

(No Model.)

J. A. WAKEFIELD.

SHEET PILING.

No. 370,108.

Patented Sept. 20, 1887.

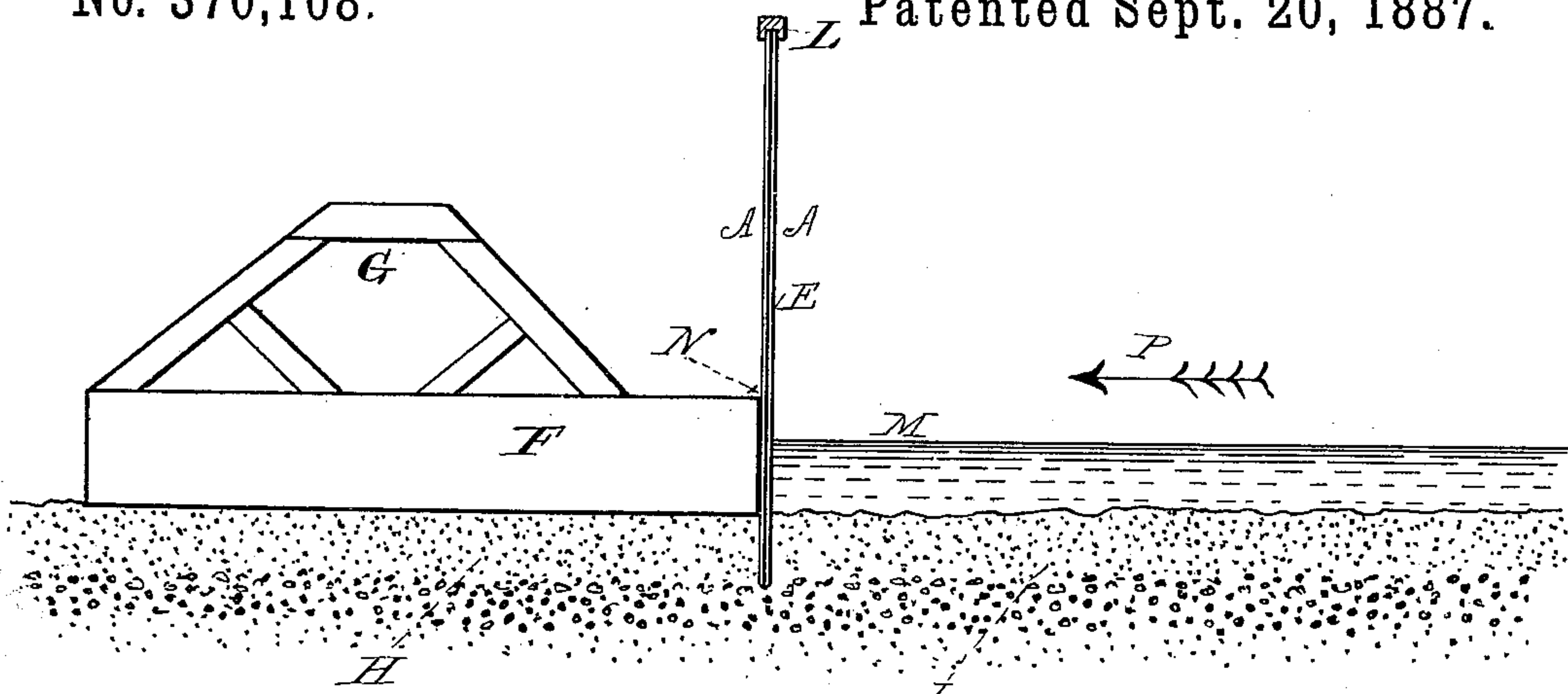


FIG. 1.

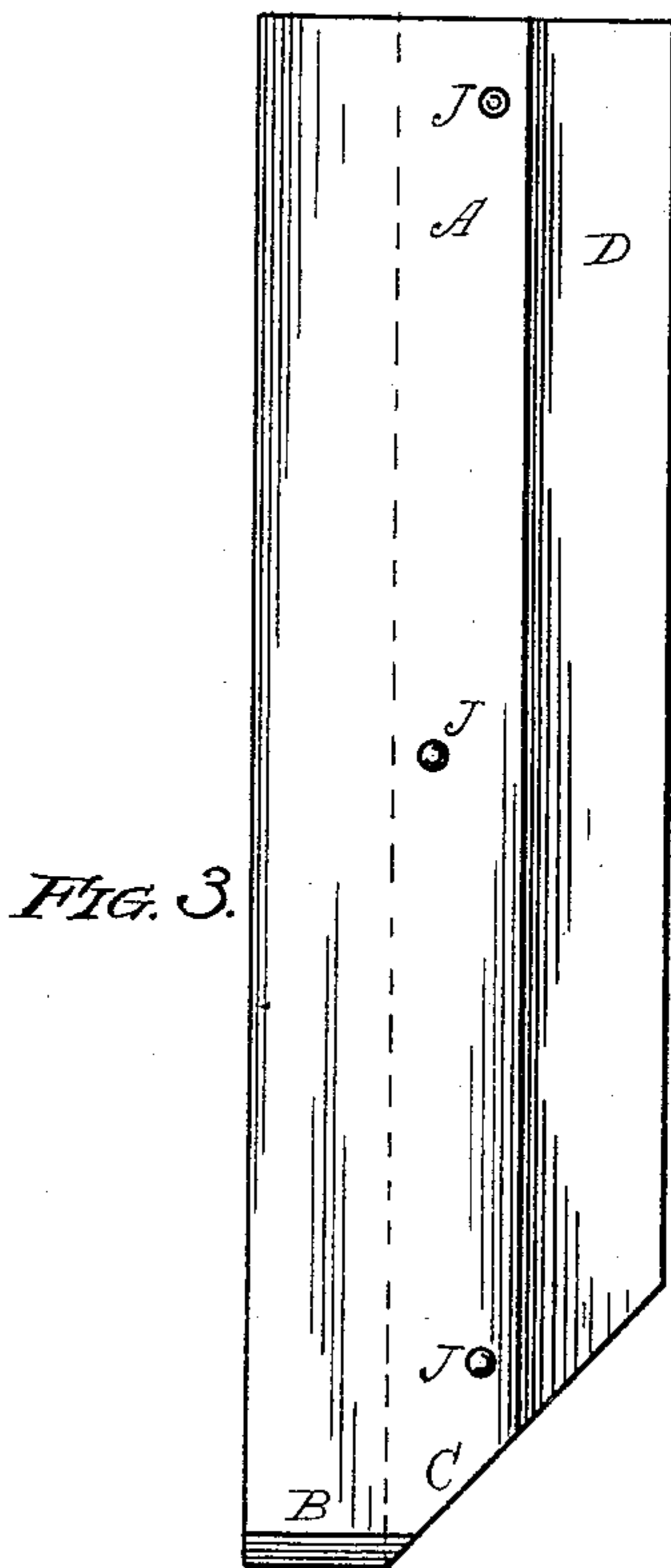


FIG. 3.

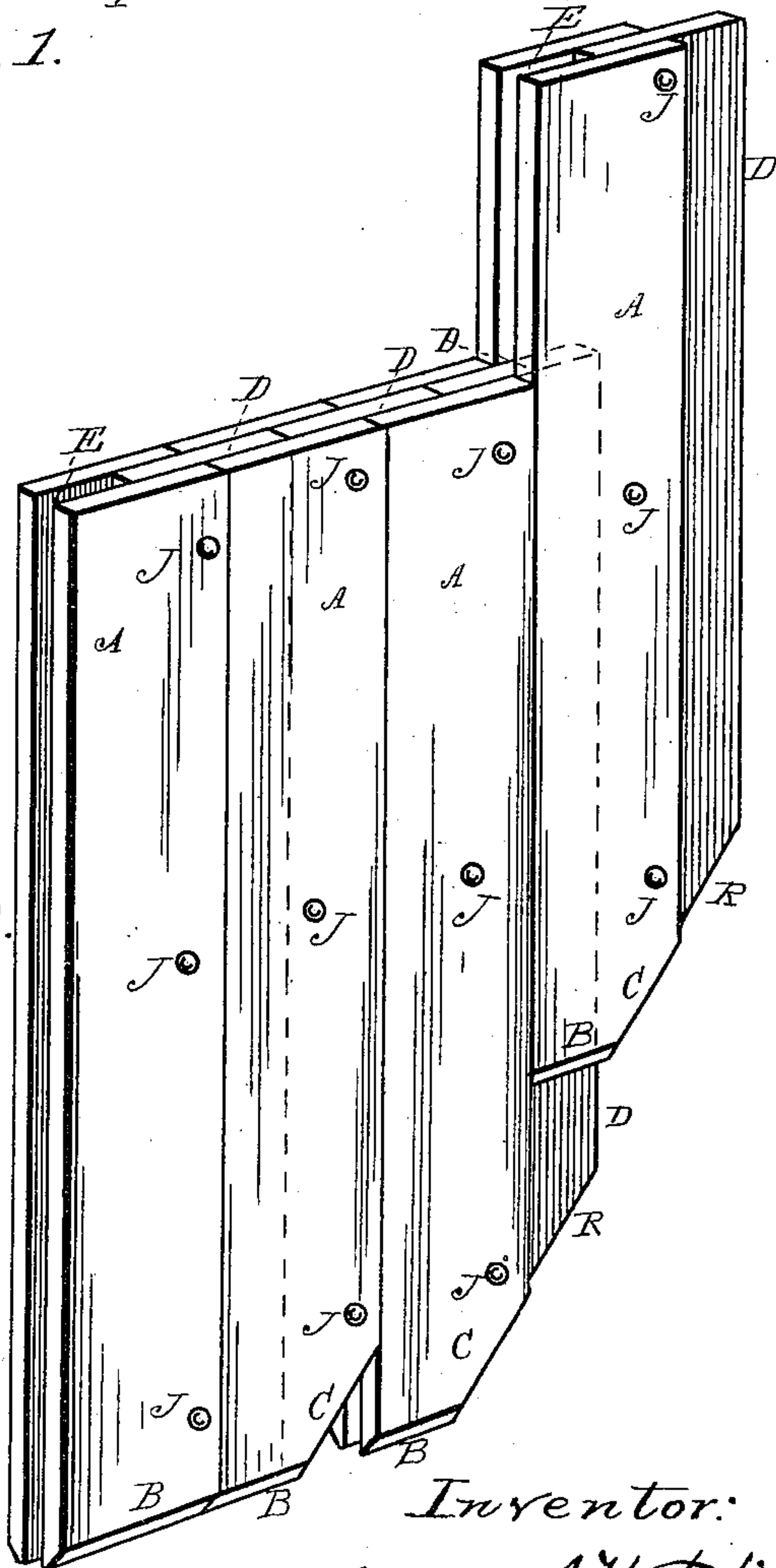


FIG. 2.

Witnesses:

G. L. Chapin

A. H. Moore.

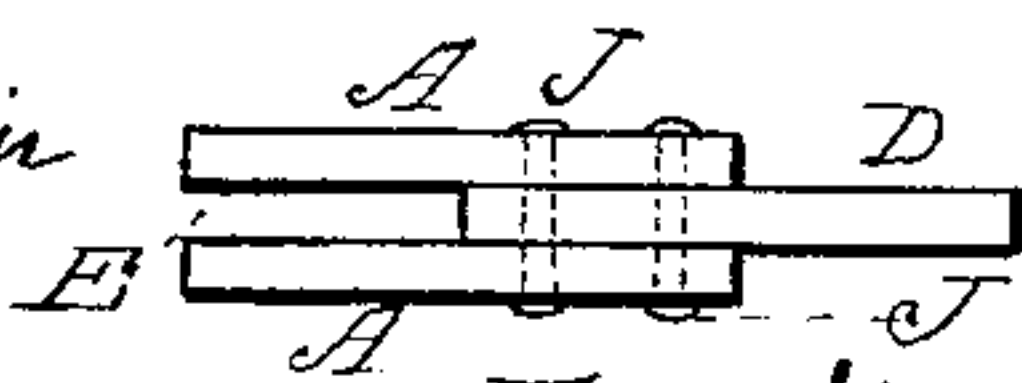


FIG. 4.

Inventor:

James A. Wakefield

UNITED STATES PATENT OFFICE.

JAMES A. WAKEFIELD, OF CHICAGO, ILLINOIS.

SHEET-PILING.

SPECIFICATION forming part of Letters Patent No. 370,108, dated September 20, 1887.

Application filed July 14, 1887. Serial No. 244,248. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. WAKEFIELD, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Sheet-Piling for Dams, Levees, Piers, and other Engineering Purposes, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure 1 is an end elevation of the framework of a dam, with an edge view of my improved sheet-piling in position to be driven down into the bed of the water. Fig. 2 is a perspective representation of four sections of my improved piling in position relatively as they are when driven, except the right-hand section, which is in position to be driven. Fig. 3 is a side elevation of one section of piling; Fig. 4, a top or plan view of Fig. 3.

The purpose of this invention is to provide a sheet-piling which will prevent water from getting through it or under it.

It has been the custom to construct sheet-piling of several thicknesses of plank, with the intention of setting them so closely together as to prevent water from getting under or through such piling and breaking down the dam or earth-shore; but thus to drive sheet-piling has been found to be an engineering impossibility, as experienced by Government officers and others equally skilled. The theory that one row of planks can be driven to lie so closely to a previously-driven row of plank as to exclude water remains a theory unsupported by practice. Attempts have been made to drive a sheet-piling of tongued and grooved solid stuff; but this proved to be a failure, in that the tongues and grooves could not be available without cutting away to form them three-sevenths of the lumber.

My sheet-piling is practically tongued and grooved; but it differs materially from any piling heretofore employed, in that the planks of which it is constructed are all of one size, and that each tongue and each groove has a depth of one-half of the main faces of the sections. As an example, take three planks of equal widths—twelve inches, for instance—and place one plank between the others so that it shall project laterally from the said two pieces to the same distance that it extends in between them, and then the three planks are secured together by bolts or rivets. Such a construction

is shown at Figs. 2 and 3, A A being the face planks of the sections, and D the planks which are bolted at J between them to form a six-inch tongue on one edge of a section and a six-inch groove, E, on the other edge of a section, whereby a sheet-piling is of three thicknesses of plank.

The first section of piling to be driven has its lower sides chamfered on a lateral angle, as shown at B, and all the sections which are afterward to be driven are, in addition to the chamfer B, chamfered edgewise, as shown at C. This latter chamfer causes one section of piling to draw snugly to the others previously driven and form a barrier of sheet-piling which is absolutely water-proof as against the washing away of the shore-earth or bed of a dam. (Shown at F G H.) The water-bed is shown at I and the water at M, the latter being expected to rise and flow over the higher part of the dam G F. At Fig. 1 one section in edge view is shown in position as started to be driven, a cap, L, being placed on the top thereof, as is the custom, to prevent piling from being shattered during the act of driving. The piling is to be driven to the point N, or cut off on a level with that portion of the dam shown at F, and secured to the latter part by suitable bolts or spikes.

In practice I prefer that two or more sections be driven alternately down after the first section is driven, as a speedier method, and one which will insure the more nearly perfect parallelogram surface or face to the work being done.

I claim as new and desire to secure by Letters Patent—

A sheet-piling composed of three thicknesses of plank secured together by bolts or rivets, so that the middle plank shall project out at one edge of a section at a distance corresponding to the depth of the groove E, whereby when several sections are driven down the edges of the exterior plank, A, and the inner planks, D, will respectively come together and form a wall of sheet-piling of three thicknesses of plank, securely held together, and the joints centrally broken, as and for the purpose specified.

JAMES A. WAKEFIELD.

Witnesses:

G. L. CHAPIN,

ANNA D. JOHNSON.