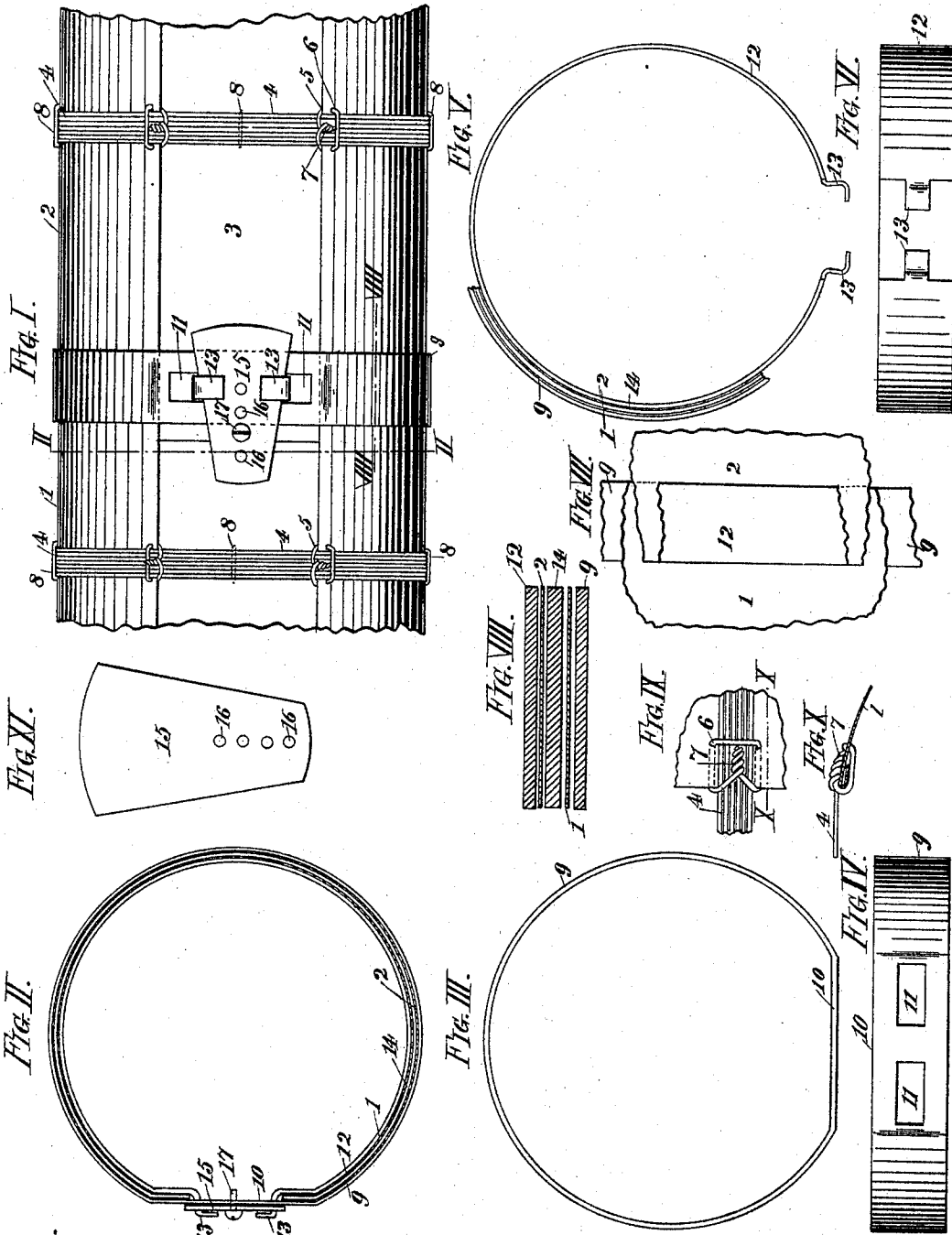


(No Model.)

C. S. HAMLIN.
SHEET METAL PLUME.

No. 586,180.

Patented July 13, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES S. HAMLIN, OF LOS ANGELES, CALIFORNIA.

SHEET-METAL FLUME.

SPECIFICATION forming part of Letters Patent No. 586,180, dated July 13, 1897.

Application filed October 6, 1896. Serial No. 608,010. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. HAMLIN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Sheet-Metal Flumes, 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 certain new and useful improvements in sheet-metal flumes intended more especially for carrying irrigating-water, but which may be used in other ways, if desired; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a detail top view of my improved flume, showing two sections coupled to each other. Fig. II is a transverse view taken on line II II, Fig. I. Fig. III represents an edge view of the outside coupling-ring. Fig. IV is a top view of the outside coupling-ring. Fig. V is a detail view showing inner expansion-ring and a portion of the overlapping section of flume. Fig. VI is a top view of the inner expansion-ring. Fig. VII is a detail view showing the overlapping ends of the flume with the outer coupling-ring and the inner expansion-ring. Fig. VIII is a longitudinal section taken on line VIII VIII, Fig. I. Fig. IX is a detail view showing connecting-loop which connects the top edge of the flume with the binding-wire. Fig. X is a section taken from line X X, Fig. IX. Fig. XI is a top view of wedge-shaped key for expanding the expansion-ring and locking it in connection with the outer coupling-ring.

Referring to the drawings, 1 2 represent two sections of my improved flume, which is made in the form of a segment of a circle with a longitudinal opening 3 on the upper side of the flume. At intervals the flume is bound with a number of laps of wire, as shown at 4, said wire serving to brace the flume from inner pressure, owing to its tensile strength, and by means of its being formed into a series of laps, which are bound together, also braces the flume from outer pressure, the wire as formed bearing a large degree of thrust strength.

5 represents tie wires or loops, which first

pass over the binding-wire 4, then extend through orifices in the edge of the flume, as shown at 6, the ends of the tie-wire then being folded back over the edge of the flume and over the tie-wires and then formed into a knot 7, thus effectually holding the tie-wires in their proper position at the edge of the flume.

8 represents a series of staples, which pass over the tie-wires and are connected to the flume at intervals around its surface, thus holding the tie-wires firmly together and in connection with the flume.

The section 2 of the flume is adapted to telescope a short distance into one end of the section 1 preparatory to forming the coupling. Owing to the flume being open on its upper side it is an easy matter to telescope one section into the other for a short distance without altering the size of the flume, which would be necessary were the flume made in pipe shape, or, in other words, formed in a complete circle.

At the point where the ends of the sections of the flume are telescoped for a short distance I place an outer coupling-ring 9 around the flume, said coupling-ring being formed in the same shape as the flume proper, but with the difference that the cord 10 of the segment is an integral part of the ring, the cord being at the top of the flume. In the cord 10 of the ring I form slots 11.

12 represents an inner expansion-ring adapted to fit within the flume at the point where the two sections telescope and resting on the inside of the flume in line with the coupling-ring on the outer side of the flume.

The expansion-ring 12 is open on its upper side and is provided with bent lugs 13, which extend up through the slots 11 in the outer coupling-ring. For ordinary construction, as there is no pressure to speak of in the flume, I require no gasket between the telescope ends of the flume, but have shown the gasket 14, which may be inserted between the telescoped sections of the flume, if found to be desired.

At the point of laying the flume, where it is desired to couple two sections of the flume, the ends are slightly telescoped, the outer ring being in position and the inner ring in position inside the flume with the lug 13 ex-

tending through the slots 11. I then firmly lock the two sections together by driving in a wedge-shaped key 15 between the lugs 13, forcing them outward in the slots 11 and pressing the expansion-ring throughout its length against the inner section of the flume, thus forcing the inner section against the outer section, which is limited in its movement by the outer coupling-ring 9. I thus form a simple and efficient coupling that can be put in place at the point of laying the flume without in any manner having to treat or flange the end of the flume proper at the point where it is manufactured.

The key 15 is provided with a series of apertures 16, into which a pin or screw 17 may be inserted after the key has been forced into its desired position, said pin firmly holding the key against withdrawal as the inner end of the pin comes in contact with the edge of the coupling-ring.

The flume when in its complete state may be treated to a galvanizing-bath or a bath of asphaltum or of other material which may add strength or durability to the flume. Where it is treated to the galvanizing-bath, the binding-wires are firmly cemented together, which forms a bond between the wires themselves and between the wires and the flume proper, thus adding to the thrust resistance of the flume and serving to assist in holding said wires in their proper position.

In laying the flume it is preferably laid with the overlapping portion of the telescope end facing downgrade, as in this position there is still less liability of its leaking in case for any reason the coupling might become loosened.

I claim as my invention—

1. As a new article of manufacture a sheet-metal flume, having its body formed in the segment of a circle and bound at suitable intervals with wire formed in groups, and cemented together substantially as set forth.

2. As a new article of manufacture a sheet-metal flume, having its body formed in the segment of a circle and bound with wire formed in groups at intervals throughout its length, the wires after being grouped being cemented together to form a rigid brace at the top of the flume and means for securing said wire to the flume, substantially as set forth.

3. In a sheet-metal flume the combination of the body of the flume, binding-wire wound around said flume and formed in groups, a tie-wire connecting the edge of the flume with the binding-wire and staples for connecting the body of the flume with the binding-wire, substantially as set forth.

4. In a sheet-metal flume the combination of the body of the flume, open on its upper side, one section of the flume being adapted to telescope a short distance into the adjoining section, an outer coupling-ring and an inner expansion-ring for forming a coupling at the point where the two sections telescope, substantially as set forth.

5. In a sheet-metal flume the combination of two sections of flume, one adapted to telescope a short distance within the other, an outer coupling-ring adapted to surround the flume, an inner expansion-ring adapted to be placed within the flume and means for expanding the expansion-ring and forcing the sections of the flume against the outer coupling-ring, substantially as set forth.

6. In a sheet-metal flume the combination of the flume proper adapted to telescope a short distance, an outer coupling-ring having the main portion formed in the form of a circle and having its upper side straight, slots in said straight portion, an expansion-ring adapted to fit within the flume and lugs on the expansion-ring adapted to extend through the slots in the coupling-ring, substantially as set forth.

7. In a sheet-metal flume the combination of the flume proper, an outer coupling-ring having slots within, an inner expansion-ring having lugs which extend through said slots, and a wedge-shaped key adapted to engage said lugs and expand the expansion-ring, substantially as set forth.

8. In a sheet-metal flume the combination of the flume proper an outer coupling-ring having slots, an inner expansion-ring having lugs adapted to extend through said slots and a wedge-shaped key having orifices and a pin which may be inserted in said orifices for preventing the withdrawal of the key, substantially as set forth.

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Witnesses:

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