

No. 749,920.

PATENTED JAN. 19, 1904.

A. S. COOPER.
PILE PROTECTOR.

APPLICATION FILED SEPT. 8, 1903.

NO MODEL.

Fig. 2.

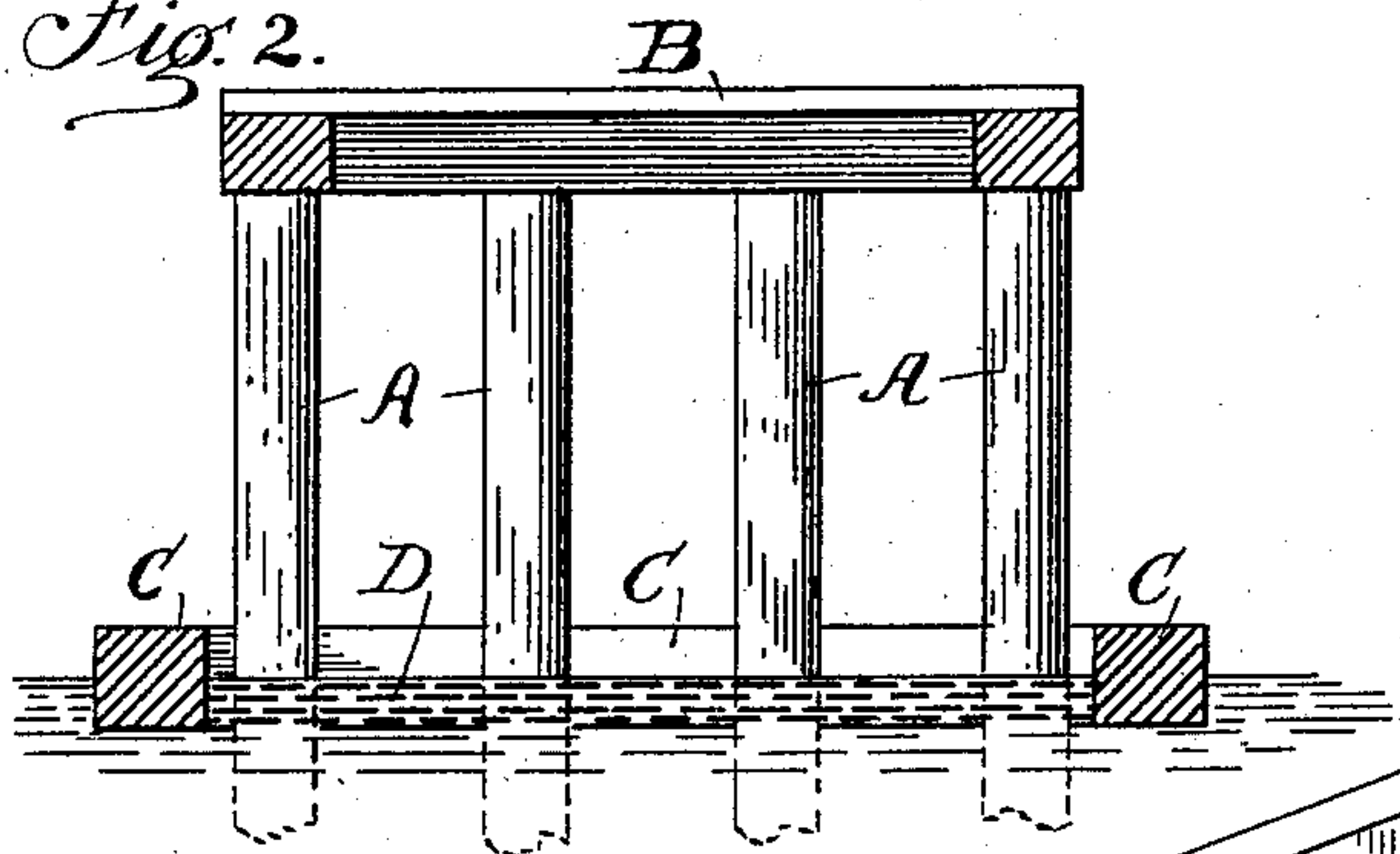


Fig. 1.

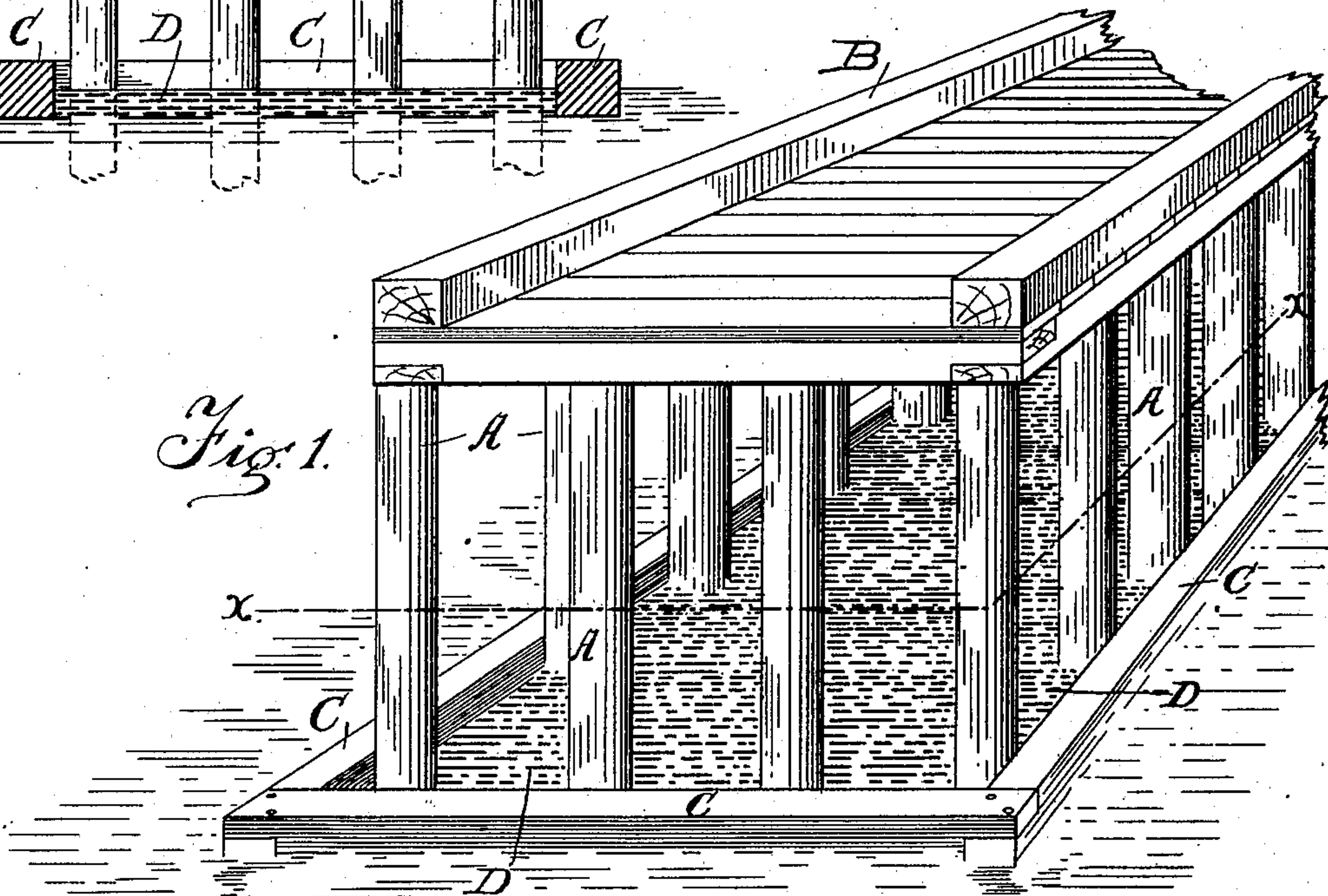


Fig. 4.

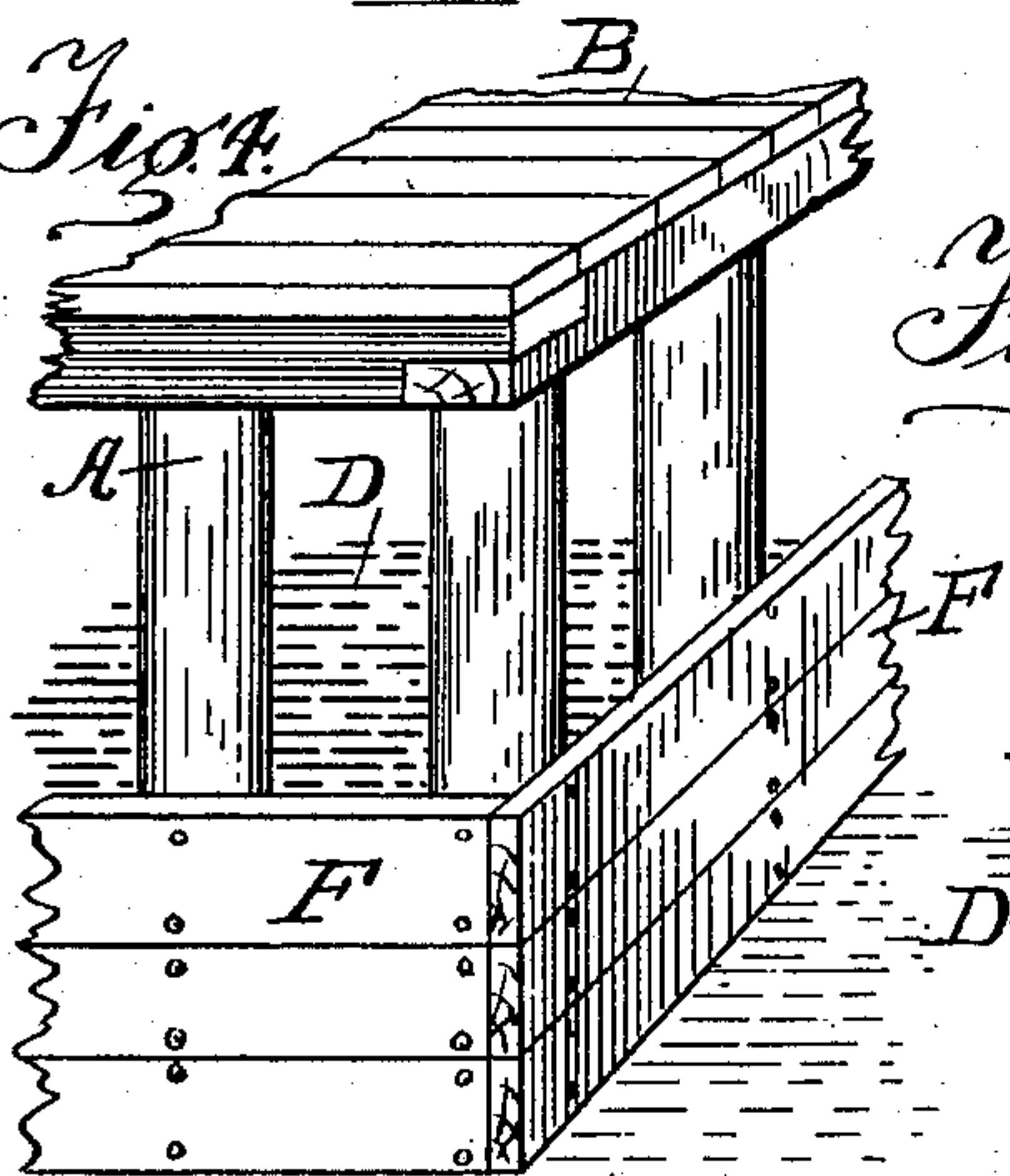


Fig. 5.

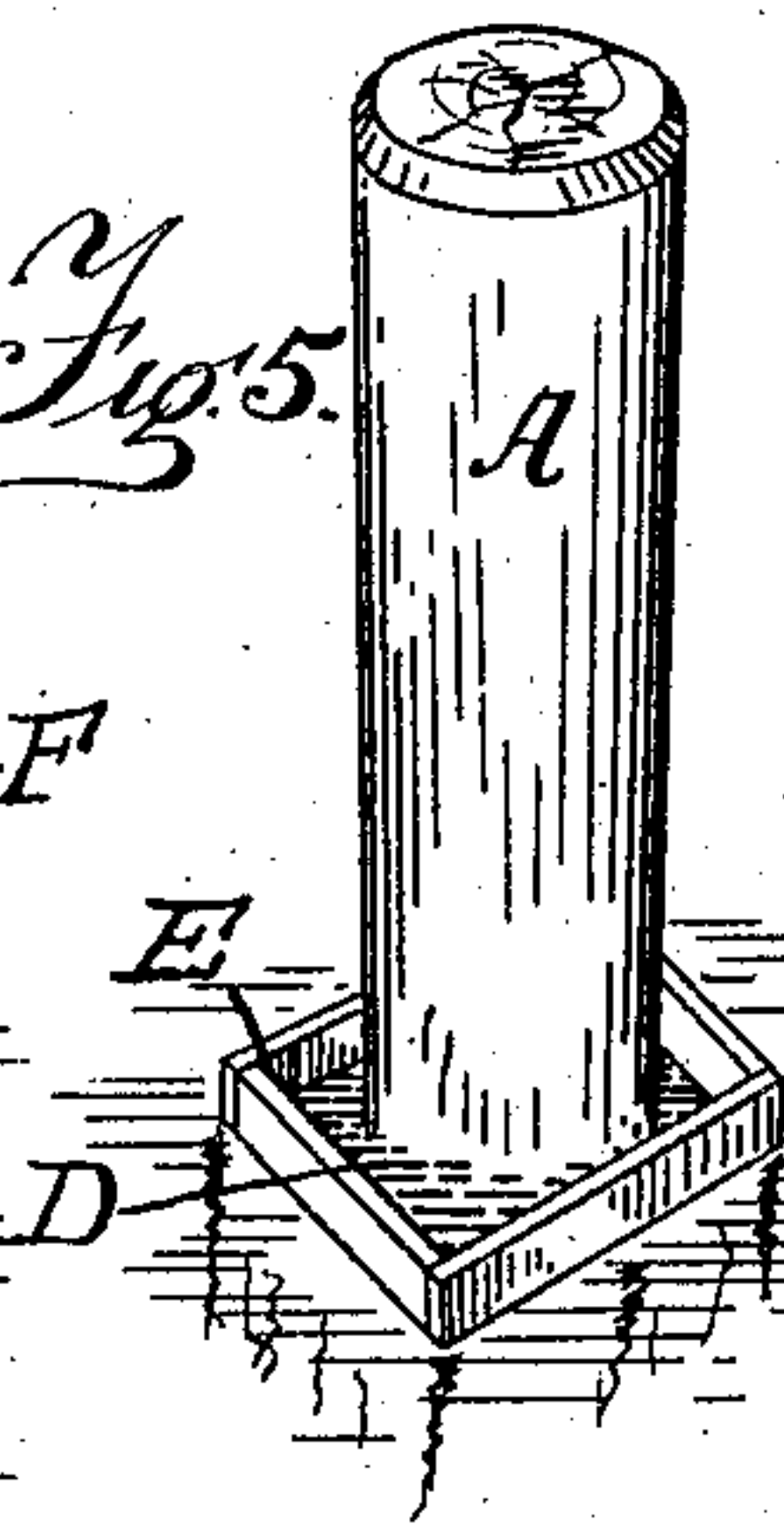
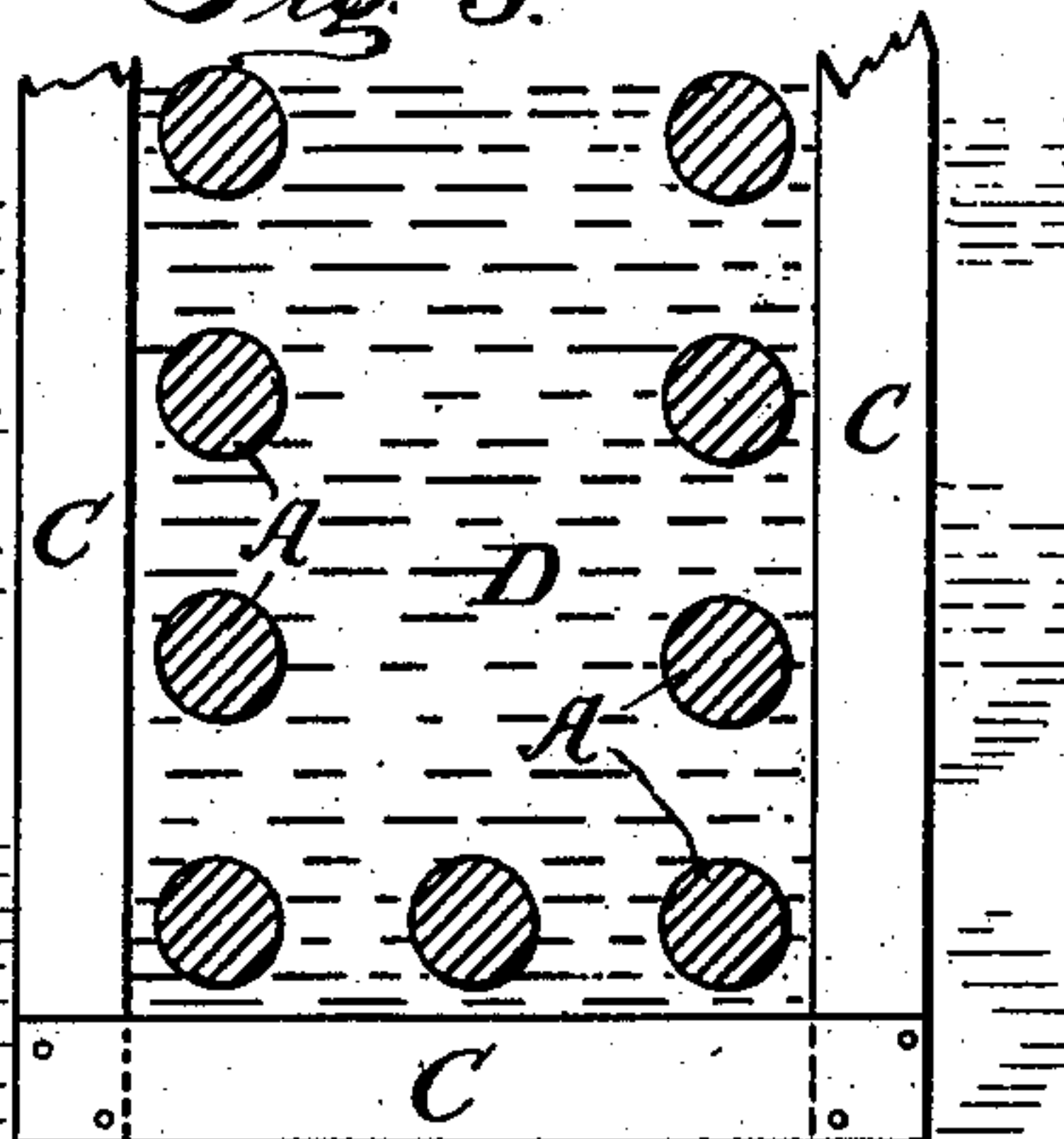


Fig. 3.



Witnesses.

Arthur L. Lee.
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Inventor:
Augustus Steiger Cooper
by *Wm. F. Booth*
his Attorney.

UNITED STATES PATENT OFFICE.

AUGUSTUS STEIGER COOPER, OF OAKLAND, CALIFORNIA.

PILE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 749,920, dated January 19, 1904.

Application filed September 8, 1903. Serial No. 172,250. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS STEIGER COOPER, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have invented certain new and useful Improvements in Pile-Protectors; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of devices and apparatus for protecting and preserving piles from the ravages of marine worms and bugs, like teredo and limnoria or other marine animals or insects.

My invention is especially designed for protecting the pile against limnoria. These operate in the pile between high and low water marks, rendering it possible for any suitable noxious substance of a specific gravity less than water to be floated by the water during its rise and fall, whether tidal or wave movement, into contact with that portion of the pile affected by limnoria. It remains, therefore, only necessary to confine such substance in such vicinity to the pile as to coat it and enter the holes made by the insects, and thus to destroy those already there and to protect it against the coming of others.

With this in view my invention consists in a means for protecting the pile, comprising a floating substance of any suitable character noxious to said worms, bugs, or insects and a dam of suitable character to confine said substance about the pile. The best substance is petroleum, preferably crude oil, and the dam in its best form is a floating one, all as I shall now describe by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a wharf, showing the floating body of noxious material and the floating dam confining it about all the piles of the wharf. Fig. 2 is a small front view showing the same thing. Fig. 3 is a small top view of same, the piles being in cross-section. Fig. 4 is a small perspective of a corner of a wharf, showing a stationary dam. Fig.

5 is a view showing a floating dam about a single pile.

In Figs. 1, 2, and 3 all the piles A of the wharf B are surrounded by a floating frame C, which serves as a dam to confine the floating substance, (represented by D,) so that said substance remains in contact with the piles. This substance must have two properties—to wit, a specific gravity less than water, so that it will float thereon, and it must be noxious to the worms, bugs, or insects. Creosote, oils of various kinds, essential and others, petroleum-oils, &c., will answer the purpose. Recent experiments have proven the efficiency of crude petroleum in this regard, and its cheapness renders it available for this use. It is therefore the best substance for my purpose, and it may be used either alone or combined with other substances. In Fig. 1 I have indicated by the line *xx* the high-water mark. It will readily be seen that as the water rises and falls either by tide or wave movement the oil D will be carried up and down between high and low water marks, and as it is confined by the floating dam, which rises and falls with it, it will coat and keep coated the piles throughout that portion which suffers from limnoria. The dam need not in all cases surround all the piles as a whole, for, as shown in Fig. 5, it may be applied about each single pile, it being here shown as an encircling floating box or frame E; nor need the dam in all cases be a floating one. It may be fixed between high and low water marks or even extended down below the latter to enable the oil to reach the teredo which attacks the pile below said mark. It may be of any material, such as canvas applied to the piles or a sheathing of boards F, as shown in Fig. 4, applied to the piles between proper heights and adapted to confine the oil about them.

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

1. A pile-protector comprising a floating

substance noxious to pile-destroying worms, bugs and insects, and a dam to confine said floating substance about the pile.

2. A pile-protector comprising a floating
5 substance noxious to pile-destroying worms and insects and a floating dam to confine said floating substance about the pile.

3. A pile-protector comprising a floating
body of petroleum and a dam to confine it
10 about the pile.

4. A pile-protector comprising a floating body of petroleum, and a floating dam to confine it about the pile.

In witness whereof I have hereunto set my hand.

AUGUSTUS STEIGER COOPER.

Witnesses:

WALTER F. VANE,
D. B. RICHARDS.