2 Sheets—Sheet 1.

E. T. BANGS & M. L. DOLBEY.

Jetty.

No. 219,899. **Patented Sept. 23, 1879.**

Fig. 1

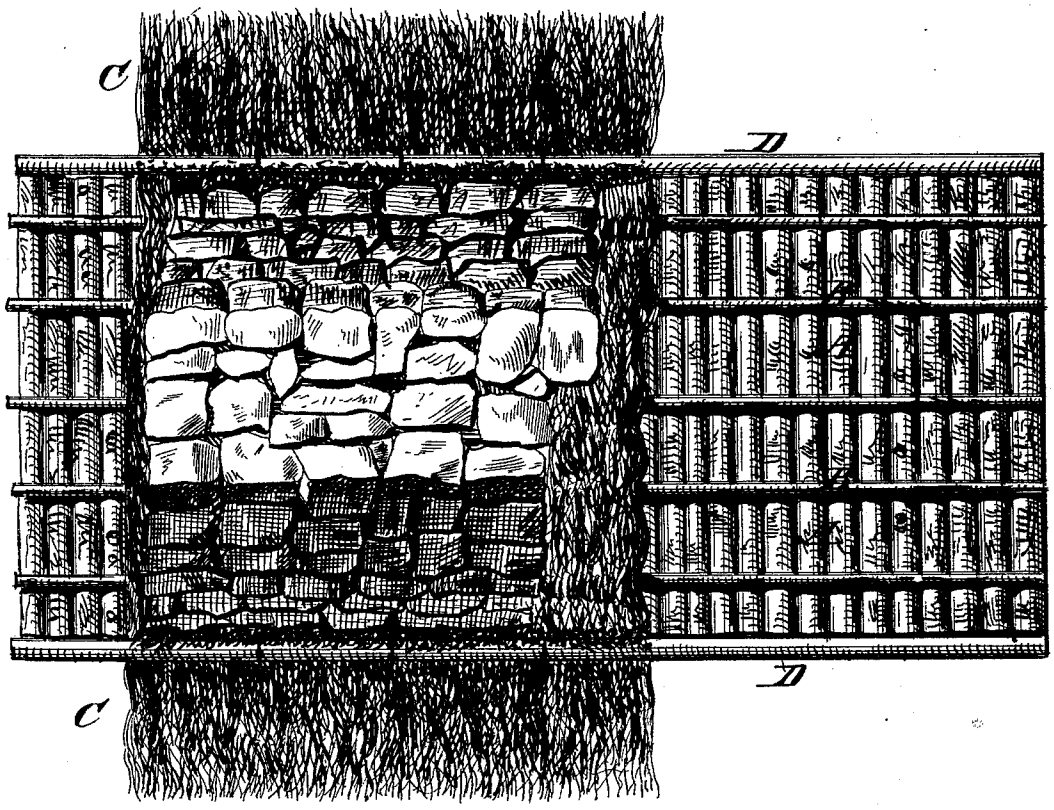
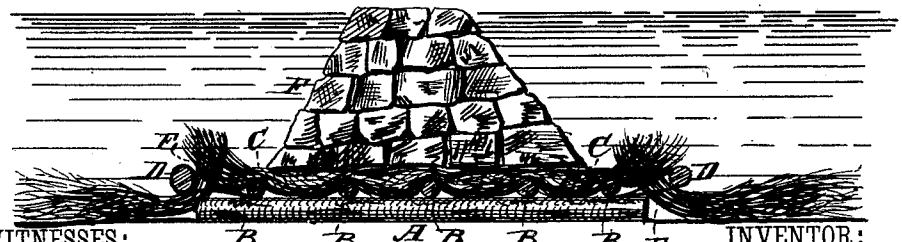


Fig. 2.



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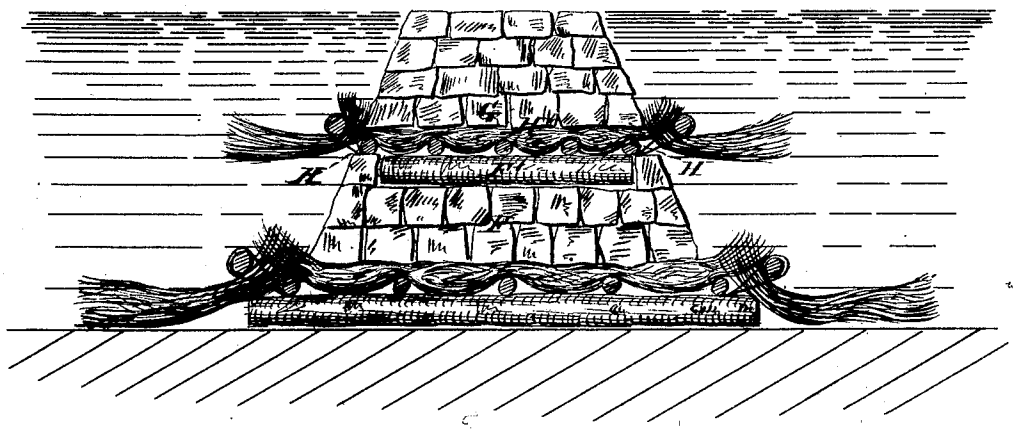
2 Sheets—Sheet 2.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

ELI T. BANGS AND MOSES L. DOLBEY, OF FAYETTEVILLE, NEW YORK.

IMPROVEMENT IN JETTIES.

Specification forming part of Letters Patent No. **219,899**, dated September 23, 1879; application filed August 12, 1879.

To all whom it may concern:

Be it known that we, ELI T. BANGS and MOSES L. DOLBEY, of Fayetteville, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Jetties, of which the following is a specification.

Our invention relates to improvements in the construction of the foundation and heartings of jetties; and the object thereof is to furnish a strong and durable foundation, thoroughly bound together, adapted to resist the undermining of the jetty, and of sufficient flexibility to yield to the variations in the bottom without becoming disintegrated.

A further object of the invention is to economize the construction of the hearting.

The improvements consist, first, in laying a platform of timber transversely of the jetty, connected together by longitudinal timbers, and placing on this a mattress of brush projecting outside of the platform from under the hearting, the whole being bound together to form a compact mass, sufficiently flexible, however, for the object sought; secondly, it consists in alternating with the courses of stone in the hearting courses of timbers and brush, the timbers covered with the stones, while the brush projects out to catch the sand, &c.

In the accompanying drawings, Figure 1 is a plan of our improved foundation. Fig. 2 is a vertical cross-section of the same; and Fig. 3 is a cross-section of the hearting and platform, showing the improved mode of constructing the hearting.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the timbers forming the platform of the jetty. They are laid transversely side by side and close together, and are secured by longitudinal strips B, spiked or otherwise fastened to the timbers A. On top of the platform thus made is placed a mattress of brush, C, laid in such a way as to cover the platform and project beyond the same on either side. The projecting portion is secured in place to the platform by timbers D D, laid longitudinally on the brush over the ends of the platform-timbers, where they are held by thongs or ropes E, the ends whereof are fastened to the platform under the mattress. On the foundation is built the hearting F.

In building the foundations the platform of timber is first put together in sections. Then the mattress of brush is laid on it, and secured by strips or poles laid checker-board-wise, and fastened to the platform beneath. This is done to prevent the brush from floating off the platform. Thus made the foundation is floated to the proper point on the line of the jetty, where it is properly located and anchored. The hearting is built on it, and it is sunk by the weight to the bottom, the sections being made to join each other accurately.

Thus constructed the foundation is specially adapted to jetties built on a bottom of quicksand, as it is sufficiently flexible to yield to the sinking, shifting, and other variations in the bottom without, however, becoming loosened and disintegrated.

The construction of this foundation may be modified by omitting the mattress of brush, but placing it along the edges of the platform on both sides, so as to project a short distance under the hearting, for the purpose of giving it a secure hold, and also project outside of the platform.

The extension of the brush outside of the platform serves to collect the sand and prevent undermining of the platform.

In Fig. 3 our improved hearting is shown. It consists in laying a course of stone, F, then a course of timber, F′, laid crosswise, and connected together by longitudinal strips H, and with the ends covered with the stone, so as not to expose these timbers to the direct action of the water. On this course of timber is laid a course of brush, G, with the ends projecting out through the stones, and next, following this, is a course of stone, and so on alternately until the required height of the hearting is reached.

This construction of the hearting is equally as efficient as where it is composed entirely of stone, while its cost is greatly reduced.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. As an improvement in jetties, a founda-

tion composed of a platform of timbers, B, laid side by side transversely of the jetty, and bound together by longitudinal strips or timbers, combined with a mattress of brush projecting beyond the edges of the platform, and held down by longitudinal timbers D D, connected with the platform by thongs or ropes E, substantially as described.

2. A hearting composed of a course of stone, F, a course of timber, F′, bound together by longitudinal strips or timbers H, and with the ends covered by the stones, and a course of brush, G, projecting out from between the stones on either side, said course of brush being followed by another course of stone, and so on alternately, substantially as described.

ELI TIMOTHY BANGS.
MOSES LYMON DOLBEY.

Witnesses:
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ALFRED RAOUL.