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F. DORN

2,068,537

CURRENT DEFLECTOR

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Fig. 1

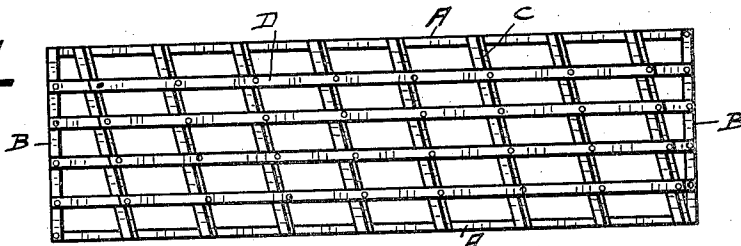


Fig. 2

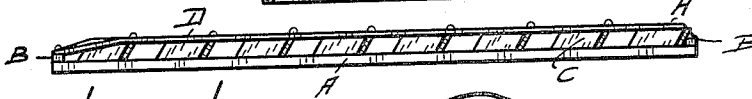
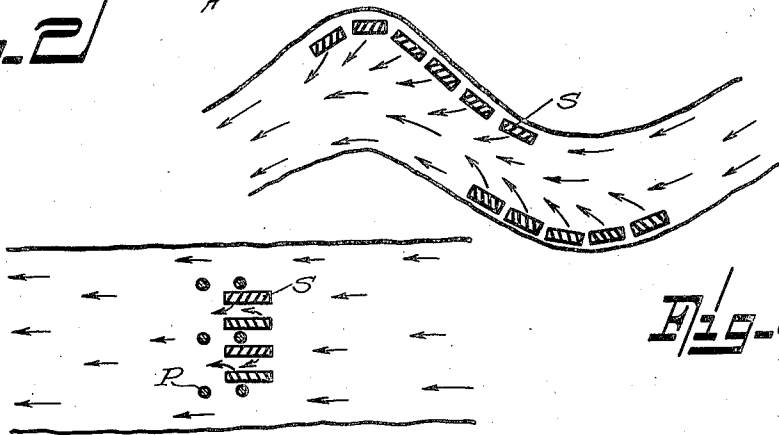
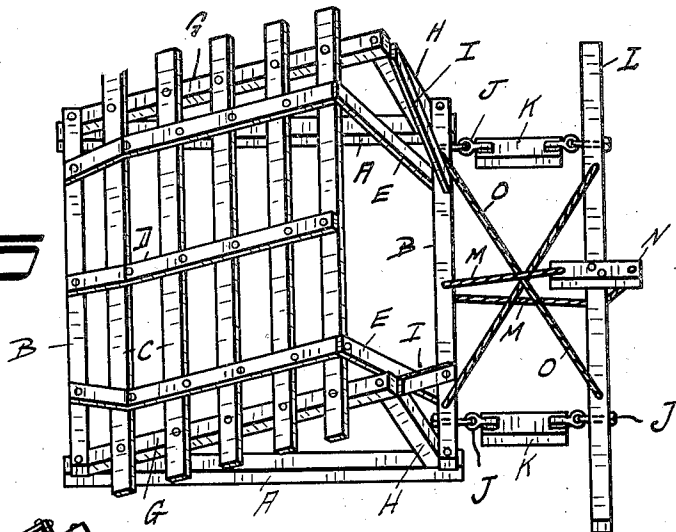
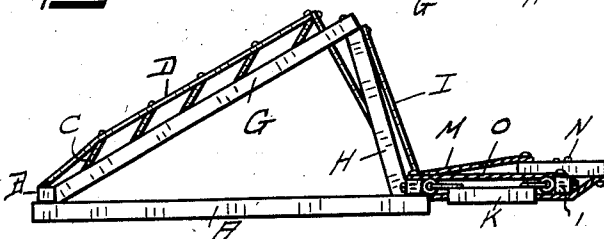


Fig. 3

Fig. 4

Fig. 5

Fig. 6



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CURRENT DEFLECTOR

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2 Claims. (Cl. 61—3)

The invention relates to control currents of streams, waves of oceans and lakes, currents of air and wind storms. The object of the invention is to reduce a certain portion of the forces of the oncoming currents of a stream or currents of air, or to curb waves of water, to make such currents or forces harmless and to concentrate the forces of a stream to clean the bottom of channels, remove sandbars and build up sandbars where necessary of which the following herewith is a specification and description which will describe and illustrate how the above mentioned is accomplished and is made in an inexpensive way for several of the various uses that may be made of it.

Figure 1 is a plan view of the current control device, and Figure 2 is an edge view thereof.

Figure 3 is a plan view illustrating the use of a tandem series of the deflecting devices, one at each side of the stream, and Figure 4 is a view showing a series of the deflecting devices arranged abreast of the stream.

Figure 5 is a perspective view of a modified form of the device, and Figure 6 is a side view of the device of Figure 5.

The water and air control as it is illustrated and of which Fig. 1 is a plan view, will prevent the undermining of bridge piers, cribs, roadbeds and the erosion of banks, the washing away of land and property and will build up sandbars and remove same, it will concentrate the forces of a stream to clean and deepen channels by forcing the water away from the banks and into the middle of the stream or channel as is illustrated by Fig. 3. In Fig. 3, the deflecting devices, indicated as a whole by the letter S, are arranged in tandem series, at bends in the stream along its banks to deflect the currents toward the center of the stream, as indicated by the arrows, to prevent erosion of the banks.

It is made with two or more stringers or sills —“A—A” and two short sills “B—B” securely fastened or nailed to each end of sills —“A—A”. The cross members “C” are fastened on edge and slanting across the two sills “A—A” as shown in plan view Fig. 1 and side elevation Fig. 2. The slanting position of cross members “C” will give the currents of water a deflecting effect as it hits the cross members “C”. The current will wash over cross members “C” slowing the current and at the same time deflecting the current toward the center of the stream or away from whatever is to be protected. The ribbons “D” serve to hold cross members “C” at the desired

angle and also serve the purpose of slowing the current.

Fig. 4 illustrates how above described water control devices S can be used to protect bridge piers or piling—slowing the current around bridge piers or piling P, as indicated by the arrows. thereby building sand etc. around piers or piling and deflecting the current from same. The above described control can be sunk to certain depths so same can accomplish the above described results on the under currents.

The above described water and air control is used in the following manner: place same into the stream along the side of what is to be protected, extending same up stream 15 feet past said bank or property to start slowing the current before it hits the property which is to be protected. To prevent the undermining of bridge piers and cribs, sink the water and air control to the bottom along side of such property extending the same about 15 feet up stream which slows the currents' movements and prevents cutting at such places and will build up sediment around said piers etc., it can be held securely into place by fastening a cable to sill “A” and tying same to bridge pier or crib or anchor same to solid land.

For best result it should always be floating in the water permitting same to oscillate and for extraordinary high flood waters double the same by fastening another control over the first one to make the cross bars —“C” higher.

The cross bars “C” check the swiftness of the current and the sills “A—A”, the ribbons “D—D” along their lengths creating a friction and slowing the currents' movements and reducing the rise and fall of the current along the banks preventing the slush of the water from wearing down its banks and the floating sand and sediment will settle under and back of the water and air control by reason it slows the currents' movements and in that it reduces the channel at such places and with the deflecting crossbars “C” forcing the current to the other side of the stream to remove sand bars at such places.

With the water and air control Fig. 1 one on each side in the stream opposite each other as illustrated in Fig. 3, it will concentrate the current to the center of the stream thereby cleaning and deepening it. It is also understood two or more water and air controls may be used to get the required length.

The water and air control as it is illustrated in Figs. 5 and 6 which is a plan view and side elevation will protect stranded ships and rafts at

sea, ships and docks in harbors and landing places for air planes on ocean, lakes and land. It is made with two or more sills "A—A" and two end sills "B—B" which are fastened together, then put risers "G—G" on the ends of sills "A—A" and fasten same. Fasten post "H—H" at the desired height to the other end of risers "G—G" and down to sills "A—A" bracing the same against side rocking with braces "I—I". Put cross bars "C" straight across the risers "G—G" two or three feet apart and on a certain angle as shown in Fig. 6. Nail two or more ribbons "D—D" over the length of the cross bars "C" and down to end sills "B—B" with braces "E—E". Have the tops of the cross bars "C" lean slightly back so the oncoming waters will hit the cross bars a little on the upper side thereby preventing the same from floating too high and by having the tops of the cross bars "C" lean slightly forward would prevent the water and air control from sinking too deep. Take four double eyebolts "J—J—J—J" fasten one end to each end of the two timbers "K—K" fasten one of each into end sill "B" near sills "A—A" and the other ends into a main beam "L" which is then fastened to a ship or such property as is to be protected. The double eyebolts "J" permitting the water and air control to oscillate and preventing same from breaking loose from that which is to be protected. The two timbers "K—K" are to hold the water and air control at a certain distance out in front of that which is to be protected and the control can be held from sinking below or floating above a certain level with two or more guy lines "M—M" from end sill "B" and fastened to stub beam "N" or to something above and below main beam "L".

To protect landing places on oceans and lakes for air planes attach cables to weights or anchors from the bottom of same to floats on the surface of the water to which the water and air control can be held in place.

The water and air control can be held at any

angle desired with tow cross guy lines "O—O" fastened to main beam "L" and to end sill "B". For the protection of buildings, orchards, play grounds, bathing beaches and such as that use Fig. 5 with the tops of all the cross bars "C" on same leaning back so the currents of air hitting the same will deflect in an upward direction and to pass on over and above that which is to be protected, in this case the end of the air and water control where the double eyebolts "J" are fastened to end sill "B", guy lines "M—M" and "O—O" are not needed and is to be omitted. This control may be built in sections so it can be moved about to where it is most needed or useful and if it should be very tall, cables should be attached to same near the top and to anchors at the ground to prevent a wind storm from tipping it over.

Having thus described my invention, which I claim is new and desire to secure by Letters Patent is:

1. In a current deflector, the combination with a frame and anchoring means therefor, of a pair of spaced risers disposed at an acute angle to said frame and rigidly secured at one end to the frame, spacing posts rigidly securing the other ends of said risers to the frame, a series of deflecting cross members obliquely disposed with relation to said risers and secured thereto, and a series of ribbons arranged transversely of the deflecting cross members and rigidly secured to said cross members.

2. In a current deflector, the combination with a main supporting beam and flexible connections between said beam and the deflector, of a central stub-beam arranged transversely of the main beam and flexible connections between said stub beam and the deflector, and a pair of crossed guy-lines, each having its ends attached to the main beam and said deflector, and said lines extending obliquely between the beam and deflector.

FRANK DORN.