J. C. KELLER.

SHORE PROTECTOR.

APPLICATION FILED JULY 15, 1908.

**909,423.** Patented Jan. 12, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



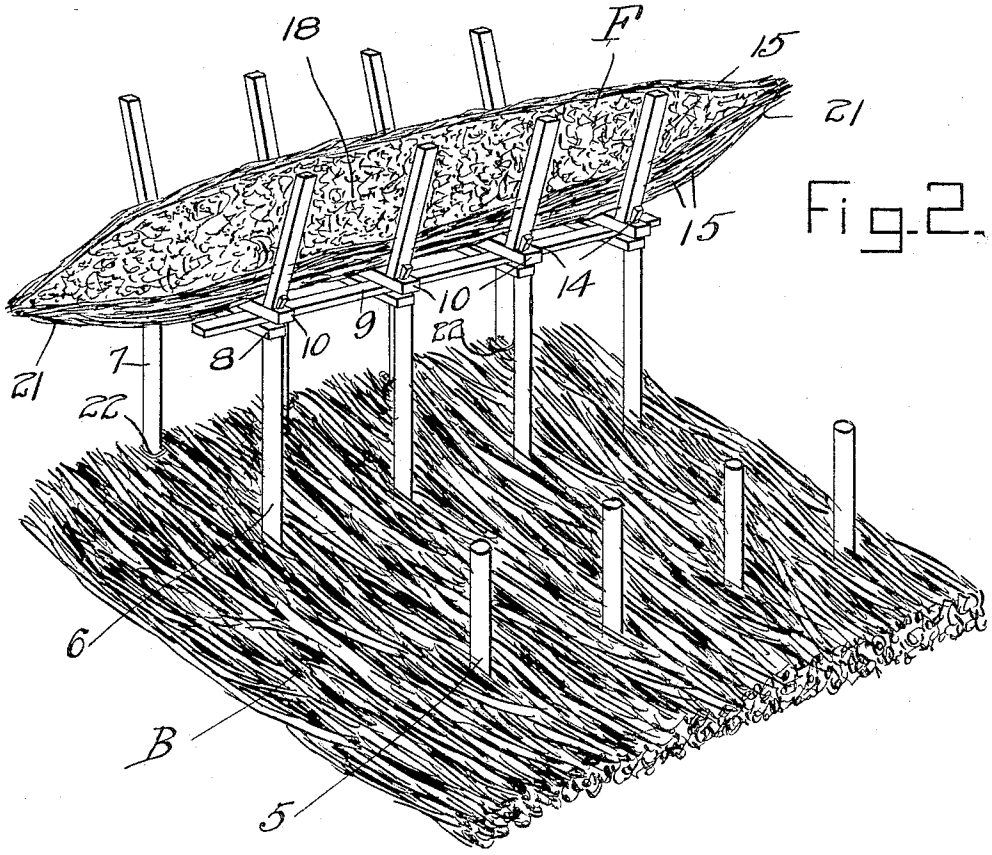




Fig. 2.

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3 SHEETS—SHEET 2.

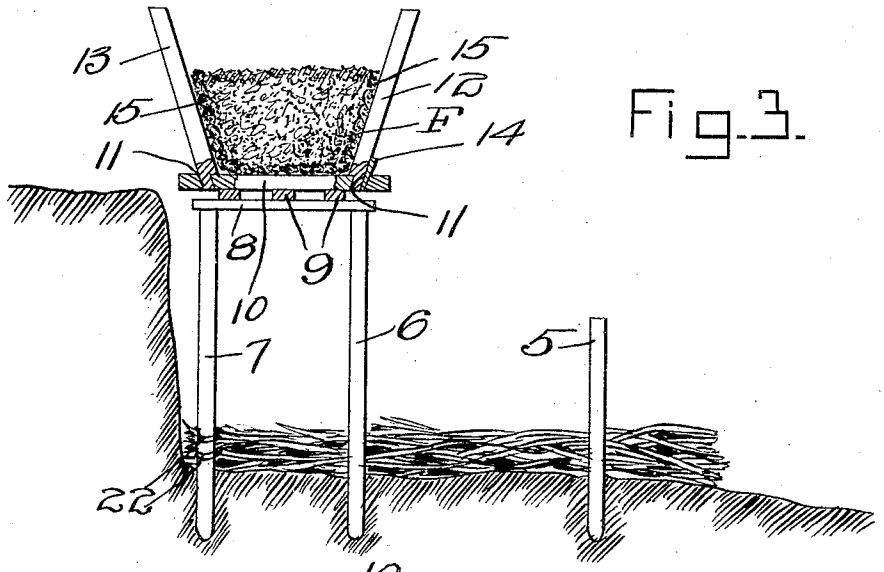



Fig. 3.

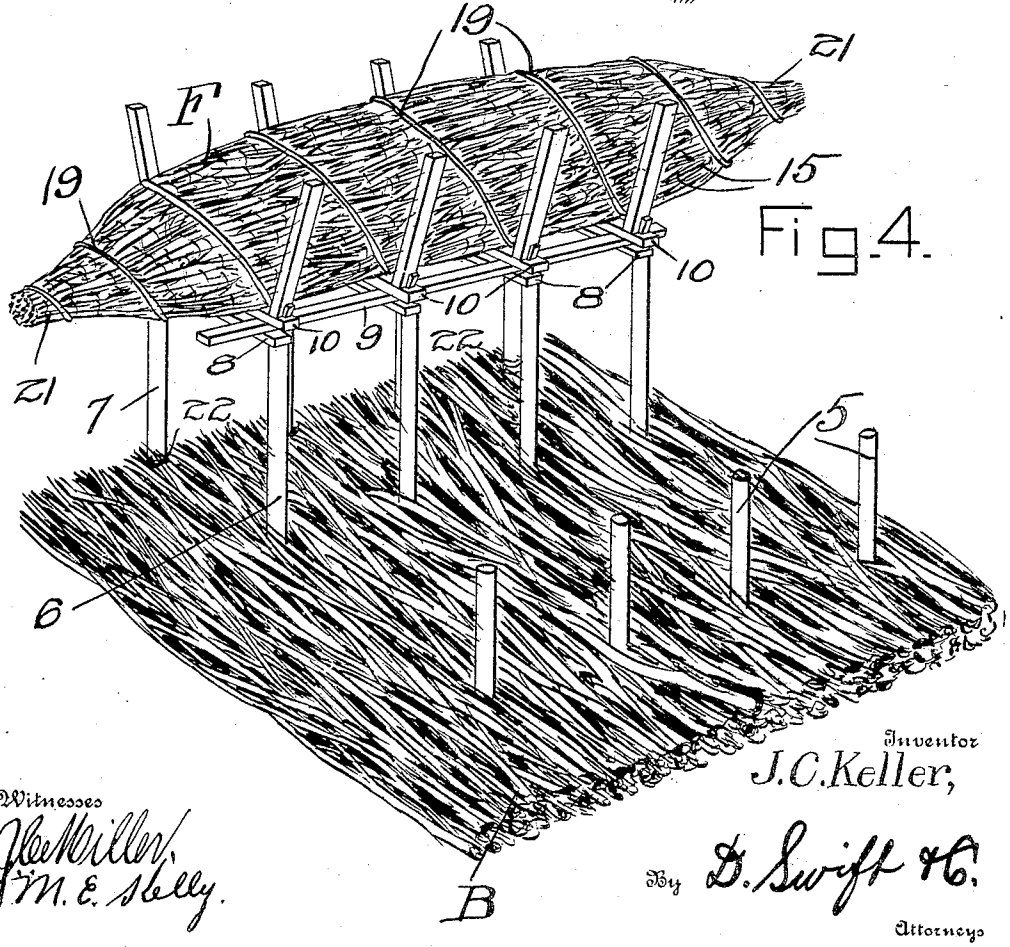



Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

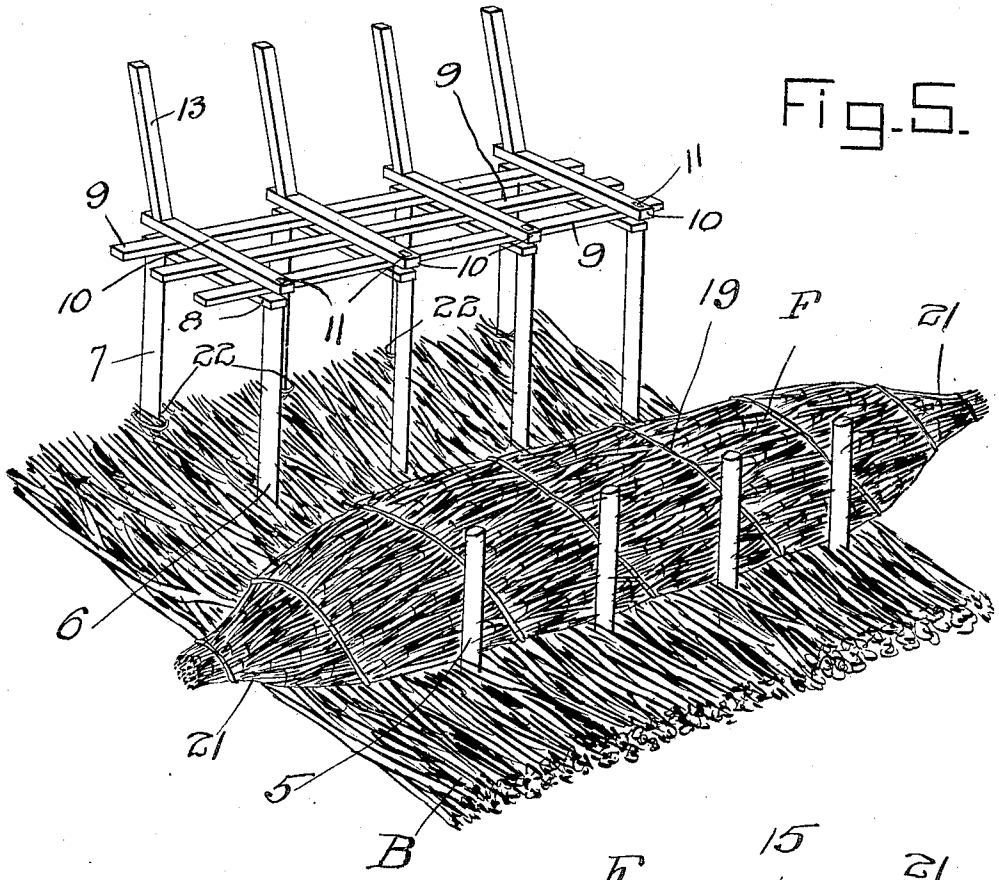
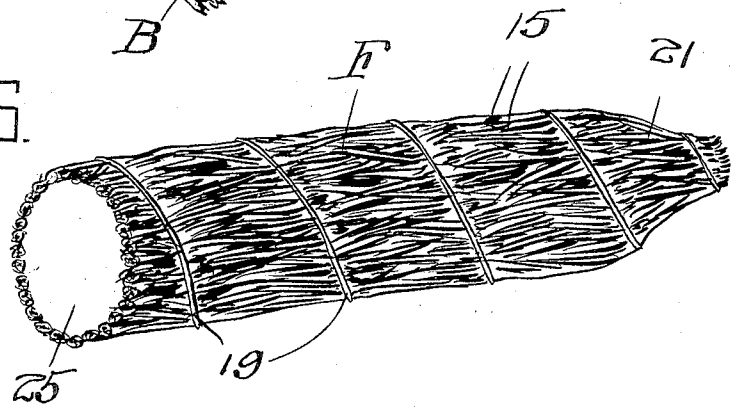



Fig. 6.




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# UNITED STATES PATENT OFFICE.

JOHN C. KELLER, OF NEWBERG, OREGON.

## SHORE-PROTECTOR.

No. 909,423. Specification of Letters Patent. Patented Jan. 12, 1909.

Application filed July 15, 1908. Serial No. 443,677.

*To all whom it may concern:*

Be it known that I, JOHN C. KELLER, a citizen of the United States, residing at Newberg, in the county of Yamhill and State of Oregon, have invented a new and useful Shore-Protector; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices for protecting the shores of rivers and running streams, for making a foundation for road making in swampy and marshy lands, for use in the construction of fortifications, and for other purposes for which fascines are usually employed.

The invention has for its objects to provide fascines of simple and improved construction; to provide a convenient frame or scaffolding to assist in the construction of the fascines, said frame or scaffolding being also the constituent part of the shore protector; and to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings: Figure 1 is a perspective detail view of one of the small bundles of fagots utilized in the construction of the improved fascines. Fig. 2 is a perspective view illustrating the piling or framework and one of the fascines in process of construction. Fig. 3 is a vertical sectional view of the parts shown in Fig. 2. Fig. 4 is a perspective view showing a fascine completed and in position upon the framework. Fig. 5 is a perspective view showing the fascine in position between two rows of piling. Fig. 6 is a perspective view illustrating a modified form of the fascine.

Corresponding parts in the several figures are denoted by like characters of reference.

In the construction of the improved shore protector three rows of piles 5, 6, and 7, are driven, in approximately parallel relation, and approximately parallel to the bank, shore or margin of the river or stream that is to be protected from the encroachment of the water. The piles constituting the inner row are lower than those of the two outer rows which are to be made approximately of equal height, which may exceed that of the inner row from one to ten feet, according to the nature of the work. The piles 6 and 7 of the two outer rows serve to support cross bars 8 which in turn support a floor or platform 9 which may consist of planks placed loosely in position. The floor or platform 9 supports a plurality of approximately parallel cross-bars 10 which are provided adjacent to their ends with recesses or mortises 11 for the reception of bolsters or stakes 12 and 13, which are placed obliquely or slantingly, as shown, the bolsters 12 adjacent to the inner ends of the cross-bars 10 being secured in position, detachably, by means of wedges 14. The framework thus constructed not only constitutes a part of the shore protector, but it also serves as a bed or frame to be utilized as a support for the fascines in process of construction. The fascines F are each composed of an outer covering or casing made up of a plurality of relatively small bundles 15, each of which is made up of brush, straw, cornstalks, bagasse or other suitable material, or combination of materials disposed lengthwise, with ends overlapped as shown at 16 to produce a bundle or fagot of any desired length; said bundles being wrapped or tied with wire or other suitable material, as shown at 17, in such a manner as to form solid and compact bundles of relatively small diameter and of any desired length.

A plurality of the bundles 15 are placed in

proximate relation upon the cross-bars 10 and upon the inclined bolsters 12 and 13 supported by said cross-bars, thus forming a cradle or receptacle which is now filled with heavy material, such as sand, gravel, rocks and the like; said filling, which is shown at 18, being rounded off at the top and adjacent to the ends of the bundles or fagots 15. Additional bundles 15 are now placed upon the upper surface of the filling 18, the said bundles 15 coöperating to form a shell or casing, which latter is now made secure by wrapping and tying with wire, wire-rope or other suitable material, as shown at 19. In applying this wrapping it is preferred to start at one end, the ends of the bundles 15 being brought together or assembled, so as to form a closure sufficiently tight to retain the filling material; as the wrapping proceeds, the bundles 15 are gathered as tightly as possible and assembled as nearly as may be in cylindrical shape; as the wrapping approaches the terminal end of the fascine, the terminal ends of the bundles 15 are assembled or gathered so as to form a closure as shown at 21 whereby the filling material will be securely retained.

The precise manner of applying the wire wrapping or binding may be varied to suit varying circumstances; instead of a continuous wrapping a plurality of independent bands suitably spaced, may be used; and it will be considered within the scope of the invention to secure the bundles 15 together at intermediate points by means of hoops of any suitable material.

A bed B for the reception of the fascine is formed of brush, saplings, small trees and other suitable material which is placed in the interspaces between the piles 5, 6, and 7 of the three rows hereinbefore referred to, said brush or other material being placed transversely to the rows of piling and secured or made fast mainly to the piles of the outermost row 7, by means of wires, thongs or other suitable fastening means, as indicated at 22. This bedding material may be placed in position while the fascine is in process of construction; and when the fascine has been finished and the bed made ready for its reception, the stakes or bolsters 12 are removed, and the fascine may now easily be rolled from the platform upon which it is supported into the space between the two innermost rows of piles 5 and 6, said rows of piles being placed a suitable distance apart to accommodate a fascine of the required size.

From the foregoing description it will be seen that a large and efficient fascine may be readily constructed at a moderate expense; one purpose of the invention being to make a fascine of such large size that it cannot possibly be displaced or disturbed by ordinary causes. For the same reason the fascine, when deposited upon its receiving bed, will serve to retain the bedding material securely against displacement. The interspaces between the material composing the bundles 15 and the bed B will soon become filled with sand, silt and other accretions, and a firm and solid structure will thus be presented which will effectually guard the shore or bank against encroachment of the water.

In Fig. 6 of the drawings has been shown a modified form of the invention, under which the fascine is provided at one end with a head 25 of wood or other suitable material for the purpose of retaining the filling in place; said head being secured in position in any suitable or convenient manner.

It is obvious that after the construction of a fascine, the cross-bars 8 and planks 9 composing the platform together with the cross-bars 10 having the bolsters 12, 13, may be moved to another position to support the material used in the construction of an additional fascine.

Having the invention, what is claimed is:

1. In a shore protector, a plurality of rows of piling, binding material disposed in the interspaces between the piles transversely of the rows, and a fascine supported upon the bedding material between the two innermost rows of piling.

2. A fascine comprising a shell or casing composed of a plurality of bundles or fagots disposed in proximate relation, a filling of sand, gravel and the like, and an external binding whereby the bundles composing the shell are secured upon the filling.

3. A fascine comprising a shell or casing composed of a plurality of bundles or fagots assembled or lapped together at the ends to form terminal closures, a filling of sand, gravel and the like, and an external binding whereby the bundles composing the shell are secured upon the filling, and assembled to form the terminal closures.

4. A fascine comprising a shell composed of a plurality of bundles or fagots disposed in proximate relation, a filling of sand, gravel and the like, and an external binding; said fascine being provided with terminal closures to retain the filling.

5. In a fascine, a shell or casing composed of a plurality of bundles or fagots each composed of brush, straw, stalks and like material disposed lengthwise with ends overlapped to form a bundle of requisite length, the material composing such bundle being secured by an external binding; said bundles being disposed in proximate relation upon a filling of sand, gravel and like material; and means for securing such bundles together to form an approximately cylindrical case.

6. A frame comprising three rows of piles, two rows being of equal height exceeding that

of the third which is the inner row, a platform supported upon the two outermost rows of piles, cross-bars supported upon the platform, stakes secured at the outer ends of said cross-bars, and bolsters mounted detachably adjacent to the inner ends of said cross-bars.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. KELLER.

Witnesses:
DAVID IMLAN,
G. A. GRAVES.