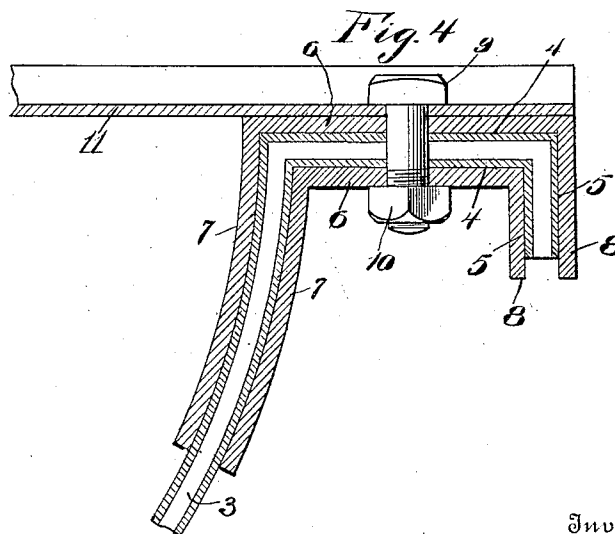
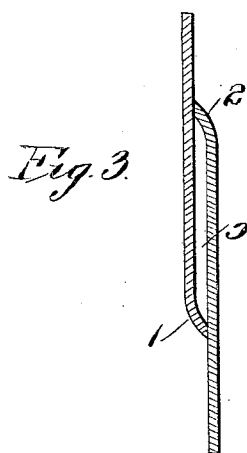
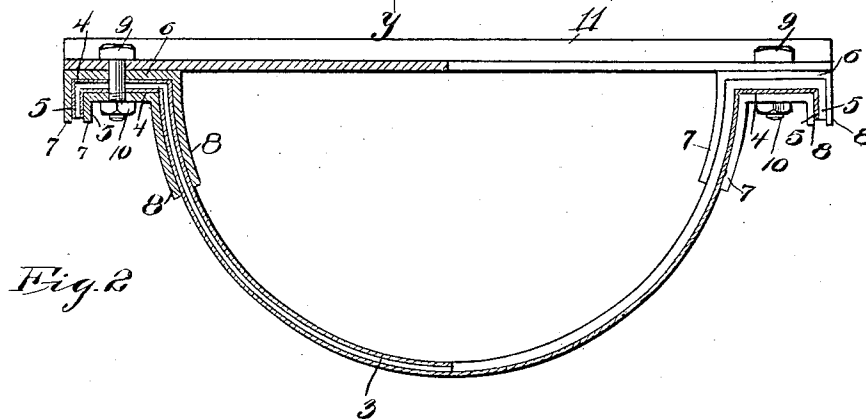
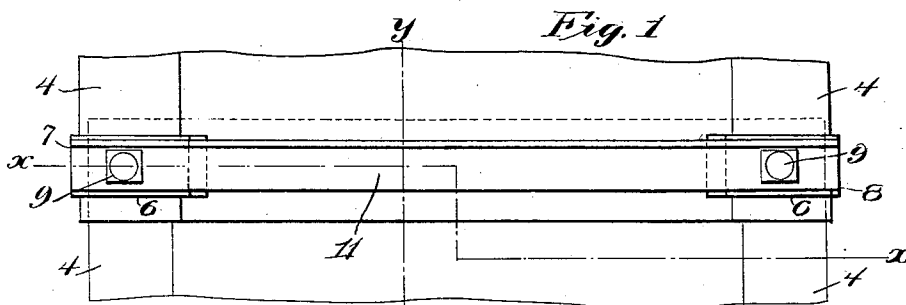


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FLUME.
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1,049,023.

Patented Dec. 31, 1912.



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FLUME.

1,049,023.

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To all whom it may concern:

Be it known that I, HAROLD H. WINTER, a citizen of the United States, residing at Billings, in the county of Yellowstone and State of Montana, have invented new and useful Improvements in Flumes, of which the following is a specification.

The present invention provides a flume formed in sections and composed solely of sheet metal such as galvanized iron, the invention relating most especially to the joint between adjacent sections and to the means for securing the sections and drawing them together when assembled so as to insure a tight joint and prevent leakage.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawing, and pointed out in the appended claims.

Referring to the drawing, forming a part of the specification, Figure 1 is a top plan view of the joint formed between adjacent sections of a sheet metal flume embodying the invention. Fig. 2 is a section on the line $x-x$ of Fig. 1. Fig. 3 is a detail section on the line $y-y$ of Fig. 1. Fig. 4 is an enlarged section of a clamp and the parts of adjacent flume sections secured thereby.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawing, by the same reference characters.

The flume comprises like sections formed of sheet metal, preferably galvanized iron. The sections in cross section are half round and the extremities of each section are oppositely bent, as shown most clearly in Fig. 3, one end being bent downwardly, as indicated at 1, and the other end similarly bent in an upward direction, as indicated at 2, so that when sections are placed together a space 3 is formed between the overlapping end portions of adjacent sections. This construction results in a close joint between the sections as also in a joint which is reinforced, the latter being due to the bent edge portions 1 and 2 which stiffen the ends of the sections as well as the joint. Outer flanges 4 are formed at the longitudinal edges of each of the sections and these flanges have bent edge portions 5 which extend downwardly, the parts 4 and 5 serving to stiffen the flume longitudinally. In the formation of a flume the sections are placed together with their

end portions overlapping a short distance, the sections being so arranged that the bent end 1 faces downwardly and the bent end 2 faces upwardly, as indicated most clearly in Fig. 3.

The sections are secured by means of clamps, two being had for each joint, one for each flanged portion. Each of the clamps is of like formation and comprises similar members of approximately U-form. Each clamp member comprises a middle portion 6 and end portions 7 and 8. The middle portion 6 is straight and the end portions 7 and 8 are of different lengths, the end portion 8 being straight and the end portion 7 being curved to conform to the curvature of a side portion of the flume. The middle portions 6 of the clamp members have registering openings which coincide with openings formed in the overlapped portions of the outer flanges 4 of the flume sections. A bolt 9 passes through the registering openings of the clamp members and overlapping parts of the flanges 4 and serves to connect and secure said parts. Each of the bolts 9 has a nut 10 which is arranged upon the under side of the clamp and when the parts are assembled the joint may be drawn closely together by tightening the bolts 9, thereby bringing the bent ends 1 and 2 of the overlapping parts of adjacent flume sections close against the adjacent sections so as to insure the formation of a tight joint as well as a stiff reinforced joint. As shown most clearly in Fig. 4 the members of a clamp are placed the one above and the other below the overlapping portions of the flanges 4 of each joint, hence upon tightening the bolt 9 the overlapping end portions of the sections are drawn together.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

In flumes of large size they will be braced by cross stay bars 11 located at

the upper edges of the sides and at the joints formed between the sections, so that advantage may be taken of the fastenings 9 to secure such stay bars when in place.

5 These stay bars may be of any form in cross section, and as shown they are of L-shape.

Having thus described the invention what is claimed as new, is:—

10 1. A flume comprising like sections of sheet metal and arranged with the end portions of adjacent sections overlapping, the underlying portion having its end bent upwardly and the overlying portion having its end bent downwardly, and means for se-

15 curing the sections in assembled position.

2. A flume comprising like sections of sheet metal, each of the sections having one end bent downwardly and the opposite end bent upwardly, and having outer flanges 20 along opposite longitudinal edge portions and having the outer edge portions of said flanges bent downwardly.

3. A flume comprising similar sections having their end portions overlapped and provided with outer flanges along their 25 longitudinal edges and having the outer edge portions of the flanges bent downwardly, and clamps for securing the overlapped portions of adjacent sections, each of the clamps comprising similar U-shaped 30 members, each member having its middle portion straight and its end portions of unequal lengths, the outer end portions being straight and the inner end portion curved, and a bolt passing through openings 35 in coincident relation in the middle portions of the clamp members and in the overlapping end portions of the flume sections.

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

HAROLD H. WINTER.

Witnesses:

WALTER E. RYNIKER,
EDWARD J. SIELEMAN.

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