Nov. 18, 1930. R. R. SMITH 1,782,277

POWER APPARATUS

Filed Dec. 15, 1928

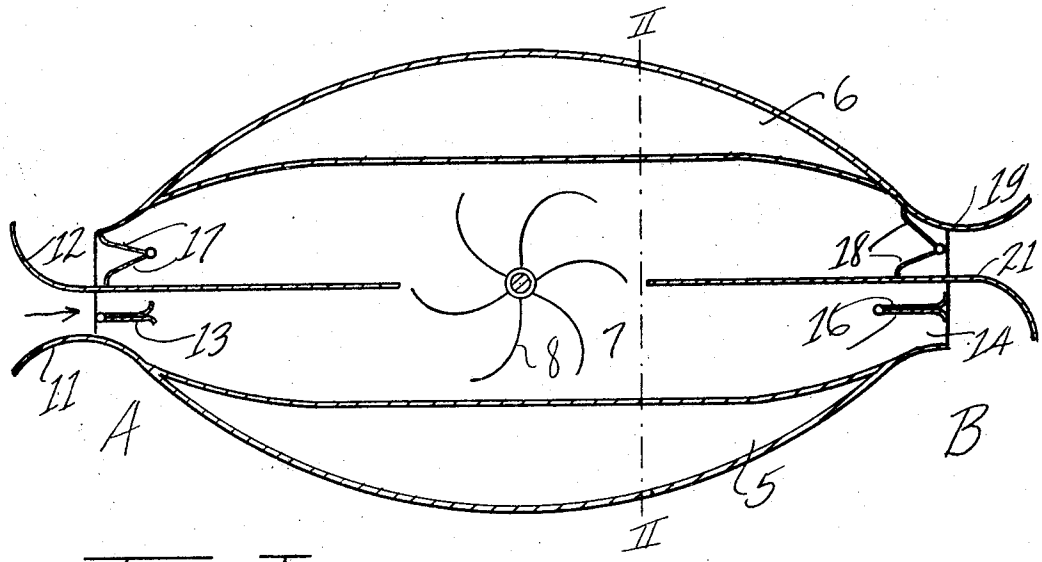


Fig. I

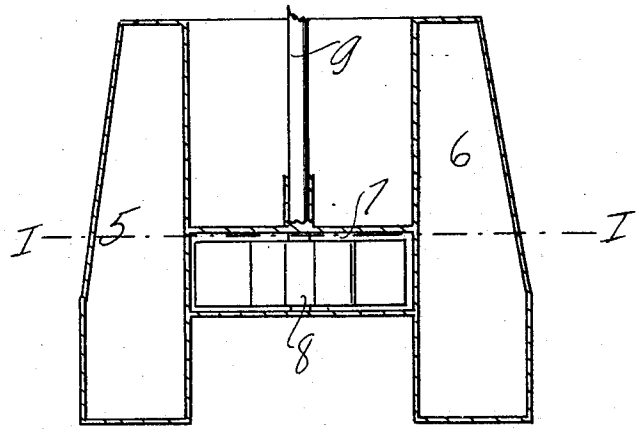


Fig. II

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POWER APPARATUS

Application filed December 15, 1928. Serial No. 326,281.

This invention relates to improvements in power apparatus and has particular reference to means for securing power from flowing water such as streams, irrigation canals, flood gates and the like.

The principal object of this invention is to provide means whereby power may be derived from any source of water wherein there is a fairly constant flow past a given point.

A further object is to provide means whereby the device may be transported from place to place.

A still further object is to provide a device for deriving the power irrespective of the flow of fluid. It often happens in tie gates that the current will flow first in one direction and then in the opposite direction.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a cross section taken on the line 1—1 of Figure 2, and

Figure 2 is a cross section taken on the line 2—2 of Figure 1.

There are many streams or other bodies of water wherein a definite flow takes place which flow may be utilized to produce power and it is to accomplish this that I have devised my invention, which consists primarily of an electrical structure comprising two pontoons as shown at 5 and 6. These pontoons form a device which is substantially canoe shaped that is tapered at each end. A control chamber is formed between two pontoons, which chamber is designated by the numeral 7 and is adapted to house a water wheel 8 which may have any desired number of blades. This wheel is carried upon a shaft 9 which shaft may deliver the power generated by the water wheel 8 to any suitable point for utilization.

In order to direct flow of water against the wheel it will be assumed that the device as a whole is immersed in a body of water wherein there is a flow and that the end A is toward the direction of the flow of water. The result will be that a portion of the water will enter as indicated by the arrow of Figure 1 and pass between the outwardly diverging fins 11 and 12, will open the inlet valves 13 and will contact the blades of the water wheel. The water will then flow through the outlet 14 past the outlet valve 16. The flow of water from the end A will cause the outlet valve veins 17 to remain in a closed position as well as the inlet valve veins 18, the reason being that the valves 17 and 18 are in a reverse position with respect to the valves 13 and 16.

At 19 and 21 I have shown a pair of diverging fins similar to the fins 11 and 12. It will here be noted that the fins 12 and 21 are elongated so that their adjacent ends are in a close proximity to the water wheel 8 and thus divide the chamber 7 at each end thereof. The result of this structure is that should the device be placed in a stream where the water was flowing in the opposite direction, the result will be that the valves 18 and 17 would open while the valves 16 and 13 would close. However, the stream would strike the water wheel so as to continue the rotation in the same direction as when the water was coming from the end A, therefore it will be seen that no matter which direction the water comes, either from the end A or the end B the water will be caused to rotate in the same direction.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a device of the character described, a body portion comprising a pair of pontoons, a chamber formed between said pontoons, a division plate positioned at each end of said chamber, a water wheel positioned within said chamber and at a point between the adjacent ends of said division plates, an inlet

and outlet port formed at each end of said chamber and at opposite sides of said division plates, a valve positioned within each of said inlet and outlet ports, said valves comprising hinged vanes having flared ends, the flared ends of the inlet valves extending into said chamber, the flared ends of said outlet valves extending in a reverse direction from said inlet valves.

In testimony whereof I affix my signature.

RALSTON R. SMITH.