

= Halkett boat =

A Halkett boat is a type of lightweight inflatable boat designed by Lt Peter Halkett ( 1820 ? 1885 ) during the 1840s . Halkett had long been interested in the difficulties of travelling in the Canadian Arctic , and the problems involved in designing boats light enough to be carried over arduous terrain , but robust enough to be used in extreme weather conditions .

Halkett 's first design was a collapsible and inflatable boat made of rubber @-@ impregnated cloth . When deflated , the hull of the boat could be worn as a cloak , the oar used as a walking stick , and the sail as an umbrella . This was followed by a two @-@ man craft that was small enough to fit into a knapsack , and when deflated served as a waterproof blanket .

Although widely praised by Canadian explorers , Halkett 's designs had a limited market , and he was unable to persuade the Royal Navy that they would serve any useful purpose in general naval service . Efforts to market them as platforms for fishing and duck shooting failed , and they were commercially unsuccessful . Only two Halkett boats , that of Orcadian explorer John Rae , and one held in the Hudson 's Bay Company Museum Collection at the Manitoba Museum are known to survive today .

= = Peter Halkett = =

Peter Halkett was a Lieutenant in the Royal Navy in the 1840s . The son of John Halkett , a director of the Hudson 's Bay Company who for many years had lived in Canada before returning to England , Peter Halkett had long held an interest in the exploration of the Canadian Arctic . He had a particular interest in John Franklin 's disastrous Coppermine Expedition of 1819 ? 1822 .

Franklin 's three @-@ year exploration of the northern coast of Canada in search of the Northwest Passage had ended in disaster amid accusations of murder and cannibalism , with 11 of the 20 members of the group killed and the survivors reduced to eating lichen , their own boots , and the remains of rotten carcasses abandoned by wolves . The party had become stranded on the wrong side of the Coppermine River after their boats had been destroyed in a storm ; John Richardson had attempted to swim to safety and suffered severe hypothermia . A single member of the party had fashioned a small canoe from canvas and willow , and the survivors had been obliged to cross the river one at a time using the makeshift canoe .

Halkett was an amateur inventor , and during his spare time whilst serving in the navy he worked on solving the problem of how to design a boat that would be small and light enough to transport easily on foot through wilderness , but robust enough to carry people in safety across wide bodies of water . His solution was to design a boat in which all components would double as items of clothing , or accessories that Halkett assumed the user would be carrying in any event .

= = Boat @-@ cloak = =

Halkett designed a waterproof cloak made from an early form of Macintosh cloth , cotton impregnated with India rubber by using naphtha as a solvent . The lining of the cloak contained an airtight and watertight inflatable ovoid , split into four separate airtight compartments in case of puncture , and a pocket containing a paddle blade and a small bellows . The wearer of the cloak would carry a walking stick , which would double as the shaft of the paddle , and a large umbrella to serve as a sail . The cloak weighed around 7 1 ? 2 pounds ( 3 @.@ 4 kg ) in total , and took three to four minutes to inflate ; once inflated , it could support the weight of six to eight people .

In early 1844 , Halkett successfully tested a prototype boat @-@ cloak on the River Thames , paddling it 15 kilometres ( 9 @.@ 3 mi ) without taking on any water , despite , in his words , being " met by ? passed by ? and almost run down by ? various Metropolitan Steamers plying to and fro in their several vocations , and causing no little commotion in the troubled waters of the River " . Buoyed by this success , he took the prototype boat @-@ cloak with him while on naval service , using it whenever the opportunity arose to test it under various sea conditions . In November 1844 , Halkett hoped to test the boat @-@ cloak in bad weather conditions , in the rough seas of the Bay of

Biscay , but the weather was unusually calm . He was forced to take down his umbrella , and paddle , recalling later that " the winds that day were too civil by half , and the sleepless bay almost quite dormant " . The boat @-@ cloak was positively received by explorers ; John Richardson ( who had almost died during the 1819 ? 1822 Coppermine expedition ) wrote that " Had we been possessed of such a contrivance in our first expedition , I have little doubt of our having brought the whole party in safely " .

= = Halkett 's boats in the Canadian Arctic = =

Spurred on by the successful testing of the boat @-@ cloak , Halkett designed a larger version that folded into a knapsack . When inflated , it could carry two men , operating a paddle on each side , and when deflated served as a waterproof blanket to allow the users to camp on wet ground . The Admiralty was sceptical about potential uses for Halkett 's designs ; on 8 May 1845 Lord Herbert , First Secretary to the Admiralty wrote to Halkett that " My Lords are of an opinion that your invention is extremely clever and ingenious , and that it might be useful in Exploring and Surveying Expeditions , but they do not consider that it would be made applicable for general purposes in the Naval Service " .

Although the Admiralty saw no use to which Halkett 's designs could be put in general naval service , this larger design was extremely well received by explorers . John Franklin bought one to take on the ill @-@ fated 1845 expedition in which the entire expedition party of 129 men and two ships vanished . Franklin saw Halkett boats as so essential to travel in Canada that he gave the boat intended for his expedition to Sir George Simpson , Governor @-@ in @-@ Chief of Rupert 's Land , for use in his travels in the region . He ordered a replacement boat from Halkett , who delivered it in time for him to take possession before setting out on his last expedition .

Orkneyman John Rae , known by the Inuit as ???? ( Aglooka , " He who takes long strides " ) , was a Hudson 's Bay Company surgeon who became a surveyor of the Canadian Arctic . Unlike most Europeans of the period , Rae believed that the local inhabitants knew best how to cope with extreme weather conditions . He travelled Inuit @-@ style , using sledges and snowshoes and sleeping in snow igloos . Rae took a Halkett boat on his first expedition in 1846 , reporting that it was " most useful in crossing and recrossing the river at Repulse Bay " , and that " although in constant use for upwards of six weeks on a rocky coast it never required the slightest repair " and " ought to form part of the equipment of every expedition " .

Keen to find out what had become of the ships and men of Franklin 's expedition , in 1848 the Royal Navy sent a search party led by John Richardson and John Rae , and equipped with a Halkett boat provided by the government , to search for the lost expedition . The party was unable to locate Franklin , but found the Halkett boat invaluable , on one occasion using the single boat to ferry their entire party across a river in 14 trips . Rae noted that although the rubber of the boat became stiff from the cold , there was no difficulty in warming it to soften the material when necessary . Halkett boats were likewise taken on the subsequent HMS Enterprise expedition that was sent to search for Franklin , during which they were successfully used for fishing .

In 1851 French explorer Joseph René Bellot mounted another expedition to find Franklin , sponsored by Franklin 's wife . Bellot took a Halkett boat @-@ cloak on the journey , noting in his journal that it was " of immense value in a country where the want of wood renders it impossible to form any sort of raft " . Bellot 's expedition was unable to locate Franklin , and it was not until 1853 that an expedition led by Rae ( equipped with " two beautiful Halkett boats " ) located a group of Inuit who recounted seeing men dragging a boat four years earlier , and later finding their bodies .

= = Commercial failure = =

Despite being promoted as ideal for lake @-@ fishing and duck @-@ shooting , and being exhibited in the Great Exhibition of 1851 , Halkett 's boat designs were not commercially successful and never entered general use outside the specialised field of Canadian exploration . Later promoted to Captain , Halkett died on 23 March 1885 , aged 65 , and the manufacture of his boat

designs was abandoned . John Rae gave his boat from the 1853 expedition to a Miss Peace of Kirkwall , and it lay forgotten on the rafters of a Kirkwall woodyard . It was identified and recovered many years later , and is now displayed in the Stromness Museum at Orkney . A second surviving example is held in the Hudson 's Bay Company Museum Collection at the Manitoba Museum .