N. G. SCOTT.

DRIFT FENDER AND DYKE.

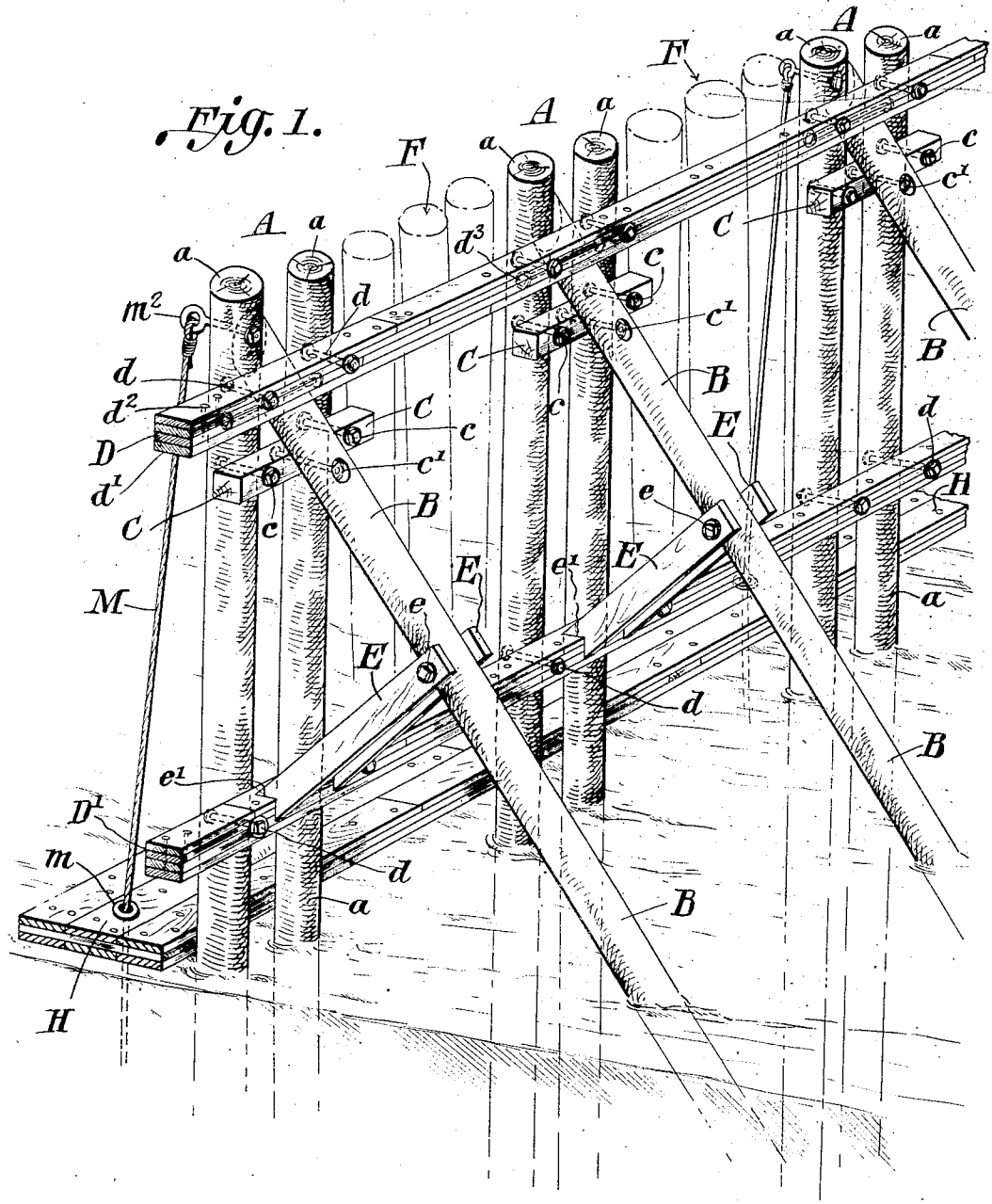
APPLICATION FILED SEPT. 30, 1920.

1,371,119.

Patented Mar. 8, 1921.

3 SHEETS—SHEET 1.

Fig. 1.




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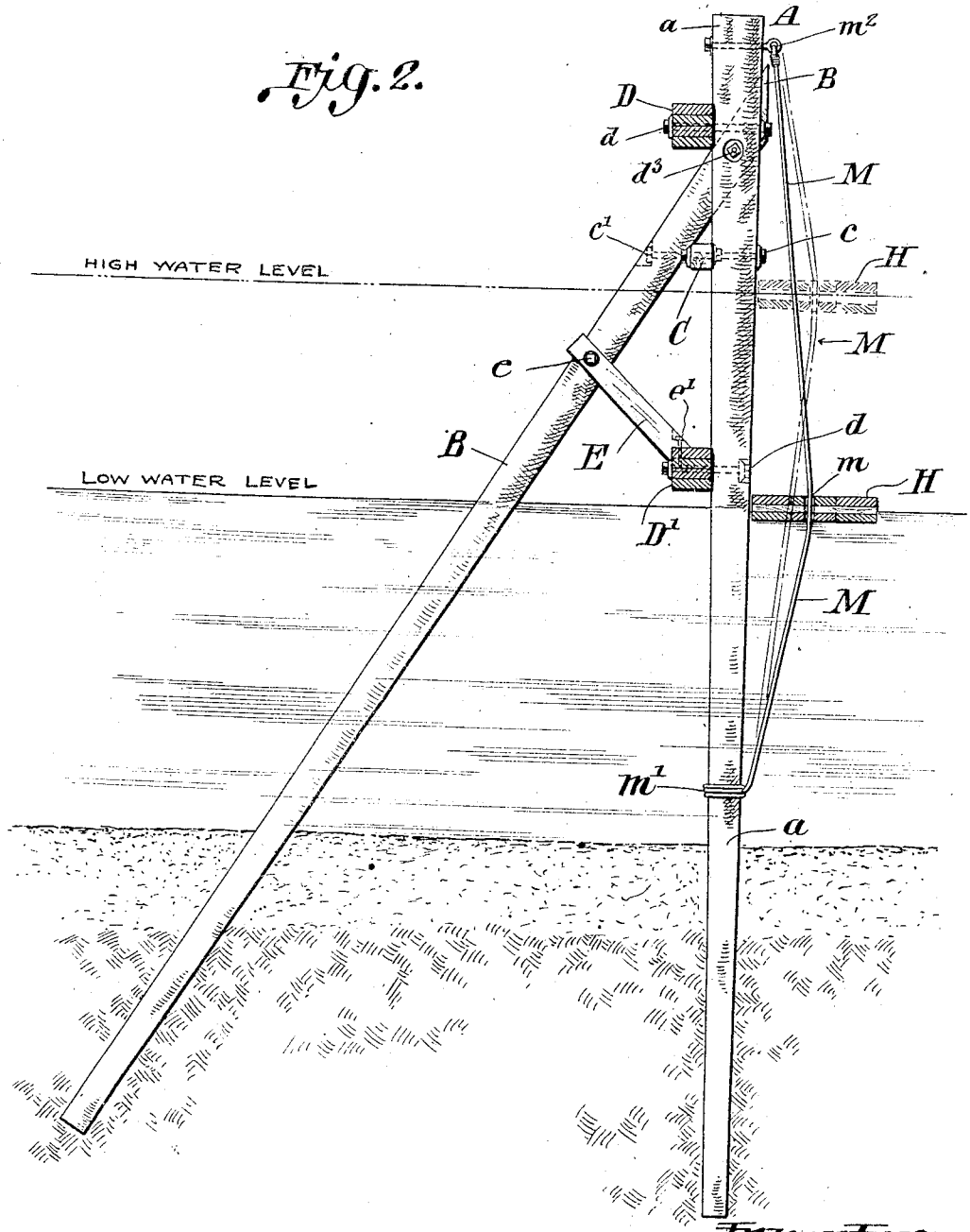
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3 SHEETS—SHEET 2.

Fig. 2.




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3 SHEETS—SHEET 3.

Fig. 3.

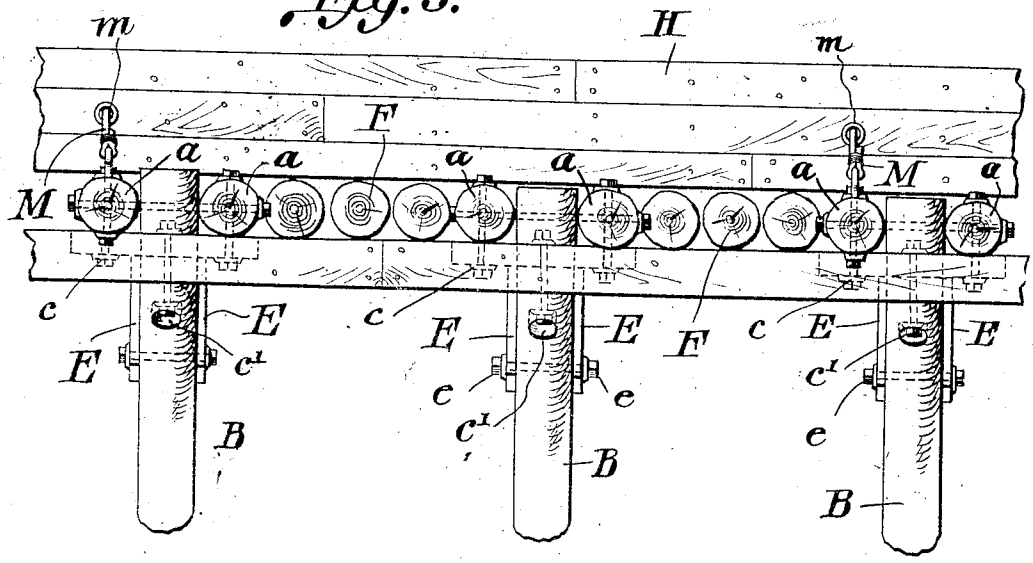
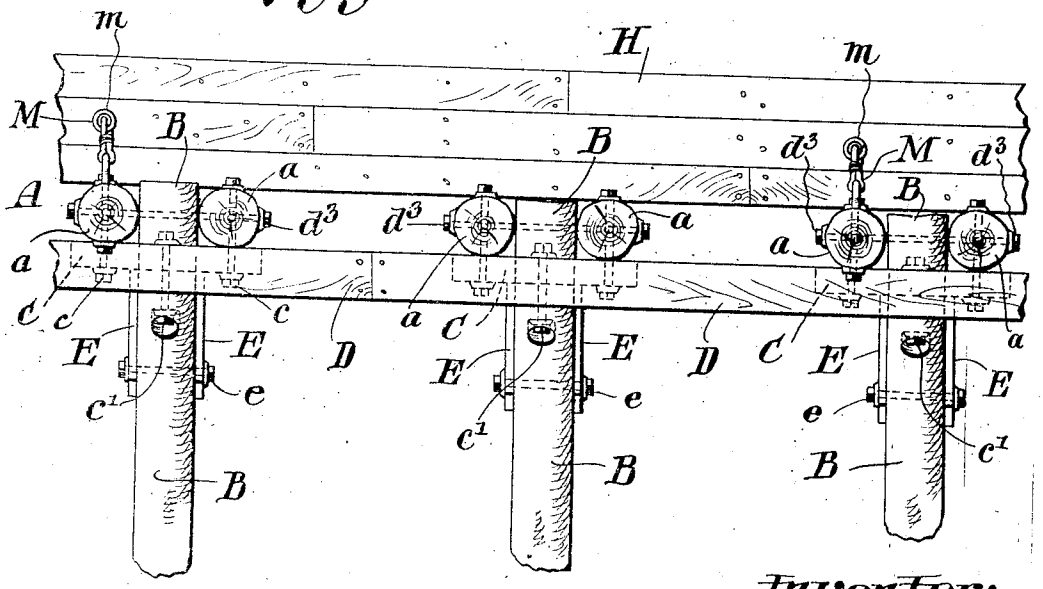



Fig. 4.




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# UNITED STATES PATENT OFFICE.

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## DRIFT-FENDER AND DYKE.

1,371,119. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed September 30, 1920. Serial No. 413,739.

*To all whom it may concern:*

Be it known that I, NATHANIEL G. SCOTT, a citizen of the United States, residing in New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Drift-Fenders and Dykes, of which the following is a specification.

This invention relates particularly to fenders of the kind employed in rivers, channels or other water-ways to arrest drift wood and other such substances and prevent their deposit upon the banks of the water-way and also to dykes employed to prevent the wearing away of river banks and the banks of other water-ways.

In carrying out my invention I drive a number of groups of piles vertically into the water-bed, and I connect these groups of piles by horizontally arranged wales. The piles of each group are connected and bound together by throat-pieces and batter piles are employed to brace and strengthen the vertical piles. The upper ends of the batter piles extend over and rest upon the throat-pieces and extend under the upper wale and are securely bolted to the throat-pieces and to the vertical piles. Short, inclined braces are bolted to the batter piles and to the lower wale to brace the batter piles and further strengthen the structure. When used as a dyke vertical piles are driven between the groups of piles which are not braced by batter piles but which are arranged immediately in front of the top and bottom wales and are held in place thereby.

In order to hold down the drift on the water surface and prevent it from banking up against the structure, I employ a float which is held in place close to the structure by vertically arranged wires or cables which permit the float to rise and fall with the tide but prevent it from being carried away from the piles.

In the accompanying drawings:—

Figure 1 is a perspective view of a drift fender embodying my improvements.

Fig. 2 is a view in vertical section of the fender shown in Fig. 1.

Fig. 3 is a plan view of the parts shown in Fig. 1 with vertical piles driven between the groups of piles to provide a dyke.

Fig. 4 is a plan view of the parts shown in Fig. 1.

A sufficient number of groups A of vertical piles *a* are driven into the water-bed where needed. I have shown only three such groups in the drawings. The piles *a* of each group are spread a short distance apart in order to receive the batter piles B which are preferably driven at an angle of about 45°, their upper ends being disposed between the vertical piles. There is a batter pile for each two vertical piles *a* of a group. The two vertical piles of each group are secured together by horizontally arranged throat-pieces C, and the vertical piles of all the groups are connected by upper and lower wales D, D′. The upper wale D is arranged just below the upper ends of the piles *a* and the lower wale D′ is arranged above the low water-level. Both wales D, D′ are securely bolted to the vertical piles *a*, as indicated at *d*. The batter piles B are bolted to the throat-pieces C at *c′* and the throat-pieces are bolted to the vertical piles *a* at *c*. The upper ends of the batter piles are bolted to the upper portions of the vertical piles *a* at $d^3$, as indicated most clearly in Fig. 2. It will be observed that the wales are composed of boards *d′*, secured together as indicated at $d^2$, the boards being arranged horizontally, and thus affording greater strength and rigidity to the structure.

The upper ends of the batter piles rest on and are securely bolted to the throat-pieces C, as before described, and they are braced by inclined braces E bolted to them at *e* and bolted to the lower wale at *e′*. In this way a fender of great strength is afforded.

When my invention is embodied in a dyke to prevent the wearing away of the banks of a water-way by breaking the force of a current, the spaces between the groups A of vertical piles *a* are filled by vertical piles F which need not be braced or secured to the wales as the vertical groups of piles connected as above described are sufficiently strong.

In order to hold down the drifts on the surface of the water, I employ a float H, made of boards secured together in any suitable way and arranged on the front side of the structure. In order to hold the float close to the structure but permit it to rise and fall with the tide, I employ wires or cables M which extend through the float at *m*, and are attached to the vertical piles *a* at *m′* below water-level and they are attached to the upper ends of the vertical piles at $m^2$, as indicated in Fig. 2. These wires or

cables are flexible and somewhat slack and permit the float to rise and fall, as indicated by dotted lines in Fig. 2. This float serves to keep down the drift and prevent it from banking up against the structure which keeps the banks clear of drift and also, when containing the piles F, prevents the banks from being washed.

When my invention is embodied in a dyke having the vertical piles F driven between the groups of piles A the bank of the waterway is protected from erosion by a very strong structure which, however, is not of such close construction as to prevent sand, silt and other substances held in suspension from being deposited behind the dyke, which will not only prevent cutting away of the bank but will build out the land to the dyke.

I claim as my invention:—

1. A drift fender or dyke comprisng a series of groups of vertical piles, batter piles having their upper ends arranged between the piles of each group and secured thereto, throat-pieces connecting the upper portions of the vertical piles of each group and to which the upper portions of the batter piles are secured, upper and lower wales bolted to the vertical piles, and inclined braces bolted to the upper piles and secured to the lower wale.

2. A drift fender or dyke comprising a series of groups of vertical piles, throat-pieces connecting the piles of each group, upper and lower wales connecting the several groups of piles, batter piles having their upper portions resting on the throat-pieces extending below the upper wale and between the upper portions of the vertical piles, and braces extending from the batter piles to the lower wale.

3. A drift fender or dyke comprising groups of vertical piles braced by batter piles having open spaces intervening between them for the passage of water and connected by wales and throat-pieces, a float on the front side of the fender and flexible cables attached to the vertical piles at their upper and lower ends and extending through the float to hold the latter close to the structure and permit it to rise and fall with the tide.

In testimony whereof I have hereunto subscribed my name.

NATHANIEL G. SCOTT.