P. E. NEWCOMB.

METAL FLUME COUPLING.

APPLICATION FILED APR. 1, 1911.

996,938. Patented July 4, 1911.

2 SHEETS—SHEET 1.

Fig. 1

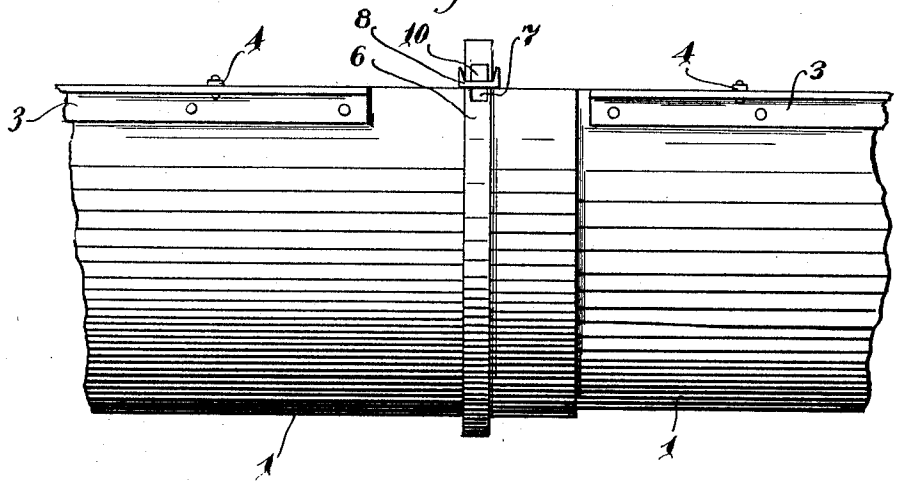


Fig. 4

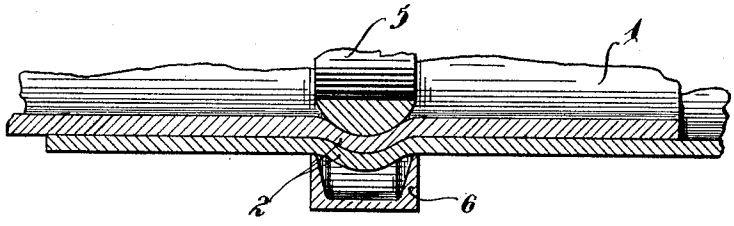
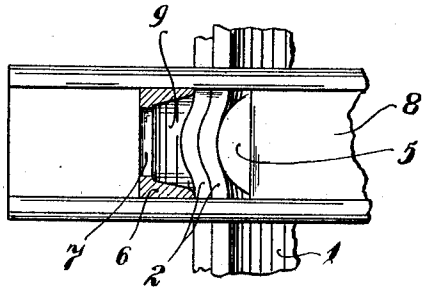


Fig. 5



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COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3

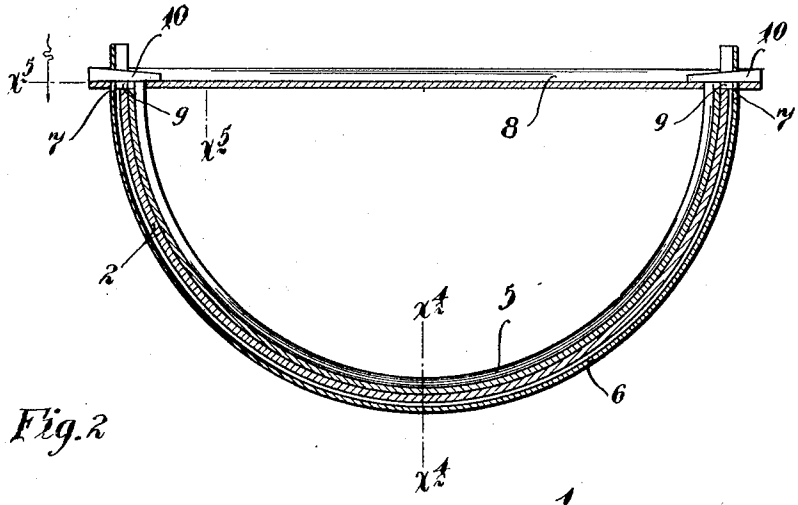
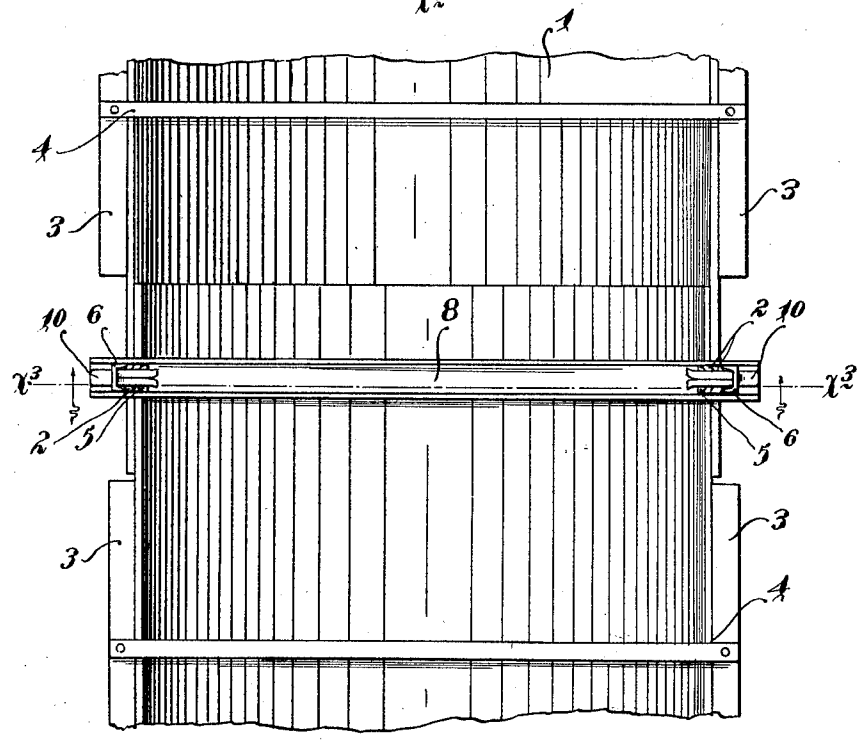


Fig. 2



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UNITED STATES PATENT OFFICE.

PERL E. NEWCOMB, OF HUTCHINSON, MINNESOTA.

METAL-FLUME COUPLING.

996,938. Specification of Letters Patent. **Patented July 4, 1911.**

Application filed April 1, 1911. Serial No. 618,364.

To all whom it may concern:

Be it known that I, PERL E. NEWCOMB, a citizen of the United States, residing at Hutchinson, in the county of McLeod and State of Minnesota, have invented certain new and useful Improvements in Metal-Flume Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to metallic sectional artificial flumes such as are used for irrigating purposes, and has for its especial object to provide an improved clamp for detachably connecting the sections of flumes.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view of the improved device in side elevation, with some parts broken away; Fig. 2 is a plan view of the parts shown in Fig. 1, on an enlarged scale; Fig. 3 is a transverse vertical section taken on the line x^3 x^3 of Fig. 2; Fig. 4 is a detail view, on an enlarged scale, in section, taken on the line x^4 x^4 of Fig. 3; and Fig. 5 is a detail view on an enlarged scale, with some parts sectioned, on the line x^5 x^5 of Fig. 3.

The numeral 1 indicates a pair of trough-like metallic flume sections having their inner ends overlapped in the direction of the flow of water therethrough. Each of these sections 1 is formed, near each of its ends, with a transversely extended and depressed bead 2, and the beads on the overlapped ends of the sections 1 are adapted to fit one within the other to form lock joints therebetween. These beads 2 not only keep the sections 1 properly positioned, but also aid in forming water-tight joints therebetween. The flume sections 1 are, as shown, preferably reinforced along their horizontal edges intermediate of their overlapped ends, by means of angle irons 3 riveted or otherwise secured to the outer surfaces of the flume sections 1. The angle irons 3, aside from reinforcing the flume sections 1, afford convenient means for securing the flume sections 1 to trestle-work, not shown, when it is necessary to provide the same for carrying the improved flume over streams, ditches, etc. Tie rods 4 are extended at suitable intervals transversely across the upper edges of the flume sections 1 and have their ends secured to the horizontal flanges of the angle irons 3, by rivets, or otherwise, for the purpose of stiffening the flume sections 1. At their overlapped ends, the flume sections 1 are detachably secured together, by means of my improved clamp, comprising inner and outer coöperating metallic yokes 5 and 6, respectively. These yokes are adapted to embrace the overlapped ends of the sections 1, at their beaded portions. The inner yoke 5 is preferably made half round in cross section and is seated within the inner bead 2 with its flat surface projecting only slightly above the inner surface of the flume 1, to which it is applied, as best shown in Fig. 4, and thereby only presents very little obstruction to the water flowing through the flume. The outer yoke 6 is preferably made channel-shaped in cross section with its side flanges embracing the outer bead 2 and engaging the flume section on each side thereof, as best shown in Fig. 4. Near each of its upwardly projecting ends, the outer yoke 6 is provided with an open elongated seat 7 and which seats extend both above and below the horizontal edges of the flume sections 1.

Mounted on the upper edge of the flume sections 1 is a bridge bar 8, also channel-shaped in cross section, and having formed in its horizontal web and near its ends open elongated seats 9 through which the ends of the outer yoke 6 project. The yoke 6 is seated in the outer extremities of the seats 9 and is thereby securely held against any outward spreading movement. A reversely acting and horizontally extended wedge 10 is mounted in the upper extremity of each seat 7 of the outer yoke 6 and rests upon the horizontal web of the bridge bar 8 and overlies the seats 9 formed therein. The upwardly projecting ends of the inner yoke 5 extend within the seats 9 of the bridge bar 8 and bear against the under surface of the wedges 10. By driving the wedges 10 toward each other within the seat 7, the same will exert a force tending to move the ends of the outer yoke 6 upward, and thereby placing the outer yoke under tension, and, at the same time, the wedges will exert a force tending to move the ends of the inner

yoke 5 downward, and thereby placing the inner yoke under compression. As is evident, this reverse action of the wedges 10 will tend to tightly draw the beaded portions of the overlapped ends of the flume sections 1 onto each other. The small ends of the wedges 10 are preferably split so that the same may be spread apart to prevent endwise removal of the same from the seats 9.

The above device while extremely simple and with few parts to get out of order is thought to be highly efficient for the purposes had in view. By employing wedges or placing the yokes under tension or compression, the parts cannot become rusted so that they will be difficult to operate. In shipping the improved flume, the sections may be nested and the whole device placed into very compact form.

What I claim is:

1. In an artificial flume, the combination with trough-like sections having their adjacent ends overlapped, of a clamp comprising coöperating inner and outer yokes arranged to embrace the overlapped ends of said sections, and wedges reversely acting on said yokes tending to move the ends of said inner yoke inward and tending to move the ends of said outer yoke outward, substantially as described.

2. In an artificial flume, the combination with trough-like sections having their adjacent ends overlapped, of a clamp comprising coöperating inner and outer yokes arranged to embrace the overlapped ends of said sections, a bridge bar connecting the ends of said outer yokes, and wedges reversely acting on said yokes tending to move the ends of said inner yoke inward and tending to move the ends of said outer yoke outward, substantially as described.

3. In an artificial flume, the combination with trough-like sections having their adjacent ends overlapped and provided with beads fitted one within the other, of a clamp comprising coöperating inner and outer yokes, one of which is channel-shaped in cross section with its side flanges arranged to embrace the bead of one of said sections, and the other of said yokes being seated in the bead of the other of said sections, and wedges reversely acting on said yokes tending to move the ends of said inner yoke inward and tending to move the ends of said outer yoke outward, substantially as described.

4. In an artificial flume, the combination with trough-like sections having their adjacent ends overlapped and provided with beads fitted one within the other, of a clamp comprising coöperating inner and outer yokes, one of which is channel-shaped in cross section with its side flanges arranged to embrace the bead of one of said sections, and the other of said yokes being seated in the bead of the other of said sections, a bridge bar connecting the outer ends of said outer yoke, and wedges reversely acting on said yokes tending to move the ends of said inner yoke inward and tending to move the ends of said outer yoke outward, substantially as described.

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

PERL E. NEWCOMB.

Witnesses:
ALICE V. SWANSON,
HARRY D. KILGORE.