

National Park Service  
U.S. Department of the Interior

Salem Maritime National Historic Site  
Salem, Massachusetts



# SHOES, SHIPS, AND SURVIVAL

*By John Frayler, Historian*



∞ Pickled Fish and Salted Provisions ∞  
Historical musings from Salem Maritime NHS  
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The recent return of a number of excavated 19<sup>th</sup> century shoes to Salem Maritime NHS from the National Park Service's conservation lab at Harpers Ferry Center in West Virginia begs an opportunity to explore a long hidden aspect of Salem's maritime history.

In December 1997, the collapsing seawall of the former Tucker's Wharf site at the eastern edge of the park was undergoing repair. The machinery exposed the timbers of what had once been a launching way from the shipyard of Benjamin Hawkes at the foot of Kosciusko Street next to Derby Wharf beach. Initially Hawkes, with his partner John Babbidge, had a boat building establishment at this location dating from the early 1790s. By 1819, Hawkes expanded the scope of production to building ships and the area functioned as his shipyard until 1829. The area was filled in over the years, and the granite block seawall licensed to be built in 1888.

While examining the earth removed from the immediate proximity of the wall, all sorts of things appeared. For many years, objects have been found in the mud flat adjacent to the wall and the beach. Rubbish was dumped there for more than 100 years, and things constantly wash up with the tides. So much material accumulated over the years that the local nickname for the area was "glass beach." Curiously, in addition to the huge amounts of broken ceramics and glass, which survived the ravages of nature, leather also has preserved exceptionally

well. The most interesting archeological specimens included shoes of various kinds.

The museum collection at Salem Maritime contains specimens of shoes and boots from a number of sources, not all of which are of archeological origin. There are complete, and fragments of, leather boots, men and



women's shoes, early rubber galoshes and even a petrified pair of low cut rubber overshoes. The items range in age from the 18<sup>th</sup> through early 20<sup>th</sup> centuries. Some of these objects were preserved because they were stored in attics, basements, or wall spaces. A bit stiff, perhaps, but not too hard to imagine that they would survive. On the other hand, other pieces are almost as well preserved in spite of the fact that they were buried in landfill, or the mud of the harbor bottom.

One of the shoes dug out of Tucker's Wharf may actually date to the 18<sup>th</sup> century. This low quarter shoe with a somewhat pointed toe, double rows of pegs and latches (side flaps) pierced for laces (traces of a cord remain) and

finely spaced needle holes which once secured a lining is of a style common throughout the 18<sup>th</sup> and into the 19<sup>th</sup> century. The top of the vamp (toe section) has been cut away to use as patching for something else.

Incomplete sections retrieved nearby include a wide variety of construction techniques. A left insole, nearly indistinguishable from a straight lasted shoe (made with left and right shoes the same shape), shows peg holes and a squared toe.

A partial boot with a sole secured by recessed stitching has an inner sole and arch pegged together and very fine stitching securing a separate vamp to the upper. Most early examples have the vamp and forward half of the upper (shaft) formed out of a single piece of leather.

A third example is a boot fragment with a heavy double sole secured by brass or copper pins (in place of, or in combination with, wooden pegs). This item shows one crudely stitched patch remaining of two, one on either side of the vamp.

An example of a heavy duty work shoe, or brogan, with three lace holes on each side of the upper, is made with the rough side of the leather turned out. The sole is secured to the upper with brass fasteners (a technique developed after the Civil War, which sometimes produced painful results as the insole compressed) and was once repaired with a sole tap (now missing) nailed on with iron

tacks. Shoes greased for waterproofing were frequently made with the smooth side in. This solved two problems—ease of maintenance and no need for a lining.

Another brogan was dredged up between Derby and Central wharves when the area was being prepared for mooring *Friendship*. It is a perfect example of a typical Union army "bootee," almost totally complete. The sole is attached with a double row of wooden pegs. The lack of oxygen in the mud, in combination with the tanning process of the leather, prevented decomposition of the shoe.

Current conservation practice entails soaking the leather items in water until they are chemically neutral and then immersing them in ethanol (alcohol) until the water is displaced and all bacteria is removed.

Having said all of that, we now address how shoes, the sea, and Salem are interrelated. As previously noted, there was a lot of patching going on.

Footwear can tell us something about the lifestyles of people. Have you ever thought about the quantity of vintage clothing that survives compared to the amount which once existed, and wondered where it all went? In the days before the Salvation Army and Goodwill Industries, shoes (and clothing generally) were not discarded until they were worn beyond salvage. Anything left over was usually recycled for material. Clothing went

into the ragbag if it was too far-gone for use as the next generation of hand-me-downs. Rag collecting was a common occupation; one market for rags was the paper industry. Old leather was used by industry for hardening iron and steel.

In Salem, shoes were more than just another article of clothing. As in neighboring communities, shoe making was among the earliest industries. Production of shoes incorporated butchering and tanning the hides of animals, primarily cattle. Tradesmen, among whom were slaughterers and tanners, occupied Salem Maritime's Narbonne House on Essex Street.

According to Osgood and Batchelder<sup>1</sup>, there were four tanneries in Salem in 1768 and forty-one by 1844. The last vestiges of the trade barely survive today. Although not quite as famous as Lynn for the shoe industry, in 1879 there were about forty Salem firms employing more than 600 persons in the production of shoes and boots. Shoe manufacture in Salem continued well into the 20<sup>th</sup> century.

Salem's ships serviced the shoe and leather industries from the 17<sup>th</sup> through 20<sup>th</sup> centuries. As one of a few things which could be locally manufactured during the pre-industrial era, shoes were among the items mentioned in the memoirs of seamen who were allowed to take small "ventures" with them for sale or trade in foreign lands.

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<sup>1</sup> Charles S. Osgood and H.M. Batchelder, *Historical Sketch of Salem* (Salem, 1879), p. 229, 230

With the market for shoes increasing and production expanding to meet it, Customs Service records reflect the need for imported raw materials. Nineteenth century tariff schedules excluded raw hides from customs duties as a means of encouraging domestic manufactures. Hides were imported into the United States from around the world, with Venezuela, Brazil and Argentina being the largest suppliers.

Hemp, Manilla,	-	-	-	-	-	Free.
Henbane,	-	-	-	-	-	"
Hides, raw,	-	-	-	-	-	"
"    tanned or dressed,	-	-	-	-	-	30 per cent
Hinges, Gold or Silver,	-	-	-	-	-	12½ " "
"    all other,	-	-	-	-	-	25 " "
Hobby Horses, of Leather,	-	-	-	-	-	30 " "
"    of Wood,	-	-	-	-	-	25 " "
"    of Paper,	-	-	-	-	-	Free.

Raw hides were known as "green" hides; meaning that they were in the unprocessed condition as removed from the animal, or treated with salt, alum, and saltpeter to prevent them from putrefying<sup>2</sup>.

Anticipating an intense desire to know something of the practices and procedures of transporting uncured hides by sea, the following is excerpted from a comprehensive shipping guide published between 1858 and 1894, most easily remembered as "Stevens on

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<sup>2</sup> J. Smith Homans and J. Smith Homans, Jr., eds., *Cyclopedia of Commerce and Commercial Navigation* (New York, 1858), vol. I, p. 970

stowage<sup>3</sup>." I personally find this kind of data absolutely irresistible: "A heavy ox- hide will measure 7 feet long by 5 feet 9 inches wide; light hide 4 feet 10 inches by 4 feet 4 inches; average 6 feet 6 inches by 4 feet 6 inches. A salted ox- hide weighs from 42 to 89 lbs....

It is usual to calculate that the carcasses of 7,000 animals will produce 280 pipes (a large barrel) of tallow, and when freighting a ship with hides and tallow, about that proportion, say 35 pipes to every 1,000 hides is generally agreed on. 1,000 ox- hides, with necessary salt, weigh about 30 tons...It is the universal practice to stow hides with the hairy side upwards; where it becomes necessary to turn in part of a hide, the hairy part should be turned in carefully supplied with salt and pickle, to prevent decomposition...Through the inconvenience of creeping about under the beams, the crew will sometimes double up the top hides; in this case the folds will be sure to rot and loss [financial and physical] will fall on the ship." Yes folks, the Master and First Mate had to know this!

"The masts, beams, and pump- casing should be well dunnaged." Dunnage is the packing material that protects both the cargo and the ship from damage and separates different types of cargo from each other. Planks and brushwood were typically used as dunnage, but sometimes other materials could be employed. The moist hides were

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<sup>3</sup> Robert White Stevens, *On The Stowage of Ships and Their Cargoes: With Information Regarding Freights, Charter- Parties, etc., etc.* Sixth Edition (London, 1873), paragraphs 503 through 516



not to contact the ship directly except in those areas specifically prepared to receive them. "A ship of 300 tons will require about 20 tons of steamed bones for dunnage." Layers of horns also were used.

Now comes something closely affiliated with the inspiration for this publication series (Pickled Fish and Salted Provisions). "The pickle should be made with fresh water. Some masters consider that there is sufficient salt when a potatoe will float in it if stirred with a stick. It is preferable to put too much rather than too little salt. Pickle should not be made with salt water, or the hides will turn black immediately afterwards, send forth a most disgusting effluvia, and then rot."

The recommended practice was not to mix cargoes when shipping hides. "If it be possible, let the length of the hold be stowed in one bulk, without any breaks, except those at the masts and pump cases, which parts, as well as the beams of the vessel, to be dunnaged as directed; should there be a necessity for the separation of bulks, the space between to be filled with salt, and carefully covered over to prevent water from leaky decks, or otherwise, from getting down between the bulks."

The hides were to be laid out flat and level so that salt and pickle could be applied on the voyage home.

At this juncture, the second most important factor in the shipping trade for the preservation of the ship and her

cargo other than leak prevention is addressed. That is ventilation: "During the passage home, the after and fore hatches to be kept off, when the weather will permit, and thus allow the steam of the cargo to escape."

Stevens references a statement by a Captain Feenstra who said: "It is usually considered satisfactory when 600 ox-hides are stowed daily. With my crew and one stevedore I could load and stow 1,000 hides per day. Sometimes we could only stow 800 hides."

Hides could also be shipped dry. After preparing the dunnage, dry hides could be stowed above the green, salted hides. They were stacked folded over like the pages of a book in bundles of twenty to fifty and jammed into place with a jackscrew.

As in other seagoing subject matter, Richard Henry Dana describes the stowage of hides in great detail<sup>4</sup>. Loading a cargo of dried California hides, he said that in the process of compressing the uppermost hides into place (known as steaving, after the wedge ended spars used to force the hides into position) it was actually possible to start the ship's beams. Using huge blocks and tackles, and accompanied by singing, the crew levered the "books" of hides into place manually.

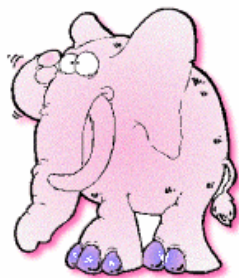
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<sup>4</sup> Richard Henry Dana, *Two Years Before the Mast* (New York, 1965), chapter 29, Loading For Home.



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In later years, hides arrived at the tanneries in barrels on trucks and by railroad. In Salem, as late as the early 1970s, the Fourth of July was celebrated with a giant bonfire of stacked, contaminated hide barrels atop Gallows Hill. An industry dying in a blaze of glory!



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