

L. KELLEY.
CURRENT DEFLECTOR.
APPLICATION FILED JULY 21, 1909.

978,897.

Patented Dec. 20, 1910.

Fig. 1.

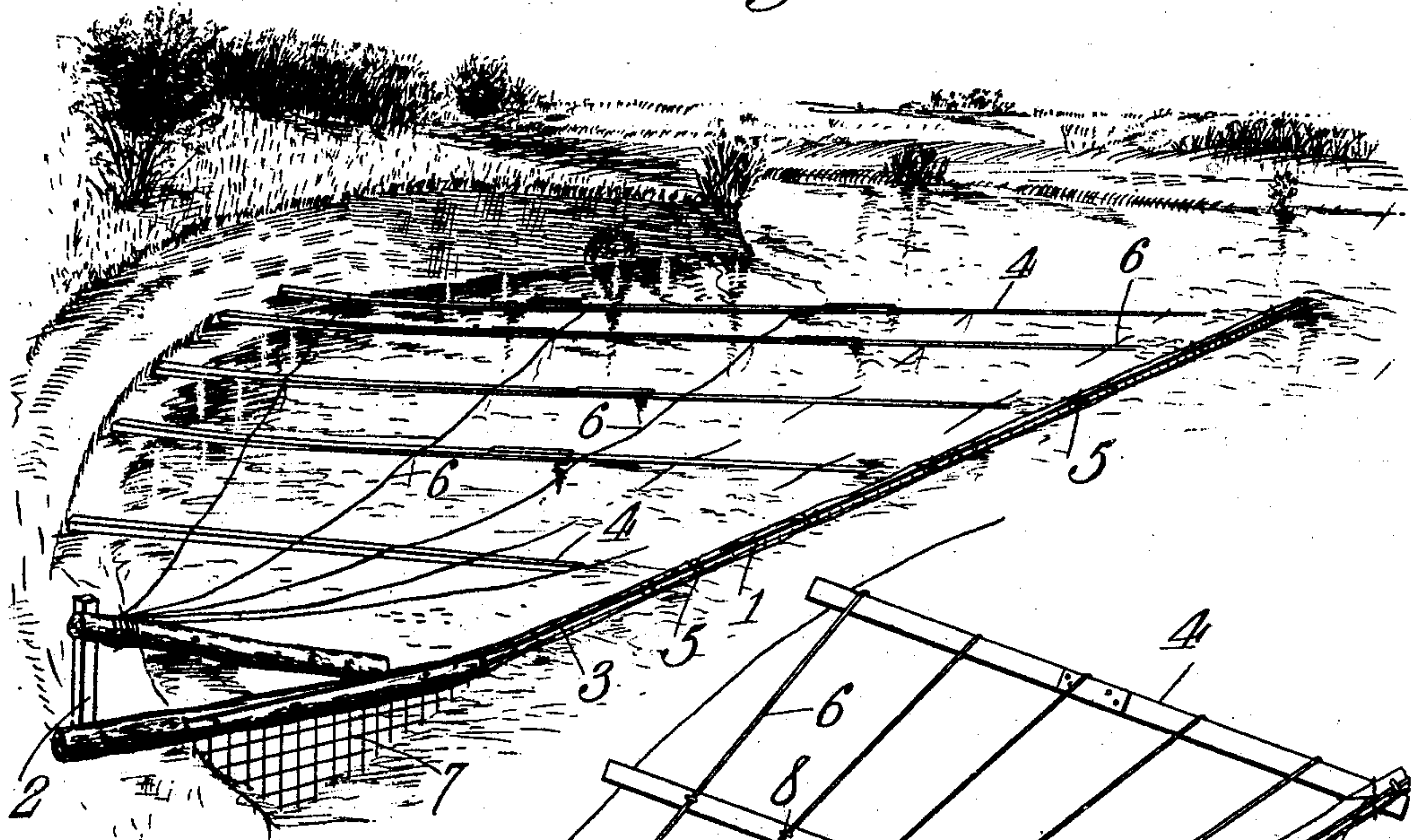


Fig. 2.

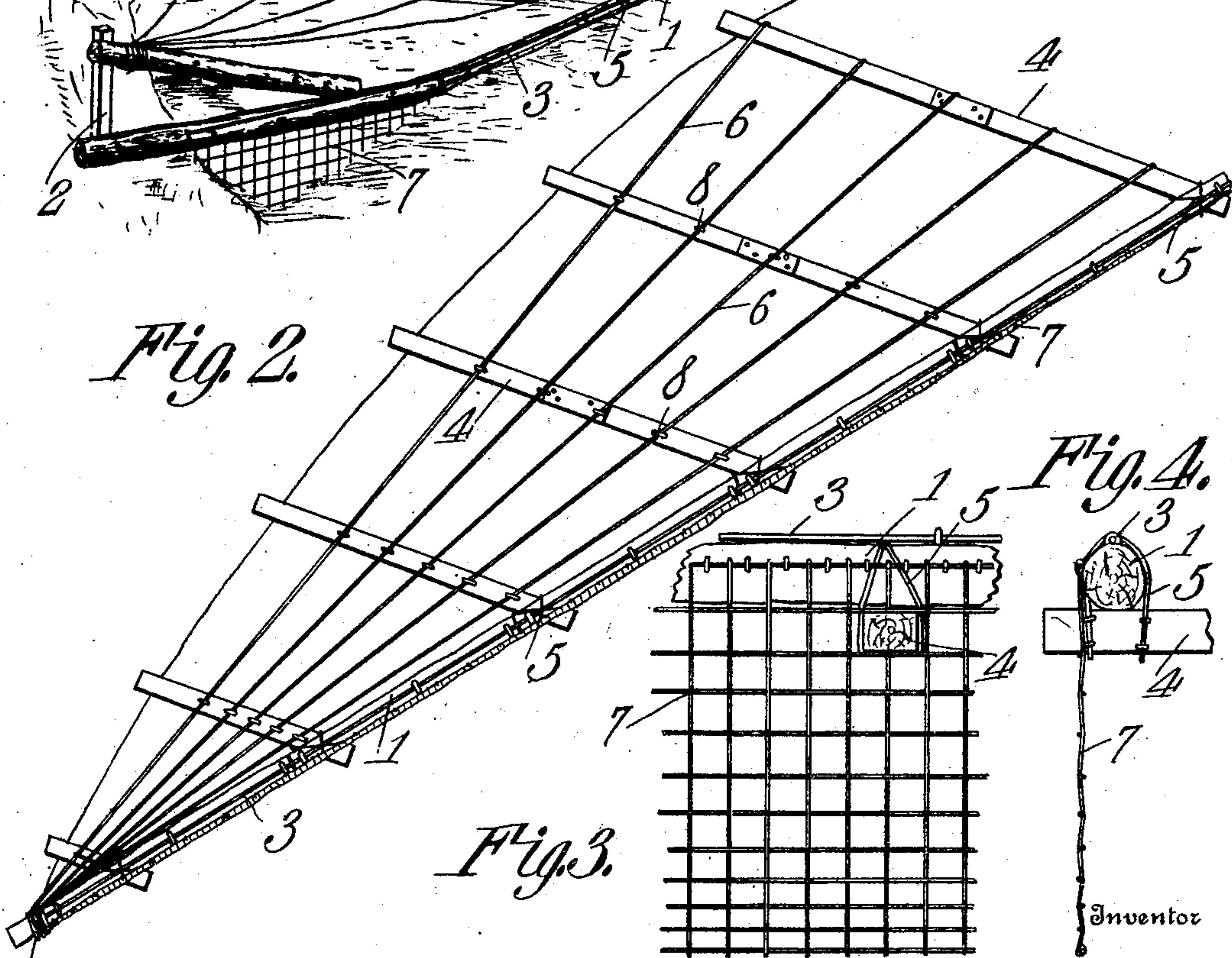


Fig. 3.

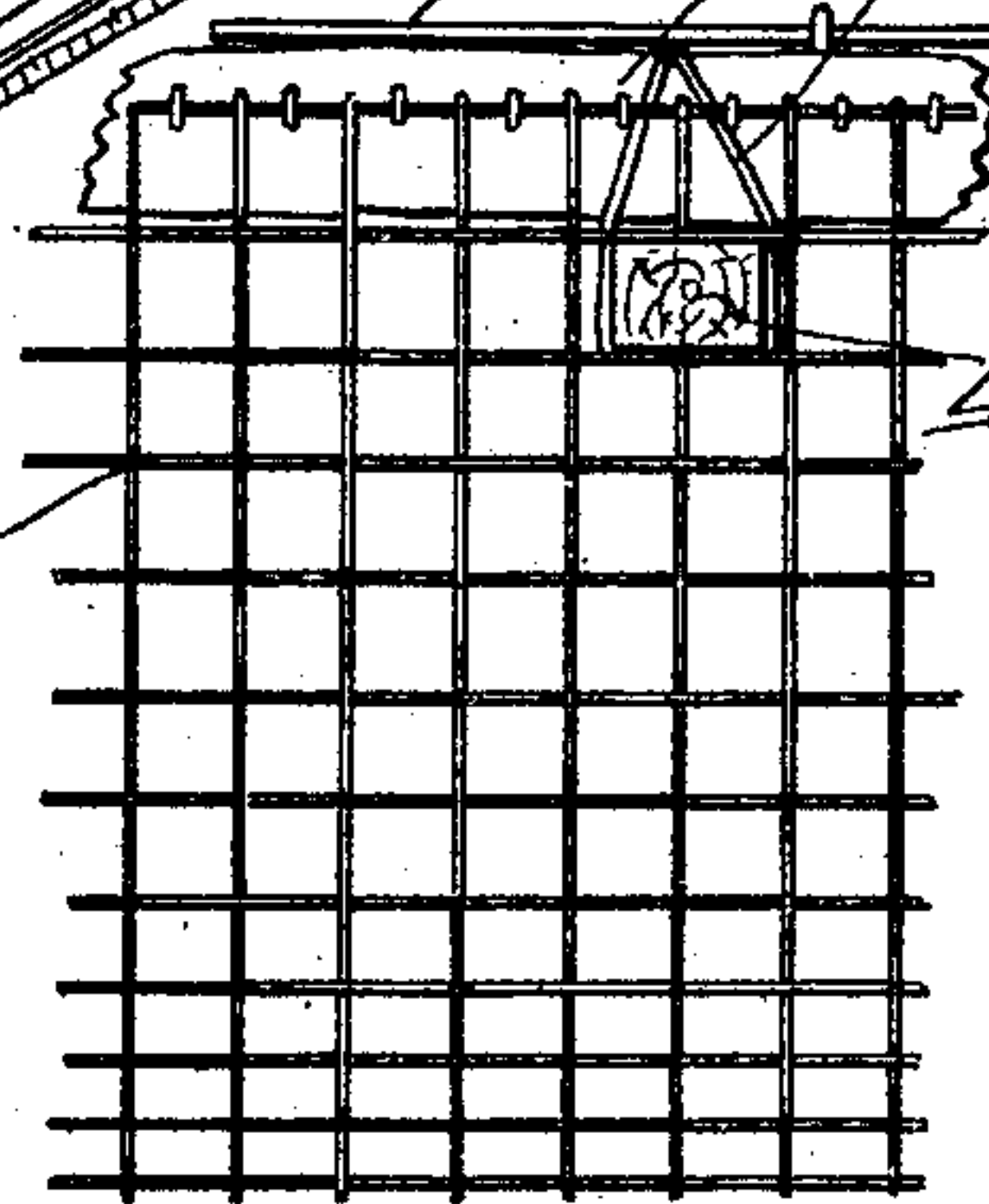
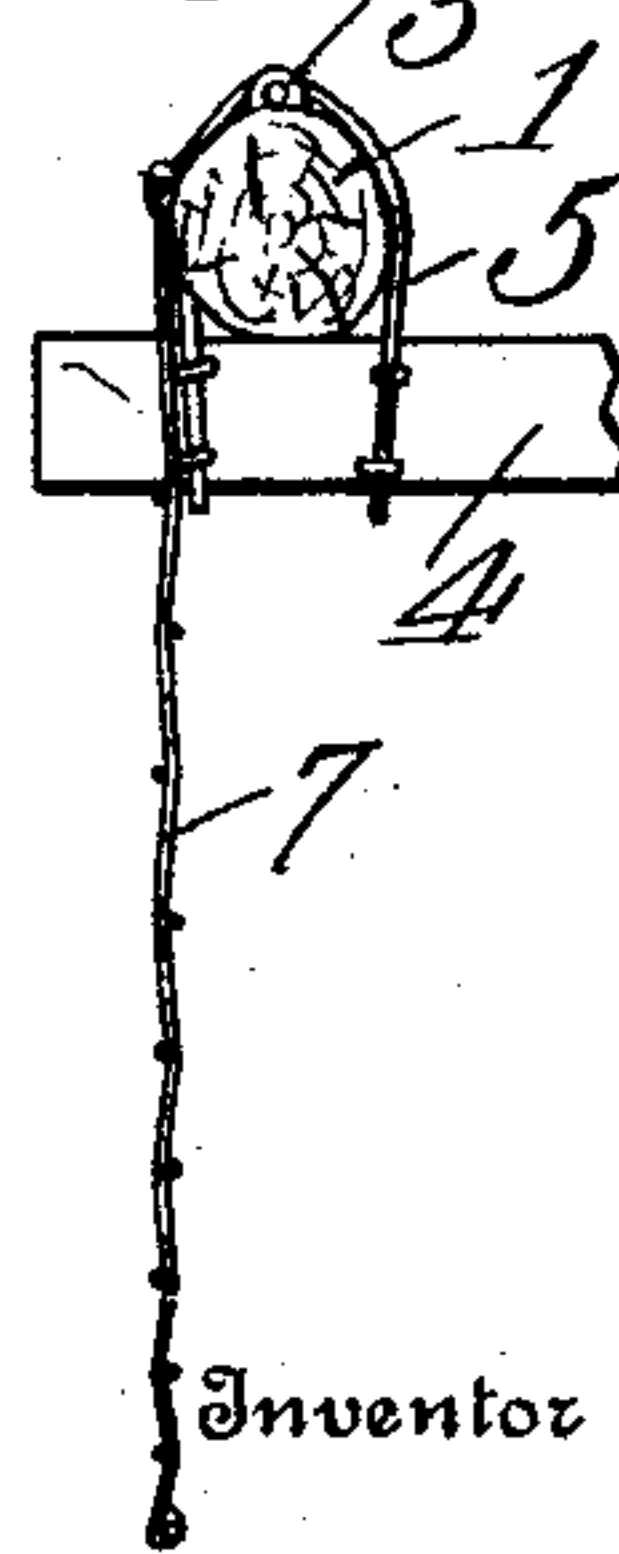


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

LAWRENCE KELLEY, OF CONCORDIA, KANSAS.

CURRENT-DEFLECTOR.

978,897.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed July 21, 1909. Serial No. 508,821.

To all whom it may concern:

Be it known that I, LAWRENCE KELLEY, a citizen of the United States, residing at Concordia, in the county of Cloud and State of Kansas, have invented a new and useful Current-Deflector, of which the following is a specification.

This invention has reference to improvements in current deflectors and is designed more particularly for use in flowing streams for diverting the current into predetermined channels and causing the filling up of the portion of the already formed stream bed from which the current is directed by the installation of the deflector, thereby causing a deepening of the channel of the stream and a like narrowing of the stream or river bed. The result is that eroded river banks are filled out and land reclaimed while the channel of the river or stream is deepened.

The invention comprises a floating structure anchored at one end, the up-stream end, to the river bank while the angle of presentation of the floating structure to the direction of flow of stream is readily controllable from the banks of the stream, the means employed aiding in retarding the flow of the stream through the deflector so that shoals and bars are formed and the river bed within the confines of the deflector is rapidly filled.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings—

Figure 1 is a perspective view showing the deflector in position. Fig. 2 is a plan view of the deflector. Fig. 3 is a detail view of a portion of the face of the deflector. Fig. 4 is a detail view of the parts shown in Fig. 3 at right angles thereto, certain of the parts being shown in cross section.

Referring to the drawings, there is shown a boom 1 made up of a suitable number of timbers placed end to end, tree trunks or discarded telegraph or telephone poles or like timbers being preferred. One end of the boom is anchored to the shore as indicated at 2 while the individual timbers making up the boom are joined together by cables 3 preventing the separation of these timbers in a direction longitudinal to the boom. At appropriate points lateral timbers 4 are placed with their inner ends against the bank or shore of the stream and

their outer ends attached to the boom 1. While round timbers may be used for this purpose it is preferred to employ squared timbers as such timbers will more readily direct the flow of the stream than will round timbers.

The timbers 4 where necessary are made up of a number of separate pieces joined end to end or overlapping and secured together and these timbers are arranged so that their outer ends are slightly downstream. The timbers 4 may underride the timbers 1 and are secured by ropes or cables 5 made fast to the timbers 4 and encircling the timbers 1. The several timbers 4 are held in substantially parallel relation by longitudinal cables 6 connected at one end to the anchorage 2 and extending across the several timbers 4, being secured to each timber at the crossing point.

By the employment of an appropriate number of cables 6 the whole structure is effectually tied together with the boom 3 extending outward from the shore at an angle to the flow of the stream, the anchorage being up-stream and the other end of the boom being down-stream but gradually receding from the shore to the desired extent. The boom 1 is held in this position by the timbers 4 which resist any tendency of the boom to swing shoreward under the impulse of the onflowing current of the stream. The timbers 4 are held from buckling by means of the cables 6.

Made fast to the boom 1 is a strip of wire netting 7 of large mesh, such, for instance, as is commonly used for fencing. Wherever the timbers 4 are connected to the boom 1 the netting is cut away to allow the passage of these timbers. Wherever the cables 6 traverse the timbers 4 they may be connected thereto by staples 8 or otherwise. Suppose that in a stream or river there be a cove or bend of the shore and it be desirable to cause the filling up of this cove or bend so that the shore line will be correspondingly straightened. Under these circumstances a boom 1 is formed and anchored at the up-stream end of the cove or bend and timbers 4 are progressively connected to the boom in the downstream direction, these timbers 4 being long or short as necessary to impart to the boom 1 the desired degree of angle to the flow of the stream. The parts are all fastened together in the manner described and the boom will maintain its angular position

to the stream with the wire netting 7 depending therefrom toward the bottom of the stream. The surface of the stream is deflected outwardly toward the center of the stream by the boom 1 and the timbers 4 behind the same while all floating or semi-floating material which will not pass through the meshes of the wire screen 7 are caught thereby and if not arrested are deflected out toward the center of the stream.

The comparative stillness of the water back of the deflector accelerates the deposition of matters from the water and the filling or shoaling of the stream back of the boom so that ultimately the shore line is straightened and the channel is deepened as well as straightened.

The entire structure is a floating structure requiring anchorage only at the upstream end while the timbers 4 operate as braces holding the boom outward at the desired angle.

While the invention is by no means limited to an minutiae of construction, the manner of connecting the timbers 4 to the boom 1 by carrying a strand diagonally along one side of a timber 4, thence over the boom 1 and down and back diagonally along the other side of the timber 4, the tie wire or rope being stapled at intervals, forms an efficient tie and constitutes the preferred manner of connecting the timbers to the boom. Instead of tying the timbers to the boom in the manner described any other suitable method of securing the parts together may be employed. The anchorage shown in Fig. 1 is to be taken as illustrative only, being employed where there is a high bank. Another arrangement of the upstream end of the structure is shown in Fig. 2.

What is claimed is:

1. A current deflector comprising a chain of logs in the form of a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream and bracing timbers in substantially floating relation to the stream, said timbers projecting from the shore of the stream in a downstream direction and secured at the off-shore ends to the boom.

2. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a downstream direction and secured at the offshore ends to the boom, and cables extending from the anchorage to the several bracing timbers and secured thereto.

3. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direc-

tion at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a down stream direction and secured at the off-shore ends to the boom, and flexible connections extending from the anchorage end of the deflector and secured to the several bracing timbers.

4. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a down stream direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a down-stream direction, and secured at the off-shore ends to the boom, flexible connections extending from the anchorage end of the deflector to and secured to the several bracing timbers, and a pervious apron depending from the boom.

5. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a downstream direction and secured at the offshore ends to the boom, cables connected to the anchorage end of the deflector and extending to and secured to the bracing timbers, and a pervious apron depending from the boom.

6. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream, said boom being composed of timbers connected together end to end, bracing timbers projecting from the shore of the stream in a downstream direction and secured at the offshore ends to the boom, cables extending from the anchorage end of the deflector to and connected in spaced relation to the bracing timbers, and a pervious apron depending from the boom.

7. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a down-stream direction and secured at the off-shore ends to the boom, said bracing timbers being in substantially floating relation to the stream, flexible connections extending from the anchorage end of the deflector to the several bracing timbers and secured to said timbers, and a wire screen fast to and depending from the boom and disposed lengthwise thereof.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LAWRENCE KELLEY.

Witnesses:

CORNELIUS GANT,
NETTIE SOBLINGER.