(Model.)

C. S. HAMLIN.

SHEET METAL PIPE.

No. 576,671. Patented Feb. 9, 1897.

FIG. VII.

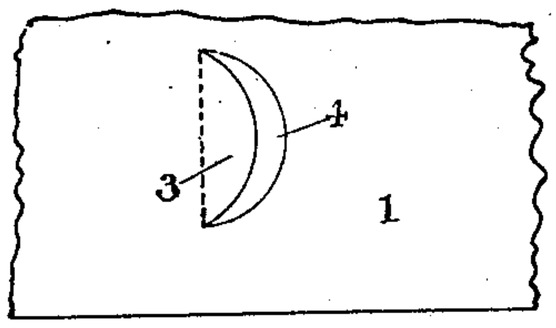


FIG. I.

FIG. II.

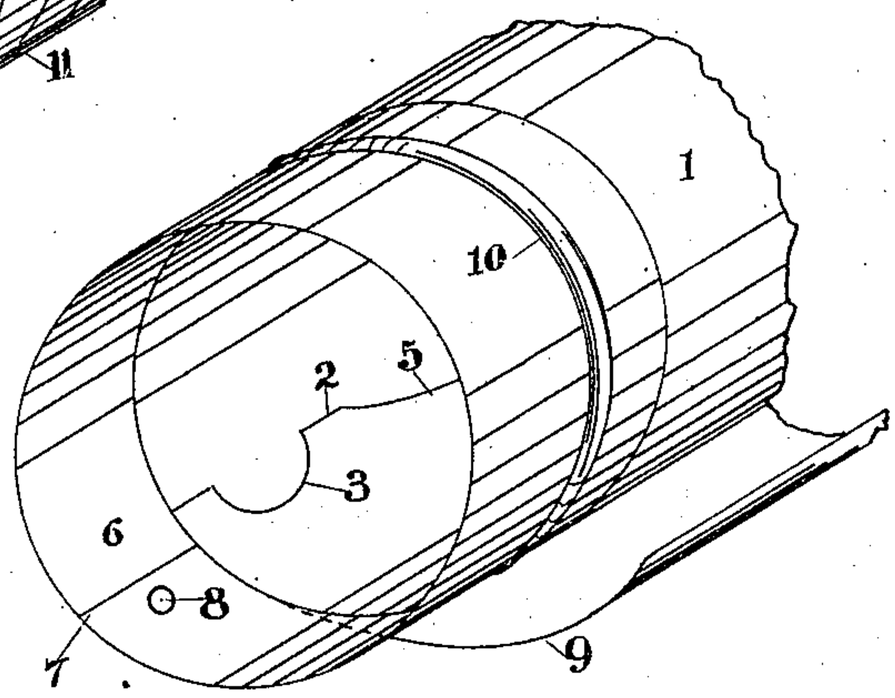


FIG. III.

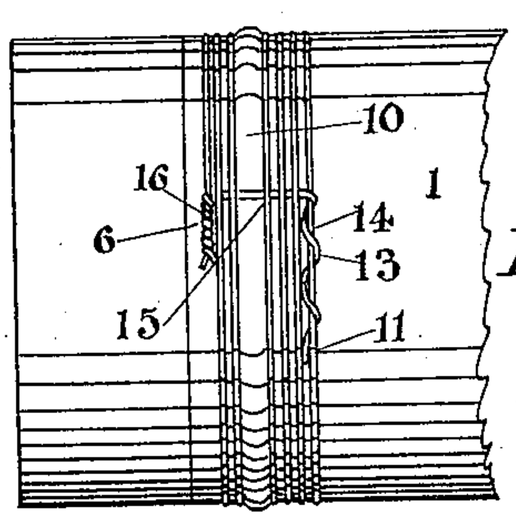


FIG. IV.

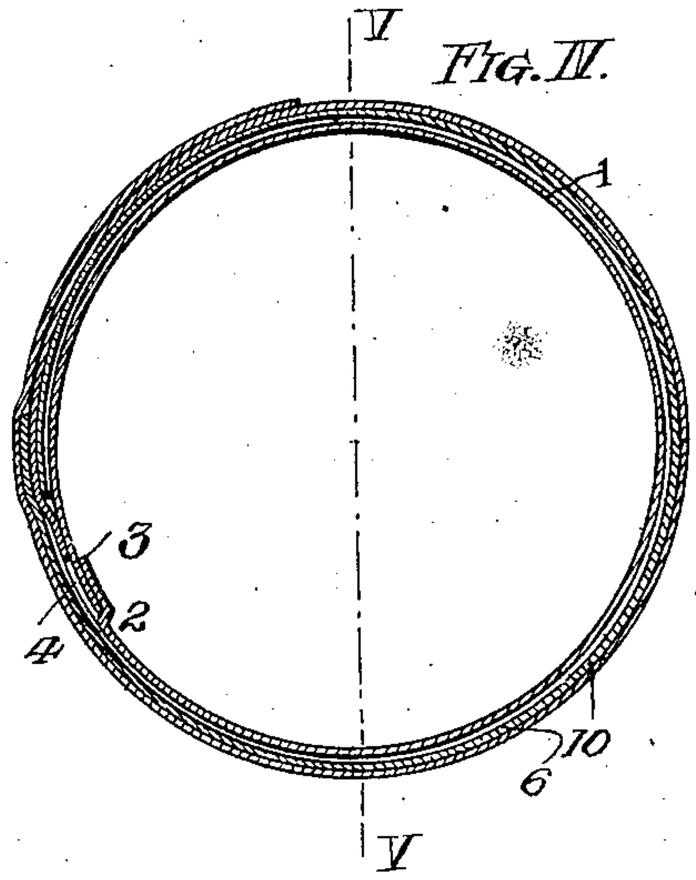
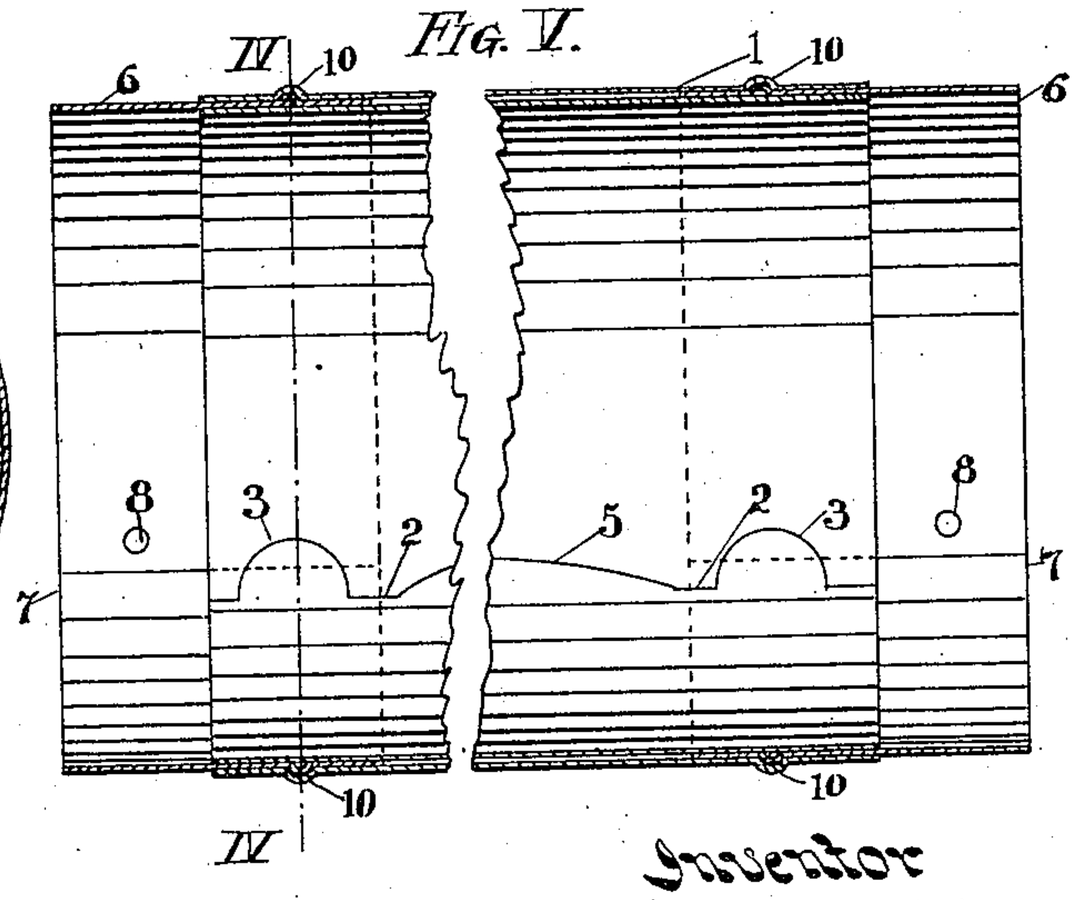


FIG. V.



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UNITED STATES PATENT OFFICE.

CHARLES S. HAMLIN, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO JOHN E. KOEBERLE, OF SAME PLACE.

SHEET-METAL PIPE.

SPECIFICATION forming part of Letters Patent No. 576,671, dated February 9, 1897.

Application filed September 27, 1895. Serial No. 563,904. (Model.)

To all whom it may concern:

Be it known that I, CHARLES S. HAMLIN, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Sheet-Metal Pipes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in the construction of sheet-metal pipes; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a broken perspective view of a section of my improved pipe. Fig. II is a detail perspective view showing manner of securing steel ring to end of pipe-section. Fig. III is a detail elevation showing manner of securing end of binding-wire. Fig. IV is a transverse section taken on line IV IV, Fig. V, as it would appear if Fig. V was not divided longitudinally. Fig. V represents a longitudinal section on line V V, Fig. IV. Fig. VI is a detail view showing lip for holding inner edge of metal sheet.

Referring to the drawings, 1 represents the main section of the pipe, consisting of a single sheet wound upon itself into a circular form. The inner edge 2 of the sheet is secured to the body 1 at a point preferably near the ends of the section by being inserted beneath a lip 3. The lip 3 is formed, preferably, of a portion of the body 1 by cutting a semicircular notch 4 in the metal, bending the lip inward and passing the edge of the sheet beneath the same, the roll which forms the pipe serving to press the lip down flat on the inner edge of the sheet. Thus a simple and efficient connection is formed between the inner edge of the sheet and the body of the same.

The inner edge of the sheet extending between the lips 3 is scalloped or cut away in an arc of a circle or concave form, as shown at 5, the edge, when formed in this manner, adhering closely to the body and does not buckle or get out of shape as where the edge is left straight.

When the main section of the pipe has been formed into a complete single circle, I then secure the coupling-rings 6 to the main section, said rings being male and female, so that the ring on one section telescopes into the meeting ring of the adjoining section. The coupling-ring has its seam 7 secured together by means of a rivet 8, located near the outer end of the ring. In placing the ring in position it is slipped on over the single coil of pipe, (see Fig. II,) the inner end of the ring extending a short distance beyond the inner edge of the lip 3, thus avoiding any danger of leakage through the notch 4, formed in making the lip 3. As the ring is placed in position the free end of the main section extending beyond the lip 3 passes between the seam 7 of the ring, the main sheet from this point passing around the outside of the ring instead of on the inside, as is the case with the first coil. In order that the ring may be securely connected with the main section, I form a peripheral bead 10 on the outer side of the ring, and as the free portion 9 of the main sheet is forced down upon the ring the bead on the ring will form a groove on the main sheet, and thus lock the ring firmly in place.

11 represents a binding-wire wound around the pipe to hold it together, the inner end of the wire being inserted, as shown at 12, under the outer edge of the sheet forming the pipe, which holds it firmly. I usually use two strands of wire and commence winding it about the center of the section, one strand being wound toward one end of the pipe and the other strand in the opposite direction. When the strand of wire gets to the bead near the end of the pipe, I wind it around several times on each side of the bead and in close proximity thereto, thus adding strength to the end of the pipe and at the same time securing the coupling-ring beyond any possible danger of being forced endwise on the pipe. In order to secure the outer end of the binding-wire, I provide a short tie-wire 13, twist one end of it to the binding-wire at 14, pass several coils of wire over the tie-wire at 15, which extends at right angles therewith, and twisting the end of the binding-wire with the end of the tie-wire, thereby forming a knot 16. In the manufacture of the pipe it may be treated with materials for preserving it, &c., but I make no claim for the same in my present application.

I claim as my invention—

1. As a new article of manufacture, a sheet-metal pipe having one or more coils of metal and having its inner edge secured to the body of the pipe by means of individual lips extending over a portion of the edge, said lips being formed out of the body by cutting a notch therein having a portion remaining integral with the body, the inner edge of the pipe being cut away in concave form and means for holding the coils of the pipe together, substantially as set forth.

2. As a new article of manufacture, a sheet-metal pipe, having its inner edge scalloped or cut away in concave form, and secured together at the ends of the concavity, substantially as set forth.

3. In a sheet-metal pipe the combination of a sheet formed into pipe shape, a binding-wire coiled around the pipe, a separate short tie-wire having one of its ends secured to the body of the binding-wire, a number of coils of the binding-wire being passed over the tie-wire, and the free ends of the tie and binding wires being secured together, substantially as set forth.

4. A sheet-metal pipe comprising an inner coil formed with individual lips cut in the coil, and its inner edge fitting in the lips thus formed, an outer coil forming a continuation of the inner coil, and provided with a groove, and a ring formed with a bead fitting in the groove of the outer coil and having its inner edge fitting within the overlapping portions of the inner and outer coils, extending around the inner coil and having its outer edge overlapping its inner edge and secured thereto; substantially as described.

5. In a pipe the combination of a main section formed into two or more coils a ring having a peripheral bead, said ring being placed between the coils of the main section, the outer coil of the main section being pressed down upon and conforming with the bead on the ring, and a binding-wire wound around the pipe, and on both sides of the bead, said wire having its inner end secured between the coils of the main section and its outer end secured by a tie-wire, substantially as set forth.

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