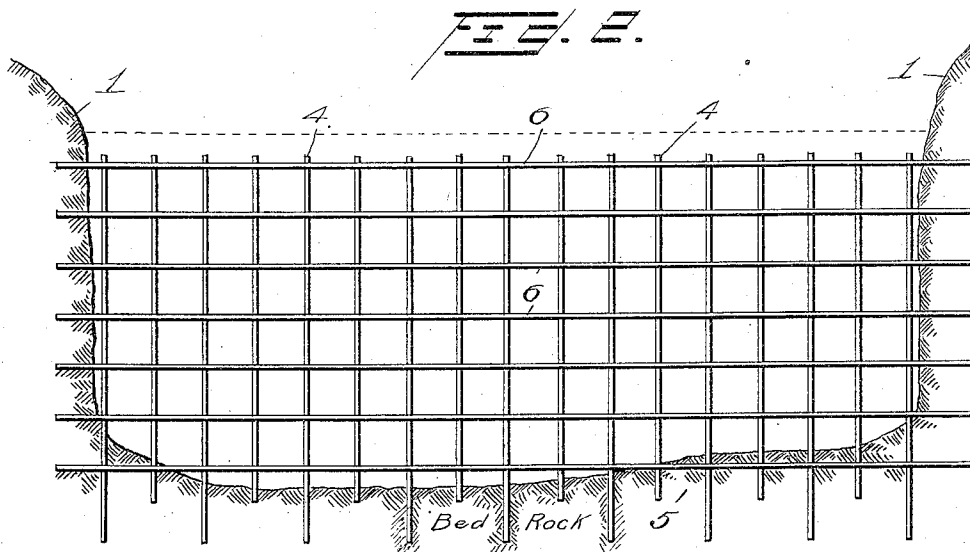
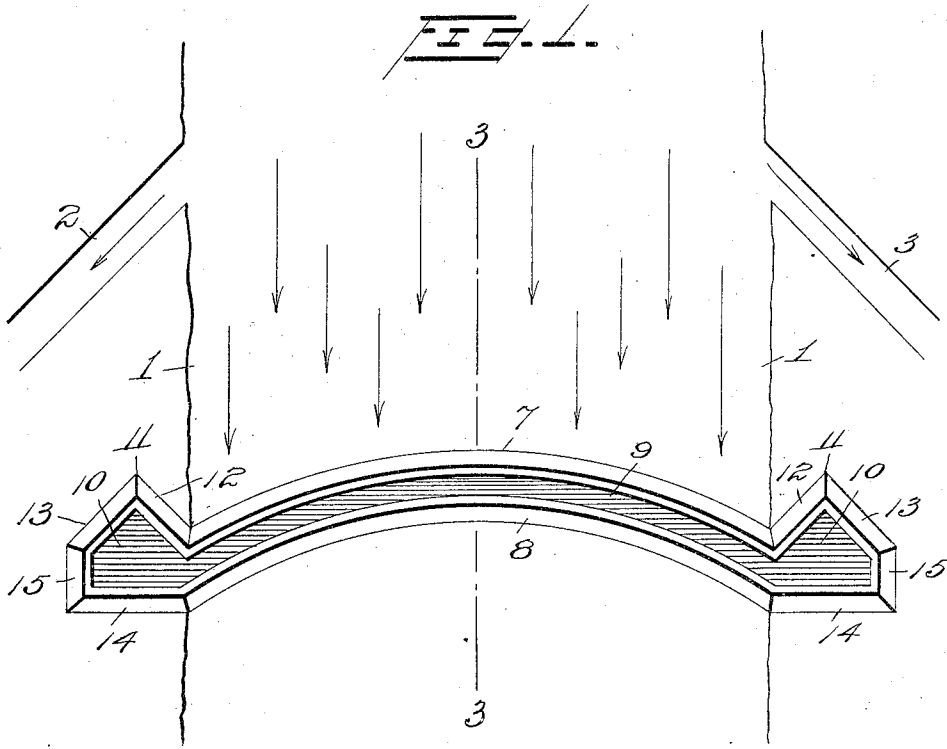


F. L. VARS.
DAM.
APPLICATION FILED JUNE 5, 1912.

1,047,342.

Patented Dec. 17, 1912.



WITNESSES

E. C. Duffy
A. C. Keap

INVENTOR;

F. L. Vars,
by E. C. Runyon,
his Attorney.

UNITED STATES PATENT OFFICE.

FOREST L. VARS, OF NILE, NEW YORK.

DAM.

1,047,342.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed June 5, 1912. Serial No. 701,841.

To all whom it may concern:

Be it known that I, FOREST L. VARS, a citizen of the United States of America, residing at Nile, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Dams, of which the following is a specification.

This invention relates to dams for rivers, streams or waterways and one of the principal objects of the invention is to provide reliable and efficient means for anchoring the dam in the bed of the stream and also at the sides or banks.

Another object of the invention is to provide a concrete dam reinforced by vertical posts secured in the bed rock of the stream and a series of rods or reinforcing devices extending across the stream and embedded into the banks, the entire reinforcements being embedded in the concrete structure of the dam.

Another object of the invention is to provide a dam having a convex upstream bearing face and a concave downstream surface, the two ends of the dam being anchored in the bank and the anchors being formed of dovetail or keystone form, so that the strain upon the dam will be distributed in all directions.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of a dam made in accordance with my invention; Fig. 2 is a view in elevation showing the reinforcing means adapted to be embedded within the concrete dam.

Referring to the drawings, the numerals 1 designate the banks of the stream; 2 is an outlet for irrigation; and 3 is an outlet for water power for manufacturing purposes.

As shown in Fig. 2, the metal posts 4 are set into drill holes 5 of the stream.

As shown, there are two rows of these metal posts extending through the concrete dam at opposite sides of the vertical center thereof and extending from top to bottom of the dam and secured in the bed rock at their lower ends. A series of transverse rods or reinforcing elements 6 extend across from one bank to the other and are embedded in the concrete dam.

The concrete dam is provided with a con-

vex abutment 7 and a concave downstream surface 8. At the top a channel or spillway 9 is provided which extends across the dam. Formed integral with the dam proper are the two anchors 10 firmly embedded in the banks of the stream. The anchors 10 are each provided with a ridge or point 11 extending upstream and upon the inner side of the point 11 is an inclined surface 12, while upon the outside of the point 11 is an extended face 13 extending at an angle to the course of the stream. At the downstream side of the anchor the back pressure face 14 extends some distance from the edge of the bank to form a strong anchor for the dam, while the connecting outer ends or faces 15 extend from the surface 13 to the back pressure face 14, as shown more clearly in Fig. 1.

It is to be understood that the reinforcing devices 4 and 6 are embedded within the concrete dam, as will be understood upon reference to Fig. 2.

A dam made in accordance with my invention is particularly strong and durable, owing to the form of reinforcements and the particular form of the anchors at the ends thereof. While the construction is firm and will not give way under heavy stress, the cost of installment is comparatively slight.

I claim:

1. A dam comprising a reinforced concrete structure having a convex upstream bearing face, anchoring devices at the ends integral with the dam, said anchoring devices comprising a ridge or point extending upstream and inclined surfaces at opposite sides of said ridge and a back pressure face extending entirely across the anchor.

2. A dam comprising a reinforced concrete structure having a convex upstream surface, a concave downstream surface, and integral anchoring devices embedded in the banks of the stream, and provided with irregular surfaces on the upstream side and a back pressure face on the downstream side.

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

FOREST L. VARS.

Witnesses:

W. C. KINGSBURY,

E. A. KING.