

## THE SUBMERGED HYDROFOIL IS A BRITISH INVENTION: I invented it in 1942

by Christopher Hook

(original document available on <http://www.metrotel.co.uk/mmm/hook/inventionorig.pdf>)

(There are plenty of documents to prove all the following)

I escaped from Vichy France in 1942 with my french born wife and made my way to the nearest British Naval Base because I had had an idea that could have been useful for the Invasion on D-day. It was the early form of the fully submerged hydrofoil with incidence control. The first expert called upon to examine this idea was Colonel Rose who had been Minister of Transport for Gen Smuts. He pronounced it to be far in advance of all previous hydrofoil systems so the Navy in Simonstown helped me as much as they could until the Admiralty gave orders to them to stop. I then moved on to Kenya where another Naval commission listed out all the uses that could be made of such a hydrofoil in war and this caused a flaming row. I was refused all help because of the Admiralty decision. The Admiralty had said that the idea was known and would not work. I worked entirely with aircraft scrap from the Nairobi salvage dump and made a Walrus hull fly on foils with a team of Italian prisoners and Kenya natives who had never seen the sea and did not know that it was salty until they had put it into their posho.

Back in England in 1956 I bought a large house at Cowes and set up an experimental establishment with good success until my money ran out and a Ltd. Co. was formed to build an HN/5 at Birdham Pool. This 30 ft metal skin craft was cut in half within a few weeks of launching. The boss could not take any more leg pulling about his boat that was going to fly! A year of design work for me was lost.

Back on my own I took out a mortgage on my house and built a small copy of the HN/5 to be powered with a motor bike 1 cyl engine and airscrew. This failed so I took the boat minus engine to Paris where a Flying Flea engine was mounted and this was at once

successful on the Marne. The French Navy asked for demonstrations on the sea at Toulon and the aviso "Le Somali" put to sea from Toulon to meet me in Bandol bay in fairly rough seas. At the same time the LIFE team took the pictures that appeared at the same time as the "King's Story" and this prepared my arrival in the USA for later. The first Naval conference was on board the Somali and there were more in Paris. I was strongly advised to get to the USA *as fast as possible*.

The Admiralty, pressed by Shackleton who had read the R.A.E. tank tests report describing my craft as excellent in waves, had agreed to watch demonstrations if these were provided but pressed now to honour this promise, refused. (Even 3/6 worth of ply for the model for the tank had been refused a permit).

I booked a small stand at the N.Y. Boat Show of Jan 1951 at Grand Central Palace and, partly due to my LIFE pictures but mostly due to an appearance on the Columbia System T.V. (Kate Smith Show) my stand was soon one solid mass of humanity and this state lasted for a week. Nobody passed any orders but I had a book full of names and I had interested the Navy. A programme was set up and I was paid for about 2 months while some 150 Pentagon Brass was ferried down to watch me run in rough waters in my flea-sized hydrofoil. After this I was told that if I would find a Yard that was suitable for a Navy contract and sign a contract with its owners, then the Navy could take the next step. First, with this in writing I found myself an American partner who injected the cash that I still could not get out from England.

There were several hydrofoil systems being investigated by the USN at the time including one invented by Dr Vannevar Bush the American counterpart to our Sir Henry Tizard who I was to meet later at NRDC . Bush had an aircraft team loaned by Northrop Aviation and help from 2 Universities. Despite this his boat was a failure and I won the US Navy contract for the first large hydrofoil for a Navy use but my partner and I were tricked out of most of our agreed royalty. According to our contract the firm should have produced the books to prove the amounts owing on royalty but to avoid this it was pretexted that the Navy objected on grounds of security. The Navy however refused to reply on grounds that the whole matter was, on the contrary, commercial. (I wish I could call my butcher's bill some other name so as not to have to pay it!) Charles Kettering the inventor of the self starter was furious over this but could do nothing to help us. All this I have described at some length in "Where Admirals Fear to Tread" (Hoveringcraft & Hydrofoil of Aug 1968, reprints on request). It follows that all the estimated \$200,000,000 (yes millions) hydrofoil programme in the USA was set up on information that the Americans obtained by cheating my American partner out of his money. When we were unable to get paid the bottom fell out of our hydrofoil conversion kit business despite our exports to S.Africa, Kenya, New Guinea, Canada, France, Italy. I returned to Britain where Lord Halsbury of N.R.D.C. wrote me a series of letters explaining that I should go to Germany because of the impossibility of getting any advice in Britain. (After the war the Admiralty merely locked up the German V-S6 at Portsmouth and refused all information on it, even to the US Navy so the latter reciprocated by refusing all information on my 13 ton Naval Landing craft to the British!!)

It was of course necessary for me to get the Americans to admit officially that I had been the first to demonstrate the submerged foil in the USA and this they have done. It is to be found in the Transactions of the R.I.N.A (10 Upper Belgrave Street, SW1) Vol 107 pp 97 & 103. There is also the full page article on my case in the SUNDAY TIMES of 3rd Dec 1967 by John Fielding who has retained copies of most of the relevant documents. Also The Times Hovercraft & Hydrofoils special of 24th July 1968 page III:

*"The hovercraft and modern hydrofoil are both largely British inventions. Christopher Cockerell invented the first....while the submerged foil was originated by Christopher Hook."*

Official answers fed to enquiring M.Ps or business men are to the effect that no British firm has seemed prepared to back hydrofoils in Britain and this is, of course, a half-truth. It is true that no firm has yet agreed to take on a potential large industry single handed and who shall blame them?

Accepting the argument that the Govt could not finance an inventor as such (even though in my particular case I have a long record as a successful employer of labour on quite a large scale) I have several times satisfied all the stated requirements of industrial support, only to find that the original statements were quite insincere and only made in order to appear to comply with the apparent function of supporting inventions. One such had been selected for support on a large scale and much prestige attached to its success so that any other invention in roughly the same area was undesirable even though it was not possible to announce this publicly for obvious reasons. In fact the following firms have wanted, at one time or another to back the Hydrofin:-

Date	Firm	Group	Authority	Result
About 1957	Manganese Bronze	Alone	Admiralty	Refusal to advise
1962 1963	Philip & Son Dartmouth Whitworth Gloster Paxman Diesels Hampson Industries T.D.C.	<u>Consortium 1</u>	D.S.I.R.	A first offer of £25,000 was not enough and the group would have had to raise about £120,000 to qualify
1965	Handley Page & Vospers	(Declaration of intent by H. P. "providing there is Govt assistance")	D.S.I.R.	A request for £5.000 by H.P. for a design contract was refused.
1965	Bristol Siddeley Keelavite Elliotts(Rochester) Thornycrofts (Associated Fisheries)	<u>Consortium 2</u>	N.R.D.C.	There were talks about talks with Barber of NRDC but no technical discussion at all and when this group met in London to ask NRDC to say if it would assist or not Walker refused to agree to a meeting.
1965	Yarrows	Alone	Min Tech	No encouragement
1965	Shorts of Belfast	Alone		Technical meeting in London but again Walker refused to discuss the matter with this firm.

1967	Vickers.	This is a special case. The most fantastic technical report has been written stating that New Hydrofin is far superior to the Hovercraft on several counts and again this has ended in a flaming row because the matter is politically far too 'hot'! To protect the writer I have had to keep this matter secret but now the Silverleaf R.I.N.A. paper of 26th March 1969 says substantially the same things but gives the credit for the submerged foil advantages of course to the Americans which is understandable since he is reporting on present day <u>facts</u> , not morals.
1967	B.A.C.	In Sept 1967 I was introduced to the B.A.C. technicians at Filton House and a consultancy contract was signed. This came to an end when the Direction decided not to enter the hydrofoil field even after they had had a Min.Tech. contract! For them £50,000 spent for nothing and for me 18 months of work for nothing....

By this time I have become pretty hard bitten! My inventions always work perfectly mechanically but raise such fantastic questions that self-styled "backers" turn out not to be backers at all but only wreckers who pull out in a hurry, frightened out of their wits by the need to call a spade a spade (and a Hydrofin far better than a Hovercraft) I learned by my USA mistake but took the French Navy's advice to stick closely to the military uses to which my craft can be put, even in small sizes. Here I have no money problems and no interference by amateurs and I advance technically from stage to stage but I have to work abroad and there is strictly no publicity. There is a fantastic export market for when Min Tech decides to assist in a proper design set up at home.

Christopher Hook