J. R. SPEAR & J. M. BEATTIE.

GROUND STRIP AND FRAME FASTENER.

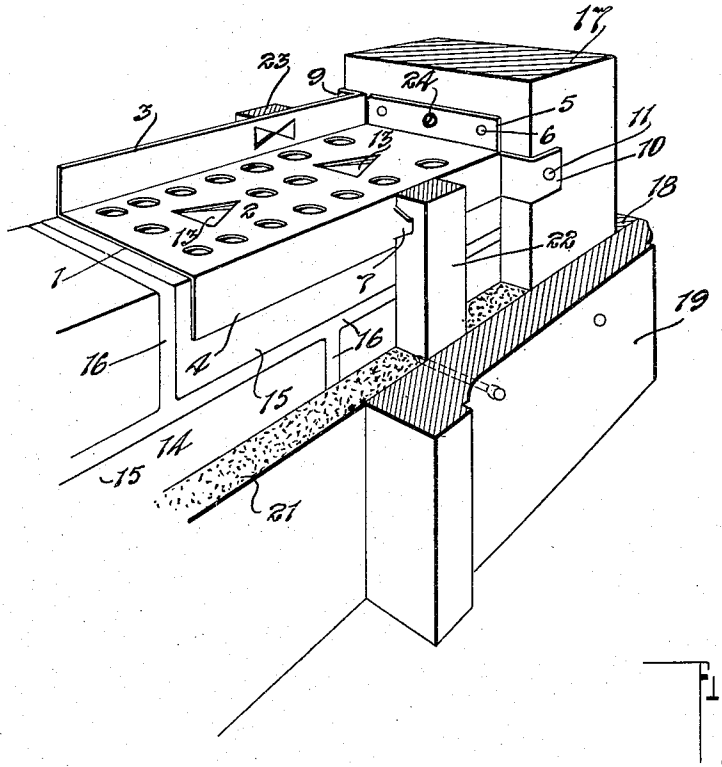
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1,174,097.

Patented Mar. 7, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



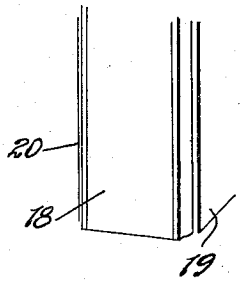
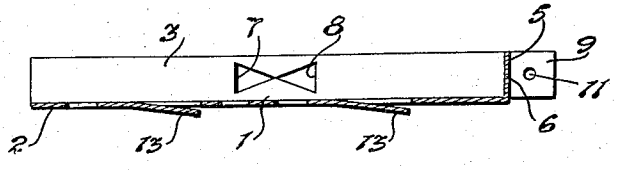


Fig. 2.



WITNESSES

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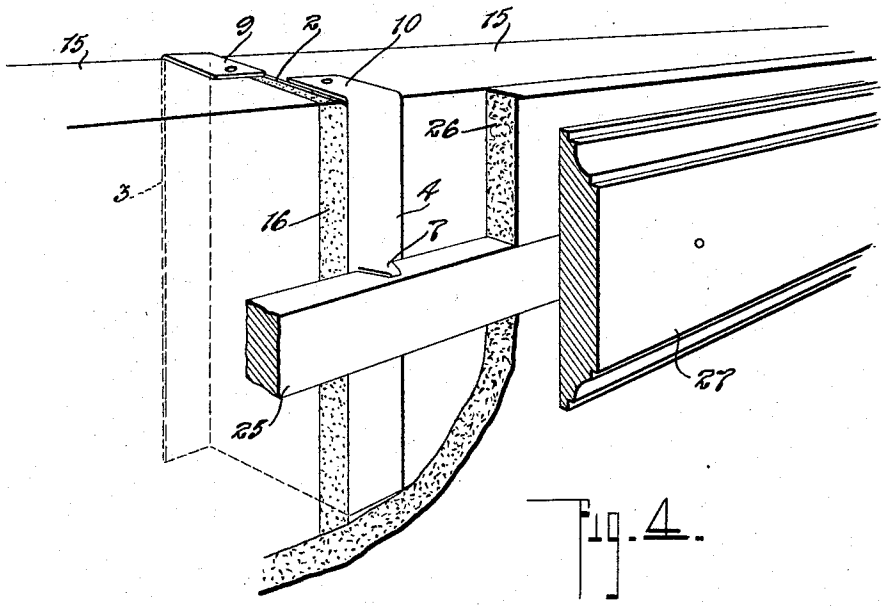


Fig. 4.

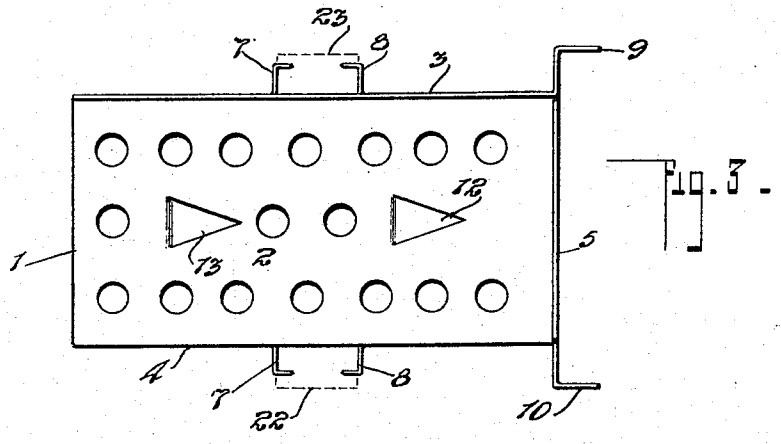


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

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GROUND-STRIP AND FRAME FASTENER.

1,174,097. Specification of Letters Patent. **Patented Mar. 7, 1916.**

Application filed April 6, 1914. Serial No. 829,941.

To all whom it may concern:

Be it known that we, JOHN ROBERT SPEAR and JAMES MILTON BEATTIE, both of the city of Winnipeg, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Ground-Strip and Frame Fasteners, of which the following is the specification.

The invention relates to improvements in combined ground strip and frame fasteners and the object of the invention is to provide primarily an inexpensive, easily constructed and effective fastener for securing the frames to the plaster, tile or other such like fire proof walls or partitions and also for securing the ground strips associated with the frames to the partition or wall.

With the above object in view the invention consists essentially in a perforated metallic plate supplied with oppositely disposed side flanges and an end flange and a pair of outstanding L-shaped arms continuous with the side flanges and adjoining the end flange, the side flanges being fitted each with a pair of out-turned prongs forming gripping members, the parts being arranged and constructed as hereinafter more particularly described and later pointed out in the appended claims, reference being had to the accompanying drawings in which—

Figure 1 represents a perspective view of the fastener as it appears in use. Fig. 2 represents a longitudinal sectional view centrally through the fastener. Fig. 3 represents a plan view of the fastener removed from the wall. Fig. 4 is a perspective view of the fastener showing a modified use of the same for securing ground strips only.

In the drawings like characters of reference indicate corresponding parts in each figure.

We might here state that where a frame such as a door frame is inserted in a plaster, tile or other such like fire proof wall or partition it is necessary to fasten or anchor the frame to the partition or wall. This is customarily done by inserting wooden boards in the joint appearing between the successive courses of blocks from which the tile or plaster wall is formed, the boards having their ends exposed so that the frame can be nailed or screwed to them. This is not a very effective fastening as oftentimes the board is not properly bonded in the joint and further it cannot be considered as good construction in a fire proof wall as obviously the inserted boards are not fire proof and accordingly depreciate the value of the wall as a fire proof structure.

Our invention provides a very effective and cheap fastening which when once set up is not only absolutely fire proof but effects a permanent fastening which will last the life of the wall.

Referring now to the drawings, 1 represents a combined frame and ground strip fastener which is formed from a more or less flat perforated sheet metal plate 2 provided with two oppositely disposed right angled side flanges 3 and 4 and an upturned end flange 5 having suitable nail or screw holes 6 therein. The side flanges carry pairs of outstanding fastening members 7 and 8 in the nature of prongs for a purpose later referred to, while the ends of the flanges next the end flange are projected to form outstanding L-shaped arms 9 and 10 fitted also with suitable nail or screw openings 11. A pair of more or less V-shaped prongs 12 and 13 are cut from the body of the plate and turned slightly downwardly as best indicated in Fig. 2 of the drawings.

In order to understand the application and use of our invention it is necessary to refer to the wall in which it is applied and also to the frame which is fastened by it to the wall.

In Fig. 1, 14 represents a wall or partition built up from fire proof blocks 15 bonded together by cement mortar or other such like material 16. 17 represents the rough frame, of the door 18 the finishing frame applied on the rough frame and 19 and 20 side or casing strips secured to the sides of the rough frame and extending beyond the same, the finishing frame and strips actually forming a casing covering the rough frame. This latter is ordinary construction, the rough frame being butted against the side of the opening in the wall while the strips 19 and 20 overhang the partition and the back of the frame being set in at each side a distance equal to the thickness of the plaster 21 applied on the wall and finishing the same. 22 and 23 are ground strips inserted between the extending edges of the side strips 19 and 20 and the face of the partition, these as well as the frame, being, ac-

cording to present practice, nailed as already suggested to wooden blocks inserted in the bond between the blocks.

When our invention is used a number of the fasteners are inserted in the bonds between successive courses of blocks, the side flanges bearing against the opposite faces of the blocks and thereby preventing the fasteners from side displacement while the end flanges are butted against the frame 17 with the arms 9 and 10 receiving the inner corners of the frame member. It will be understood that prior to placing a fastener on a block, mortar cement or other such like bonding material is first spread over the upper edge of the block and then the fastener is put in position as just described. More bonding material is then applied over the fastener and the top of next block is placed in position. With this construction the fasteners are actually embedded in the bond, the bonding material passing through the perforations in the plate. The prongs 12 and 13 as well as the perforations, provide against there being any possibility of the fasteners pulling out endwise from the wall once the bonding material is set.

The end flange is at all times secured by means of nails or screws 24 to the back face of the frame this being accomplished immediately after the fastener has been placed in position and before the top layer of bonding material has been placed thereon. The arms are likewise secured to the sides of the frame by nails or screws. The ground strips 22 and 23 are secured to the fasteners by means of the prongs 7 and 8, this being accomplished before the side strips 19 and 20 are nailed as is customary to the sides of the frame members 17. The overhanging edges of the side strips can then be nailed or screwed as is usual to the ground strips. The plastering of the wall is of course done just prior to the fitting of the side strips.

It will be seen from the above description that our device not only effects the fastening of the frame to the wall in an effective and fire proof manner but also effects the fastening of the ground strips associated with the frame.

In Fig. 4 of the drawings our fastener is shown utilized entirely for the fastening of the ordinary ground strips, not necessarily those associated with a frame. In this application of the invention the arms are of no value and they are simply flattened down against the end flange. With this modification the fastener is inserted in the bond between the ends of the blocks forming the wall, with the side flanges running vertically and the prongs extending horizontally and appearing at opposite sides of the partition or wall. The usual ground strips 25 can be secured in the usual position on opposite sides of the wall by passing them between the prongs and thereby securing them to the fastener. After the wall is plastered as indicated at 26 the facing strips 27 can be applied and nailed to the ground strips. This latter method of fastening the ordinary ground strips to the wall is practically the same as that outlined in our co-pending application, the side flange in this instance serving the same purpose as the body of the strip shown and described in the said co-pending application.

What we claim as our invention is:

1. A fastener comprising a substantially flat rectangular perforated plate formed with side flanges turned more or less at right angles to the body and carrying pairs of outstanding fastening members in the nature of opposing prongs, as and for the purpose specified.

2. A fastener comprising a substantially flat, rectangular perforated plate having flanges disposed more or less at right angles to the body, one of said flanges being turned upwardly and the other downwardly, and pairs of opposing prongs carried by said flanges.

3. A fastener comprising a substantially rectangular flat perforated plate having oppositely disposed right angle side flanges, pairs of opposing prongs carried by said flanges, and an upturned right angle end flange.

4. A fastener comprising a substantially rectangular flat perforated plate having oppositely disposed right angle side flanges, pairs of opposing prongs carried by said side flanges, an upturned right angled end flange, outstanding L-shaped arms continuous with the side flanges and adjoining the end flange, and openings in the extremities of said arms and in the end flange through which fastening means are adapted to extend.

Signed at Winnipeg this 12th day of February, 1914.

JOHN ROBERT SPEAR.
JAMES MILTON BEATTIE.

In the presence of—
G. S. ROXBURGH,
S. SILVERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."