June 1, 1926.

1,587,187

J. A. SCHMUTTE

STREAM CONTROL APPARATUS

Filed Nov. 11, 1922

Fig.1.

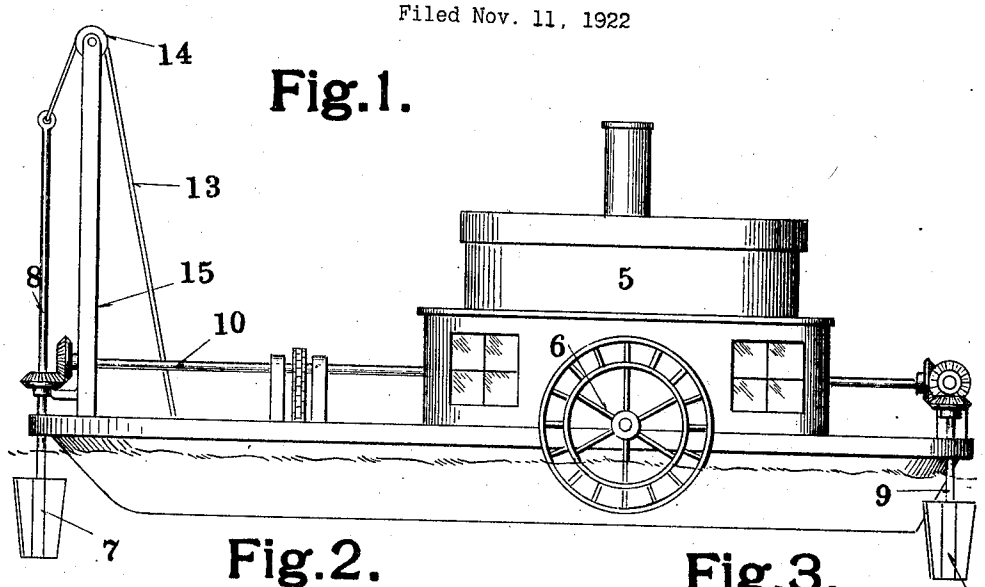


Fig.2.

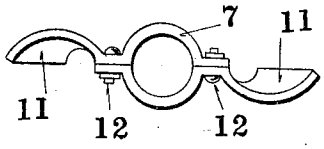


Fig.3.

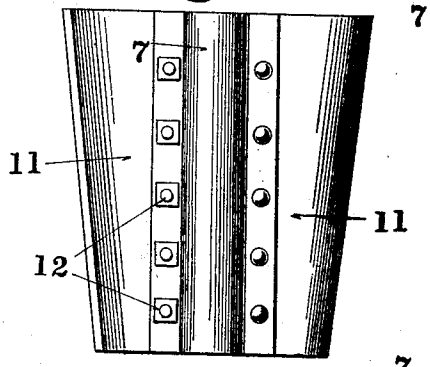
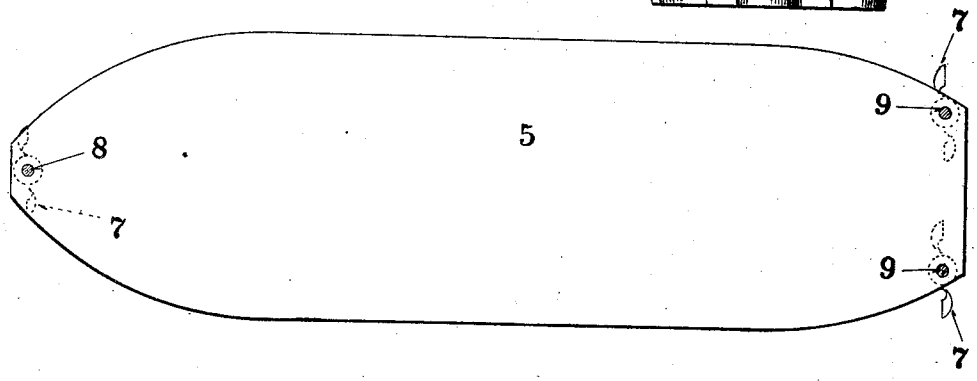


Fig.4.



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UNITED STATES PATENT OFFICE.

JACOB A. SCHMUTTE, OF CORNING, MISSOURI.

STREAM-CONTROL APPARATUS.

Application filed November 11, 1922. Serial No. 600,447.

My invention relates to an apparatus for producing artificial currents in the water of a stream and is adapted for carrying out the method of controlling the course of streams described and claimed in Patent No. 1,494,190 granted to me May 13, 1924. It may also be used for freeing the stream of sand bars and for removing buried logs and snags which would otherwise constitute dangerous obstruction to navigation.

In the accompanying drawings which illustrate one form of apparatus made in accordance with my invention, Fig. 1 is a side elevation; Fig. 2 is an enlarged top view of one of the agitators; Fig. 3 is a side view of one of the agitators; and Fig. 4 is a plan view showing the position of the agitators.

5 indicates a boat which should be of small draft and may be propelled in any suitable manner, such as by paddle wheels 6. Carried by the boat 5 are agitators 7, preferably three in number. One of these agitators is situated at the front of the boat and the other two at the sides thereof. The front agitator is carried on a vertical shaft 8 and the other two on a pair of vertical shafts 9, all three of said shafts being driven by gearing 10. Each of the agitators comprises two blades 11, convex on one side and concave on the other. The blades are tapering, as best shown in Figs. 2 and 3, so that when rotated by the gearing 10 they will produce downwardly-directed currents in the water. Each of the agitators is preferably formed of two parts secured together by bolts or screws 12 for convenience in placing them in position on the shafts 8 and 9. In the drawings, I have shown the upper end of the shaft 8 attached to a cable 13 passing over a pulley 14 on a mast 15 so that the front agitator may be raised and lowered. The shafts 9 may, of course, be provided with similar adjusting means. It is, however, of particular importance that the front agitator be adjustable vertically so that it may operate on portions of the river bed where the water is too shallow to allow the passage of the boat.

The currents produced by the agitators 7 flow in a direction substantially perpendicular to the bed of the stream, thus loosening the sandy material of which it is composed so that the said material may be carried away by gravity and the action of the current as described in my patent above referred to. The device can also be used for removing sand bars and buried logs or snags. In the latter case, the boat is caused to hover over the log or snag so as to loosen the sand and sediment around the same, thus permitting it to rise to the surface and float away.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device of the class described, the combination with a vessel of an agitator carried thereby and rotatable on a substantially vertical axis, said agitator being positioned adjacent to the side of the vessel and being provided with curved blades tapering downwardly to concentrate the current produced.

2. In a device of the class described, the combination with a vessel, of an agitator carried adjacent to the side thereof, the blades of said agitator being tapered in the direction of the length of its axis and curved in a plane transverse thereto.

3. In a device of the class described, the combination with a vessel, of an agitator carried adjacent to the side thereof and rotatable on a substantially vertical axis, the blades of said propeller being tapered in the direction of the length of its axis and curved in a plane transverse thereto.

4. In a device of the class described, the combination with a vessel of a plurality of agitators rotatable on verticle axes and located at the sides of the vessel, an agitator centrally located at the forward end of the vessel, and means for vertically adjusting said latter named agitator.

In testimony whereof, I have hereunto set my hand and affixed my seal.

JACOB A. SCHMUTTE. [L. S.]