No. 851,611. PATENTED APR. 23, 1907.

F. WEBER.

WALL TIE.

APPLICATION FILED JULY 27, 1904.

Fig. 1.

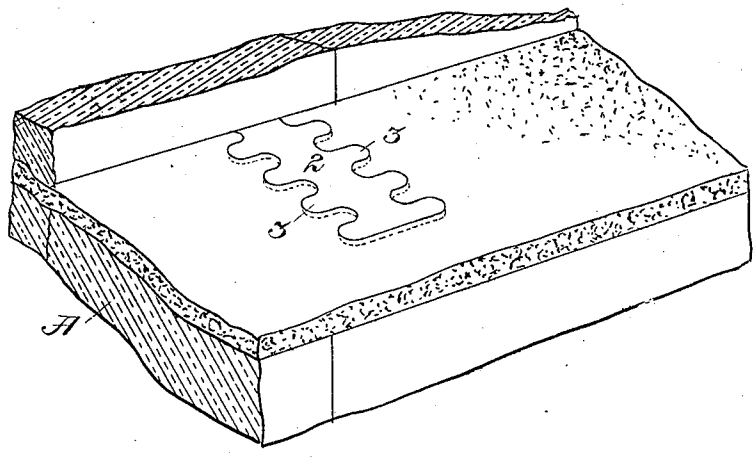


Fig. 2.

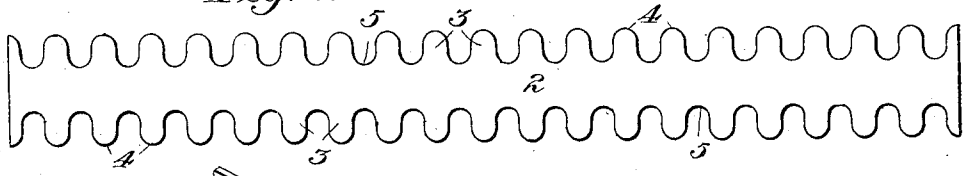


Fig. 9.

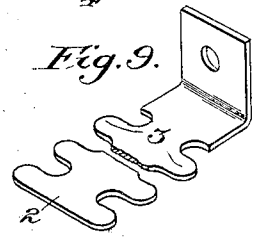


Fig. 5.

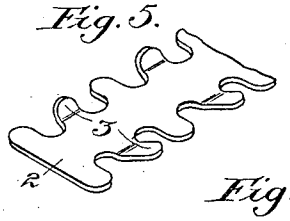


Fig. 6.

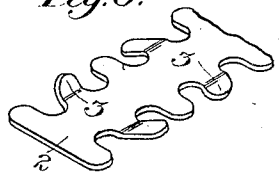


Fig. 3.

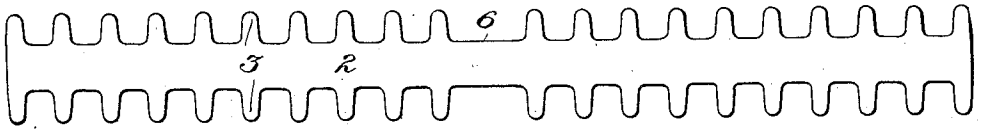


Fig. 4.

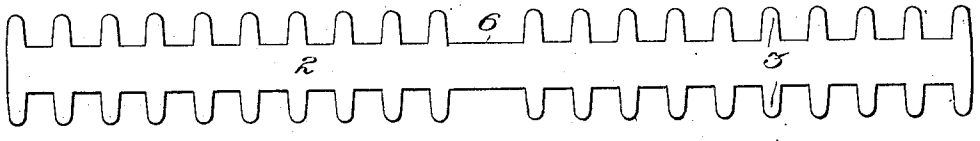


Fig. 7.

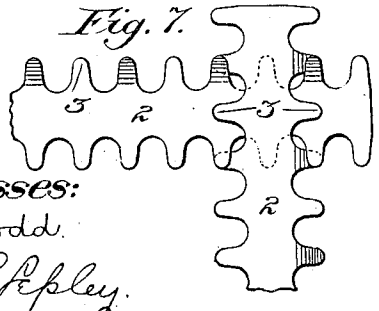
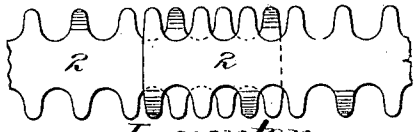


Fig. 8.



Witnesses:
E. R. Rodd.
Chas. S. Fepley.

Inventor:
Frank Weber
by C. M. Clarke
his Attorney.

UNITED STATES PATENT OFFICE.

FRANK WEBER, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO IMPERIAL SPECIALTY MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

WALL-TIE.

No. 851,611. Specification of Letters Patent. Patented April 23, 1907.

Application filed July 27, 1904. Serial No. 218,359.

To all whom it may concern:

Be it known that I, FRANK WEBER, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wall-Ties; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to what are known as wall-ties for binding or tying different courses of tile, brick, stone, or other forms of masonry together; and it has for its object to provide a cheap and simple form of tie which can be easily and cheaply manufactured, will not injure the hands of the workmen in handling, and will be effective in securely binding or tying the bricks, stone, or tiles in position when in use.

To enable others skilled in the art to which my invention appertains to construct and use the same, I will now describe it more fully, reference being had to the accompanying drawing, forming part of this specification, in which

Figure 1 is a perspective view of a portion of a wall, showing the manner of use of the tie between the different courses of the brickwork. Fig. 2 is a top plan view of one of the ties. Figs. 3 and 4 are views similar to Fig. 2, showing modified constructions. Figs. 5 and 6 are perspective views showing some of the teeth bent beyond the plane of the base of the tie. Fig. 7 is a plan view of two connected ties for use at corners, etc. Fig. 8 is a view similar to Fig. 7, showing one manner of connecting two ties longitudinally so as to provide extended lengths. Fig. 9 is a perspective view of a tie for use in "veneer" work.

Referring to the drawing, A (Fig. 1) represents the wall of masonry; 2 the wall-tie, which consists of a strip of sheet metal having extending laterally from the body thereof a series of closely adjacent teeth or projections 3, which teeth or projections have their extremities preferably rounded, as at 4, the spaces 5 between the teeth where the teeth join the body of the tie being also preferably rounded. In Figs. 3 and 4, however, the spaces or recesses between the teeth are shown as having a flat base and substantially straight sides.

In Fig. 1, the masonry is shown as formed of two rows of bricks placed together to form a double wall A, and the ties for the wall are of sufficient length to tie the two rows of bricks together, and at the same time they act to tie the bricks of one row to those above and below. In building the wall, mortar is first applied to the top faces of two rows of bricks lying in the same horizontal plane; the tie is then laid on the mortar; then the next row of bricks is laid on the mortar and pressed down firmly so as to cause the teeth or projections 3 of the tie to engage the mortar. As thus applied the ties will form a strong binding hold with the mortar, and owing to the closely adjacent projecting teeth and intervening recesses between the same, the mortar will readily flow or be forced into tight and intimate contact with the ties at all points, thus affording a solid holding engagement.

As shown in Fig. 5, the teeth or projections 4, or some of them, may be bent upwardly beyond the general plane of the base, as at 9, or both downwardly and upwardly, as in Fig. 6 and this may be done in the process of manufacture, or they may be easily so bent by the workmen as they are used, an advantage of such construction being that the bent teeth may rest upon the brick to sustain the tie upwardly therefrom in the body of the cementing material, while an additional advantage of such construction is that two or more ties may be joined together by interlocking their teeth when thus bent, as shown in Figs. 7 and 8, so as to provide a cross or corner-tie, or one of extended length, respectively. This feature while being incidental to the general or usual functions of the tie, is of considerable advantage, and will be appreciated by those accustomed to handle the same. In view of such use of the ties for forming a cross or corner tie, as shown in Fig. 7, some of them are preferably provided with elongated spaces 6 at each side to permit the interengagement of the teeth of the two crossing ties, although such elongated spaces are not absolutely necessary for such purpose. The spaces 6 also provide convenient points at which the tie may be bent for use in veneer and other work.

In addition to the advantages heretofore enumerated my improved ties have the further advantage of being very cheap and economical to manufacture, as by reason of the shape of the teeth or projections extend-

ing from the side or sides thereof, they may be cut out from a sheet of metal with absolutely no waste scrap. Another advantage is that they may be interlocked at their edges to form extended lengths, the teeth of one tie fitting into the recesses of the interlocking tie.

Subsequent applications covering allied subject matter and modified forms of this invention have been filed by me on March 8th, 1905, Serial Number 249,083, and March 20th, 1905, Serial Number 251,019, and by Julius Schirra and myself on October 29th, 1904, Serial Number 230,492.

I claim:—

1. A wall-tie consisting of a sheet metal body portion having projections or teeth extending laterally from one side thereof, said projections or teeth having rounded extremities with intervening rounded recesses, substantially as described.

2. A wall-tie consisting of a sheet metal body portion having projections or teeth extending laterally from the opposite sides thereof, said projections or teeth having rounded extremities with intervening rounded recesses, substantially as described.

3. A wall-tie consisting of a sheet metal body portion having tapering projections or teeth extending laterally from one side thereof, said projections or teeth having rounded extremities with intervening rounded recesses, substantially as described.

4. The combination of a plurality of wall-ties, one at least of said ties consisting of a sheet metal base having laterally extending holding tongues bent beyond the plane of the base and interlocking with tongues on the other tie, substantially as described.

5. The combination of two wall-ties, each tie consisting of a sheet metal base having a series of laterally-extending holding tongues, said ties being locked together transversely of each other by means of said tongues, substantially as described.

6. A wall-tie consisting of a sheet metal body portion having projections or teeth extending laterally from one side thereof, said projections or teeth having rounded extremities with intervening rounded recesses, the tie being provided along its side with an elongated space between the teeth, substantially as described.

7. A wall-tie consisting of a sheet metal body portion or strip having a series of closely-adjacent projections or teeth extending laterally from the same with intervening recesses between the teeth, substantially as described.

8. A wall-tie consisting of a sheet metal body portion or strip having a series of closely-adjacent projections or teeth extending laterally from the same with intervening recesses between the teeth, in combination with a second tie having a series of teeth and recesses interfitting with the recesses and teeth respectively of the first named tie, substantially as described.

9. The combination of a plurality of wall-ties having laterally extending interlocking teeth with rounded extremities and intervening rounded recesses, substantially as described.

10. The combination of a plurality of connected wall-ties having laterally arranged interlocking teeth having rounded extremities and intervening rounded recesses, said teeth and recesses being counterparts of each other, substantially as described.

11. The combination with a wall-tie having laterally projecting rounded teeth and intervening rounded recesses of the same size and form, of a similar tie in interlocking engagement therewith, substantially as described.

12. A wall-tie consisting of a sheet metal body portion or strip having a series of closely-adjacent projections or teeth extending laterally from the same with intervening recesses between the teeth, some of said projections or teeth being bent beyond the general plane of the base.

13. A wall-tie consisting of a sheet metal base having laterally-extending rounded tongues with intervening rounded recesses, some of said tongues being bent beyond the general plane of the base; substantially as described.

14. A wall-tie consisting of a sheet metal body portion having projections or teeth extending laterally therefrom, said projections or teeth having rounded extremities with intervening rounded recesses, and an attaching portion projecting at an angle from said body portion; substantially as described.

15. A wall-tie consisting of a sheet metal body portion having projections or teeth extending laterally therefrom, with rounded extremities and intervening rounded recesses, said strip being bent so as to form an attaching portion and a holding portion, substantially as described.

In testimony whereof, I the said FRANK WEBER have hereunto set my hand.

FRANK WEBER.

Witnesses:

J. N. COOKE,

ROBERT H. AXTHELM.