

## [54] HYDRO-CURRENT ENERGY CONVERTER

[76] Inventor: **Hans G. Rauch**, 426 Wayman Cir.,  
West Palm Beach, Fla. 33406

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### Related U.S. Application Data

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415/126; 416/85, 90 R, 91, 93 R, 244 R, 244 A,  
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*Primary Examiner*—William M. Shoop

*Assistant Examiner*—W. E. Duncanson, Jr.

Attorney, Agent, or Firm—Eugene F. Malin

[57] **ABSTRACT**

A hydro-dynamic device for capturing the energy of a natural stream of flowing water, and converting such current or flow of water energy into electric power for user consumption. The device has a primary tubular

housing, a sealed, conical, secondary housing mounted within the tubular housing, the secondary housing containing an electrical generator. The secondary housing has a conical end portion, and is disposed within and along the exterior housing longitudinally. A rotor which drives the generator is coupled to the secondary housing, having blades disposed within the path of water entering the primary housing. The interior housing is rigidly mounted to the exterior housing by support panels that also act as guide vanes for the flow of water through the exterior housing over the conical portion of the interior housing, thus increasing water flow velocity. Rigidly affixed toward the rear of said cone are further guide vanes, at an angle approaching forty-five degrees. The rotor has rigidly affixed vanes disposed at approximately forty-five degrees to the rotor. Thus, the flow of water entering the forward portion of the exterior housing is caused to flow over the conical inside housing, and is directed to the vanes affixed towards the rear of the conical inside housing, striking the rotor at an angle of approximately ninety degrees for maximum efficiency, thus turning the rotor and driving the generator. A tertiary housing is mounted inside the exterior housing along the longitudinal axis and at the exit of the exterior housing downstream of the rotor. The end faces of the outer housing include concentric, circular guard panels which are used to prevent entry of foreign objects into the primary housing. Located within the conical housing is another turbine rotor and gearing to ensure that the motor turns at its optimal frequency, regardless of rotor frequency, and fluid that can serve both as lubricant and coolant for the machinery within the secondary housing. The system can be mounted on a platform resting on a sea/river bed, or floated at preselected depths by a floatation system.

**9 Claims, 9 Drawing Figures**

