

E. H. NIES.
ARTIFICIAL EMBANKMENT.
APPLICATION FILED OCT. 31, 1912.

1,060,357.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.

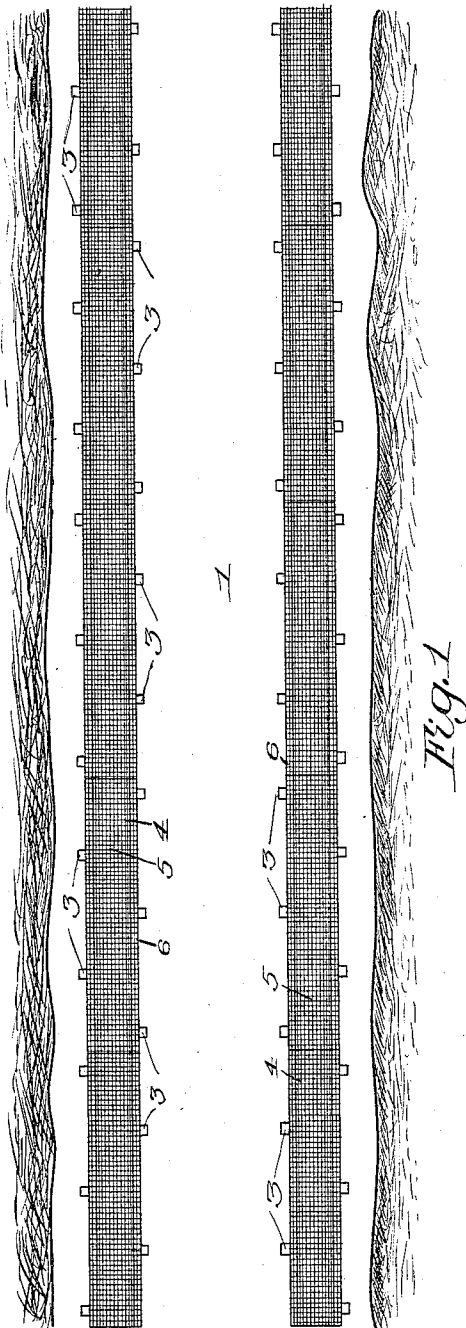


Fig. 1

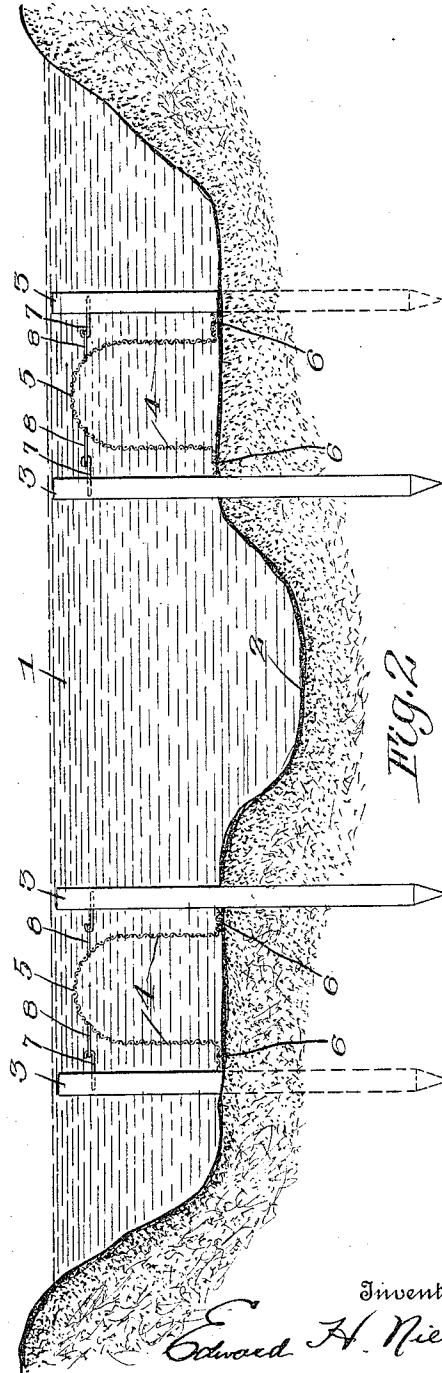


Fig. 2

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Fig. 3

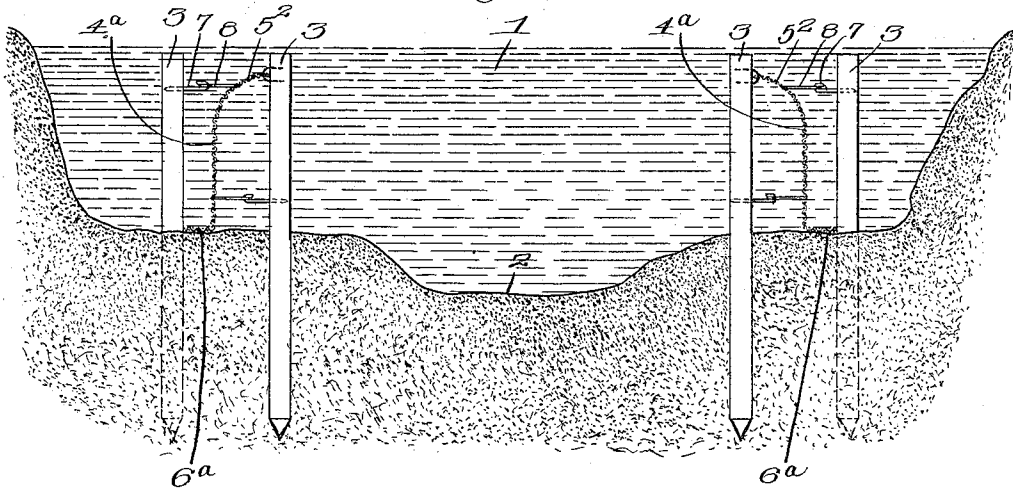


Fig. 4

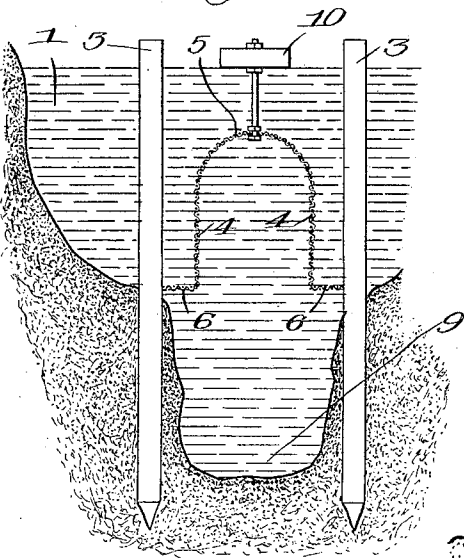
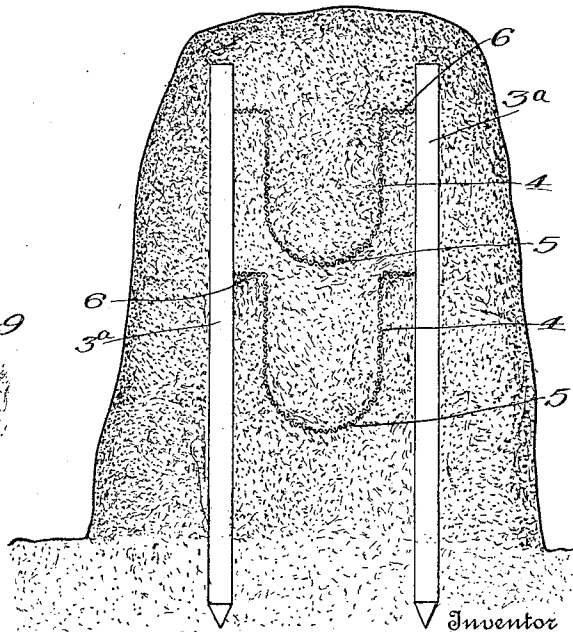


Fig. 5



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UNITED STATES PATENT OFFICE.

EDWARD HARMON NIES, OF ROCHESTER, NEW YORK.

ARTIFICIAL EMBANKMENT.

1,060,357.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed October 31, 1912. Serial No. 728,764.

To all whom it may concern:

Be it known that I, EDWARD HARMON NIES, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Artificial Embankments, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

The present invention relates to artificial embankments designed for use on rivers or other bodies of water and an object of the invention is to provide a construction which may be used either as a current deflector for deepening and narrowing river beds or as a protector for spoil banks.

Another object of the invention is to provide a construction which may be formed from inexpensive material, and which, at the same time, will have sufficient lateral strength to withstand displacement.

To these and other ends the invention consists in certain parts and combinations of parts all of which will be hereinafter described, the novel features being pointed out in the appended claims.

In the drawings: Figure 1 is a plan view of the river equipped with the present improvements; Fig. 2 is a transverse section through the river; Fig. 3 is a transverse section of the river showing another embodiment of the invention; Fig. 4 is a detail view showing the manner in which the current deflector is supported over depressions in the river bed; and Fig. 5 is a section through a spoil bank employing the improved construction.

In some parts of the United States, and more particularly in the western parts, the rivers are becoming shallower and wider so that during spring freshets, they spread out over great areas causing a great deal of damage both to life and to property. It has been known for some years that these inundations can be prevented by forming permanent or non-washable embankments which will confine the river to a narrow course and, in this way, the river is caused to cut a deeper channel, making, in some instances, navigable waterways where before navigation was impossible.

According to this invention there is provided an inexpensive construction which will be more durable and more liable to collect material from the waters for forming the artificial embankments, this construc-

tion being also adapted for protecting spoil banks.

Referring again to the drawings, and more particularly to Figs. 1 and 2, 1 indicates the waterway and 2 the channel on opposite sides of which are arranged current deflectors. These deflectors comprise a series of wire mesh sections arranged end to end along the opposite sides of the river bed, preferably, between two series of posts which are arranged in staggered relation, said posts being driven into the river bed. The sections are made of wire mesh and are bent into inverted U-shape, providing two upright portions 4, and a curved portion 5 connecting the upper parts or portions of the upright portions. The lower ends of the upright portions are turned laterally and preferably outwardly to strengthen their lower edges, and, at the same time, to provide feet for resting upon the river bed. These feet, in time, will become covered with dirt or debris and serve as anchors. The sections are tied to the posts 3 in any suitable manner but preferably by means of hooks 7 anchored in the posts and having wire ties 8 connecting them with the sections.

In the embodiment of the invention shown in Fig. 3, the section comprises an upright portion 4^a having a curved portion 5² along its upper edge formed by bending the wire mesh laterally; and also having a laterally extending portion 6^a at its lower edge forming a rest. Wire ties 8 and hooks 7 may be employed for securing these sections to the posts 3.

In both of these embodiments, the upright portions 4 or 4^a collect the sand and debris while the curved portions at the upper portions of the upright portions serve to retain floating debris. In the embodiment shown in Figs. 1 and 2, part of the dirt, sand and debris will be washed through the inner upright portion 4 because of the greater agitation on this portion, but most of this debris, dirt or sand will be caught by the second upright portion and the floating particles will be trapped by the connecting portion 5 so that eventually a solid embankment will be formed, the posts 3 serving to strengthen the same. The embodiment shown in Fig. 3 also traps floating debris by the curved portion 5² along the upper edges of the sections.

In the embodiment shown in Fig. 4, the

parts are the same as in Figs. 1 and 2 except that the deflector is shown supported over a sink hole or depression 9 in the river bed. This is effected by connecting a float
 5 10 to a rod 11 which projects upwardly from the section. This float will hold the section off the bottom while the posts 3 will prevent sidewise displacement.

The sections are also adapted for use as
 10 spoil bank protectors as shown in Fig. 5 wherein two rows of posts 3^a are first driven and one row of sections is then positioned between the posts in a position inverted relatively to that shown in Fig. 2. After the
 15 dirt is distributed about this row of sections, another row of sections is placed above the first mentioned row and has the dirt distributed within and about the same. As a spoil bank protector, these sections provide a very durable construction as the dirt
 20 lies within them in such a manner that they are very strong laterally.

What I claim as my invention and desire to secure by Letters Patent is:

- 25 1. An artificial embankment comprising a plurality of sections arranged end to end and each formed of wire mesh bent into U-shape in cross section and having laterally turned portions along the opposite edges.
- 30 2. An artificial embankment comprising two series of posts, and a plurality of sections arranged end to end between the posts and secured to the latter.

3. An artificial embankment comprising two series of posts, and a plurality of sections arranged end to end between the posts, said sections being formed of wire mesh bent into U-shape in cross section. 35

4. A current deflector embodying a plurality of sections arranged end to end, each section being formed of wire mesh bent into inverted U-shape in cross section and having laterally turned feet resting upon the river bed. 40

5. A current deflector comprising two series of posts, and a plurality of sections arranged end to end between the posts, each section being formed of wire mesh and having a curved portion along its upper edge. 45

6. A current deflector comprising two series of posts, and a plurality of sections arranged end to end between the posts, said sections being formed of wire mesh and bent into inverted U-shape in cross section. 50

7. A current deflector comprising two series of posts and a plurality of sections arranged end to end between the posts, said sections being formed of wire mesh material of inverted U-shape in cross section and having outwardly turned edges resting
 60 on the river bed.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."