W. J. GRIFFITH.

LOG DAM.

APPLICATION FILED JAN. 5, 1911.

990,978. Patented May 2, 1911.

2 SHEETS—SHEET 1.

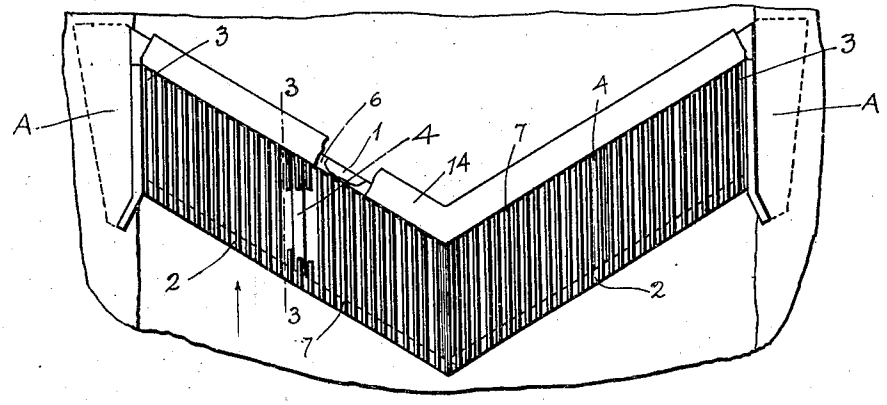

Fig. 1

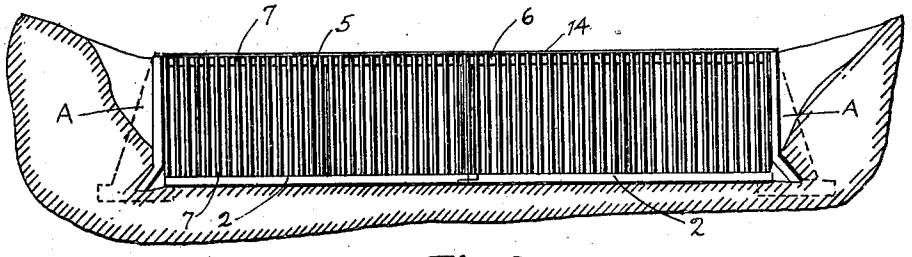

Fig. 2

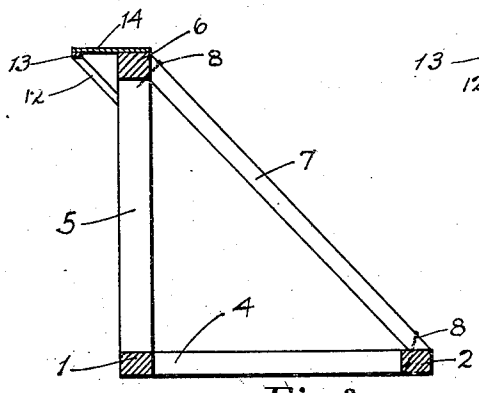

Fig. 3

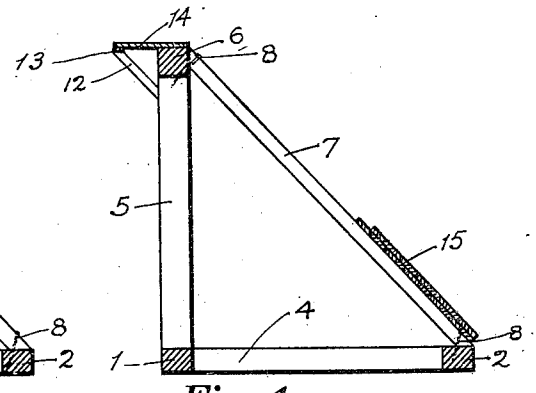

Fig. 4

WITNESSES

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2 SHEETS—SHEET 2.

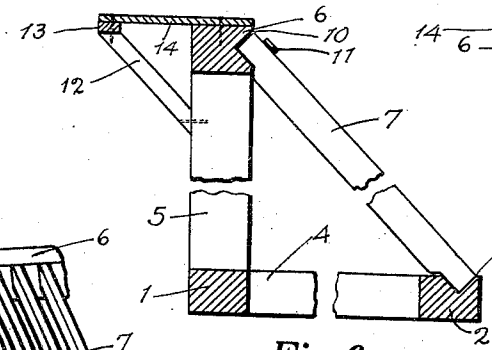

Fig. 6

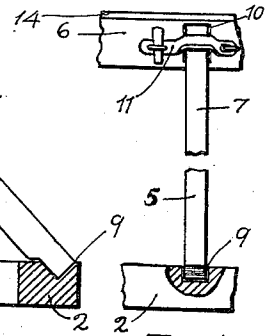

Fig. 7

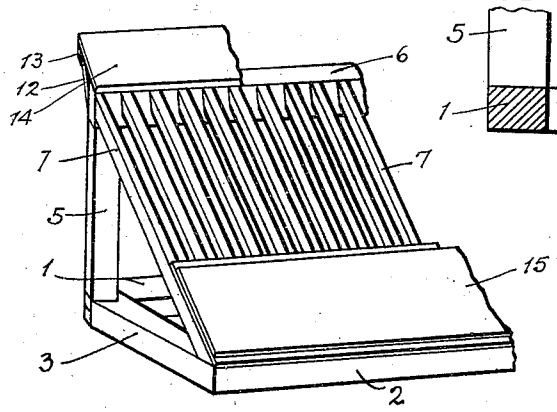

Fig. 5

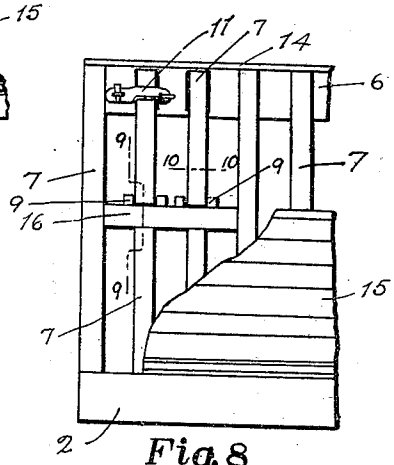

Fig. 8

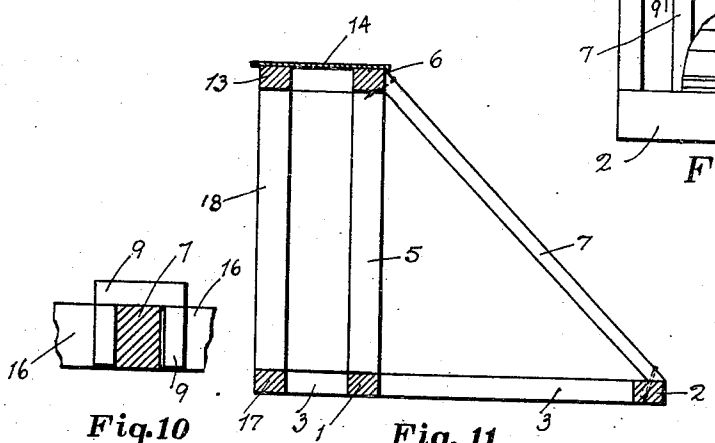

Fig. 10

Fig. 11

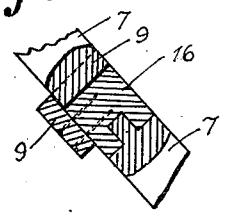

Fig. 9

WITNESSES

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WILLIAM J. GRIFFITH, OF OLIVER SPRINGS, TENNESSEE.

LOG-DAM.

990,978. Specification of Letters Patent. Patented May 2, 1911.

Application filed January 5, 1911. Serial No. 600,970.

To all whom it may concern:

Be it known that I, WILLIAM J. GRIFFITH, a citizen of the United States, residing at Oliver Springs, in the county of Roane and State of Tennessee, have invented a new and useful Improvement in Log-Dams, of which the following is a specification, reference being had to the accompanying drawing.

My improvement relates particularly to structures designed to stop and hold logs floating down a stream.

The object of the invention is to provide a structure which may be used for stopping and temporarily retaining all logs floating down the stream and permitting the subsequent sorting and passing of such logs as are not to be retained.

A further object of the invention is to provide in the same structure for the damming of the water of the stream to form a suitable body or basin of still or slack water for receiving an accumulation of logs.

In the accompanying drawings, Figure 1 is a plan of a structure embodying my improvement; Fig. 2 is an elevation of the up-stream side of the same structure; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is a similar section showing a structure adapted for holding water to a chosen height; Fig. 5 is a detail, oblique, up-stream view of the structure shown by Fig. 4; Fig. 6 is a detail sectional view of an alternate form of construction; Fig. 7 is a front view of the portion of the structure shown in Fig. 6; Fig. 8 is a front detail view of another alternate form of construction; Fig. 9 is a section on the line 9—9 of Fig. 8; Fig. 10 is a section on the line 10—10 of Fig. 8; Fig. 11 is a transverse section similar to Fig. 3 showing a modification of the structure shown by Fig. 3.

Referring to said drawings, A, A are abutments, one being located at each side or bank of the stream. Said abutments may be composed of concrete or masonry or natural rock. The dam extends from one of said abutments to the other.

Between its ends, the dam is preferably extended up-stream, in order to cause it to present faces extending obliquely from the middle of the dam down-stream and outward toward the abutments. For convenience in description, the up-stream side of the dam is herein regarded as the front of the dam, while the down-stream side is regarded as the rear of the dam.

Referring first to Figs. 1 to 7, inclusive, 1, 1 are rear sills resting on the bottom of the stream and extending from each abutment to a point any desired distance up-stream from the middle of a direct line between the abutments. Forward of and parallel to the sills, 1, are similar sills, 2, 2, also extending from said abutments and in the same manner meeting opposite the middle point of a direct line leading from one of said abutments to the other. At each abutment, the sills, 1 and 2, are connected by transverse end or binder sills, 3. And along the structure from one of said sills, 3, to the other any number of transverse binders, 4, may be used for connecting the sills, 1, to the sills, 2. The space between and at the sides of said sills may be filled with gravel, stone, or concrete for the purpose of giving the structure greater stability. At any desired number of points posts or columns, 5, rise from the sills, 1. Upon said columns rest horizontal plates or beams, 6. The columns, 5, are high enough to extend above high water line, in order that there may be no overflow at the structure. From the sills, 2, ribs, 7, extend obliquely upward and rearward to the adjacent plate, 6, said ribs being near enough to each other to prevent the passing of logs. A portion of said ribs are preferably made removable in order that openings may be made large enough for the passing of logs and any large driftwood which it is desired to pass down-stream beyond the dam. The ends of the non-removable ribs, 7, may be secured to the sill, 2, and the plate, 6, in any suitable manner, as by means of large spikes, 8. The ribs which are made removable (Figs. 6 and 7) have their lower ends extended into notch-form sockets, 9, in the upper faces of the sills, 2, while their upper ends rest in similar sockets, 10, formed in the forward portions of the plates or beams, 6, and straps or hasps, 11, extend over or in front of the ribs near the upper ends of the latter and have their ends secured to the beams, 6, the portion of the beam, 6, opposite the end of the rib, 7, taking end-thrust from said rib when the latter is frictionally engaged by a log moving down stream. After removing or opening the hasp, 11, the upper end of the

rib, 7, may be moved obliquely upward and up-stream until it clears the beam, 6. Then said rib may be drawn endwise out of the socket, 9. These removable ribs are preferably located at or near each end of the dam. From the rear of each post or column, 5, a brace, 12, rises and supports at its upper end a plate, 13, the upper face of which is approximately level with the upper face of the plate, 6. Boards, 14, constituting a foot-way are supported by the plates, 6 and 13 (Figs. 1 and 3). Above the removable ribs, 7, the forward ends of said boards extend only to the forward face of the plate, 6, in order that the path of the rib to be traversed for the removal of the latter shall be unobstructed. Said foot-way is to be used by persons to attend to the passing of logs and drift material through the dam and to attend to the sorting and removal of the accumulated logs which are not to be passed through the dam.

In the form of the structure above described, no provision is made for restraining and deepening the water above the dam to form a reservoir in which logs may float. In Figs. 4, 5, and 8, planking, 15, is secured horizontally across the lower portions of the ribs, 7, from the sills, 2, upward to the height chosen for the artificial water level to be formed above the dam. Where the openings are to be made for the passing of logs and drift, horizontal heads or plates, 16, extend behind the upper edge of the planking, 15, and have their ends secured to the adjacent permanent ribs, 7. Between the heads, 16, and the sills, 2, are short permanent ribs, 7, (Figs. 8, 9, and 10). The removable ribs, 7, extend only from the plates, 6, to the heads, 16, the latter having sockets formed in any suitable manner, as by means of blocks or cleats, 9, secured to the head, 16, at each side of and behind the lower ends of the removable ribs. The upper ends of these ribs are secured as described of the preceding form and are removed in the same manner.

In Fig. 11, the structure is the same as illustrated by Fig. 3, excepting that sills, 17, extend parallel to the sills, 1, at the rear of the latter and below the plate or beam, 13, and the end sills, 3, and the binders, 4, are extended rearward and joined to said sills, 17. From said sills, 17, posts, 18, rise and support the plates, 13, said posts performing the function of the braces, 12, shown in Fig. 3.

It will be observed that the structure has openings large enough for the free passage of water but too small for the passage of logs. And as above stated, the structure is to extend above the high-water line, so that water will never flow over the structure and logs will be intercepted by the structure at any stage of water, and the logs bearing against the dam will rest upon the surface of the water leaving free open passage for the water beneath the logs.

By directing the structure up-stream from each abutment to the middle of the stream in the manner and to the extent indicated in Fig. 1, the structure is made to present two oblique or slanting (with reference to a line transverse to the length of the stream) deflecting faces each directed toward one of the banks of the stream, which slanting faces tend to deflect floating logs toward and against the banks, so that the latter will in part take the pressure exerted by the masses of accumulated logs. And said oblique faces facilitate the bringing of logs and drift to the trap openings to be formed by the removal of the removable ribs, 7, which, as above stated, are preferably located at the ends of the structure.

The structure is of such nature as to allow making it of ample strength to resist the large strains exerted by numerous logs carried individually or in masses by a powerful stream of water. This adapts the structure to be placed and successfully and satisfactorily used where the placing of an ordinary boom would be out of the question. And the placing of a water-retaining element (the planking, 15) along the base of the structure adapts the structure to be placed where there is normally not sufficient water to float logs. This is important because it is often desirable to put a landing place where the water is ordinarily so shallow and during tides so swift as to make the use of a boom impracticable.

I claim as my invention:

1. A structure of the nature described, said structure rising above ordinary high water and having openings large enough for the passage of water but too small for the passage of logs and having a removable portion to make a trap opening for the passage of logs, substantially as described.

2. A structure of the nature described, said structure having oblique faces extending up-stream and directed toward the banks and rising above ordinary high water and having openings large enough for the passage of water but too small for the passage of logs and having a removable portion to make a trap opening for the passage of logs, substantially as described.

3. A structure of the nature described, said structure rising above ordinary high water and having openings large enough for the passage of water but too small for the passage of logs and having a removable portion to make a trap opening for the passage of logs and having a water-retaining element along the base, substantially as described.

4. A structure of the nature described, said structure having oblique faces extend-

ing up-stream and directed toward the banks and rising above ordinary high water and having openings large enough for the passage of water but too small for the passage of logs and having a removable portion to make a trap opening for the passage of logs and having a water-retaining element along the base, substantially as described.

5. A structure of the nature described, said structure rising above ordinary high water and having a foot-way along the top and having openings large enough for the passage of water but too small for the passage of logs and having a removable portion to make a trap opening for the passage of logs, substantially as described.

6. A structure of the nature described, said structure rising above ordinary high water and having inclined ribs with spaces between them too small for the passage of logs, a portion of said ribs being removable, and means combined therewith for temporarily securing said portion, substantially as described.

7. A structure of the nature described, said structure rising above ordinary high water and having inclined ribs with spaces between them too small for the passage of logs, a portion of said ribs being removable, and hasp mechanism combined therewith for temporarily securing said portion, substantially as described.

8. A structure of the nature described, said structure rising above ordinary high water and having forward sills and plates, and ribs extending from said sills to said plates, a portion of said ribs having the ends resting removably in notches in one of said sills and plates, substantially as described.

9. A structure of the nature described, said structure rising above ordinary high water and having forward sills and plates, ribs extending from said sills to said plates, a portion of said ribs having the ends resting removably in notches in one of said sills and plates, and means for temporarily securing such portion of said ribs, substantially as described.

10. A structure of the nature described, said structure rising above ordinary high water and having along its base a water-retaining element and having inclined ribs above said element, a portion of said ribs being removable, substantially as described.

11. A structure of the nature described, said structure rising above ordinary high water and having along its base a water-retaining element and having inclined ribs above said element and having recesses for removably receiving a portion of said ribs, substantially as described.

12. A structure of the nature described, said structure rising above ordinary high water and having along its base a water-retaining element and having inclined ribs above said element and having recesses for removably receiving a portion of said ribs, and means for temporarily securing the removable portion of said ribs, substantially as described.

In testimony whereof I have signed my name, in presence of two witnesses, this 13th day of December, in the year one thousand nine hundred and ten.

WILLIAM J. GRIFFITH.

Witnesses:

C. A. MORSE,

CYRUS KEHR.