E. E. EVERETT & D. F. SHELDON.

DEVICE USED IN THE FORMATION OF JETTIES.

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1,140,140. Patented May 18, 1915.

Fig. 1.

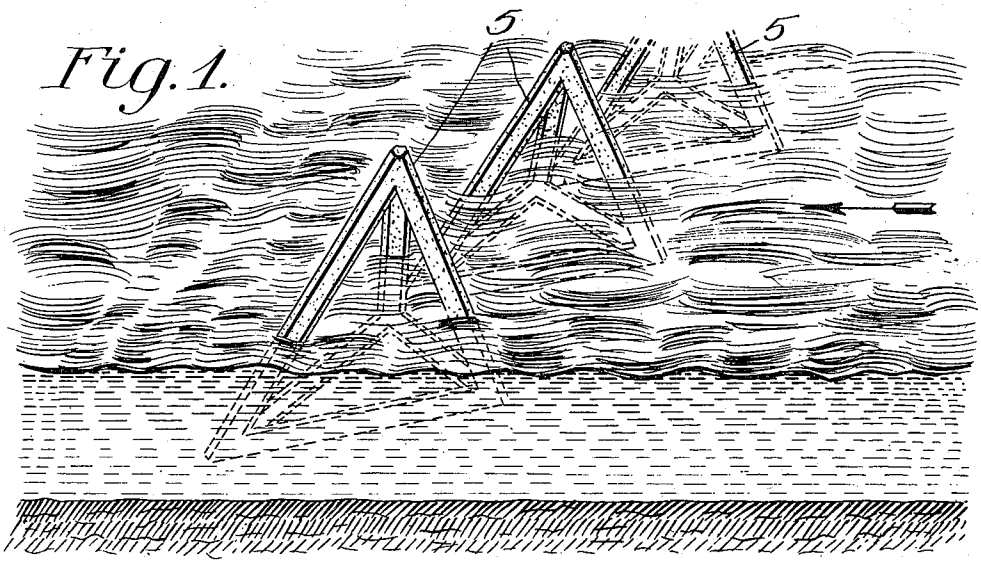


Fig. 2.

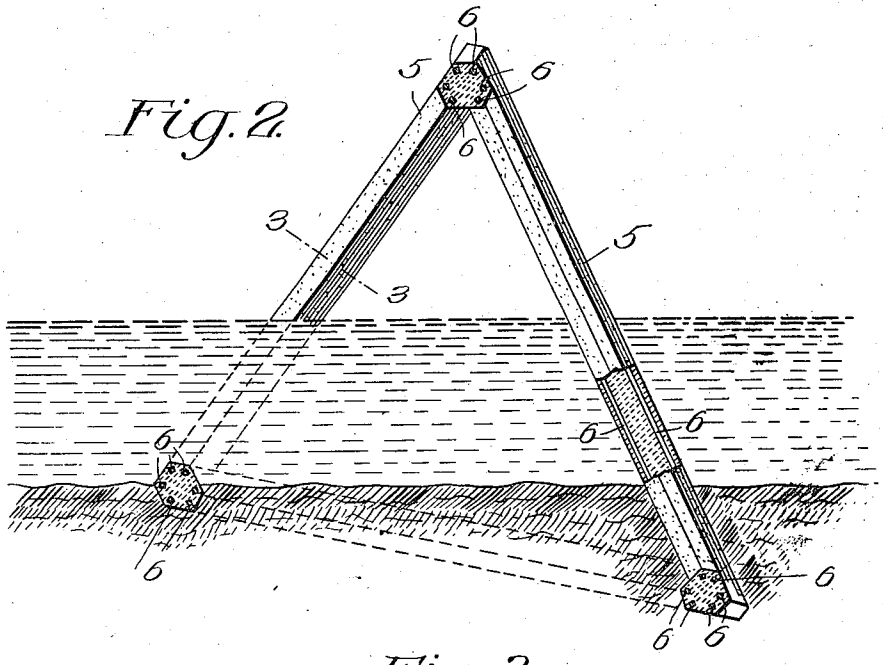
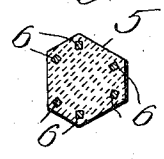


Fig 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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DEVICE USED IN THE FORMATION OF JETTIES.

1,140,140. Specification of Letters Patent. Patented May 18, 1915.

Application filed August 15, 1914. Serial No. 856,970.

To all whom it may concern:

Be it known that we, ERNEST E. EVERETT and DANIEL F. SHELDON, residents of San Buenaventura, in the county of Ventura and State of California, have invented a new and useful Improvement in Devices Used in the Formation of Jetties, of which the following is a specification.

This invention relates to jetties for rivers or other flowing streams, and more particularly to an improved element or unit adapted to be used in the construction of the jetty.

It is well known that in restricting silt bearing streams laden with drift and other detritus to definite channels, jetties are constructed sometimes longitudinally along the margin of the desired channel or transversely across areas overflown by the streams, which areas it is desired to reclaim by confining the stream to a certain and well defined channel. Heretofore these jetties have generally been formed of wooden or concrete piles driven into the stream bed, and penetrating the sand or clay therein, to which piles, lines of barbed wire are attached which catch the drift in order to cause the deposit of silt and other detritus below and about the jetty.

Another method of construction of these jetties has been by use of timber boxes or log cribs filled with rock. And still another method consists in placing of bundles or bales of brush tied or woven into mattresses loaded with rock upon the stream bed. The object of all of these types of jetties has been to provide permanent obstacles along the bed of the stream in order to retard the flow of the stream at that particular point, thus resulting in the deposit of silt and drift and other detritus upon and about the obstacles. The methods set forth have been found to be unsatisfactory. The objection to wooden piles is the difficulty of driving to the desired depth and their buoyancy and tendency to decay, and the objection to concrete piles is the initial cost and their instability unless driven into clay, which is either absent in many streams or overlaid with detritus through which it is not practicable to drive them. The brush mattresses have failed to give the desired results in streams that become dry during the summer months because of decay. The same is true of the timber cribs.

It is the principal object of our invention to provide a device which may be used as an element or unit in forming a jetty, and which will overcome the disadvantages accruing to the forms used in jetties described, and those of a similar nature. In order to do this we provide a device formed of permanent materials, a device which is adapted to quickly become anchored in the stream bed under the erosive action of the water without disintegration, a device which may become displaced without impairing the value of the jetty, and a device which will effectively check the flow of water sufficiently, and insure the collection of drift and detritus upon and about the same.

Another object of the invention is to provide a device of the class described which will be extremely simple, durable, efficient in operation and inexpensive to manufacture.

With these and other objects in view which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, into a frame work substantially in the form of a skeleton pyramid to be applied as an element or unit in the formation of a jetty, hereinafter more fully described and claimed, and illustrated in the accompanying drawing, in which like characters of reference indicate like parts throughout the several figures, of which—

Figure 1 represents in perspective, a jetty formed according to our invention. Fig. 2 represents a sectional view taken through one of the skeleton pyramids, on a plane parallel with and adjacent to one of its sides, the view indicating the manner in which the skeletons become anchored. Fig. 3 represents a transverse sectional view through one of the legs of the skeleton taken on the plane indicated by the line 3—3 of Fig. 2.

The skeleton or obstacle is in the form of a tetrahedron, or open pyramid having three sides and a base, of equal dimensions. The device is really in the form of a skeleton of a tetrahedron, each one of the legs of the device forming what would be one edge of a solid tetrahedron.

The skeleton consists of a metallic framework about which concrete is molded to form the beams or legs. Thus each leg of the device is in the form of a concrete beam 5 reinforced with metallic bars 6.

Each of the legs of the obstacle is polygonal in cross section. In the drawing they are indicated as being hexagonal in cross

section. However, we do not wish to limit the cross sectional configuration of the skeleton legs to any particular form. The legs may be either solid in section or have a hollow core and may be with or without metallic reinforcement.

As indicated in Fig. 1 the skeletons are placed upon the bed of the stream in any arrangement desired, and by the action of the current the sand or other material of which the stream bed is formed is gradually washed away from beneath the beams or legs of the obstacle forming the base thereof and which rests upon the stream bed. In this manner the skeletons gradually sink a sufficient distance to be thoroughly and irremovably anchored in the stream bed. While this action is going on the drift or other materials brought down by the stream engage against and become entangled in the skeleton, thus gradually building up a jetty to retard and eventually stop the flow of water in a particular direction, so that the stream will be confined to a certain and well defined channel at the points required.

By reason of the configuration of the skeleton pyramid one of the sides or faces will always act as a base and so insure obstruction to the stream after being overturned by the action of the water, and because the center of gravity is low, being fixed at one-quarter of the height of the pyramid, the latter will be found to be very stable against over-turning.

Although we have described the preferred embodiment of our invention, we may desire to make such changes in the construction, combination and arrangement of parts thereof as do not depart from the spirit of the invention and the scope of the appended claims.

We claim:—

1. A jetty comprising a plurality of skeleton frameworks of a specific gravity greater than that of water, said frameworks adapted to be disposed in rows in a stream bed in such manner as to settle under their own weight to a permanent anchorage upon washing away of the material below the frameworks, said frameworks being open on all sides and being unconnected with each other, and being artificially unanchored.

2. A jetty comprising a plurality of skeleton frameworks adapted to be disposed in rows in a stream bed in such manner as to settle under their own weight to a permanent anchorage upon washing away of the material beneath the frameworks, said frameworks being of a specific gravity greater than that of water and being open on all sides and being unconnected with each other.

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