

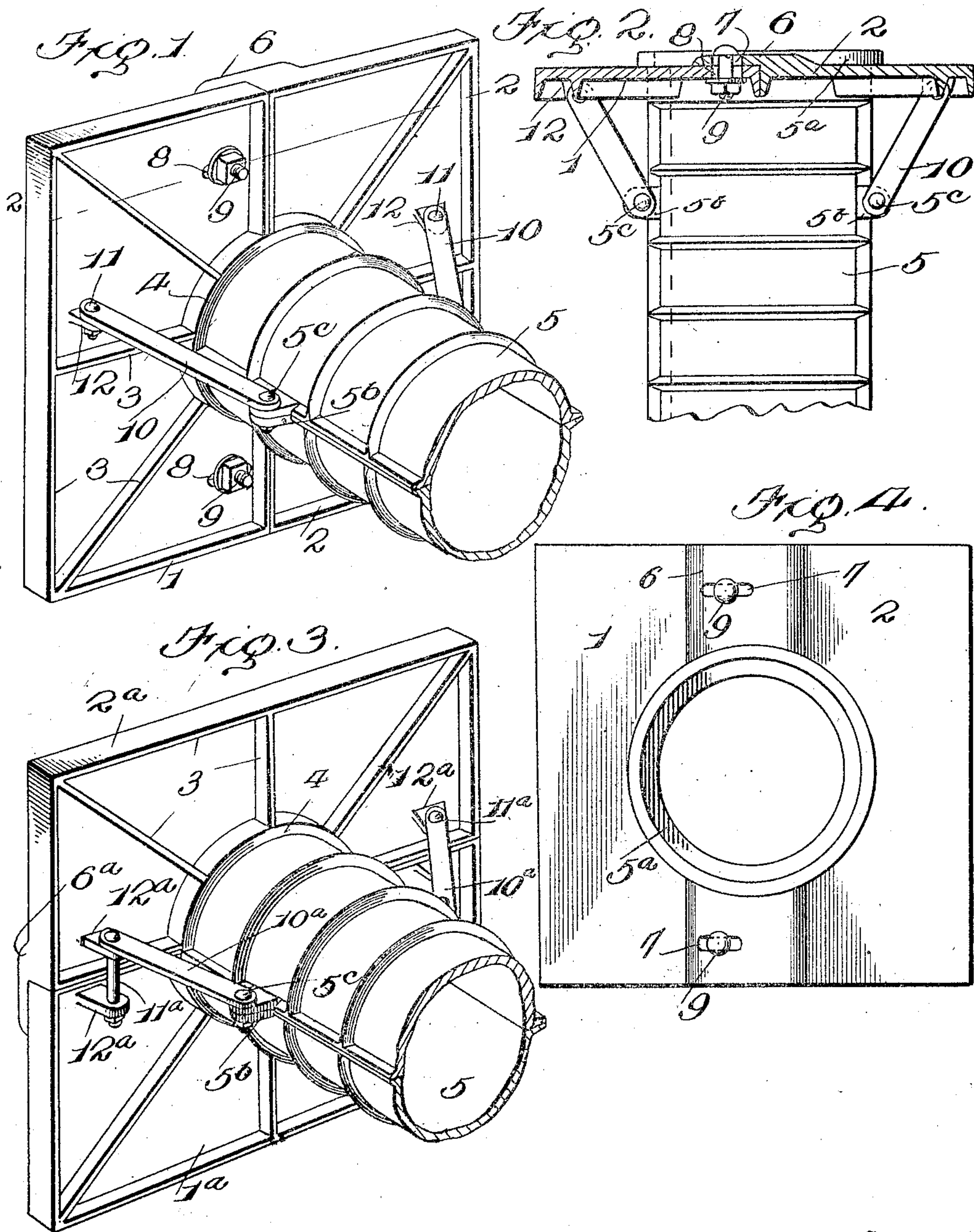
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CULVERT.

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915,266.

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Witnesses

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UNITED STATES PATENT OFFICE.

DAVID C. BOYD, OF GALION, OHIO,

CULVERT.

No. 915,266.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID C. BOYD, citizen of the United States, residing at Galion, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Culverts, of which the following is a specification.

This invention relates to improvements in culverts and particularly to the bulk-head designed to be secured to the end of the culvert to prevent the bank of earth being washed away.

My present invention has for its primary object, a simple, strong and efficient construction of bulkhead of this character which may be cheaply manufactured and readily secured in place with a minimum of labor, and the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is an inner perspective view of a bulkhead embodying one form of my invention; Fig. 2 is a horizontal sectional view thereof on the line 2—2 of Fig. 1. Fig. 3 is a perspective view illustrating another embodiment of the invention; and, Fig. 4 is an outside view of the bulk head attached to the end of a culvert.

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

My improved bulk-head comprises complementary sections 1 and 2 that are preferably cast although not necessarily so and that are formed with reinforcing ribs and marginal flanges 3, the said sections being of any desired marginal contour or shape. The sections 1 and 2 are formed at their abutting edges with semicircular recesses or openings 4 that are designed to encircle a culvert section 5 of any desired material, shape, or configuration, the sections being preferably mounted just back of a bead 5^a formed on one end of the culvert.

In that form of invention illustrated in Figs. 1, 2 and 4, the joints between the two sections 1 and 2 extend vertically as shown, and one section (for instance section 2) is formed at its inner edge with a longitudinally extending flange 6 designed to extend

laterally over the outer face of the adjoining section 1, the flange being coextensive with the adjoining edges of the sections so that no joint or crack will appear between the two sections, looking at the outer face thereof after the sections have been adjusted around the culvert. The flange 6 is formed with transversely elongated slots 7 designed to register with corresponding slots 8 formed in the section 1, bolts 9 or similar fastening means being inserted through the registering slots so as to hold the sections together after they have been properly adjusted around the culvert.

In order to securely hold the bulk-head to the culvert, I have provided braces 10, said braces carrying at their outer ends pins or stud bolts 11 which may be either secured thereto or separate therefrom. These stud bolts are designed to extend downwardly through apertured lugs 12 formed on the respective bulkhead sections 1 and 2, being secured in said lugs by nuts if desired. These braces 10 extend rearwardly and inwardly, their inner ends being secured to the apertured lugs 5^b that are primarily designed, in connection with the fastening bolts 5^c, to secure the top section of the culvert to the lower section thereof as clearly illustrated in Fig. 1. It will thus be seen that the same bolts 5^c may be used, not only for the purpose of securing the upper half to the lower section, but for the additional purpose of securing the inner ends of the braces in place.

In that form of the invention illustrated in Fig. 3, the sections 1^a and 2^a of the bulk-head are connected together with a horizontally extending joint, the section 2^a being formed with a flange 6^a overlapping the outer face of the section 1^a at the inner edge thereof and said sections are provided with lugs 12^a arranged in vertically aligned pairs as clearly illustrated in the drawing. 11^a designates the bolts that are secured to the braces 10^a at the outer ends of the latter said bolts extending through the lugs 12^a and serving the double function of connecting the braces to the sections, as well as connecting the sections together.

In that embodiment of the invention illustrated in Figs. 1, 2 and 3 the inner ends of the braces are secured to the culvert by the same bolts 5^c that secure the ears 5^b of the upper and lower culvert sections together, it being understood that in every

instance, the braces are formed at their inner ends with openings to receive said bolts. It will be noted that it is only necessary to adjust very few parts to secure the bulkhead in position, and that the securing means embodies very few and simple parts.

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

1. A bulkhead for culverts, constructed in mating sections one of which is formed with a flange designed to overlap the other section, the flange being coextensive with the adjoining edges of the sections and means for securing the sections to a culvert.

2. A bulkhead of the character described, comprising sections designed to incase a culvert, the section being formed with lugs, and braces secured to said lugs and to the culvert.

3. The combination with a culvert section constructed in upper and lower sections formed with abutting lugs, of a bulkhead, braces secured to said bulkhead, and bolts passing through said braces and through said lugs.

4. The combination with a culvert section of a bulkhead encompassing the same, said bulkhead being formed with apertured lugs, braces, bolts securing said braces at one end to said lugs, and other bolts securing the other ends of said braces to the culvert sections.

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

DAVID C. BOYD. [L. s.]

Witnesses:

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