

CHAPTER 4

Ice Ships

O clear ice! Ice! Ice!
Crystal cargoes oversea!
When freights are low, Norwegians know
How merry iceman be.¹¹⁴



Figure 4.1. Loading ice blocks on a steamer at Sønderstøen, on the Nesodden peninsula, Kristianiafjorden, 1907 (Norsk Folkemuseum NF.08958-004).

Britain's ice trade with Norway was conducted largely in Norwegian ships. It could not be anything other than a unidirectional trade and so ship-owners, as has been seen, sometimes looked for return cargoes at

114 *Cold Storage and Ice Trades Review* VII (1904), p. 336.

the principal unloading ports, or at ports on Britain's north-east coast where coal or coke were the most obvious return traffics. At Shoreham in Sussex in the early 1900s, a fleet of small steamers was handling the ice trade into the port, most of it destined for the nearby resort of Brighton.¹¹⁵ The ice came from Kristianiafjorden and some of the ice steamers followed a triangular trading pattern, calling at Newcastle or adjacent ports on the return leg to pick up coal or coke. In such cases, the round voyage from Kristianiafjorden could take two to three weeks. Return traffics were more common in winter than in summer months, for in the 'high' season, the demand for cargo space was usually sufficiently buoyant to make returning in ballast an economic proposition for the shippers.

Christian Høy, as a young Norwegian sailor in the 1890s, has left a memoir of his time on ice ships that plied to Britain from his home port of Langesund on Norway's south-east coast.¹¹⁶ His father was for a time the English Consul there and had regular dealings with the English captains who arrived in the fjord to load ice blocks for delivery at various ports on Britain's coasts. When the trade had first got fully under way, in the 1870s, the vessels were largely English-owned. Soon after, however, he observed how the trade came to be handled largely in Norwegian ships, though often financed by English merchants. By the 1890s, the trade was an all-year-round one. Høy spent most of his sea time crewing sailing vessels on the Grimsby ice trade, for the port's fishing fleet was then sizeable and very active in winter. The Grimsby ships tended to race each other across the North Sea. Captains were paid £25 per voyage, with a premium if they managed to overhaul another Grimsby-bound ice ship. Discharging took two to two and a half days and then it was out to the mooring buoys to take on ballast for the return voyage. The ballast would be thrown overboard near Larvik and, over the years, hundreds of thousands of tons had been flung out

115 R.G. Martin, 'Ice Houses and the Commercial Ice Trade in Brighton', *Sussex Industrial History* 14 (1984-5), pp. 22-3.

116 C. Høy, *Vinden er en lunefull venn. Seilskuteliv* (Oslo, 1972).

there, but without apparently making the waters any shallower. Back in the fjord, loading of ice blocks would begin again. It usually took a day or so to complete. Tugs would then tow the heavily laden vessels out to sea, sometimes with their decks nearly awash.

Høy remarked how the ice export trade was carried on from the coast as far as Porsgrunn and Barkevik in the east and as far as Vindafjorden in the west. This is, of course, aside from the extensive trade from Kristianiafjorden extending north to Kristiania. Ships sailed in all weathers, despite the sometimes fearsome reputation of the North Sea in bad winters, with all its hazardous banks and shallows. The vessels on which Høy crewed were mostly ships that had first-class tackle. Sails were kept in fine repair by the sailmakers at the home ports. Provisioning on the ships was also excellent. He recalled that if there were contrary headwinds when vessels were due to depart Grimsby, the practice was to hug the English coast northward and load coke or coal from one of the north-east ports, seeking the best possible freight rate back to Norway and then hoping for more favourable winds. His worst recollection of bad weather was one year when they were sailing home just after Christmas with a cargo of coal out of Blyth. After a very stormy passage, the ship froze in, towards Skien after a dramatic fall in temperature. Her waterlogged planking slowly froze and developed huge bulges. She needed large-scale repair work afterwards.

For insurers, 'cargo ice' rarely inspired confidence among brokers and the result was that insurance rates became a significant part of the costs of the Norwegian ice trade to Britain. Failure to pump out meltwater properly was perhaps the most critical issue, for this could cause the cargo to move and render a vessel unstable. Ice-ships that were in less than good condition was another potential problem. Then there had to be added the usual hazards of bad weather and high seas, mechanical failure, together with basic failings of seamanship. In October 1900, the 295-ton steamship *Veritas*, based at Drammen in southern Norway and carrying ice from Kragerø for a merchant in Liverpool, burst its port furnace off the Isle of Man. The vessel was towed by another steamer to an anchorage in the Mersey only to be almost immediately run down by the 10,000-ton liner *Devonian*, whereupon it was once more put in tow towards the Cheshire shore, but then broke cables, drifted, struck a steamer anchored in the

estuary, then struck part of the Liverpool landing stage, then turned turtle, before finally running aground. As one commentator who reported the incident observed, the *Veritas* had a truly wild career.¹¹⁷ Earlier, in August 1898, two ice ships had collided at night in calm seas near the Gabbard Light off the east coast of England. One vessel was outbound in ballast, the other inbound with a full cargo of ice blocks. The Norwegian brigantine *Vera* was the in-bound vessel, in passage from Kristiania with ice for Newhaven. It was run down by the Norwegian brig *Pollux*, returning to Norway across the North Sea. The crew of the *Vera* saved themselves by jumping on board the *Pollux* and the damaged brig then limped back into Yarmouth Roads before getting assistance from a tug. The *Vera*, however, was apparently a total loss, including her cargo.¹¹⁸

It was almost universally the case that ice was carried aboard wooden ships. They afforded much better insulating properties than iron ones. In the cases where iron-hulled vessels were used, they had to be specially adapted and fitted out, including wooden decks and bulkheads, as well as wooden linings ('ceilings') for the hold. They also had watertight compartments to prevent sinking.¹¹⁹ In general terms, a ton of ice occupied forty cubic feet of hold space.¹²⁰ And the greater the ice mass the greater the lasting quality of the cargo. The wooden vessels, as we have seen, increasingly comprised a mixture of sailing ships and steamers. By the early 1900s, a whole fleet of wooden steamships had come into being, most of them owned by shippers in Bergen and Stavanger, for which the ice trade was their primary traffic.¹²¹ There was little other trade that they could carry against the competition of iron-hulled steamships. Thus the fortunes of this group of shipowners necessarily rose and fell with the ice trade itself.

Some of the shipping companies operated a form of equity-sharing – that is, vessels part-owned by different shippers. The same companies would also hire extra tonnage in busy seasons, especially in a hot summer in Britain or on the European continent. By 1910, about forty per cent of

117 See *The Times*, 15th October 1900; 21st May 1901; also *Cold Storage and Ice Trades Review* III (1900), p. 279.

118 *The Times*, 29th August 1898.

119 'N. Wiborg 1943,' Wiborg ms., Berg-Kragerø Museum, Norway.

120 See *Cold Storage and Ice Trades Review* I (1898), p. 124.

121 *Ibid.*, VIII (1905), p. 151.

the net registered tonnage in the ice trade was accounted for by wooden steamers.¹²² The remaining sixty per cent consisted of a variety of sailing vessels. Many were three-masted barques, the two leading masts square-rigged, the after mast fore-and-aft rigged. But there were also schooners, barquentines, brigs and brigantines involved in the trade. Much of this sail tonnage was in the hands of owners in Kristiania, Arendal and smaller ports on the south-east coast.¹²³ Christian Høy's memoir very much reflects this pattern. Steam tonnage, as previously indicated, was more the preserve of Bergen and west coast ports, although Kristiania held an important share. At Kragerø, the Wiborg family's ice export business afforded a fairly typical profile of the mix of vessels engaged in ice shipment. Their records indicate that they had five brigs, ten barques, four schooners and one sloop in use at different times over a period of four or five decades. Alongside there were some 18 steamships, together taking an increasing share of the trade from the sailing ships by the turn of the century.¹²⁴

The Ice steamers and the sailing ships that conveyed ice varied in size from around 200–250 to 400–450 net registered tons. To calculate deadweight tonnage (that is, the cargo-lading potential) sailing ships took roughly one and a half times their net registered tonnage, steamers roughly double. So a steamer that was 400 tons on the net register might carry an 800-ton cargo of ice, in other words 800 tons deadweight. Most of the wooden ice-steamers in use by 1910 had deadweight capacities of 600–800 tons.¹²⁵

In an age of steam power at sea, it is logical to ask why, even when deadweight tonnages are considered, roughly half of all the ice trade was being handled by sailing ships. One explanation was the very tight margins within which the trade typically operated, making the cost of freight critical to profitability. The wind was free but coal was not. So sail always had a built-in advantage over steam. And if a cargo was being shipped to an English merchant for placing in his ice-store, the additional time

122 *Ibid.*, XIII (1910), p. 252.

123 S. Konow and K. Fischer (eds.), *Norway: Official Publication for the Paris Exhibition* (Kristiania, 1900), p. 433.

124 'Familien Wiborgs skib', Wiborg ms., Berg-Kragerø Museum, Norway.

125 See *Cold Storage and Ice Trades Review* VIII (1905), p. 31; *ibid.*, XIII (1910), p. 251–2.

that a sailing barque took on its voyage across the North Sea was largely immaterial. Another reason for the general prevalence of sail over steam was that there was much sailing capacity still in existence, and much of it underutilized. Indeed, in small ports where there were no ice stores or wells, redundant wooden sailing ships were even anchored in harbour and used for ice storage, as ice hulks.¹²⁶ Providing there were no undue delays in trans-shipment from the supply vessel, and providing a suitable drainage layer was put in place in the hold, wooden hulks could provide effective ice stores for many months. Where the ice-steamer came into its own was when ice was required for almost immediate consumption, typically in high summer. At such times, cargoes needed to be shipped in haste. London merchants would telegraph for prompt steamer shipment in the months of June, July and August if their stocks of ice were being seriously depleted in a heatwave, or an 85-degree week, as commentators labelled such weather events. The higher freight costs would obviously be reflected in the retail price, but this was no problem in a rising market.



Figure 4.2. Waterside jetty with ice blocks waiting to be loaded aboard a sailing vessel, Kragerø 1908 (Norsk Folkemuseum WO8556).

126 The port of Falmouth, for example, used a hulk for ice storage. See *Cold Storage and Ice Trades Review* I (1898), p. 9.

Notwithstanding the continuing importance of sailing ships in the ice trade generally, by 1914 some ports handled more steam-borne tonnage than they did sail. In 1898, for instance, the Lowestoft Ice Company was importing 18,000 tons of Norwegian ice annually, mainly for packing in the fishing trade, and it was shipped almost exclusively in ice steamers, some 40 or 50 of them, each with a deadweight capacity of about 500 tons.¹²⁷ That sailing barques had at one time figured in the Lowestoft trade, though, is plain from late-nineteenth century photographs showing small barques unloading ice at the thatched ice-house in Lowestoft harbour.¹²⁸ The most likely reason for the predominance of steamers by 1898 was that the ice demands of the fishing trade were significantly more regular than was true for ice consumption at large. There were certainly seasonal fluctuations in fish stocks, but there was not the major hiatus in demand in the autumn and winter months that characterized public consumption, the times when stores were re-stocked at leisure. It was the relatively sustained ice demands of the fishing industry that prompted Lowestoft to establish artificial ice-making in the late-1890s. In 1897, the Lowestoft and East Coast Manufacturing Company made nearly 6,000 tons of artificial ice, alongside importing 3,000 tons of ice from Norway.¹²⁹

In London, however, the largest ice combine was still using sailing vessels for some of its Norwegian ice imports as late as 1909. For in April of that year, the City of London Court heard an action against United Carlo Gatti, Stevenson and Slaters from the owners of the sailing barque *Nore* for recovery of demurrage on 9,000 tons of ice delivered in a series of spring cargoes.¹³⁰ The vessel owners lost the case, but it serves to illustrate how even one of the largest importers of Norwegian block ice was still utilizing sailing tonnage well into the twentieth century. The *Nore*, according to Lloyd's Register, was Swedish-built in 1873, at a net register of 469 tons. With a 15-foot draught, she was larger than most sailing ships engaged in the ice trade, capable of loading nearly 700 tons of ice. It was such

127 *Cold Storage and Ice Trades Review* I (1898), p. 124.

128 See R. Maltster, *Lowestoft East Coast Port* (Lavenham, 1982), p. 117.

129 *Cold Storage and Ice Trades Review* I (1899), p. 124.

130 Demurrage refers to unanticipated storage on board the vessel while in dock or harbour. See *Cold Storage and Ice Trades Review* XII (1909), p. 134.

capacity that accounted for her use alongside the smaller ice-steamers, for it afforded significant economy of scale. At the fishing port of Grimsby, too, rather in contrast to the case of Lowestoft, Norwegian ice was still being brought in by sailing vessels as late as 1901.¹³¹ At that time, the fishing trade of the port was largely paralysed owing to a lock-out. Whereas there had typically been 450 fishing boats plying their trade to and from the port, the number fell to 50 during the time of the dispute. The port's ice merchants suffered, and the import of Norwegian ice fell dramatically. In common with Lowestoft, though, Grimsby had already taken steps to supply itself with artificial ice, up to a capacity of 600 tons a day.

Over the three or four decades during which Norwegian ice was being imported into Britain in large quantities, the ice merchants in London and other receiving ports were locked in an almost perpetual contest with ship-owners over the cost of sea freight. In some ways it proved an archetypal arena of capitalist competition, with ship-owners and ice importers at various times seeking power in combination in an endeavour to move prices more in their favour. Where shipping capacity was in plentiful supply, and especially when wooden steamers specially fitted out for ice entered the trade, the importing merchants rather held the upper hand. When capacity was tight, though, particularly when the slow decline in the volume of ice traffic began after 1900, the ship-owners enjoyed more bargaining power as some of their number abandoned ice altogether for other traffics. In the spring of 1905, Bergen and Stavanger owners agreed minimum rates for ice steamers of between 7 shillings and 10/6d per ton.¹³²

For the importers, the cost of freight was critical, for it bore heavily on the price of ice on the dockside. In 1899, when spring freights were running at 6/6d-7/0d per ton, and summer freights 8/6d-9/6d (and even more by steamer), the deadweight value of ice was only around 1/9d per ton. This gave an average dockside price (including insurance) of 10/10d.¹³³ Over the several decades of the expansion of Norwegian ice imports to Britain, the dockside price had fallen from around 18 shillings a ton in

¹³¹ *Cold Storage and Ice Trades Review* IV (1901), p. 195.

¹³² *Ibid.*, VIII (1905), p. 151.

¹³³ *Ibid.*, II (1899), p. 90.

1884 to under eleven shillings in 1897, much of the reduction explained by the competitive bargaining by the import merchants.¹³⁴

Another reason for falling freight costs was to be found in the use of spring contract and charter arrangements.¹³⁵ Spring contracts were an increasing feature of the London trade and consisted of advance orders for ice made between British and Norwegian ice merchants in the autumn of the preceding



Figure 4.3. Ice-blocks being loaded aboard a steamship at Drammen in March 1906, with a sailing barque and another steamship in the middle distance waiting to load (Norsk Folkemuseum NF.W 04929).

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*, XI (1908), pp. 122–3.

year. The Norwegian exporters usually made the shipping arrangements and were able to obtain highly competitive prices because they were offering ship-owners successive cargoes over three if not four months. Vessels were thus kept constantly employed with a guaranteed traffic. Charters were agreements between British ice importers and Norwegian ship-owners direct in which cargoes of ice would be brought across the North Sea on a regular, usually weekly, basis. The largest ice importers in London typically had ice in transit in this way for much of the high season. When the Bergen and Stavanger owners fixed minimum freights in 1905, they set no fixed rate for chartering except in the case of new wooden steamers, where the price was set at £200–250 a month, varying according to net registered tonnage.

The movement towards combination among vessel owners was something of an act of desperation as it was by then becoming widely accepted throughout the Norway ice trade that the article was being carried by shippers at near or less than cost. Even so, there were still British ice merchants who saw potential to get ice carried at below the ship-owners' minimum rates. One way that ship-owners could trim their costs further was for ice steamers to tow sailing barques, laden with ice, across the North Sea. In June 1905, this is exactly what happened at Brevik, on Norway's south-eastern coast, when two ice steamers, between them towing three ice-laden sailing vessels, set out for London.¹³⁶ Towing was a risky business, especially if bad weather set in on the 600-mile passage. But it clearly altered cost margins very significantly, especially wages of the crews.

At about this time, the London County Council received a report it had commissioned into the use of ice and cold storage in London.¹³⁷ The fundamental purpose of the inquiry had been to survey the risks of contamination within the various branches of the trade, but the report that was delivered turned out to provide a much broader survey, encompassing the entire manner and extent of its operation. As part of their fact-finding, the report's authors visited the Thames docks and inspected one of the vessels that carried ice imported from Norway. It was a sailing ship with a cargo

¹³⁶ *Cold Storage and Ice Trades Review VIII* (1905), p. 204.

¹³⁷ W.H. Hamer, *Ice and Cold Storage in London: report for London County Council* (London, 1904); a detailed summary appeared in *Cold Storage and Ice Trades Review VIII* (1905), pp. 4ff.

capacity of 640 tons, in other words around 420 tons on the net register. It had a crew of nine men, all of whom were housed on deck rather than in the icy hold area. The vessel concerned sometimes took return traffics, notably coke from ports in the north-east of England. When this happened, the hold would be thoroughly washed out before another cargo of ice was loaded. The particular ship in question, so it turned out, had not voyaged across the North Sea under its own power. It was one of the ice-ships that had been brought over under tow. This had cost the owner £1 for towage out of the fjord, £10 for towing across the North Sea, and finally £3 for the Thames pilot. The entire round trip from London to the fjords and back normally occupied 24 days under favourable weather conditions. However, fog, contrary winds and rough seas could extend that time considerably. There were cases of such ships waiting as long as 14 days off Gravesend in the face of strong westerly winds. The vessel inspected by the authors was apparently moored in Regent's Canal Dock, where its cargo of ice blocks was being unloaded either into barges or direct into ice stores on the quayside. Although described as an 'old ship', the vessel was equipped with wind pumps so as to ensure that there was no accumulation of water in the hold.

The unloading of ice blocks at Thames docks was something that the *Harmsworth Monthly Magazine* turned into spectacle in its feature article on the Norwegian ice trade in 1901.¹³⁸ Opening of the hatch covers of an ice ship was among the most attractive sights to meet the eye on a sultry summer's day, so the writer claimed. The tightly packed blocks gleamed in the sunlight and the cargo exhaled a refreshing coolness. Almost immediately, the crew set to work to shift the ice into adjacent barges or else into vans or wagons drawn up along the dockside. 'Ice-dogs' in the form of large grappling irons were attached to the ice blocks and lifted out of the hold with the aid of dock cranes. Clambering about on the ice was no task for ordinary dockworkers. The crew of the ice-ship, though, had this down to a fine art, rarely slipping or losing their balance. The average ice block weighed about two hundredweight, but

138 'From Lake to Lemon Squash: How Norway Lowers Britain's Temperature', *Harmsworth Magazine* 7 (1901), pp. 17–21.

much depended on the thickness of ice at harvest time. In a good harvest year, it was not at all unusual to see blocks weighing nearly four hundredweight.

The sailors who crewed ice ships on a regular basis had to be a tough breed. Even when their quarters were located on the ship's deck, the passage was inevitably a cold one, and if it was a sailing vessel, the only heat came from the galley fire. The first spring cargoes were the ones that presented crews with the harshest of sailing conditions, though probably none as devastating as the case of the sailing schooner *Presto* which left Brevig on Norway's south-east coast in early February 1907 with a cargo of ice for West Hartlepool.¹³⁹ The ship encountered fearful blizzards within a few days of being at sea and her decks and rigging were quickly coated with layers of ice. Weighed down in this manner, the captain found that the vessel was making no headway in the fierce contrary winds and the hapless sailors were being perpetually soaked to the skin by the seas breaking over it. Their clothes soon froze stiff on them and

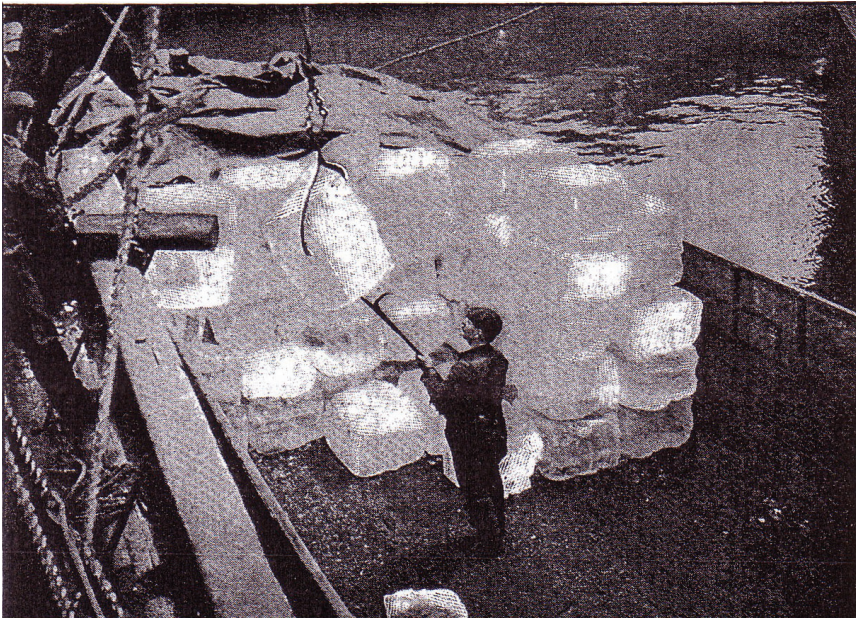


Figure 4.4. Ice blocks being unloaded from ship to barge in a Thames dock (Bodleian: Per 2705 d.85/7 p. 20).

¹³⁹ *The Times*, 4th March 1907.

they succumbed to frostbite, one seaman suffering the misfortune of being washed overboard, his companions too weak to give him any assistance. After almost a month adrift in the North Sea, with captain and crew fearing for their lives, the stricken vessel was sighted by a Grimsby trawler, which took it in tow. Once ashore, the surviving crew members rallied after receiving medical treatment.

The most difficult passage for ice ships was undoubtedly the one that took vessels to ports on the west coasts of Britain and Ireland. Whilst the sea route from southern Norway round the north of Scotland was a direct one, largely following a constant line of latitude, it involved negotiating some of the stormiest waters of any part of Europe's Atlantic seaboard. In February 1870, the Norwegian brigantine *Henry*, having sailed from Kristiania with a cargo of ice, was wrecked on the Orkneys after becoming waterlogged in a gale. Only three of her crew were saved.¹⁴⁰ A similar fate befell the Norwegian ice steamer *Italia* in December 1913. Bound from Porsgrunn for Glasgow with an ice cargo, the 576-ton wooden steamer got stranded in a gale on the Arnish Reef off the Hebrides, her stern almost submerged. The expectation was that she would become a total wreck in the prevailing wind conditions. However, her crew appear to have survived.¹⁴¹

As well as competition between exporting merchants in Norway and importing merchants in Britain, there was also competition among the ice-shippers themselves. As we have seen from Høy's memoir, premiums were to be had for fast passages, especially in the summer season. Thus many captains and their crews engaged in out-running each other in the voyaging across the North Sea, especially to London.¹⁴² The best crews would then celebrate their success in Thames-side ale-houses. In the off-season, some of the sailors spent their time helping to win the ice harvest. They were thus among the men who in the months of January to March were out on lakes and fjords cutting ice. Others found work loading ice directly aboard the ships on which they sailed, or else in moving the ice to water-side ice stores. All of this labour was largely casual

140 *Ibid.*, 12th February 1870.

141 *Ibid.*, 18th December 1913.

142 See F. Kinross, *Coffee and Ices: The Story of Carlo Gatti in London* (Sudbury, 1991), p. 30.

work, of course, highly seasonal and dependent on favourable weather conditions. Some sailors found casual winter employment in the timber trade which generally dwarfed the ice trade both in volume and value. However, the ice trade could bring higher wages for sailors if there was a heatwave in Britain. It was not just that ice became at a premium, but shipping capacity as well.

At Kragerø, in the Wiborg family's ice export business, ships' captains were, by 1880, making return journeys with ice cargoes for the east coast port of Lowestoft inside 14 days. One particular vessel, the *Geir*, a wooden brig of 231 registered tons, built in 1867, proved an exceptionally fast ship. Borresen, its captain, served the Wiborg business over many years, taking family members to and fro across the North Sea on an annual basis to arrange new contracts with clients for coming seasons. By the 1890s, when steamships were much more common in the Wiborg fleet, vessels were making the return passage to English ports inside 10 days. The company's green-painted vessels with their yellow funnels, became a common sight in London, Liverpool and other ice-landing ports. The *Embla*, for instance, a wooden ice steamer of 497 registered tons, was built for the trade in 1892 and became one of a dozen or so similar vessels that increasingly dominated the ice trade out of Kragerø. The biggest of these, the *Nico* and the *Vale*, iron-hulled rather than wooden, were built in 1913 and came in at just over 700 tons. By this time, Kragerø's ice exports, largely in the hands of the Wiborgs, were running at 120,000 tons a year – and not just to Britain, but to France, Germany and other countries of the continent. It was said that if you lined all Wiborgs' exported ice blocks end to end they would stretch all the way from Liverpool to New York.¹⁴³

There were a few British-owned sailing vessels engaged in the Norwegian ice trade. At Grimsby in the third quarter of the nineteenth century, they mostly belonged to the Grimsby Ice Company and were crewed by men and boys from the town, perhaps as many as 100 in total in the 1870s. The company, though, had a difficult record of labour relations. By 1886 it was cutting the wages of sailors on its ice barques by 10 shillings a month,

143 See Wiborg ms., 1943, Berg-Kragerø Museum, Norway.

a move that precipitated a strike among the crewmen. But its directors responded by bringing in labour from Hull.¹⁴⁴ All this was a foretaste of even more difficult labour relations to come, early in the twentieth century. In the company's defence, though, there is no doubt its directors were having to respond to cut-throat competition among shipping proprietors. By the twentieth century, as a result, it was rare for British-owned ships, whether sail or steam, to figure in the Norwegian ice trade.

The power of combination in the ice trade was most manifest among London's ice importers. It came to a head in 1901 with the amalgamation into one huge combine of the firms of Carlo Gatti Stevenson, and Slaters. In 1901–2, the London Butchers' Trade Society reacted against what it perceived as unjustifiably high retail prices for ice charged by the new combined company by seeking to bring the product from Norway on its own account and arranging storage at an appropriate location in the capital.¹⁴⁵ However, this became unnecessary after the entry of a new competitor into the London market, the North Pole Ice Company, which became sufficiently large to temper the monopoly exercised by the new combine. The new company contracted to supply ice at 19/- per ton to

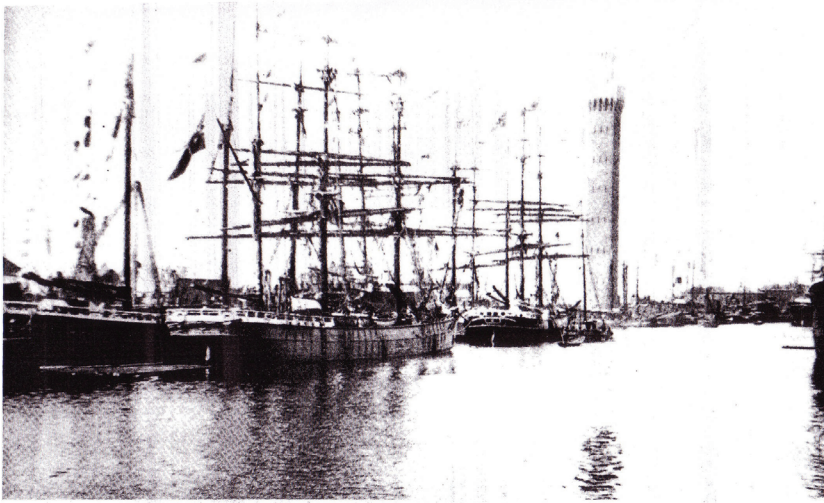


Figure 4.5. Norwegian ice barques tied up in Grimsby docks in 1897, the famous Italianate water tower in the distance (Bodleian: G.A. Lincs 8' 297 Plate opposite p. 30).

144 E. Gillett, *A History of Grimsby* (Oxford, 1970), pp. 234–5, 269.

145 See *Cold Storage and Ice Trades Review* IV (1901), pp. 246–7.

butchers within a four-mile radius of its Charing Cross and Deptford works.¹⁴⁶ Even so, some Norwegian exporters and shippers were still complaining in 1905 of the lack of healthy competition within the London trade. The combine was regarded as an ‘amalgamated monster’ in the way it had London agents of the Norwegian suppliers and shippers powerfully within its grasp. During the summer of 1905, the dockside price of ice in both London and Liverpool was down to 6 or 7 shillings a ton, leaving next to no profit for shippers and exporters.¹⁴⁷ It was no wonder that the combine could report a net trading profit of £26,000 for the year 1904.¹⁴⁸ However, it is clear that the benefits of amalgamation fell somewhat short of expectations. Whereas the combine’s directors had looked to a ten per cent dividend, the years 1902 to 1907 yielded only 5.6 per cent. The failure to meet profit expectations was, according to one director, due to ‘ruinous’ competition within the trade, indicating that the North Pole Ice Company, or ice exporters and shippers in Norway, had had some success in taming the power of the so-called ‘monster’ firm.¹⁴⁹

The saving grace for ice exporters and shippers came, as already indicated, when exceptional summer temperatures in Britain caused a run on the supplies of ice in the ice stores in the capital. In early August 1900, for instance, cargoes of Norwegian ice were selling at the dockside for 20 shillings a ton. At channel ports, they were even higher, at 27/6d.¹⁵⁰ This followed from a very hot and sticky July when the mean monthly temperature reached 17.7°C, a figure that had barely been approached in the month of July for any of the preceding 20 years. In July 1905, though, when the mean rose to 17.2°C, exporters and shippers did not benefit in anything like the same measure. Although there was a price boom, the difficulty was that there was just not enough ice in Norwegian stores available to be shipped.¹⁵¹ It became a lost opportunity. Even contract shipments ended up having to wait for the new season’s ice crop to be cut in December. At Kragerø, one of the Wiborg family recalled the effects

146 *Ibid.*, IV (1902), p. 314.

147 *Ibid.*, VIII (1905), p. 148.

148 *Ibid.*, p. 93.

149 *Ibid.*, XI (1908), p. 77.

150 *Ibid.*, III (1900), p. 205.

151 *Ibid.*, VIII (1905), p. 313.

of a hot summer in England on their ice export business. All its employees, from the youngest to the oldest, would be working from early in the morning to late at night. Vessels as well as ice had to be ordered, then loading and discharge arranged and co-ordinated. The importers seemed to want ice shipments all at the same time. The business continued weekdays, Sundays, night as well as day. At some of the largest ice farms around Kragerø, it was not unusual for three vessels to be loaded in a single day at peak periods.¹⁵² But the danger in such boom times was that entire ice stocks could be cleared, leaving nothing to be carried over for the succeeding year.

The ice shippers not uncommonly found that it was not just over freight rates that they crossed swords with British ice merchants. A secondary bone of contention was over demurrage. In the early summer of 1901, partly due to poor weather in Britain, the ice market in London was exceptionally slack. The result was that the incoming spring contract cargoes, mostly on board sailing ships, had to be left lying in the Thames for up to 16 days, waiting for space in London's ice stores and ice wells.¹⁵³ The problem with ice on demurrage was that it could deteriorate rapidly if attention was not paid to maintaining its condition. Waste water had to be pumped out frequently, for example. The costs of demurrage could also be considerable. On a 400-ton cargo, it could amount to £7 a day. The shippers would see this as a charge on the importer and, if re-imbursment was not forthcoming, the importer faced court action.¹⁵⁴

In London in high summer, it was not unusual for there to be a score of ice ships unloading in the docks on any one day.¹⁵⁵ Among the larger ice importers in Britain, it was common to have at least one vessel laden with ice inbound across the North Sea, just to maintain an adequate level of insurance stocks. Since the size of ice cargoes varied according to a ship's registered tonnage and whether it was steam or sail, it is not easy to estimate the total number of voyages made by ice ships in any one year. But in the case of London, with some 220,000 deadweight tons of

152 See Wiborg ms., 1943, Berg-Kragerø Museum, Norway.

153 *Cold Storage and Ice Trades Review* IV (1901), p. 75.

154 *Ibid.*, IV (1901), p. 234.

155 *The Times*, 26th July 1911.

ice imported in 1899, a fair estimate would be 500 to 600 return passages, mostly concentrated between the months of March and October. So whilst ice ships were never as common as colliers on the Thames off Gravesend, they would have been a regular daily traffic.

One of the particular difficulties faced by ice-ships entering the Thames was the sheer volume of estuary and river traffic. The different speeds of sail and steam tonnage added to the hazard, as did the need for many sailing vessels temporarily to lay anchor in wait for a flood tide. In June 1876, the 133-ton Norwegian brig *Gem*, with a cargo of ice from Drammen, was riding at anchor near the Deptford buoys when a Hamburg-bound steamer, the *Virgo*, of 1,013 tons, coming down river at six knots, struck the *Gem* amidships. The brig was so severely damaged that she very soon sank, and her owners brought a suit against the steamship proprietors. In court, however, the judge dismissed the case as an unfortunate accident. A combination of an ebb tide and a strong south-west wind had caused the brig to lay athwart the river and when the steamer tried to take sharp evasive action, her steering gear broke, resulting in the collision.¹⁵⁶

A much more spectacular accident, though, occurred in April 1910 near the anchorage grounds off Gravesend Reach, at the mouth of the river. The German steamship *Julia*, of 1,227 tons, making four and a half knots downriver, collided with the 526-ton British sailing barque, *Berean*, anchored with a cargo of ice. The barque was so damaged that she had to be beached near Tilbury Fort. In court, it transpired that the collision had been precipitated after another steamer, the *Belvedere*, of 1,001 tons, a London County Council sludge boat, had struck the *Julia* in the process of trying to overhaul her and then cut a passage between the vessels lying at anchor in Gravesend Reach and a P. & O liner that was turning in the river with the assistance of tugs. The manoeuvre by the *Belvedere* and the subsequent collision forced the *Julia* off-course, whereupon she ran into the ice-laden *Berean*. Once more the setting was compounded by an ebb tide with a force of two and a half knots. Judgement was eventually delivered against the owners of the *Belvedere*,

¹⁵⁶ *Ibid.*, 18th November 1876.

for as the overtaking vessel it had been her duty to keep out of the way of the *Julia*.¹⁵⁷ But wherever responsibility ultimately lay, the accident affords a powerful illustration of how very crowded the Thames had become by this time.

On a 650-mile sea voyage, it would be anticipated that some of the ice in the ships' holds would melt. Within the trade, the general reckoning was that six per cent was the average loss. However, wastage invariably varied according to the time of year that cargoes were shipped and the care that was taken to pump out meltwater during the passage, not to mention the sea conditions, the length of the voyage and the manner of stowage. In the best cases, cargo loss could be minimal. In February 1865, for instance, the Norwegian barque *Achilles* loaded 412 tons of ice at Kragerø. A space of two feet was left between the deck and the surface of the cargo. Wood, four inches in depth, had been laid as insulation in the bottom of the hold and the blocks of ice were stowed close together, with both ends of the ship not quite full. The cargo was destined for Plymouth and, when discharged, around three weeks later, made out 406 tons, in other words an exceptionally small wastage.¹⁵⁸ In the very same year and the very same month, though, the Norwegian galiot *Phoenix* loaded 225 tons of ice at Lengner. There were 12 inches of wood insulation in the hold and it was filled, with the exception of four feet forward. On arrival at Plymouth, the vessel off-loaded 208 tons, representing a rather more significant level of wastage. The explanation was partly that the vessel had to wait for discharging orders at Plymouth and, the weather being warm, some of the ice melted.¹⁵⁹

Sometimes court cases shed light on the measure of ice wastage. In a dispute that came before the Poole County Court in the late summer of 1908, the captain of the Norwegian sailing ship *Duin* reported that he had originally loaded his 240-ton vessel with 360 tons of ice. Upon arrival in Poole, the cargo was down to 300–320 tons, although on earlier voyages the captain stated that he had often cleared 350 tons. In the latter case, this represented a wastage of only about three per cent, whereas the

157 *Ibid.*, 4th July 1910.

158 R.W. Stevens, *On the Stowage of Ships and their Cargoes* (7th ed., London, 1940), p. 335.

159 *Ibid.*

voyage which the court was examining involved a wastage four times that level. The cargo was ultimately destined for Bournemouth, and its deadweight had been reduced to 240 tons by the time it arrived there, with only 200 tons capable of being put into store. It appears that in the conveyance of the ice from Poole to Bournemouth by railway, the ice-blocks had been poorly packed and left uncovered, or, at least, that was the central substance of the plaintiff's claim. The plaintiff won a judgement partially in his favour, but at the same time announced that his company was being dissolved, a comic echo of the dissolving ice in its transit along the south coast.¹⁶⁰

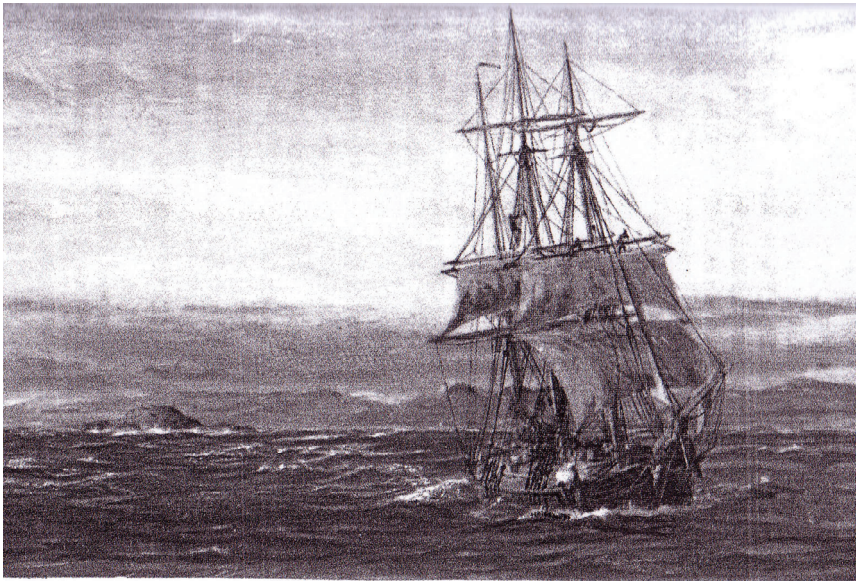


Figure 4.6. A heavily laden wooden barque under partial sail off the west coast of Norway in the early 1900s (Bodleian: 2044 e.42 plate opposite p. 6).

Many of the specially built ice steamers and a few of the sailing ships were fitted with windmill pumps to ensure that meltwater was continuously removed. But where a vessel had to rely on hand pumps, the level of waste water was more difficult to control. Cargoes would then deteriorate even faster and, more seriously, be prone to shift in a heavy swell.

¹⁶⁰ *Cold Storage and Ice Trades Review* XI (1908), p. 225.

In August 1920, a motor schooner laden with ice began to roll violently in bad weather in the southern North Sea. The cargo eventually shifted and forced the crew to abandon ship. However, this was not the end of the crew's misfortune. The ship's boat subsequently capsized twice and the members that survived had to wait 30 hours before they were sighted by a Lowestoft steam trawler and rescued.¹⁶¹

Some of the wooden sailing ships engaged in the ice trade were plainly close to the ends of their working lives. Travellers aboard steamers en route to Norway frequently remarked on the sight of such vessels, masts seemingly sloping all ways at once, yards creaking from right to left, sails old and patched. When fully laden, solid green water periodically swirled across the decks, the windmill pumps everlastingly at work to keep the ship afloat. The vessels in worst condition had yawning seams and seemed to have an almost perpetual list. It was no wonder, then, that they were sometimes seen beached or floating bottom up. In 1921, when the editor of the *Cold Storage and Ice Trades Review* began speculating on the potential for the ice trade to recover in the wake of the First World War, readers were reminded of how the pre-war ice trade was often carried in the 'roughest of hulls' and it was unlikely that such vessels would any longer be familiar sights on the Thames. Only the specially fitted-out wooden ice steamers held out any prospect of the trade's renewal.¹⁶²

161 *The Times*, 26th August 1920.

162 *Cold Storage and Ice Trades Review* XXIV (1921), p. 189.

