(No Model.)

G. J. COOK.

BULKHEAD.

No. 459,973. Patented Sept. 22, 1891.

Fig: 1.

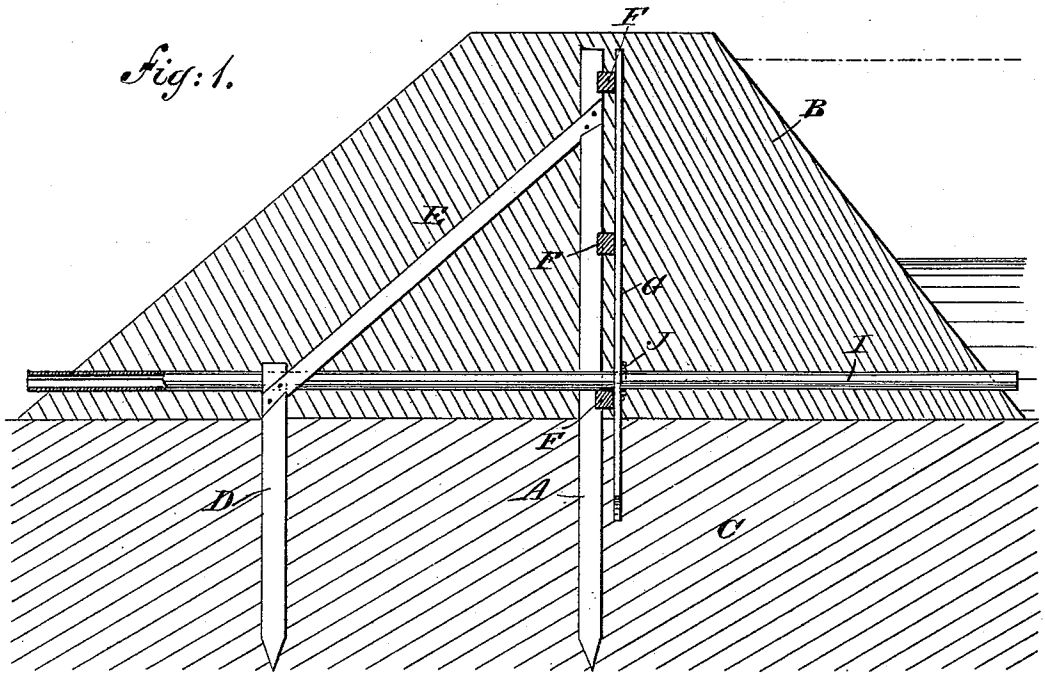


Fig: 2.

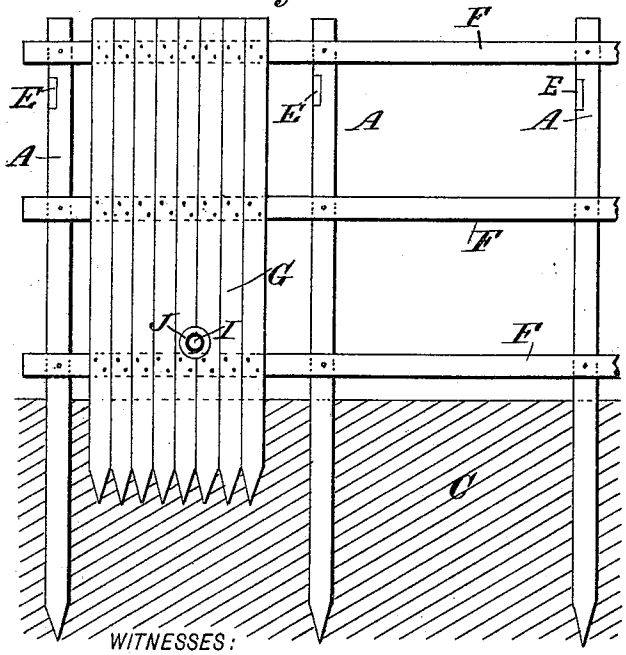
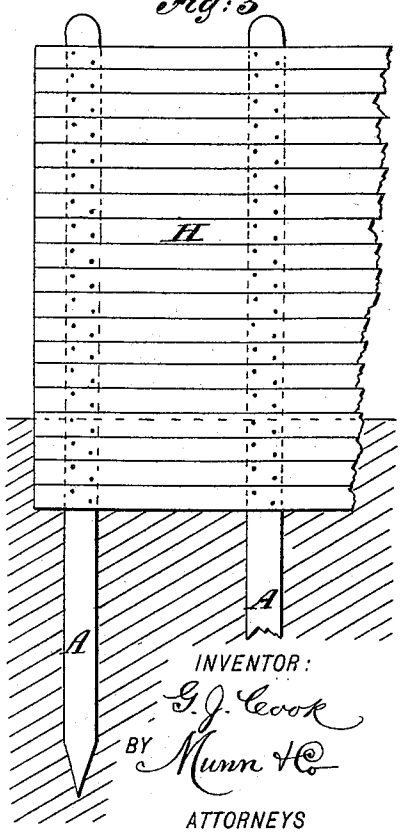


Fig: 3



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

G. J. Cook

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE J. COOK, OF NEW ORLEANS, LOUISIANA.

BULK-HEAD.

SPECIFICATION forming part of Letters Patent No. 459,973, dated September 22, 1891.

Application filed April 20, 1891. Serial No. 389,659. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. COOK, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Bulk-Head, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved bulk-head which is simple, strong, and durable in construction, and more especially designed for the protection of levees on rivers.

The invention consists in certain parts and details and combinations of the same, as will be described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-section of the improvement as applied. Fig. 2 is a front view of the same with the levee removed, and Fig. 3 is a like view of a modified form of the same.

The improved bulk-head is provided with a row of piles A, driven through the levee B, so that the upper ends of the said piles are covered on top, as is plainly illustrated in Fig. 1. The lower ends of the piles extend below the base of the levee into the natural soil C, thus insuring great resistance against the pressure of the water on the levee and the said piles.

In the rear and parallel with the row of piles A is erected a row of posts D, driven into the natural soil C and extending slightly at their upper ends above the top surface of the soil, the upper end of each post being connected by a brace E with a corresponding pile A, the said brace extending upward and inward from the post D, as illustrated in Fig. 1. Shoulders are formed on each brace to engage the posts and piles to establish a rigid connection.

The front of the row of piles A is covered by a covering or sheathing, which may be arranged as illustrated in Figs. 1 and 2, in which stringers F are secured on the row of piles A, above the base of the levee, the said stringers extending parallel to each other and being of any desired number. On the stringers are secured the planks G, arranged vertically and having their lower ends pointed and driven into the soil C. Instead of using this covering, a sheathing H may be employed, composed of planks secured horizontally directly to the row of posts, as indicated in Fig. 3. The lowermost planks of the sheathing H extend into the soil C a suitable distance below the base of the levee B. Through the levee and the bulk-head passes at suitable intervals a pipe I for drawing water from the river to farmlands adjacent to the levee. Each pipe is provided with a collar J, secured to the covering or sheathing, so that all leakage is prevented and the pipes cannot be accidentally withdrawn.

A bulk-head constructed in this manner is very strong and durable, and as it is supported from the natural soil it gives great resistance to the levee to withstand the pressure of the water in the river. The bulk-head is preferably arranged about one to two feet above high-water mark, with at least two feet of ground above the upper end, so that the wood of the bulk-head is preserved, and in case the ground on top of levee is washed away a crevasse cannot form.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a bulk-head, the combination, with a row of piles driven into a levee and partly into the natural soil, of a row of posts driven into the natural soil in the rear of the said row of piles and parallel with the same, braces extending upward from the said posts to the said piles, a covering or sheathing secured to the front of the said row of piles and extending into the natural soil a suitable distance below the base of the levee, and a pipe or pipes extending transversely through the levee and the said covering or sheathing, the said pipe or pipes being provided with a collar or flange fastened to the covering or sheathing, substantially as shown and described.

GEORGE J. COOK.

Witnesses:
M. B. CARLISLE,
W. F. SMITH.