Aug. 23, 1932. C. E. SNYDER 1,873,496

RIVER REVETMENT

Filed Aug. 4, 1930 2 Sheets-Sheet 1

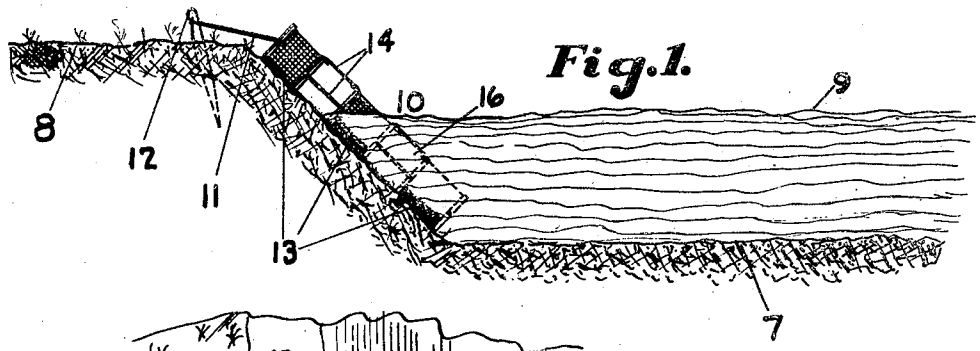


Fig. 1.

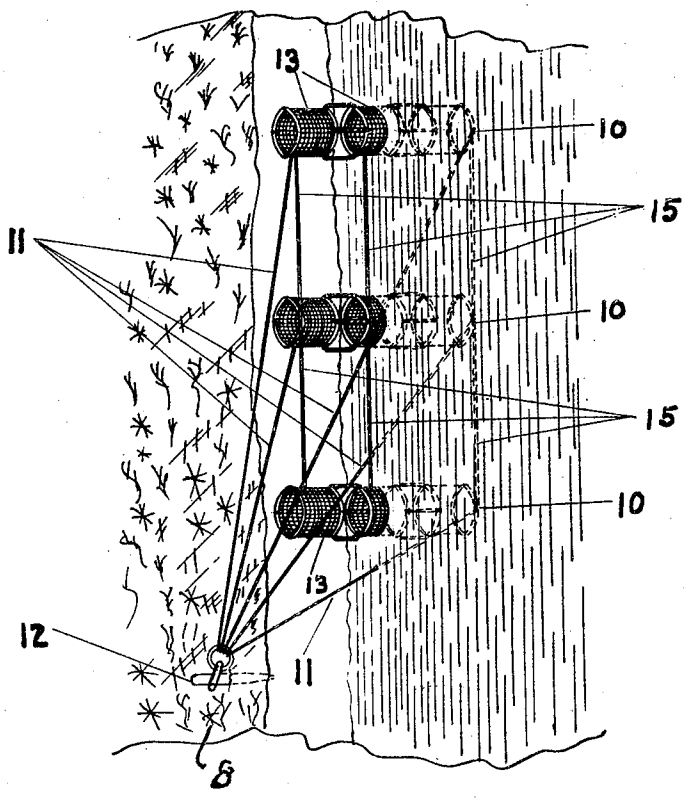


Fig. 2.

Inventor

Chas. E. Snyder

By Hiram A. Sturges

Attorney

Aug. 23, 1932. C. E. SNYDER 1,873,496

RIVER REVETMENT

Filed Aug. 4, 1930 2 Sheets-Sheet 2

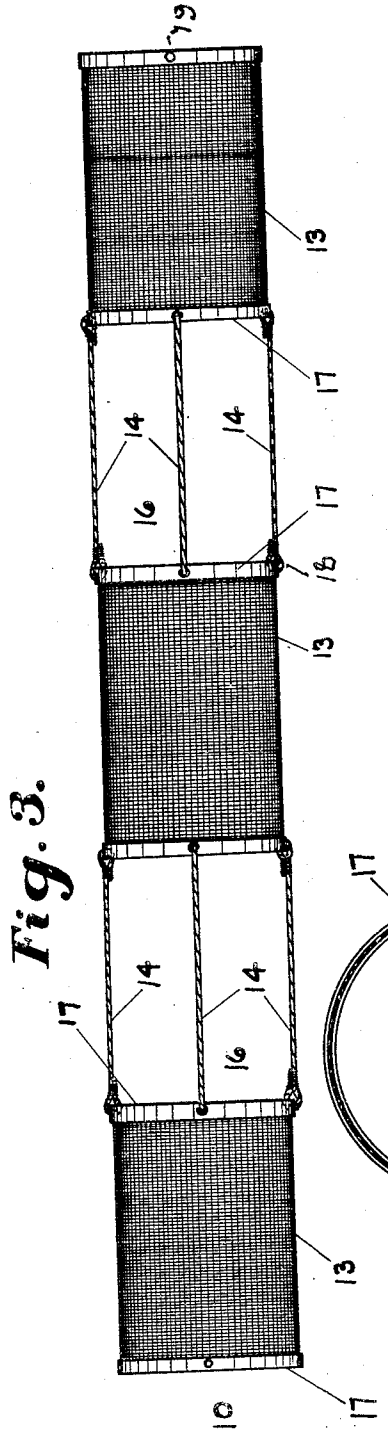


Fig. 3.

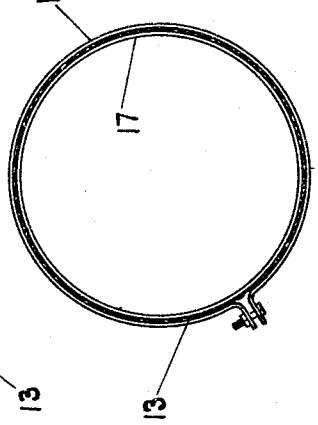


Fig. 4.

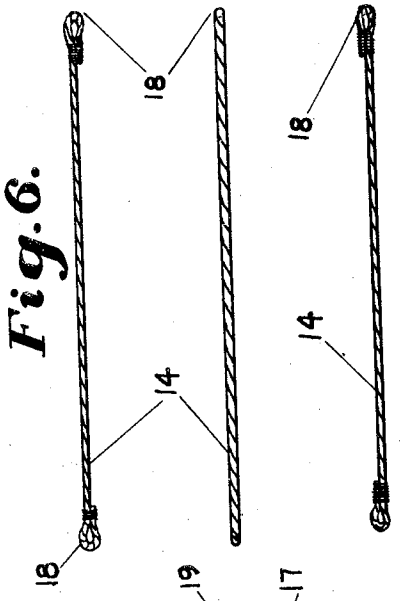


Fig. 6.

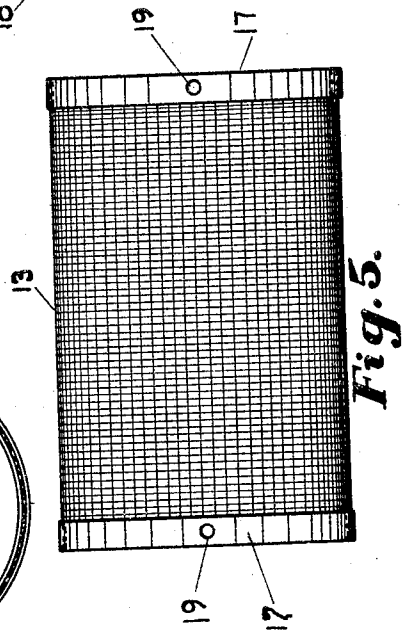


Fig. 5.

Inventor

Chas. E. Snyder

By Hiram A. Sturges

Attorney

Patented Aug. 23, 1932 1,873,496

UNITED STATES PATENT OFFICE

CHARLES E. SNYDER, OF SILVER LAKE, KANSAS

RIVER REVETMENT

Application filed August 4, 1930. Serial No. 472,809.

This invention relates to an improvement in a river revetment and has for its object to provide a current deflector which may be conveniently installed along the banks of silt-bearing streams for preventing erosion and adding silt to land bordering on streams which have been washed away by action of water during freshets, ice gorges or the like.

It is an object to provide such a construction and arrangement for the fascines in streams that they will deflect water currents to great advantage and will be more effective than usual in forming silt beds.

A further object of the invention is to provide fascines which may be produced at a limited expense and will consist of parts which may be assembled at the location where used to avoid, in a measure, the expense of shipping charges.

Still another object is to provide fascines which will effectively resist stresses directed thereto by water currents and of such arrangement that while permitting water to flow therethrough will cause eddies and back-waters to be formed, and thereby causing deposits of silt in a manner more effective than ordinary.

With the foregoing objects in view and others to be mentioned, the invention presents a new construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the accompanying drawings, it being understood that changes may be made in form, size, proportion of parts and minor details, said changes being within the scope of the invention as claimed.

In the drawings Fig. 1 is a sectional view showing the bed of a stream, the silt accumulator or current deflector being secured to the bank.

Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a plan view of one of the fascines. Fig. 4 is an end view of a screen section. Fig. 5 is a plan or side view of a screen section. Fig. 6 illustrates strands or cables used for connecting end to end the screen sections of a fascine.

Referring now to the drawings for a more particular description, the invention is shown and described in connection with the bottom 7 of a stream having a bank 8, the normal level of the water being indicated at 9.

In order that the objects may be attained as first mentioned, I provide a plurality of fascines 10, and as best shown in Figs. 1 and 2 of the drawings, these fascines, by use of cables or strands 11 and an anchor-post 12 may be secured to the bank of a stream in a water current and may be maintained transversely thereof, each fascine being held in spaced relation to the fascine adjacent thereto.

As best shown in Fig. 3 of the drawings each fascine 10 consists of rolls of screen wire or screen-sections 13 connected with each other by any suitable means as by use of strands or cables 14 (Fig. 6).

In practice, these fascines may be disposed approximately 20 feet from each other to advantage, but of course the space between the fascines will depend upon the swiftness of a water current and shape of the bank. At 15 are indicated cables or strong wires which connect the screen wire rolls 13 one with the other of the several fascines. While I have shown three fascines, the number may be greater or lesser as may be required.

As best shown in Fig. 3 spaces 16 are provided between the wire rolls 13 of each fascine 10 to permit water to flow therethrough without appreciable resistance, and it will be understood that the foraminous rolls 13 of wire screen will resist a movement of water therethrough in a greater or lesser degree, this being a desirable feature to cause deflection of the water.

When a movement of water is obstructed, the silt carried by the water will move downwardly by action of gravity and will form deposits on the bed of the stream or on the bank 8. The water flowing through the spaces 16, in conjunction with the obstructed water moving through the rolls 13 will form eddies at the "down stream" sides of the fascines 10, the result being that silt-deposits will be formed and added to the bank 8.

The fascines 10 in the present instance are disposed inclinedly for protecting the bank

of a stream and to cause alluvial deposits to said bank.

To protect the banks of silt-bearing streams, it is an advantage to dispose the fascines in such a manner that they will be partly immersed in the water, the water line 9 reaching their middle as shown in Fig. 1 of the drawings, and on occasions of freshets and when entirely submerged they operate to great advantage.

The screen wire rolls or foraminous screen-sections 13 should be provided with means to prevent sagging, crushing or collapsing, and I have shown apertured hoops 17 for this purpose, the ends of the cables or strands 14 being secured to said hoops or loops by any suitable means.

It will be appreciated that the parts required for the construction of the fascines 10 are few and simple and therefore they may be made and assembled at a limited expense.

While any suitable means may be employed for securing the rolls or sections 13 of each fascine in spaced relation I have shown fastening elements or loops 18 (Fig. 6) which may be provided for the ends of the strands 14 adapted to engage in the apertures 19 of the hoops 17 for this purpose.

While the hollow, cylindrical, foraminous sections 13 may be constructed of any suitable material, I prefer to use the wire netting for these sections as mentioned.

The spaces 16 between the ends of the sections 13 should be adequate to permit a free flow of water therethrough. These spaces 16 tend to reduce the stresses of flowing water directed to the sections so that, by means of the strands or cables 11 and 15 the fascines 10 may be maintained transversely of the water current, and that the sections of each fascine may be disposed with their longitudinal axes approximately in alignment, the strands 14 being approximately parallel and offering only a slight resistance to a flow of water through the spaces 16 between the ends of the sections.

The distance apart of the sections of a fascine may be a matter of choice, depending upon the swiftness of the water current, but as a rule, the length of the spaces 16 should be approximately equal to the length of the section.

I claim as my invention:

A river revetment, comprising a plurality of substantially cylindrical fascines, each fascine having axially spaced apart wire mesh cylinders and flexible connecting elements between the cylinders, said elements being secured at opposite ends of the adjacent cylinders at spaced points of the circumference thereof, and means for supporting the fascines in a stream and in spaced apart relation to each other and with their longitudinal axes substantially at right angles to the direction of the general flow of a stream.

In testimony whereof, I affix my signature.

CHARLES E. SNYDER.