

no satisfactory measurements of speed have been obtained. Dec. 4 one set of surfaces collapsed almost immediately; then a pin upon the propeller axis sheared, crippling the propeller. Dec. 5 there was slush ice in the harbor, and from this cause, or from other causes, he could not get the boat to lift. Dec. 7 the harbor was frozen up, but he carried the Dhennas Beag to the Laboratory wharf and launched her on the Bay. Still the boat would not lift, and the propeller shaft was twisted off.

Mr. Baldwin thinks that the failure to lift with the small hydro-surfaces employed is due to the resistance of submerged horizontal struts of aluminum tubing. These struts were left in because a very little lift of the boat would carry them clear of the water. He thinks, however, that their presence in the water prevents the boat from attaining a lifting speed with the small hydro-surfaces employed. He proposes to cut out these struts altogether, and expects that the boat will then rise sufficiently to clear the water, but that the small hydro-surfaces will not have sufficient lifting power to bring the lower set to the top of the water. He may then be able to let the boat go full speed and ascertain its velocity. It will thus be seen that Baldwin is trying to prevent his hydro-curves from coming to the top of the water by using smaller surfaces, so as to get a less lifting effect. The thought occurs that it might perhaps be better to provide the boat with a horizontal rudder or front control, operating either in the air or water by means of which the operator could steer the boat