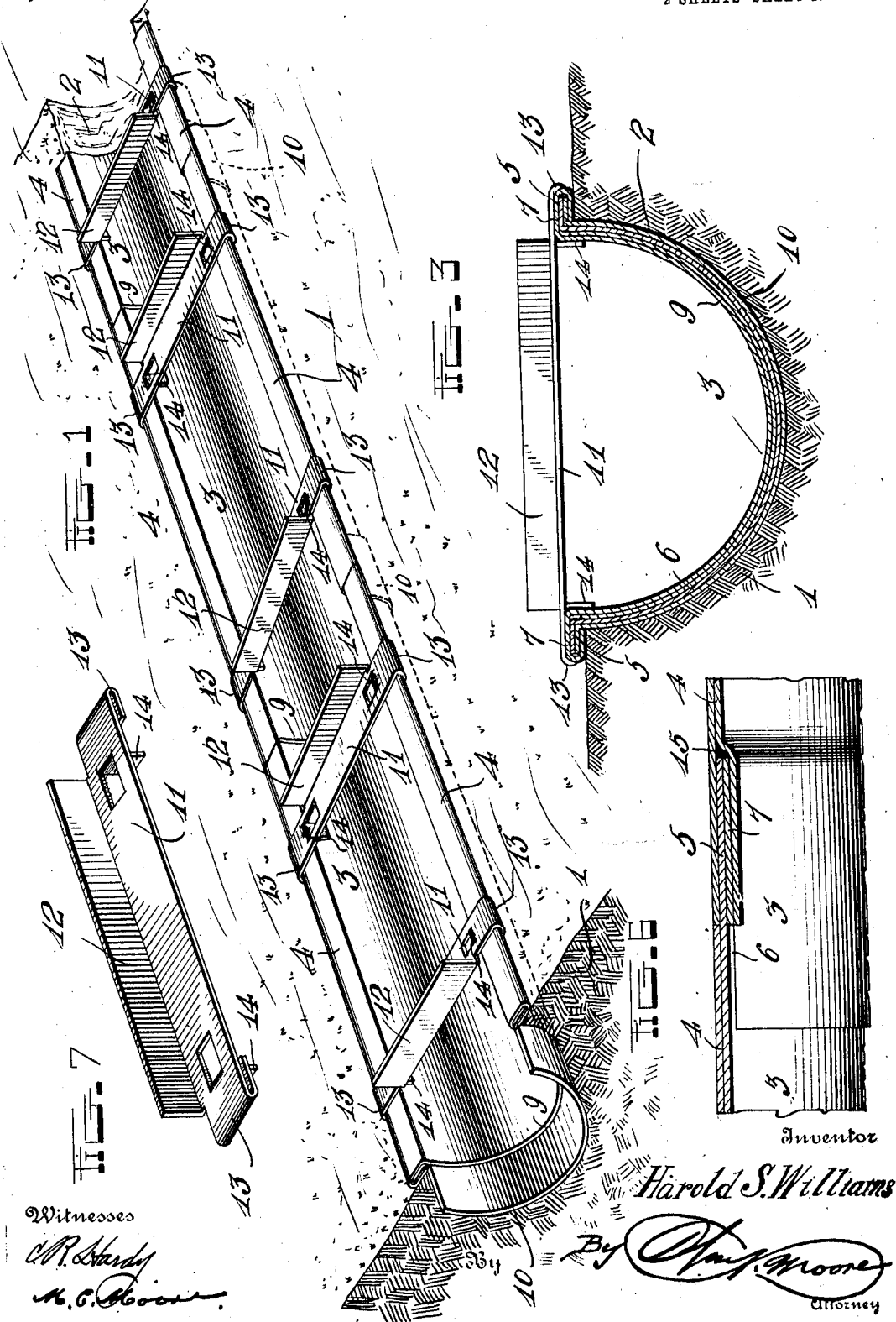


H. S. WILLIAMS.
METAL FLUME OR CONDUIT.
APPLICATION FILED DEC. 27, 1911.

Patented July 2, 1912.

2 SHEETS-SHEET 1.

1,031,407.



Witnesses

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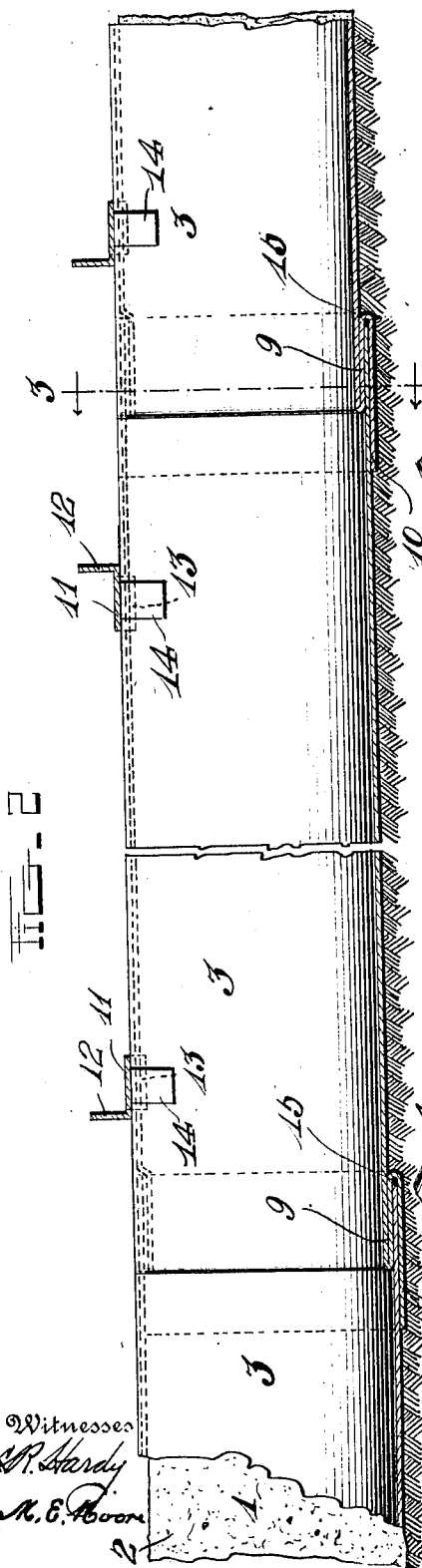


FIG. 2

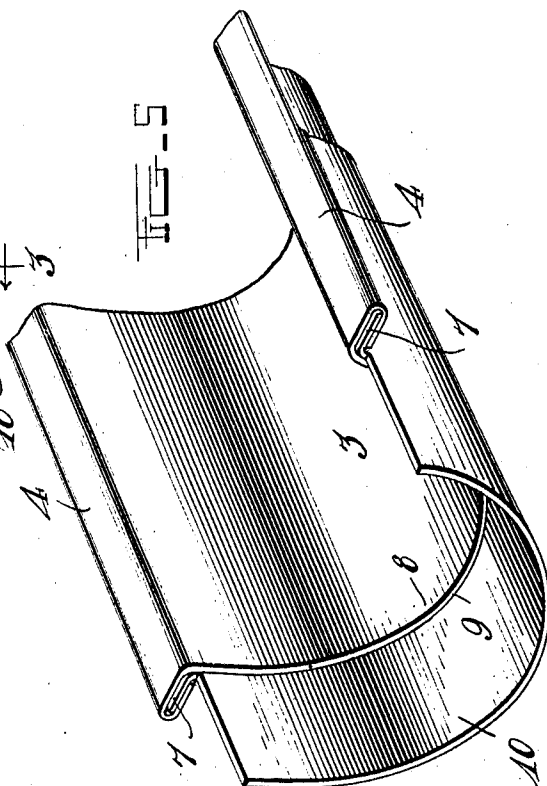


FIG. 5

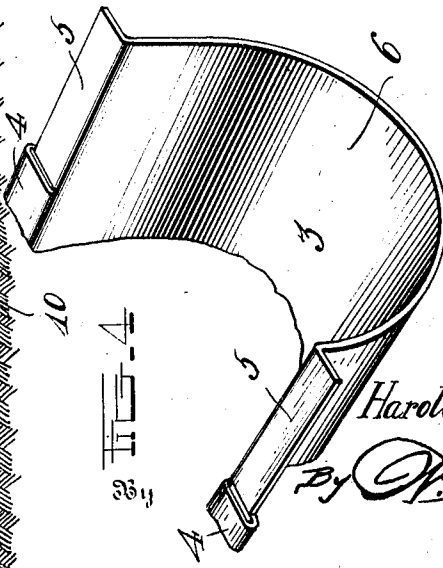


FIG. 4

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HAROLD S. WILLIAMS, OF CALDWELL, IDAHO.

METAL FLUME OR CONDUIT.

1,031,407.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed December 27, 1911. Serial No. 668,161.

To all whom it may concern:

Be it known that I, HAROLD S. WILLIAMS, a citizen of the United States, residing at Caldwell, in the county of Canyon and State of Idaho, have invented certain new and useful Improvements in Metal Flumes or Conduits, of which the following is a specification.

My invention relates to improvements in metal flumes or conduits, which while particularly adapted for conveying water for irrigation purposes may be used for any purpose where the improvement would perform its functions in a practical manner.

One object of my invention is the provision of a flume composed of sections which may be shipped in blank form and assembled by an unskilled person to produce an efficient flume or conduit.

Another object of my invention is the provision of a flume which will entirely dispense with expensive supporting structures and which may be laid in a trench or upon the ground and form a perfect conductor for the water and absolutely prevent leakage.

Another object of my invention is the provision of a flume composed of sections assembled through the medium of a male and female joint, which joint will produce a slip joint or connection, which while being absolutely water-tight, will accommodate itself to weather conditions and allow for expansion and contraction.

Another object of my invention is the provision of a flume of the simplest and cheapest possible construction capable of easy and ready assembling, and which will have a novel form of binder to prevent spreading of the flume and which flume generally will dispense entirely with fastenings in the nature of bolts or screws, and thus attain the highest possible efficiency and insure the production of a flume which will be practical from every point of view.

In the attainment of these and other objects, my invention consists of a flume composed of sections joined by a male and female joint and in the general construction and combinations of parts disclosed herein.

Figure 1 represents a perspective view of a sufficient portion of my flume complete and mounted in a trench, such construction being particularly adapted for irrigation purposes. Fig. 2 represents a vertical central sectional view of the flume. Fig. 3

represents a sectional view taken on the line 3—3 of Fig. 2. Figs. 4 and 5 represent perspective views on an enlarged scale, showing the meeting male and female construction of a pair of sections, particularly illustrating the important feature of my invention, the male and female slip joints. Fig. 6 represents a sectional view through the male and female joint, and Fig. 7 represents a perspective view of one of the connectors or binders used upon my flume.

Referring by numeral to the drawings, in which similar characters of reference denote corresponding parts in the several views:—The numeral 1 designates the ground in which is made a ditch or trench 2, which receives my flume and which provides the cheapest and most desirable manner of laying the flume for purposes of irrigation, although the flume may be laid or supported in any desired manner.

The flume is composed of a series of sections 3, which in the manufacture are preferably constructed in the form of a blank which are shipped to their proper destination and are curved to the proper form and their edges are formed with the horizontal double flanges 4, extending along their entire edge and at one end the section is formed with the single lateral flanges 5 and the projecting portion 6, while the other end of the section is formed with the open flanges 7, the end portion 8, the doubled portion 9 and the extension 10, forming the female end of the section. That is to say, each section of the flume has at one end a male portion and the other end a female portion in order that when the sections are assembled, the male portion will slide into and snugly fit the female portion, the doubled closed portion 9 of the female member with the male extension forming an absolutely water-tight joint, but permitting the instant assemblage or association of the sections to produce the flume and providing a slip or accommodating joint, which will allow for expansion and contraction under weather conditions.

From this construction, it will be observed that I provide a flume or conduit made of a series of interlocking slip joint sections, which when assembled, produce a water-tight conductor, which presents a substantially smooth surface to the flow of the water and thus provides the most efficient flume possible. It is necessary when the sections have

been assembled to produce the flume to guard against spreading of the flume, and for this purpose I have devised the binder or connector 11, formed with the vertical flange 12 for readily sliding the binders along and with the hooked ends 13, which embrace the flanges of the sections and form a reliable binder and absolutely prevent spreading of the flume. I strike from the body of the binder the lips 14, which extend down and engage the inner face of the flume and with the hooked ends 13 serve to securely retain the binder in place.

If desired I may place between the interlocking ends of the sections, a packing 15, which positively insures a water-tight joint. These binders may be located at any point along the flume, but it is thought that the most desirable location is at the joint of said sections and they are illustrated at that location.

The many advantages of my flume will be readily apparent to all persons skilled in the art and it is evident that the flume produces a perfect water conductor, that it can be made and assembled by any person in a rapid and proper manner, that it accommodates itself to weather conditions, and that it entirely dispenses with such fastenings as bolts and screws, which are liable to work loose and become detached.

Although I have shown and described my invention as applied to an irrigation system, it will of course be understood that the flume may be used for many other purposes, such as eaves, troughs, down-spouts, and in fact in any situation where a male and female slip joint is desired and a water-tight conductor is necessary.

I claim:—

1. A metal flume or conduit, composed of a series of interlocking sections, each of which has formed upon its edges horizontally extending double flanges, single lateral flanges formed upon one end of the sections, and a projecting portion formed on the sections, said elements forming the male member, open double flanges formed upon the other end of the sections, an end portion, a doubled portion and an extension, said elements forming the female member,

and a binding device adapted to slide along the flanges of the sections and prevent spreading of the flume or conduit.

2. A metal flume or conduit, composed of a series of interlocking sections, each of which has formed upon its edges horizontally extending double flanges, single lateral flanges formed upon one end of the sections, and a projecting portion formed on the sections, said elements forming the male member, open double flanges formed upon the other end of the sections, an end portion, a doubled portion, and an extension, said elements forming the female member, and a binding device comprising a body portion formed with a vertical flange and hooked ends and downwardly struck lips adapted to engage the inner face of the flume.

3. In a metal flume or conduit, the combination with the sections having the lateral flanges, of a binder to prevent spreading of the sections, consisting of a plate having hooked ends to engage the exterior of the flanges and downwardly extending lips to bear upon the inner face of the sections.

4. In a metal flume or conduit, the combination with sections having the lateral flanges, of a binder to prevent spreading of the sections, consisting of a plate having hooked ends to engage the exterior of the flanges, a vertical flange for manipulating the binder, and downwardly extending lips to bear upon the inner face of the sections.

5. A metal flume or conduit, composed of a series of interlocking sections, each of which has formed upon its edges horizontally extending double flanges, single lateral flanges formed upon one end of the sections, and a projecting portion formed on the sections, said elements forming the male member, open double flanges formed upon the other end of the sections, an end portion, a doubled portion, and an extension, said elements forming the female member.

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

HAROLD S. WILLIAMS

Witnesses:

P. H. FORBES.

HELEN V. WILLIAMS.