

A research note on the history of ships, places, organisations and events associated with the  
**Royal Fleet Auxiliary (RFA)**

## **Landing Ship Gantries of the RFA**

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It has been broadly credited that the American Malcolm McLean was behind this the post-war innovation of maritime containerisation. Two of his Pan American Steamship Co tankers, the IDEAL X and the MAXTON, were fitted with reinforced spar decks to hold 35ft aluminium truck trailers. He referred to these as his 'trailer ships' and they are frequently credited as being the world's first container ships.

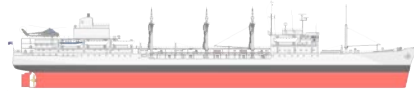
However, I wish to stretch your imagination and ask 'was it not tankers of the Royal Fleet Auxiliary that initially undertook this type of 'box packaging and transportation'?

It was World War Two's demands for amphibious shipping that led to new shipping ideas with the RFA crewing and to some extent managing a number of landing craft carriers that were labelled as **Landing Ship Gantries** (LSGs). Surviving official records indicate that the reconfiguration of RFA tankers DERWENTDALE,

DEWDALE and ENNERDALE as landing ships was a totally unforeseen development.

Post-Dunkirk it was becoming clear that other than aerial bombing, the only way of hitting the enemy was by amphibious operations. By June 1940 the Chiefs of Staff (CoS) had authorised the appointment of a Commander of Raiding Operations and Adviser on Combined Operations. The resources available to him were, to say the least, sparse. A small number of large merchant ships were being converted into infantry assault and landing ships in addition to three tankers. These vessels were being built to be RFA Dale class freighting tankers – two were standard Ministry of War Transport motor tankers. The third, ENNERDALE, owing to warships having precedence for scarce diesel engines, was completed as a steamship.

The proposal put forward was to adapt these tankers for transporting of motorised landing craft known as LCM Mk1s as deck cargo. The merchant shipbuilding priority



was still for tankers so the modifications initially authorised were limited and they would continue to operate as tankers when not on sealift duties. However, wartime requirements were rapidly expanded, priorities changed and the 'sealift' use of these tankers went far beyond that originally proposed. These LCMs were in effect 45ft self-propelled open-topped boxes. With a cargo capacity of around 10 tons they were intended to carry and discharge high priority stores and small vehicles during an initial assault stage and to discharge stores during the subsequent build-up period.

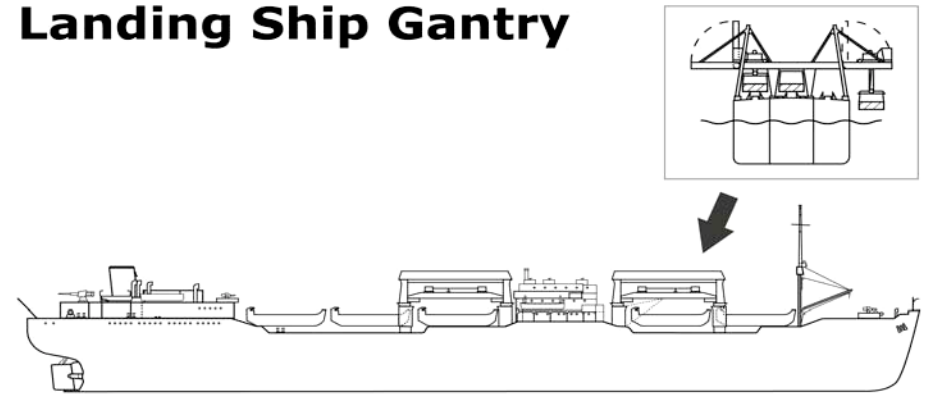
The LCMs were not 'davit compatible' so adaptation of each ship involved the design and fitting of two gantries each equipped with two overhead transporter cranes. These were fitted forward and abaft the bridge structure and had a SWL of 30 tons with a 32ft vertical lift.

Fifteen LCMs were stowed in three rows on deck with six forward and nine aft. A system of rollers enabled them to be hauled under the cranes for offloading with their pre-loaded cargo of stores and equipment. The craft hauling winches came from the Sunderland engineering and foundry company of John Lynn & Co.

The crane's gantry legs straddled the LCM's 14ft width so enabling it to be lifted from the four corners. Designed by Stothert and Pitt of Bath, each crane could transverse the ship's beam and go out onto projecting booms over the ship's side. Their hoisting speed was 10ft per minute, lowering at 20ft per minute and traversing rate of 90ft per minute with a 30-ton load. In

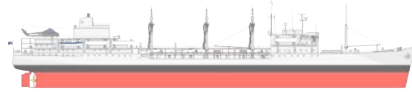
decent weather and sea conditions, with a practiced crew all 15 craft could be offloaded in less than 35 minutes. These booms were hinged for vertical stowage.

## Landing Ship Gantry



Redrawn by CAA from images in ADM239/357

These ships had an average Merchant Navy (RFA) crew of 70 plus 24 DEMS gunners. Accommodation was not originally provided for the LCM crews, but early experience showed this to be essential and so ad hoc arrangements were introduced. However, further experience found that it was necessary to carry spare crews and a maintenance party for every flotilla of LCMs. These demands of Combined Operations ensured that the ships were seldom available for use as tankers. With this realisation even more space was released for troop accommodation and further conversions were undertaken to the forward hold and to a number of the oil cargo tanks to provide for the LCM officers and



ratings and for an average of 250 embarked troops. This accommodation was to approximately naval standards and of course all of this entailed a reduction in their effective liquid cargo capacity.



A LCM(Mk1), representing a self-propelled open-topped box, being lowered by a boom-supported transporter crane [author's collection]

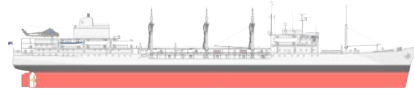
As frontline ships they were given extensively ballistic protection with 4-inch plastic armour around the wheelhouse and with 15lb armour plating to the driver's cabs and over the motors of the travelling cranes. Defensive armament varied but averaged one 4.7-inch QF gun, three 2-pdr pom-poms, six 20mm Oerlikons and

a number of machine guns. They were also fitted with some degaussing and paravane arrangements. There is photographic confirmation of them being fitted with the early radar set.

Indeed designs were even prepared for the fitting of the cargo tanks for the carriage of landing craft as well as on the upper deck. Just like with today's container ships.

All three ships served with distinction in the combined operations of the Mediterranean and Far East. At the end of the war DERWENTDALE underwent an 'engine transplant' when she was successfully given DENBYDALE's J G Kincaid-built 6-cylinder Burmeister & Wain engine in lieu of her damaged Harland & Wolff-B&W 8-cylinder engine. Despite the challenges and scares of enemy action all reverted to their intended RFA tanker role showing little of their previous eventful and colourful careers.

**RFA DERWENTDALE** Official number 168212, 483ft long, 8,398 gross registered ton motor tanker ordered by the Ministry of War Transport from Harland & Wolff, Belfast, yard number 1052. She was taken over for Admiralty service on 30 August 1941, converted to LSG role. 1946 reverted back to her freighting tanker role, pendant no. A114. 19 May 1959 laid up at the Rosyth Naval Dockyard and prepared for disposal. December 1959 sold to Atlantic Traders Ltd of St. John's NB, 1960 renamed IRVINGDALE 1. 1962 owners recorded as Brookco Ltd, Bahamas. 1966 sold to a German shipbreaker who appears to have resold her. 23 July 1966 she arrived El Ferrol, Spain for breaking up.



**RFA DEWDALE** Official number 168186, 485ft long, 8,265 gross registered ton motor tanker ordered by the Ministry of War Transport from Cammell Laird, Birkenhead, yard number 1054. She was taken over for Admiralty service on 14 June 1941, converted to LSG role. March 1947 reverted back to her freighting tanker role, Pendant no A151. 19 May 1959 laid up at Portland and prepared for disposal. 20 October 1959 sold to Netransmar Cia SA, then to Antwerp for breaking up by J de Smedt.

**RFA ENNERDALE** Official number 169196, 483ft long, 8,219 gross registered ton steam tanker ordered by the Ministry of War Transport from Swan, Hunter & Wigham Richardson, Wallsend, yard number 1656. She was taken over for Admiralty service on 11 July 1941, converted to LSG. 1946 reverted back to her freighting tanker role, pendant no A173. 13 February 1958 laid up Devonport and prepared for disposal. Sold to British Iron & Steel Corporation, she was towed to Faslane for breaking up by Shipbreaking Industries Ltd.



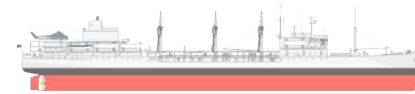
The steam freighting tanker RFA ENNERDALE, after her post-war retro fitting, shown here fitted with wartime radar lantern. [Tarbs collection]



## Sources

Lloyd's Register of Shipping (various editions)

TNA Kew, ADM239/357



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