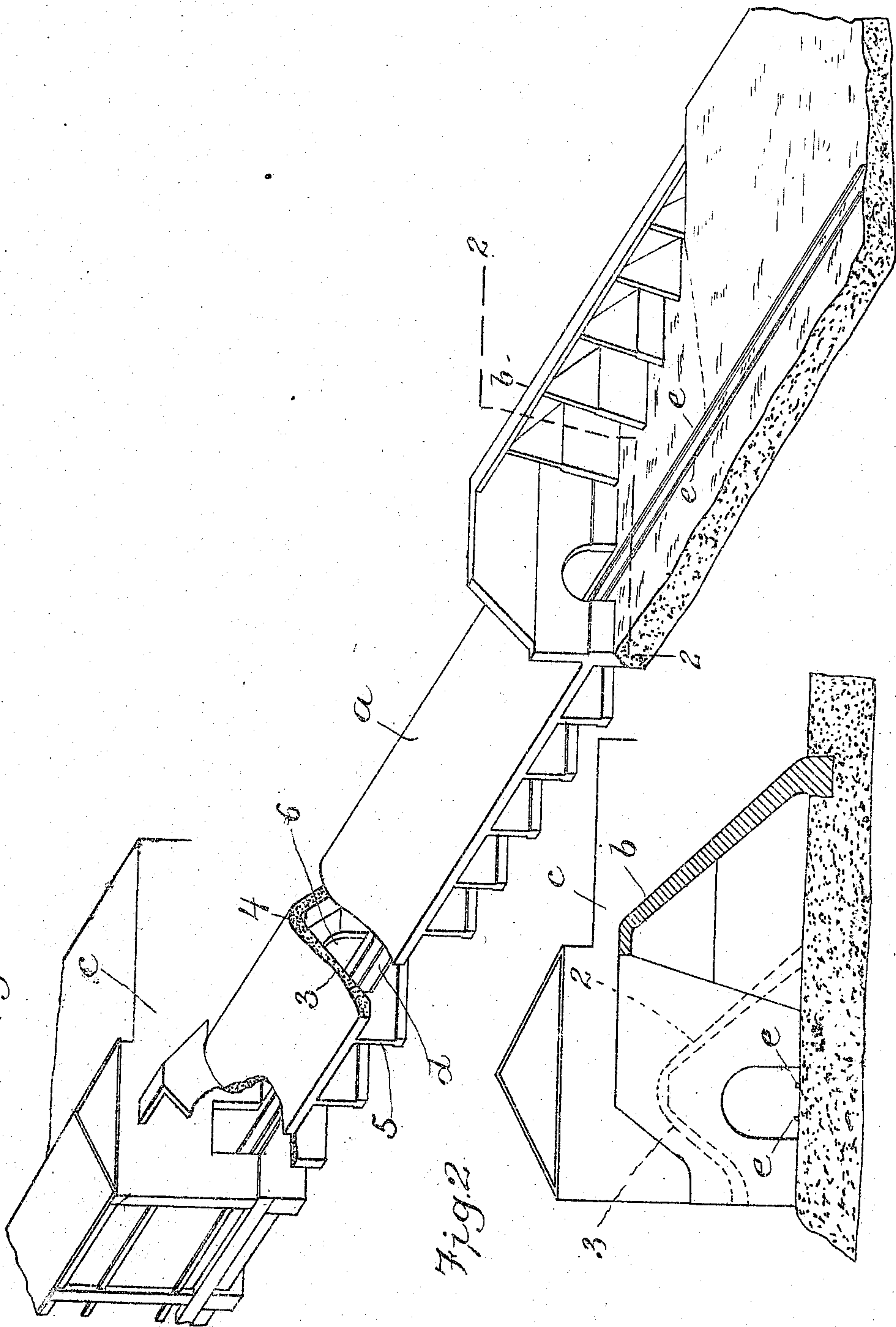


Fig. 1.

Fig. 2

Patented Oct. 6, 1908.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

HOWARD L. COBURN, OF BOSTON, MASSACHUSETTS.

## BRIDGE-DAM.

No. 900,354.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed May 1, 1908. Serial No. 430,273.

*To all whom it may concern:*

Be it known that I, HOWARD L. COBURN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bridge-Dams, of which the following is a specification.

This invention relates to a dam of such construction as to provide a passageway across the river or stream under the water which flows over the dam, so that the body of the dam over which the overfall passes, constitutes a bridge or passageway under the overfall.

The invention has for its object to provide a dam of this character, the end portions or bulkheads of which are so located relatively to the intermediate portion or body of the dam as to provide approaches to, and exits from, the passageway substantially in line with said way so that a railway track may be extended through the body of the dam and through areas protected by the end portions or bulkheads, the entire portion of the track, included in the body of the dam and the said areas, being straight or free from abrupt curves.

The invention consists in a dam comprising a body portion over which the overflow from the impounded water passes, said body portion forming a passageway under the overfall, and bulkheads or confining structures at the ends of the body portion, said confining end structures being offset upstream from the body portion, so that areas are formed at the downstream sides of the end structures in alinement with the passage through the body of the dam, thus permitting a substantially straight railway track or other roadway to extend through said body portion and the said areas all as hereinafter more fully described.

Of the accompanying drawing forming a part of this specification, Figure 1 represents a perspective view of a dam embodying my invention, portions of the body portion being broken away to show the interior. Fig. 2 is a section on line 2—2 of Fig. 1.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the body por-

tion and *b c* the end portions of a dam embodying my invention. The end portions *b c* are or may be the usual bulkheads which are higher than the body of water impounded by the dam, and constitute the limits of the sheet of water which flows over the body portion *a*, the latter being constructed to guide the overfall between the end portions *b c*.

The body portion *a* is formed to cover and protect a way or roadbed *d* which may be of any suitable character, and is here shown as supporting the rails *e e* of a railroad track which may be of standard gage. The body portion *a* as here shown, comprises a deck 2 at the upstream side of the dam, and an apron 3 at the downstream side, said parts being connected by a crest 4, the whole construction being preferably of reinforced concrete, and including buttresses 5 in which openings 6 are formed above the roadbed *d*.

The end portion *b* is here shown as a bulkhead, which is built higher than the crest 4, and forms a suitable water confining connection between one end of the dam body *a* and the corresponding bank of the stream or river. The end portion *c* is here shown as a part of a power house built at the opposite bank of the stream and constructed to serve the same function as the bulkhead *b*. If desired, the end portion *c*, instead of being a part of a power house, may be a bulkhead of the same construction as the part *b*.

In carrying out my invention, I offset the end portions or structures *b c* toward the upstream side of the dam, thereby providing open areas at opposite ends of the body portion *a*, and in alinement therewith, so that a railway track or other way, extending through the body portion *a*, may be extended in a substantially straight line to any desired extent from the opposite ends of the body portion. Provision is thus made for utilizing a hollow or shell dam as the cover of a railway bridge or other highway, the approaches to, and exits from, the passageway through the body portion being unobstructed.

I do not limit myself to the construction of the dam body and the end structures here shown and described, as any other suitable

construction may be adopted whereby the object of my invention is attained.

I claim:—

5 A dam comprising a body portion over which the overflow from the impounded water passes, said body portion forming a passageway under the overfall, and water-confining structures at the ends of the body portion, said structures being offset upstream

from the body portion, whereby approaches and exits are provided substantially in line with said passageway.

In testimony whereof I have fixed my signature, in presence of two witnesses.

HOWARD L. COBURN.

Witnesses:

S. E. ROCKWELL,  
HORACE S. BASSET.