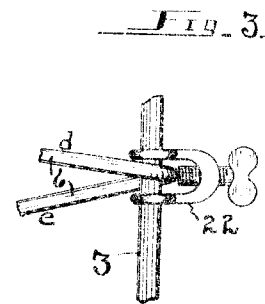
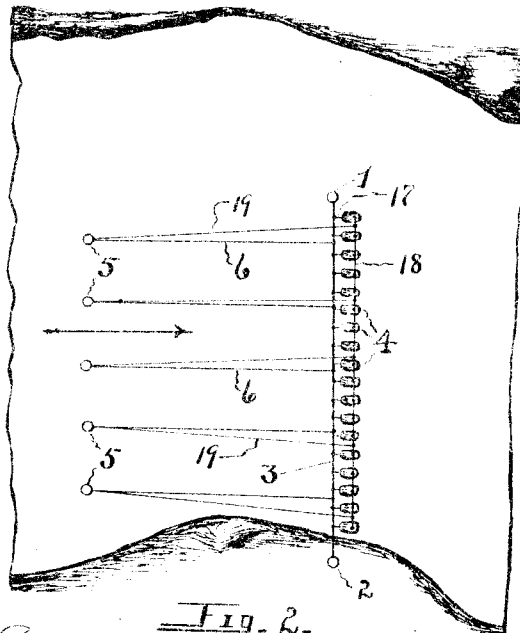
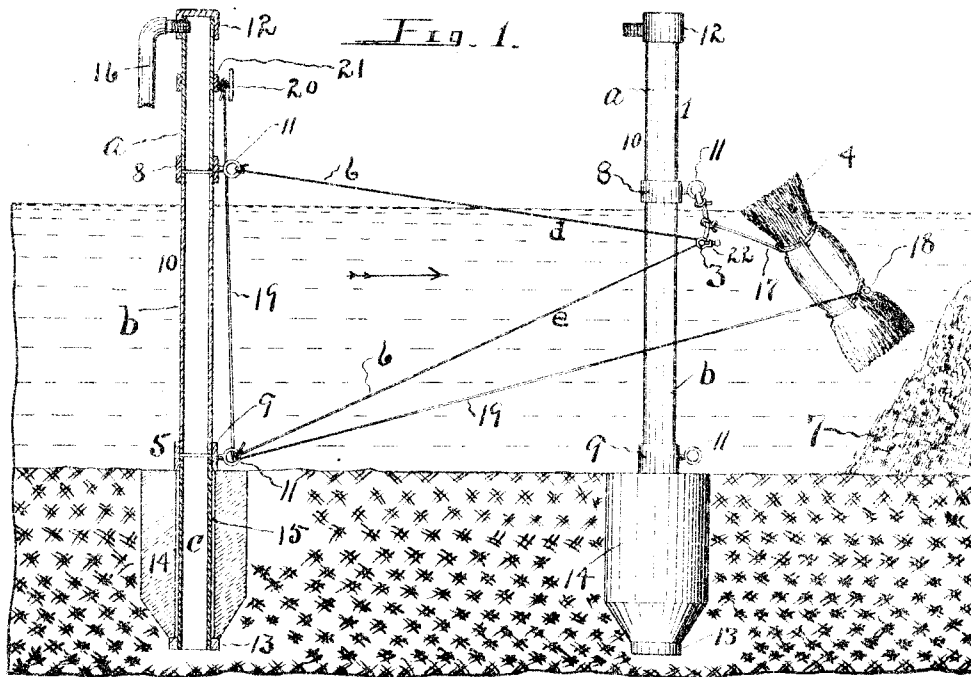


J. M. MAHER.
CURRENT DEFLECTOR.
APPLICATION FILED SEPT. 30, 1912.

1,058,879.

Patented Apr. 15, 1913.



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JAMES M. MAHER, OF FREMONT, NEBRASKA.

CURRENT-DEFLECTOR.

1,058,879.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed September 30, 1912. Serial No. 723,097.

To all whom it may concern:

Be it known that I, JAMES M. MAHER, a citizen of the United States, residing at Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Current-Deflectors, of which the following is a specification.

This invention relates to an improvement in current deflectors for use in silt-bearing streams, to cause the formation of sand bars wherever desired, for preventing erosion of the banks or cutting away of land adjacent thereto.

It is also useful for the purpose of reclaiming lands from shallow streams.

The object of the invention, broadly, is to provide simple means which may be quickly applied to streams and river beds to effectively prevent erosion or for the reclamation of the soil, said means consisting, briefly, of a plurality of anchor-members disposed in the bed of the stream, a main cable supported transversely of the stream below or "down-stream" from the anchor-members, cables extending substantially parallel with the thread of the stream to connect the anchor-members with the transverse cable, and a plurality of fascines connected with the transverse cable.

The invention consists of the novel construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the drawing, wherein,—

Figure 1 is a view, partly in section and broken, taken longitudinally of a stream to show a part of a river bed, a water line and anchor-members, one of said anchor-members being in longitudinal section, and an arrangement of cables for supporting the fascines. Fig. 2 is a broken, plan view, showing the banks of a stream, anchor-members therein, and a cable supported transversely of the stream, to which the fascines are connected. Fig. 3 is a detail view, showing a clamp in engagement with two of the cables.

Referring now to the drawing for a more particular description, numeral 1 indicates an anchor-member which may be disposed between the banks of a stream opposite to a suitable, stationary support 2; and extending between and secured to these members is a main, transverse cable 3, upon which may be secured the fascines 4. The stream flows in the direction indicated by the ar-

row, and the strain upon cable 3 "down-stream" may be considerable since it is burdened with a large number of fascines, and in order to sustain this cable and to prevent it from assuming a bowed shape, a plurality of anchor-members 5 are employed, these members being substantially of the same construction as member 1. Members 5 are disposed "up-stream" from cable 3, and at 6 are indicated connecting cables which extend between and are mounted upon anchor-members 5 and the transverse cable 3.

It will be understood that the purpose of the fascines supported as described, is to cause the gradual formation of a bed or bar of soil or silt 7 below said fascines. Any suitable number of anchor-members 5 may be employed, and the distance between these anchors and the main cable 3 may be greater or less, as desired, and after the desired deposit of soil or silt has been made, the anchor-members 1 and 5 may be removed, or anchor-members 5 may remain for further use as supports for other main cables 3 and other fascines (not shown).

While anchor-members 1 and 5 may have other forms than shown in the drawing, they each consist, preferably, of tubular sections *a*, *b* and *c*, connected by pipe couplings 8 and 9 to form complete tubes or pipes 10 of any desired length or diameter, and these couplings may be provided with staples or rings 11, closure-caps 12 being provided for the upper terminals of sections *a*, the lower open ends of the lower sections having collars 13 mounted thereon.

At 14 is indicated a suitable weight or cylindrical head which may be conveniently molded of concrete material. It is provided, preferably, with an aperture 15 extending longitudinally therethrough, and is formed downwardly tapered near its bottom; and it may be readily mounted upon pipe-section *c* between collar 13 and coupling 9 which operate to hold this cylindrical member upon said pipe-section.

The connected pipes 10 with heads 14 mounted thereon may be driven into the bed of the stream by any suitable means, or they may be sunk by use of water under pressure introduced through pipes 16, the operation being that the water, thus under pressure, will move through pipes 10 to be discharged through their lower terminals

and thereby dislodging and removing the ground below heads 14, so that these anchor-members will sink by gravity; and when it is desired to remove said members for use in a different location, the ground may be loosened by the same means as described, so that they may be more readily lifted from their seatings.

The fascines may be constructed of any desired material, and willows or a quantity of brush may be employed to advantage. This may be bound or tied to form elongated bundles and disposed side by side as shown in Fig. 2 of the drawing, and the upper ends of the bundles may be secured to cable 3, at longitudinal intervals, by strands 17.

To prevent the bundles from floating on the surface of the water in swift moving streams, and in order that they may be maintained substantially upright or in a position to more effectively resist the force of the current, strand 18 and a plurality of strands 19 are employed. Strand 18 is secured to the lower ends of the bundles and is disposed substantially parallel with the main cable 3. Strands 19 are connected with and at longitudinal intervals of the strand 18, and after extending downwardly and inclinedly from strand 18 to traverse the rings of the couplings 9 of anchor-members 5, they may be wound upon or otherwise secured to brackets 20 of sleeves 21.

Sleeves 21 are preferably longitudinally adjustable upon the upper sections *a* by being keyed thereon, so that the brackets may be conveniently reached; and as is obvious, if the length of strands 19, between the brackets and fascines is decreased, the strand 18 will be moved upwardly of the stream, and a control is therefore provided for maintaining the fascines at a predetermined inclination longitudinally of the stream, and this inclination may be changed whenever required: and this control is of advantage since the depth or velocity of the current may change, and the control is such that the fascines may be disposed in an upright position, or substantially so, to more effectively cause the silt to be deposited.

Means are provided for a vertical control of cable 3 to cause it to be disposed above or at a greater or lesser distance below the surface of the water, to control the position of the fascines. Cables 6 may each have a length sufficient to extend from couplings 8 to couplings 9 of anchor-members 5 to provide portions *d* and *e* of varying lengths. By use of the U-shaped screw-clamp or clamping hook 22 (Fig. 3), each of cables 6 may be removably secured, between its terminals, upon cable 3 in a well known manner. By use of these holders or clamps, the length of portions *d* and *e* may be changed; and as is obvious, if an adjust-

ment is made by use of a clamp 22 so that the length of a portion *e* of a cable 6 is decreased, portion *d* will be proportionately increased, with the result that cable 3 will be lowered in the water. This is a desirable feature since the depth of the water, transversely of the stream, may not be uniform; and on account of rains or freshets, the depth of the water may be changed. By use of the simple means thus described, the fascines may be conveniently disposed at such a depth in the water as may be required to cause the silt to be deposited to the best advantage.

Having fully described the construction, a further explanation relating to operation is not necessary. The parts are few and simple and may be conveniently arranged; the anchors and cables may be readily installed or placed in the positions described; and by reason of the control provided, ordinary brush, willows or other inexpensive material may be employed for the fascines.

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

1. A current deflector, comprising a cable maintained transversely of the stream; a quantity of brush connected with said cable and disposed dependingly in the stream; a plurality of anchor-members disposed in the bed and upwardly of the stream; and a plurality of cables extending between and connecting the transverse cable with said anchor-members.

2. A current deflector, comprising a cable maintained transversely of the stream; a quantity of brush connected with said cable and disposed dependingly in the stream; a plurality of anchor-members disposed in the bed of the stream upwardly from the transverse cable; a plurality of strands extending between and connecting the transverse cable and said anchor-members; and means connected with the transverse cable and anchor-members for causing a vertical adjustment of said transverse cable.

3. A current deflector, comprising, in combination with a plurality of anchor-members disposed in the bed of the stream, a cable disposed transversely of the stream and downwardly thereof from said anchor-members, strands connecting the anchor-members and transverse cable; a plurality of fascines arranged side by side and connected with the transverse cable; and means connected with the transverse cable and anchor-members for maintaining the fascines at a predetermined inclination longitudinally of the stream.

4. A current deflector, comprising, in combination with a plurality of anchor-members disposed in the bed of a stream, a cable disposed transversely of the stream and downwardly thereof from said anchor-members; a plurality of strands extending

between and connected with the anchor-members and the transverse cable; a plurality of fascines arranged side by side and connected with said transverse cable; means
 5 connected with the transverse cable and anchor-members for maintaining the fascines at a predetermined inclination longitudinally of the stream, and means to change the longitudinal inclination of the fascines.
 10 5. A current deflector, comprising, in combination with a plurality of pipes provided with cylindrical, tapered heads disposed in the stream to provide anchor-members; a cable disposed transversely of the stream
 15 downwardly of the current from the anchor-members and provided with clamping devices; fascines connected with said cable; and a plurality of strands, each having its terminals connected with the pipe of an
 20 anchor-member and adapted to be engaged between its terminals at longitudinal intervals by one of said clamping-devices.
 6. A current deflector, comprising, in combination with a plurality of anchor mem-
 25 bers, a cable disposed transversely of the stream and downwardly thereof from the anchor members; strands connecting the anchor members and the transverse cable; a plurality of fascines connected with the
 30 transverse cable, and a plurality of strands arranged for longitudinal adjustment upon

said anchor members and connected with said fascines.

7. A current deflector, comprising, in combination with a plurality of anchor mem- 35
 bers, a first cable disposed transversely of the stream and downwardly thereof from the anchor members; strands connecting the anchor members and the first cable; a plurality of fascines connected with said first 40
 cable; a second cable arranged to connect said fascines; and a plurality of strands arranged for longitudinal adjustment upon said anchor members and connected with the
 45 second cable.

8. A current deflector, comprising, in combination with a plurality of anchor members, a cable disposed transversely of the stream and downwardly thereof from the anchor members; a plurality of fascines connected with said cable; and a plurality of 50
 strands adapted to be disposed stridingly upon the cable and provided with means for longitudinal adjustment while mounted at their terminals upon the anchor members. 55

In testimony whereof I have affixed my signature in presence of two witnesses.

JAMES M. MAHER.

Witnesses:

HIRAM A. STURGES,
 L. M. THOMAS.