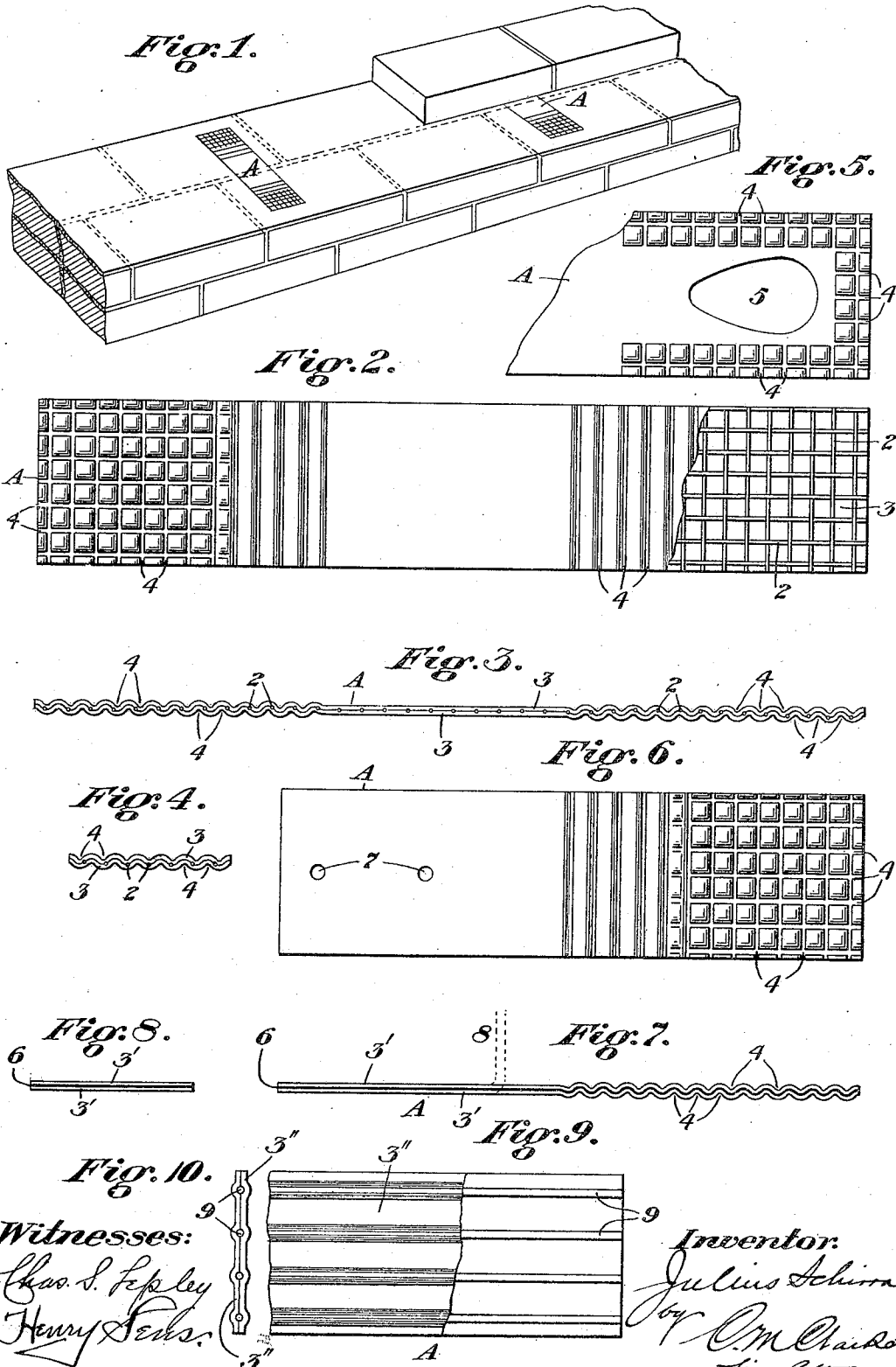


J. SCHIRRA.
WALL TIE.

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933,925.

Patented Sept. 14, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

JULIUS SCHIRRA, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO MARTIN G. FRANK,
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WALL-TIE.

933,925.

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To all whom it may concern:

Be it known that I, JULIUS SCHIRRA, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Wall-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention consists of an improvement in wall ties, and has for its object to provide a device of this character having the necessary strength and flexibility, means for preventing corrosion of the metallic elements embodied in the device, capacity for bending, attachment by securing nails, etc., and for maintaining an efficient bonding engagement with the mortar between the courses of brick or masonry, for the purpose of performing its functions.

Generally stated, the device is composed of a flexible metallic body portion having a protecting covering of suitable material, constructed and formed in the manner and adapted to operate as hereinafter more fully described.

Referring to the drawings:—Figure 1 is a perspective view of a portion of a wall showing the application of the invention. Fig. 2 is an enlarged plan view of one form of the device. Fig. 3 is an edge view of Fig. 2. Fig. 4 is an end view of said tie. Fig. 5 is a view of one end of a tie similar to Fig. 2 but showing it provided with a transverse perforation for engagement with the mortar. Fig. 6 is a plan view of a tie formed of a thin metallic plate having outer coverings. Fig. 7 is an edge view of said tie and Fig. 8 is an end view thereof. Fig. 9 is a view showing one end of a further modified construction, a portion of the upper covering layer having been removed. Fig. 10 is an end view of such construction.

The wall tie A of whatever construction, is of generally rectangular form and consists of a middle pliable metallic or other strengthening tongue element of sufficient flexibility, having embodied with it outer layers of a suitable covering material, as tarred paper, tightly incorporated with the flexible metallic element and provided with transverse or transverse and longitudinal corrugations, forming anchoring projections.

In the form illustrated in Figs. 2, 3 and 4, the middle metallic element consists of ordi-

nary wire netting 2 of any suitable gage of wire and size of mesh to provide the necessary strength and flexibility, upon both sides of which are laid the outer coverings 3, 3, of tarred paper or other similar material, said portion being tightly compacted together by passing the three assembled elements between compressing rolls or dies, so formed as to press transverse or longitudinal creased or grooves 4 across both faces of the tie at its end portions, which corrugations may be either longitudinal or transverse, or both, or at any desired angle so as to provide a roughened holding surface. The operation of corrugating the outer layers also incidentally bends or corrugates the middle tongue, thus increasing its holding connection with the covering layers and its holding efficiency when used. The object of such construction is that when the tie is laid in the mortar between the courses of brick or masonry, the mortar will completely fill and embed itself in tight holding engagement with the ends of the tie, thereby effecting its holding engagement to perform its functions. The middle portion of the tie is preferably left plane as shown, although if desired the entire surface throughout may be corrugated.

In Fig. 5 the tie A which may be of the construction just described, or of any of the other forms, is provided with one or more perforations 5 through its ends, thereby permitting the mortar to pass entirely through and to solidly key the tie in place.

In Figs. 6, 7 and 8 the tie is shown as composed of a middle metallic plate 6 of sufficiently thin gage to have the required strength and to permit of bending, said plate being, like the wire netting 2, covered with the outer layers of tarred paper, etc., 3', 3', and similarly corrugated at one end in the same general manner. At the other end the tie is provided with one or more perforating nail holes 7 whereby it may be secured in position against a building or to studding, as is commonly the practice in veneer work, and bent outwardly therefrom at an angle as indicated at 8, Fig. 7, for insertion between the courses of the adjacent brick work.

In Figs. 9 and 10 the metallic reinforcing elements are shown to consist of longitudinal wires 9 of any suitable size, number, and spacing, with which are incorporated the

outer layers 3'', the longitudinal wires forming slight longitudinal ridges as shown, throughout the entire length of the tie.

If desired, the inner metallic body portion may be substituted by tough fiber or other equivalent material, although the best results are secured by the use of metal.

A particular advantage of the construction is that the metal is completely protected against exposure, moisture, or air, thereby preventing oxidation or deterioration. The tarred paper or other equivalent covering constitutes a complete insulation from the elements and imparts to the tie a degree of softness and pliability which is great advantage and facility in use, while protecting the hands of the workman from any sharp edges or points, so that the tie can be handled with ease and safety in packing or when used by a mason.

The tie is of simple and cheap construction and may be compactly packed for storage or shipment. It may be made in any suitable size as to length, width and thickness, and of the desired strength to suit the work in view, and will be found to have all of the advantages of other ties while avoiding the objections to an entirely metallic tie which is subject to corrosion or breakage and ordinarily has sharp cutting edges liable to injure the hand.

The device may be changed or varied in construction in different features or details by the skilled mechanic, but all such changes are to be considered as within the scope of the following claims:

What I claim is:—

1. A wall tie consisting of a corrugated metallic tongue portion having a covering of flexible material conforming to the surface of the tongue portion and correspondingly corrugated.

2. A wall tie consisting of a corrugated metallic tongue portion having a covering of flexible material pressed into tight engagement therewith, and having a correspondingly corrugated exterior.

3. A wall tie consisting of a metallic tongue portion having a covering of flexible material pressed into tight engagement therewith, the tongue and covering being corrugated.

4. A wall tie consisting of a metallic tongue portion having a covering of flexible material pressed into tight engagement therewith, the tongue and covering being corrugated transversely and longitudinally.

5. A wall tie consisting of a corrugated metallic tongue portion having a correspondingly corrugated covering of flexible material and provided with perforations.

6. A wall tie consisting of a corrugated metallic tongue portion having a covering of flexible material provided at one end with corresponding holding corrugations and at the other end with a nail hole.

7. In a wall tie, the combination with a corrugated wire body portion, of outer coverings correspondingly corrugated and tightly incorporated therewith.

8. A wall tie consisting of a metallic tongue portion having a covering of flexible material conforming to the surface of the tongue portion, the tongue portion and the covering being corrugated so as to present projecting corrugations in the complete article.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS SCHIRRA.

Witnesses:

HARRY M. WILLIS,
C. M. CLARKE.