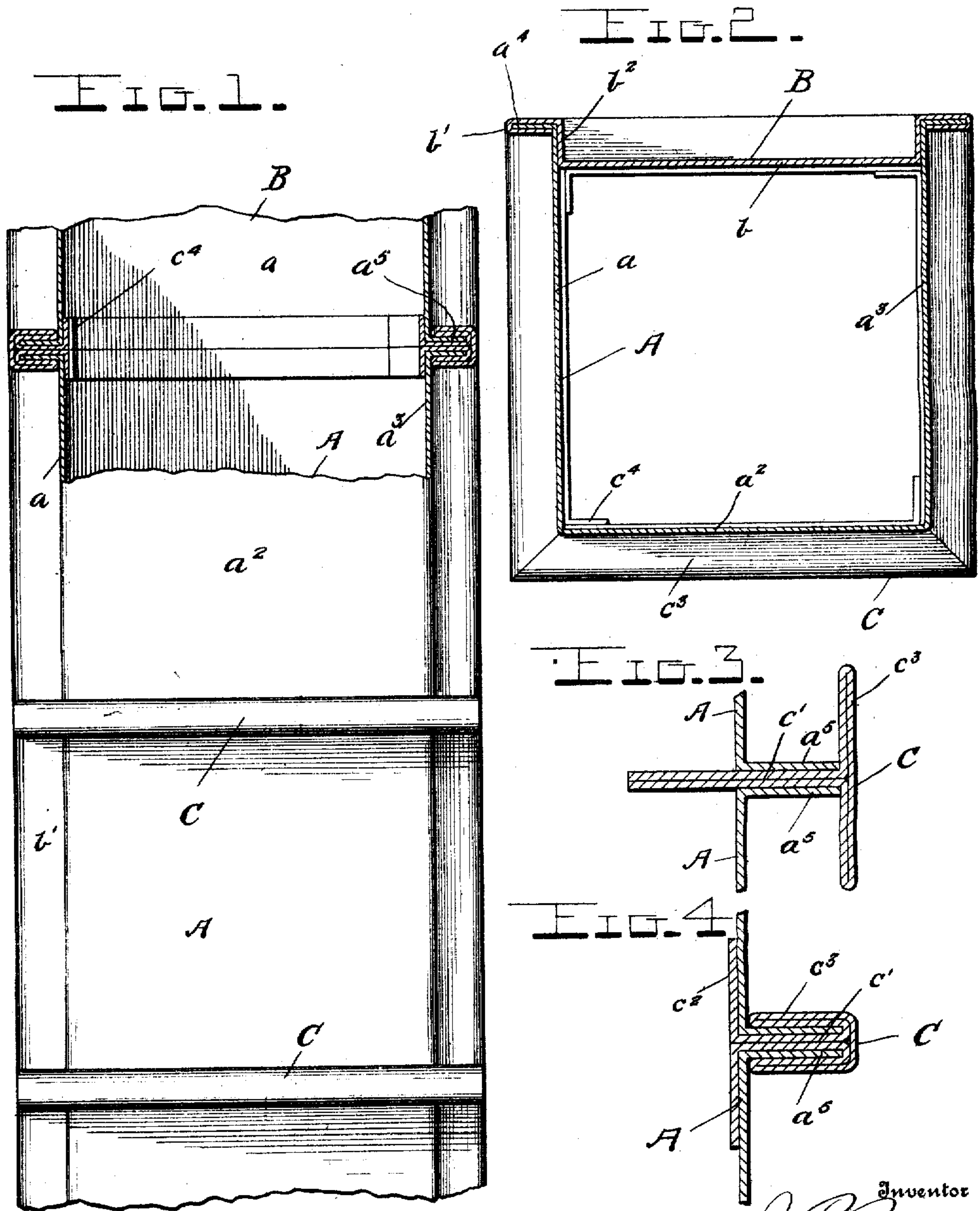


J. R. MILLER.
SHEET METAL JOINT.
APPLICATION FILED AUG. 17, 1908.

906,731.

Patented Dec. 15, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES RAY MILLER, OF HUTCHINSON, KANSAS.

SHEET-METAL JOINT.

No. 906,731.

Specification of Letters Patent.

Patented Dec. 15, 1908.

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To all whom it may concern:

Be it known that I, JAMES RAY MILLER, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented certain new and useful Improvements in Sheet-Metal Joints, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in joints for sheet metal constructions of all kinds and more particularly to a sealing and reinforcing joint for elevator casings and the like used in mills.

15 The object of the invention is to provide a joint or fastening of this character which will be simple, inexpensive, strong and durable and which will not only effectively seal the united parts but also reinforce them and thereby obviate the necessity of angle metal and other reinforcing bars.

20 With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

25 Figure 1 is a view, partly in elevation and partly in vertical section, of a portion of an elevator casing or shaft constructed in accordance with the invention and having its parts or sections united by the improved joint; Fig. 2 is a horizontal section through the same; Fig. 3 is a detail view showing the 30 several parts of the joint before the latter is fastened; and Fig. 4 is an enlarged sectional view through the joint.

35 In the drawings 1 denotes a portion of a rectangular elevator casing or shaft constructed of sheet metal sections united to each other by the improved joint. Each section of the elevator casing is composed of two pieces of sheet metal A, B, the former of which is bent to form three sides a , a^2 , a^3 and 40 the latter of which forms the fourth side b of the casing. The vertical edges of the sides a^3 are bent outwardly in opposite directions at right angles to provide flanges a^4 around which the vertical edges of the side b are bent, as shown at b' . The bent edges or 50 flanges b' effectively unite the two sheet metal pieces A, B but in order to reinforce the casing and prevent all liability of the sides a , a^3 from collapsing the side b has offset portions or shoulders b^2 formed by bending portions of it at right angles so that it sets within

and between the sides a , a^3 , as clearly shown in Fig. 2.

At the upper and lower ends of each of the sides a , a^2 , a^3 , b of each section of the elevator casing are outwardly bent right angular flanges a^5 . These flanges of the superposed or adjacent sections are united by joint strips C also constructed of sheet metal and one of which extends along each side of the joint. 60 Said joint strips are formed by bending a strip of sheet metal upon itself into T-shape, as shown in Fig. 3 so that its long arm c' may be inserted between the opposing flanges a^5 and the extremities of the two pieces of 70 which it is formed may be bent in opposite directions at right angles and against the inner faces of the sections A, as shown at c^2 in Fig. 4. The cross arms c^3 of the T-shaped joint strip are then bent inwardly around and 75 against the outer faces of the flanges a^5 as is also shown in said Fig. 4. When the several parts of the joint are clenched, a very effective connection is provided between the two sheet metal parts or sections which it unites 80 and it has been found in practice that the joint is so rigid that the need of angle metal reinforcing bars is entirely obviated. The joint may, if desired, be further strengthened by soldering its several parts together and by 85 extending the extremities of the portions c^2 at one end of each joint strip, bending the same at right angles, as shown at c^4 in Fig. 2, and then soldering them to the abutting joint strip. 90

While the invention is especially well adapted for use in constructing elevator casings or shafts of mills and the like, it will be understood that it may be employed in all sheet metal constructions where an effective 95 sealing and reinforcing joint is required between two sheet metal parts or sections.

Having thus described the invention what is claimed is:

1. A joint of the character described comprising two sheet metal sections having right angularly bent flanges opposed to each other, and a T-shaped joint strip constructed of a piece of sheet metal bent upon itself, one arm of said T-shaped strip being passed between 105 said flanges and having its projecting extremities bent in opposite directions against said sections and the other or cross arms of said T-shaped strip being bent against the flanges of said sections, substantially as shown and described. 110

2. A casing or shaft comprising a plurality

of sheet metal sections, the adjacent sections having opposing flanges and T-shaped joint strips arranged between said opposing flanges and bent substantially as and for the purpose set forth.

3. A sheet metal casing or shaft composed of a plurality of sections having at their ends opposing flanges and T-shaped joint strips inserted between said opposing flanges of adjacent sections and having their cross arms bent against said flanges and their third arms divided and bent against said sections.

4. A sheet metal casing or shaft comprising a plurality of sections, each composed of the sheet metal member A bent to form two or more sides and having its vertical edges

bent outwardly to form flanges and its upper and lower edges also bent outwardly to provide flanges, the sheet metal section B bent to enter between the flanged sides of the section A and having the edges of its bent portions bent around the vertical flanges of the section A, and T-shaped joint strips inserted between the opposing flanges of the superposed sections A, B and bent substantially as and for the purpose set forth.

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

JAMES RAY MILLER.

Witnesses:

G. C. MILLAR,
H. ATKINSON.