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Salem Maritime National Historic Site
Salem, Massachusetts



PICKLED FISH AND SALTED PROVISIONS

By John Frayler, Historian

ENTRY of Pickled Fish and Salted Provisions, intended to be exported for the benefit of bounty, by Jonathan Mason & Co. in the Schr. St. Patrick whereof Joseph Strout is Master, bound for Demerara

Marks as branded on the casks.	Number of Barrels.	Description or species of Fish or Provisions.	Quality.
Forty	Forty half	Beef	1 & 2 ^d
Forty half			
Twenty nine	Five half	Macharel	—
Five half			

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Pickled Fish and Salted Provisions
Historical musings from Salem Maritime NHS
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I have been asked on numerous occasions why this series of "historical musings" is called Pickled Fish and Salted Provisions. Since the publication is now entering its fifth year of publication, an explanation is in order. In this issue, I will first address this question and then give some consideration to the salting of food as a means of long term preservation.

In answer to the question about the choice of name, I would like to point out that the credit for it must go to David Kayser, Curator at Salem Maritime National Historic Site. We had been discussing the prospects of my writing informational essays on various topics and what the series should be called. At the time, while we were also researching U. S. Customs Service documents suitable for a proposed exhibit, a form for recording shipments of pickled fish and salted provisions caught David's eye and he liked the sound of the phrase. He thought it would be a perfect name for a series of essays on topics often equally as obscure as a form concerning quantities of pickled fish. I thought so, too, and it has been known as Pickled Fish and Salted Provisions (familiarily called PF) ever since.

The practice of salting something away for the future reaches back into the mists of time.

Salt, used for many industrial purposes, such as glazing pottery, dyeing cloth, the manufacture of glass, and processing metals, has been used as a food preservative since ancient times. Salt fish products were popular in Roman cooking and were extensively traded throughout the Empire. At Setubal, Portugal, the archeological remains of a Roman salt-fish factory are located under the Setubal Tourism Office.¹

Salt obtained from European sources became a primary ingredient in the development of the North American colonial economy during the seventeenth century as the fisheries of New England and the Canadian

¹ Oxfordshire Museum Service, "Salt -Fish Preparation at Setubal: Factories at the Tourism Office and at Troia: 1st to 4th centuries AD", URL: <http://www.oxfordshire.gov.uk/oikos/porte.htm>

Maritimes became major exporters of salted fish products and preserved foodstuffs of various kinds. Access to the American fishing grounds was an issue of war and peace between the United States and Britain into the 19th century.

Salt fish, although not the first choice for shipboard consumption (ships generally provisioned with salt beef and pork and as many live animals as could be housed in makeshift pens and coops on deck or in stowed boats), was critical to the operation of West Indian and South American sugar plantations. Lower quality salt fish provided a readily available cheap food source for the slaves; the higher grades went to the Iberian Peninsula. Salt fish was traded for sugar, molasses, Spanish and Portuguese wines, and European manufactured goods.

There were, however, drawbacks to the constant use of salted provisions (usually in conjunction with petrified hardtack biscuits made from flour and water). This was particularly true aboard ship during extended voyages and among troops stationed in areas where fresh fruit and vegetables were not readily available. The resulting deficiency in vitamin C produced scurvy, a debilitating (at best) and deadly disease that regularly decimated ships' crews. The symptoms were easily recognized; and although the relationship to inadequate food was appreciated, the common solution of adding lemon juice to the diet was only slowly being implemented during the 18th century. The Royal Navy finally made the issue of lemon juice compulsory in 1795.² In many instances, it just could not be obtained when needed most.

Despite the shortcomings of a salted provision diet, it provided a widespread and practical means of utilizing meat and fish products for extended periods in the days before canning and refrigeration.

From Salem's earliest days, fish, ordinarily the once abundant cod, were caught, gutted, covered with salt, and dried out on racks built on shore.

² Peter Kemp, *The Oxford Companion to Ships & the Sea* (London, 1976), p. 763

Known as stages, or fish flakes, these structures were a common sight in colonial seaboard towns. Though not the only location used for this purpose in Salem, the neighborhood now called "the Point" got its name from the old designation "Stage Point," the location of a large number of fish-drying "stages." Once thoroughly dried, the cod were packed in barrels for shipment.

Salting is described in William B. Dick's *Encyclopedia of Practical Receipts and Processes* (1885). In this instance he is addressing meat rather than fish; however, the idea is the same. He distinguishes between dry salting and wet salting. Using a slightly more complex blend of ingredients for the process than was used for fish (a small portion of saltpeter and sugar are added to the basic salt), the meat is rubbed with the salt mix until it penetrates thoroughly. The mix is re-applied the next day, and the meat put into a container with more salt and pressure applied. The salt draws the moisture from the meat and forms a brine solution. If this is drained away, the meat is dry-salted.

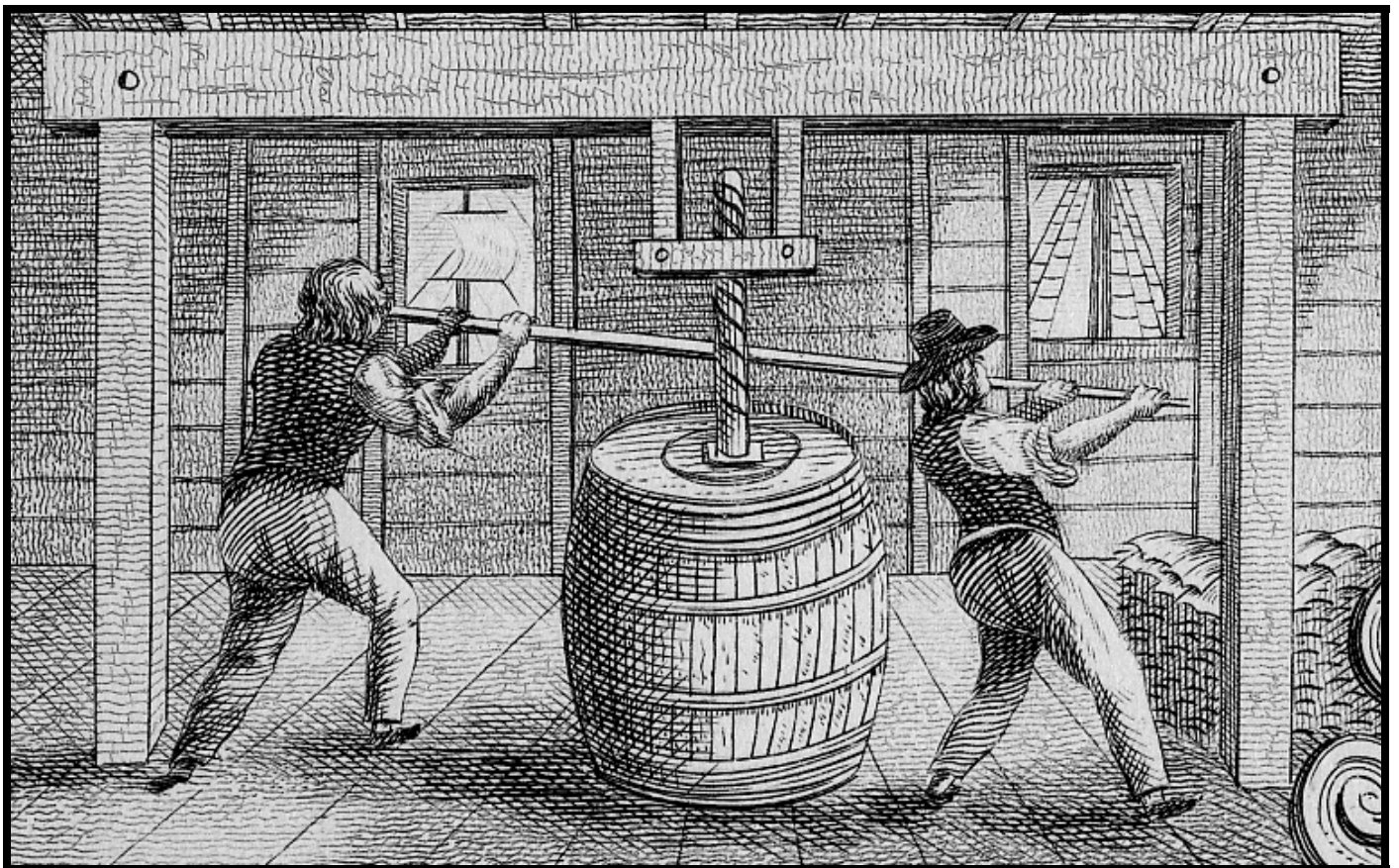
If the brine is allowed to remain, the meat is wet-salted, or pickled. Pickling liquor is then added (a solution of four pounds of salt, two gallons of water, one-half to one pound of sugar, and two ounces of saltpeter).³ This must have resulted in products like those described by early seamen as "salt beef," "salt pork," "salt junk," and occasionally, "salt horse." Although the last may have actually been the case at times, common belief in its truth by the men may be one explanation why the container in which the meat was soaked before cooking to make it less salty became known as the "harness cask." It also may be that the meat was edible to the same degree as a leather horse harness, or because the cask was "harnessed" to the deck to keep it from tumbling about.

At the most basic level, wet-salted meat makes its own pickle. This is also the case with pickled fish.

³ William B. Dick, *Encyclopedia of Practical Receipts and Processes* (New York, 1885), p.165

Fish was cured in a number of ways under the overall heading of salting. Dry-salted products could be either light-salted or heavy-salted. Fish pickled in brine was considered light-salted.

The curing techniques varied according to a number of factors, including anticipated time at sea before landing the catch, temperature and weather conditions at the locations of the on-shore processing facilities, and the degree of hardness and flatness desired in the final product (quality or grade). Heavy-salted fish was the driest, hardest, and most difficult to eat, but it kept well and was easier to handle and store. This is the product depicted in the illustration on the 1797 Salem Marine Society membership certificates. It was frequently packed in casks for shipment under the pressure of a large screw-press. This process was called "screwing fish."



Two men screwing fish. Detail from the Salem Marine Society membership certificate in the Salem Maritime NHS museum collection.

“Yesterday afternoon a young apprentice named [Ebenezer] Hobart, screwing fish with his Master Safford, was killed by the breaking of the beam which with an enormous weight of fish [in the loft above] fell upon him. The master was injured but not dangerously hurt.”

May 25, 1809 entry from The Diary of William Bentley, D. D., Pastor of the East Church, Salem, Massachusetts

A number of factors were considered in the stowage of salted provisions aboard ship. The casks had a tendency to leak over time, especially when disturbed, or if carelessly stowed with the bung down. Robert White Stevens' volume on the stowage of ships points out the advantages of plainly marking the casks with white paint or chalk "B" (beef) or "P" (pork) to reduce unnecessary handling while identifying the contents. He quotes a Mr. Grange, who advises "Salted provisions to be well coopered with an extra iron hoop, put on each end and bilge before shipment, and stowed carefully away where there will be no chance of disturbing them, and if moved to be coopered and filled with pickle. If the voyage exceed 12 or 15 months, they should be fresh pickled at the middle of this time."⁴

The production of pickled fish becomes a significant issue following the War of 1812. Friction with Great Britain continued despite the end of hostilities, and foreign competition prompted Congress to pass a protective tariff in 1816. "The tariff of 1816 imposed a duty of one dollar the quintal [hundredweight] on foreign dried or smoked fish imported into the United States, two dollars the barrel on salmon, one dollar and fifty cents the barrel on mackerel, and one dollar the barrel on all other kinds of pickled fish."⁵ Specific duties on imported fish continued at the same rates through the tariff of 1842, but were modified to twenty per

⁴ Robert White Stevens, *On the Stowage of Ships and Their Cargoes: With Information Regarding Freights, Charter-Parties, etc., etc.* Sixth Edition (London, 1873), p. 497, paragraph 881

⁵ Lorenzo Sabine, *Report on the Principal Fisheries of the American Seas* (Boston, 1852), p.164

cent ad valorem (a duty based on the invoiced value rather than the number of pieces) under the terms of Secretary of the Treasury Robert J. Walker's tariff of 1846, which lowered the import duties on a wide variety of items.

The collectors of customs were responsible for administering the fisheries through licensing, monitoring, and the collection of data. One means of tracking fishing activities was by obtaining the logbooks of fishing vessels.

Competition from foreign fisheries continued to increase in spite of the tariffs, new regulations, and bounties paid to promote the American fishing industry. Treasury Department statistics indicate that 1821 was the first year in which pickled fish were imported (1,171 barrels) into the United States. In the same year 76,429 barrels were exported. The figures for import and export were nearly equal in 1847, but in 1848 the ratio of imports to exports changed drastically. In that year exports were 23,736 barrels and imports were a monumental 122,594 barrels (just over five times greater).⁶

Sabine, writing in 1852, points out that the recent change in policy put the United States at a great disadvantage. "In the present [Walker] tariff, specific duties on fish are entirely abolished, and the uniform rate of twenty per cent. ad valorem substituted, which on some kinds is merely nominal, and on all insufficient. The ad valorem system has proved extremely beneficial to British colonists [Canadians]. In fact, having driven us from the markets of Catholic Europe, they are in active competition with our own."⁷

The American fishing industry started to decline due to foreign competition as early as the 1830s, one reason being that fishing vessels

⁶ Sabine, pp. 177, 178

⁷ Sabine, p. 164

could be more cheaply built and outfitted in Nova Scotia than at home.⁸ The loss of the foreign markets Sabine comments on appears to have been recognized as a significant issue since about 1835.

The Reciprocity Treaty of 1854 gave the Canadians further advantage; their fish was now allowed into American ports duty free. In 1858 the fishing bounty system, the government subsidy of the American fishing industry since 1824, was abolished. The United States terminated the reciprocity treaty in 1866, primarily due to the Canadian sympathy for the Confederate cause. Territorial fishing rights disputes continued through the rest of the nineteenth century. By the beginning of the twentieth century, the American fishing fleet had shrunk to about one-fourth of the tonnage it had enjoyed before the Civil War.

Market issues aside, beginning around 1865 experimental attempts to develop practical refrigeration methods were made. The use of ammonia for refrigeration was understood by the 1880s. By the first quarter of the twentieth century fish (and meat) was available refrigerated, frozen, and canned. These developments would soon negate the need to salt for preservation.

Although still available for purchase on a limited basis, salted meat and dried or pickled fish no longer dominate the market as they had for centuries.

Sadly, technology has greatly reduced the relevance of the obscure Customs document tracking the transport of pickled fish and salted provisions to the world of international commerce.

*Merchant Town Press * 2004*

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⁸ John G. B. Hutchins, *The American Maritime Industries and Public Policy, 1789-1914* (Cambridge, MA, 1941), p. 322