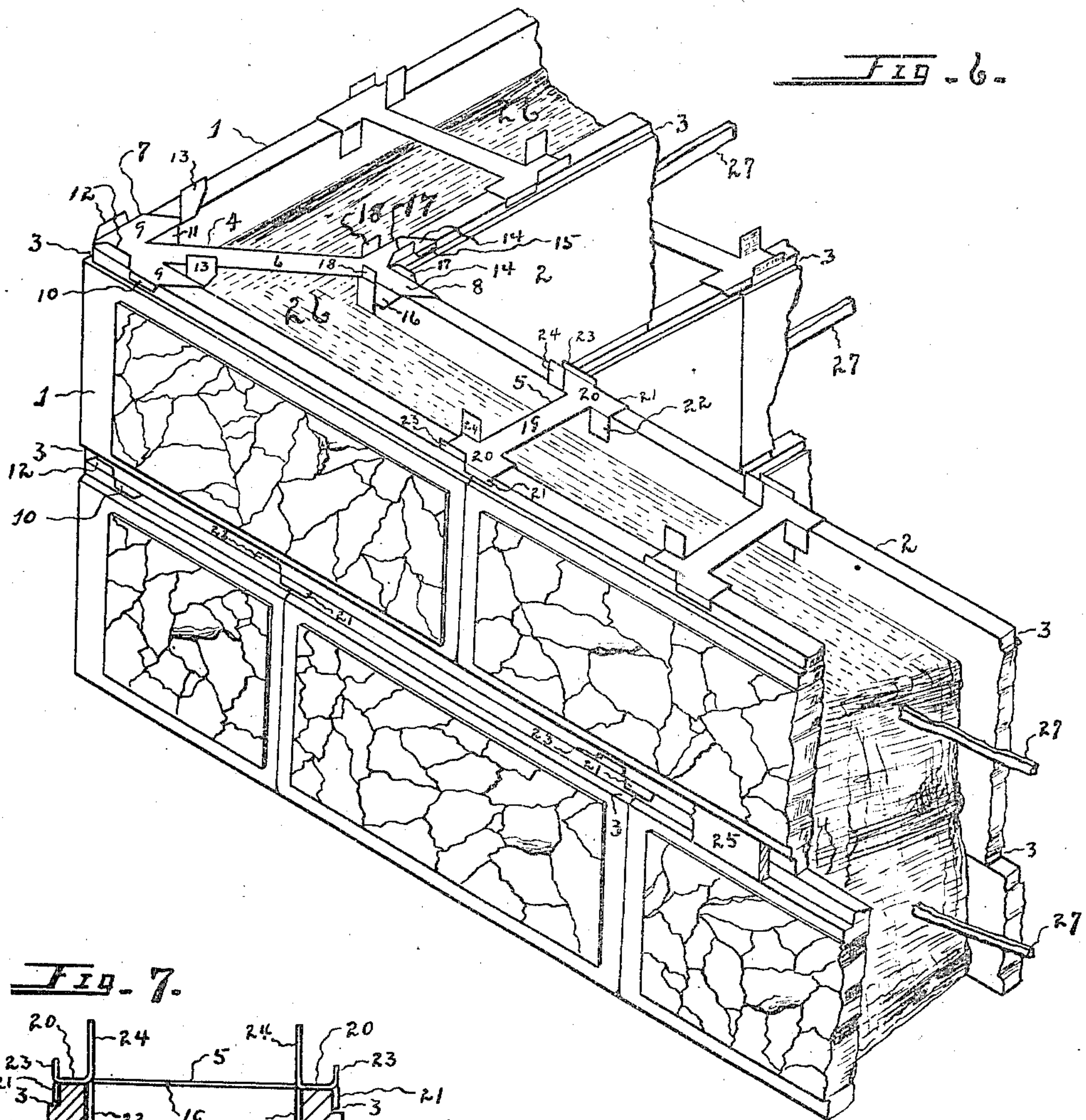
Paul Kosack,  
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Witnesses  
L. A. Broadwell  
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Paul Kosack.  
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# UNITED STATES PATENT OFFICE.

PAUL KOSACK, OF OMAHA, NEBRASKA.

WALL-TIE FOR BUILDINGS.

963,776.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed March 3, 1910. Serial No. 546,996.

*To all whom it may concern:*

Be it known that I, PAUL KOSACK, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Wall-Ties for Buildings, of which the following is a specification.

This invention relates to improvements in wall ties, for use in connection with building-wall construction, where comparatively thin blocks are employed and disposed vertically edge-to-edge to form the outer and inner parts of the wall, the space between the blocks being filled with cement or other plastic adhesive material.

The invention has reference to the formation of wall strips or ties which may be economically constructed and will be reliable in use for holding the edges of the oppositely-disposed blocks while the plastic, adhesive material is placed between said blocks, and includes a construction whereby, by reason of the form of the strips, mortar or cement may be dispensed with for filling between the adjacent edges of the blocks, at the time the blocks are laid, said blocks being laid one upon another without any bedding therebetween.

With these objects in view the invention consists of the novel construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the accompanying drawing, wherein,—

Figure 1 is a plan view of an anchor or strip for use in connection with the corners of building-walls. Fig. 2 is a vertical, side view of the same. Fig. 3 is a plan view of a strip or tie used in connection with the side walls. Figs. 4 and 5 are vertical side and end views, respectively of the wall tie shown in Fig. 3. Fig. 6 is a perspective view of a building-wall with ties thereon constructed in accordance with my invention. Fig. 7 is a detail relating to Fig. 6 showing a part of a wall in transverse section, and wall ties mounted thereon. Fig. 8 is a side view of a building block employed.

The herein described wall ties may be constructed to advantage of thin metallic strips having flanges so constructed that they reliably engage both the lower and upper courses of wall blocks. The ties or strips may be conveniently formed, the plate being first cut and incisions made for form-

ing the flanges, and the flanges being then bent as will be more particularly pointed out.

By use of the wall ties, wall blocks having a very limited thickness may be employed, the same being disposed vertically or edgewise in forming the wall, and held uniformly spaced apart while a filler of plastic, adhesive material is deposited between the outer and inner wall blocks, the ties being also embedded in the wall by the filling material. This material fills all of the space between the sides and edges of the plates, and in practice no cement or bedding need be laid between the adjacent edges of the blocks, the plastic material filling these spaces.

Referring now to the drawing for a more particular description, numeral 1 indicates outer, and 2 the inner wall blocks employed, each having longitudinal grooves or recesses 3 opening upon its side edges, the thickness of the blocks at their longitudinal edges being uniform. The blocks are preferably constructed as thin rectangular plates and may be formed of cement or other suitable material.

In forming the wall of a building, the blocks being disposed vertically as mentioned, for holding said blocks at a uniform distance apart, the holders, anchors, ties or wall strips 4 and 5 are employed. The wall anchor 4 is employed for holding the two adjacent ends of both the outer and inner wall blocks which form the corners of the wall.

Anchor or wall strip 4 consists of a flat, metallic strip having a body or connecting portion 6 adapted to be disposed horizontally between the outer and inner wall plates, and having a head-piece 7 and tail-piece 8 adapted to have seatings, flatwise, upon the upper edges, respectively, of the outer and inner wall blocks or plates, which are disposed angularly and adjacent in the formation of the corner of the wall.

The head piece comprises uniformly shaped wings 9 of a suitable length, and of a width substantially equal to the thickness of the wall blocks, or that part of the wall blocks outwardly of groove 3, said wings having outer, terminal, downwardly projecting flanges 10, and downwardly projecting flanges 11 formed on their inner edges adjacent to the body or connecting-portion 6.



The downwardly projecting flanges just mentioned are for engagement with the vertical sides of the two outer corner blocks upon which the anchor is seated, flanges 10 engaging within grooves 3. The head piece is also provided with outer, adjacent, upturned flanges 12, and its wings 9 are provided at their terminals, with upturned flanges 13, said upturned flanges being for engagement with the outer and inner sides of the two outer corner blocks of the next or upper course.

The tail-piece comprises uniformly shaped wings 14 of a suitable length and of a width substantially equal to the thickness of the wall blocks, outwardly of grooves 3; said wings having terminal, downwardly-projecting flanges 15 and 16 formed, respectively, on their outer and inner edges, substantially opposite to each other, said downwardly-projecting flanges being for engagement with the sides of the inner corner blocks upon which the anchor is seated, flanges 15 engaging within grooves 3. Wings 14 are also provided with outer, adjacent upwardly projecting flanges 17, and with inner upwardly projecting flanges 18, said flanges 17 and 18 being substantially opposite to each other, and for engagement with the outer and inner sides of the two inner corner blocks of the next or upper course of corner blocks.

In practice, when the corner blocks of a course are placed vertically to form a part of the wall, their adjacent ends, which form the corner may be reliably held and accurately spaced apart by portion 6 and the several downwardly projecting flanges of said wall strip 4, the several flanges being formed at substantially right angles to the wings of which they are an integral part, and it will be seen that the upwardly-projecting flanges are for the purpose of sustaining the lower edges of the next or upper course to be laid, the connecting stem or portion 6 extending diagonally from the inner to the outer angle of the corner; and it will be noted that all of the outer flanges have a limited width, so that they may be seated within the longitudinal grooves of the wall blocks.

The wall tie 5 consists of a flat plate of metal, substantially of H-shape, the connecting strip 19 being of a length equal to the distance apart of the outer and inner wall plates 1 and 2, and provided with wings 20, preferably of uniform size and shape, one end of each wing being provided with oppositely-disposed, outer and inner, downwardly-projecting flanges 21 and 22 to embrace the vertical sides of the blocks upon which said wall tie is seated, flanges 21 engaging in the longitudinal grooves 3 of the blocks, the opposite end of each wing being provided with oppositely-disposed, outer

and inner upwardly-projecting flanges 23 and 24, for engaging the outer and inner sides of the wall blocks of the next or upper course.

It will be seen that the flanges which engage the outer sides of the blocks have a width not greater than grooves 3, and when the courses are laid, the space occupied by the adjacent grooves 3, upon the outside of the wall may be filled with cement or similar adhesive material, as indicated at 25 in Fig. 6, so that the flanges will be embedded or covered, and that the wall may present a more perfect exterior.

Wall strips are used when forming the longitudinal wall of a building, wherever the adjacent ends of the wall blocks occur in the same course, and in practice the downwardly-projecting flanges of one of wings 20 are placed astride the adjacent ends of two blocks of the course, the downwardly-projecting flanges of the opposite end of said wall tie embracing the sides of the opposite wall block.

After one or more courses of a building-wall have been laid and the wall ties and corner ties have been adjusted as described, the space between the blocks is filled with an adhesive composition of cement, water and sand, or other suitable adhesive filling material, as indicated at 26, and may be reinforced by use of metallic strands 27 if desired, these strands extending longitudinally of the wall and embedded in the filling material.

The corner tie, as described, is similar in many respects to the tie used in the construction of porch columns illustrated in a companion application for U. S. Letters Patent filed March 3rd 1910, Serial No. 546,997. It will be noted however that the wings upon the same side of the stem are shown and claimed in the present application as being disposed parallel, and may therefore be employed to advantage in wall construction; whereas, in the construction of porch columns the wings upon the same side of the tie strip must be disposed in angular relation.

The construction as described, provides a strong and durable building-wall. The wall plates are inexpensive, comparatively, since they are plain or rectangular in form, and the wall ties, while operating reliably to sustain the thin wall blocks, in effect, provide means for spacing the outer and inner blocks of the wall, so that said wall, when completed, will have a uniform thickness.

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

1. A tie for building-walls, comprising a flat, metallic plate incised to provide a stem having terminal wings arranged in pairs and extending outwardly of its sides, the



wings of each pair being disposed at substantially right angles with reference to each other, the wings upon its respective sides being parallel, each of said wings being provided upon its outer and inner edges with upwardly and downwardly projecting flanges.

2. A tie for building-walls, comprising a flat, metallic plate incised to provide a stem having terminal wings arranged in pairs and extending outwardly of its sides, the wings of each pair being disposed at substantially right angles with reference to each other, the wings of each pair upon the same side of the stem being parallel, each wing being provided with upwardly-projecting flanges and with downwardly-projecting flanges upon its outer and inner edges, said

flanges being disposed at an angle, substantially, of 90 degrees from said stem. 20

3. A tie for building-walls, comprising a pair of adjacent bearing heads, each head consisting of a pair of connected right-angled wings and a single stem extending between and integrally connecting the bearing heads between their wings, said wings having their outer and inner edges provided with transverse flanges, the wings of each pair upon the same side of the stem being parallel. 25

In testimony whereof I have affixed my signature in presence of two witnesses. 30

PAUL KOSACK.

Witnesses:

HIRAM A. STURGES,  
ELIZABETH MURRY.