

## *THE BUILDING OF AMERICA*

The life of any ship symbolically commences when she first enters the sea. But to her creators, that dramatic event is but the culmination of months, often years of an extremely complex process. On the last day of August 1939, the *SS AMERICA*, at that time the largest and finest luxury liner ever built in the United States, was christened by her namesake nation's First Lady before over 30,000 excited Americans.



Many of those present that day to witness NNS Hull #369 become *AMERICA* were proud shipbuilders, accompanied by their equally proud families. This is the story of what the craftsmen of Newport News experienced and the conditions they endured in the mid-twentieth century when they created...

*AMERICA – the beautiful*

~ Foreword ~

Portions of this longer and more illustrated reminisce were included in a 2003 publication entitled *SS AMERICA : USS WEST POINT : SS AUSTRALIS – The Many Lives of a Great Ship*. Larry Driscoll, the author of that book, and with my urging, decided to include the shipbuilders, as well as the passengers and crews, in his biography of the *AMERICA*. It then became my pleasurable chore to provide what I like to call *The Building of AMERICA*.

When I was an Apprentice at Newport News Shipbuilding between 1954 and 1959, much of what is required to build a steel-hulled ship had not changed very much from what is recounted here. But as a fledgling shipbuilder, I never worked on a ship under construction on an inclined shipway, or one that had a riveted hull. However, as one always interested in ships – and shipbuilding – I did have a lot of accurate and useful data to augment my own somewhat limited experiences in hands-on shipbuilding.



In order to accurately relate the human side of the story of what it was like to work in the Newport News shipyard while living nearby in the mid-twentieth century, I enlisted the help of my older Brother, Howard Lee, Junior. He entered the Apprentice School in 1940, and after an interruption for service in the Navy, came home in early 1946, returned to the shipyard and graduated from the Apprentice School in 1947.

He didn't work on the *AMERICA*, but he did toil nearby on other ships of that era while they were being constructed under very similar conditions. His memories were instrumental in the creation of what follows, and what one reviewer of Larry's book called "a colorful and gritty description of life in the shipyard".

I could not have done that without my big Brother's considerable help. Or a lot of other things in life...

*Bill Lee*  
April 2006

*AMERICA*'s birthplace was a huge concrete slab, with dimensions deliberately those of a Panama Canal lock. Set on thousands of thick pine pilings hammered into the ooze of the James River's tidal reach, this slab was also inclined. The outboard end was some twenty feet below the level of the river whose brackish waters were held back by a removable steel caisson. The inboard end rose just as high above ground level, over 1,000 feet from the river's edge. On either side of this tilted table of toil, a massive steel framework reached skyward some 150 feet above ground level to support a huge trestle. From this trusswork of steel beams were suspended several traverse-travel gantry cranes of up to 100-ton capacity that spanned and serviced the entire length of the long, narrow construction platform known as a shipway.

Two of these then-ultra modern ship assembly sites were created on landfill in the shallow water just north of Mr. Huntington's original plant. A World War One facility expansion project to build battle cruisers, they were technically classified as semi-submerged, inclined shipways. To thousands of workmen that poured their energies into building world-famous ships there for over six decades, these towering skeletal structures were simply known as Shipways #8 & #9.



Shipway #8 became the assigned location for *AMERICA*'s translation from dream and drawing to steel and style. And a historic site it was, for she was preceded on that shipway by the USS *RANGER*, the first US Navy aircraft carrier designed and built as such, and later the *YORKTOWN*. After her launch date was moved up a month to facilitate an accelerated carrier construction schedule, *AMERICA* was followed on Shipway #8 by *HORNET* and other aircraft carriers of World War Two fame. Declared obsolete and demolished in 1982, Shipways #8 & #9 were replaced with an immense 'land-level' covered fabrication facility now used to build nuclear powered submarines under controlled conditions undreamed of when *AMERICA* was created.



Any doubt that Newport News was a blue-collar 'factory' town, albeit one dedicated to the creation of the ultimate in maritime marvels, was dispelled each morning at 6:50 a.m. At that precise moment, the shipyard whistle – really a compressed air-driven siren disturbingly reminiscent of wartime air raid warnings – announced for all those in earshot miles around that day shift work would commence in ten minutes. Hourly workers not already inside the fenced confines of the yard by the time the 'ten-to' whistle sounded were considered late for work, and their pay was accordingly reduced by one-sixth of their hourly rate.

Men came daily by the thousands. Their journeys took them to several gatehouses that guarded gaps in a wrought iron, picket fence atop the original river-carved bluff. They came from nearby row and boarding houses, private homes and four massive, block-sized apartment buildings that overlooked the shipyard across Washington Avenue – the town’s main drag. Built during World War One to help accommodate a large influx of workers, these dwelling complexes were just known as the ‘shipyard apartments’.



From the roofs of these four-floored vantage points, wives would hang their wash and watch their men go to work, and witness the creation of sleek steel ships beneath the shipways’ lattice-like structures. The sounds and smells of heavy construction easily passed though the fenceline, where small children pressed their faces between the wrought-iron pickets for an even closer look.

Shipyard employees living nearby simply walked to their respective workplaces. In loosely defined, ever-increasing circles of transportation, others came by bicycle, by trolley and bus, by carpool, and a very few came individually in automobiles. Bicycle racks were placed outside most gates by the company, and many riders didn’t even bother to chain their steeds; confident no one in Newport News would abscond with a shipbuilder’s only means of getting to and from work.

Regardless of transportation mode, they all walked the last few feet together, almost universally uniformed in blue work shirts and pants, topped by machinist-style caps and supported by sturdy workmen’s shoes. Supervisors generally dressed in khaki-colored work clothing and were further differentiated from the rank and file by sporting felt ‘dress’ hats. An occasional white shirt and tie was in evidence, the unmistakable mark of some one important, like a foreman or superintendent. Most hourly workers carried lunch ‘pails’; black, hinged tins that featured a thermos integrated into their domed tops. But the one thing the men had in common – without exception – was possession of a round, pinned-on badge with photo ID, name and ‘check number’ prominently displayed.

They queued up in crowds along Washington Avenue to hopefully gain access before the warning whistle’s wail. Once through gatehouse portals, workers descended ramps or steps set into the steep, fifty-foot high grassy slope of the James River’s original bank. At a hodge-podge of small wooden shelters at the base of the slope, they separated into lines – by department designation - to individually transfer personally-assigned, numbered round brass tokens from the ‘out’ to the ‘in’ board. In those days, the term ‘check number’ referred to one’s employee number stamped on his personal ‘brass’ – not to any sort of payroll-type check number.

This simple, honor-system mechanism served both to provide a way for the timekeepers to determine attendance, and as a crude, but largely effective safety measure. ‘Brassing out’ for someone else was an immediate firing offense, and with good reason. Should a worker fail to switch his brass from the ‘in’ to ‘out’ board within a reasonable time at the end of his shift, safety wardens were dispatched to hunt for him in the bowels of the particular ship that department records indicated was appropriate.

Once ‘brassed in’, they fanned out to trudge across many acres of largely unpaved fill, all stained by soot and smoke, and soiled by lubricating fluids associated with the manufacture of steel structures and heavy machinery. Bright metal shavings glittered every where, and an occasional discarded nut or bolt would provide simple recreation for those inclined to kick at them along the way.

Some shipbuilders reported to work in the open steel storage yards at the base of the bluff, where raw materials were received and prepared for use. Some took their assigned positions in ship sheds always open on the sides to the elements, where huge, heavy, complex-curved steel shapes were hand-wrought in near-primitive conditions involving heating and hammering. Others entered enclosed shops, where complex machinery and marine apparatus were manufactured and assembled under more protected conditions. Still others moved past these locations, following the flow path of structural materials to wind-swept and sun-soaked subassembly areas – called platens - close by the river’s man-made, steel sheet-piled edge and immediately adjacent to the shipways.

But the majority of *AMERICA*’s shipbuilders moved on to the shipway proper. While some of her structure was subassembled on the platens, the bulk of her body was fashioned piece-by-piece. Before her keel could be laid, a series of heavy wooden supportive cradles had to be fashioned to outline and support the finished lines of her smoothly curved bottom fore and aft. Hundreds of built-up wooden cubes, called keel blocks in the jargon of the shipbuilder, measuring four foot in each dimension, were set in between the cradles in a precise geometrical pattern to support her massive assembled weight until time of launch.



In the mid-twentieth century, keel laying was often just a part of the construction process, witnessed only by a vessel’s builders. They had their customs, such as placing a coin under the keel for good luck, but such acts were usually done informally. But in the case of *AMERICA*, something grander, in keeping with her future role as both Queen of the American Merchant Marine and flagship of the United States Lines for the best part of two decades was desired. In addition to all her other claims to fame, *AMERICA* was the very first vessel to be constructed under the then-revitalized Maritime Commission’s federally subsidized shipbuilding program. As such, she was designated Maritime Commission Hull Number MC-1.

Accordingly, a suitable ceremony involving Maritime Commission and shipyard officials was held. On the typically warm, humid and sunny summer day of August 22, 1938, Vice Admiral Emory S. Land, USN (retired), Chairman of the Maritime Commission, actively participated in the brief ceremony, although in untypical workman-like fashion. He absorbed a few minutes of instruction in riveting basics from the shipyard's superintendent of hull construction, then removed his suit coat and personally drove the first two rivets placed in *AMERICA*'s hull. Tested on the spot, and declared 'well and truly made', they remained an integral part of *AMERICA* for her entire lifetime.



As the officials present left to celebrate this modest accomplishment, perhaps at the local county club, the blue-collared craftsmen who would build *AMERICA* really went to work. In abbreviated shipyard terminology, she was simply known as Hull No. 369. But wait, that's not entirely true. Most shipbuilders, and the company's publications and press releases of that era usually and quite fondly referred to her as Our Hull 369. This was but the first recognition of a life-long attachment to this vessel by the men who physically created her.

For slightly more than a year thereafter, work on Shipway #8 commenced each workday when the 7 a.m. whistle sounded. Required to be on the job and ready to work, thousands of men were poised throughout the great shipbuilding complex at Newport News in anticipation of that signal. As its wail died out, it was replaced - overwhelmed - by the never-ending, painfully loud sounds of multiple chipping hammers and riveting guns, and the incessant whine of the hundreds of air-driven tools of every type vital to the complex task that lay ahead.

A whistle at noontime signaled a welcome hour-long lunch break. In those trustful days, vendors were allowed to enter the shipyard property and sell food to the workers who had disdained from carrying lunch pails.

Throughout the shipbuilding plant, men ate their lunches, then played cards, read, gossiped at the river's edge, and perhaps even played catch. But the large majority, after eating, napped until another whistle blast at 12:50 p.m. warned them to return to their workstations. As the sound of the 1 p.m. whistle died, work resumed, as did the never-ceasing din that accompanied it.



Three hours later, the whistle sounded again, bringing a welcome end to yet another long day of physical exertion. Hundreds of weary workers filed off the *AMERICA* and past shops, sheds and storage areas where hundreds more joined their march to the outside world.



Slowly, as running was forbidden, they moved to and through the ‘brass out’ stations, up the ramps and steps, and squeezed through multiple, pipe-railed passages that forced the workers into single-files in order to exit. They were required, at that point, to open their lunch pails for inspection by the suspicious watchmen stationed there, always on the lookout for pilfered shipyard property.

Stories of workers going to extremes to steal something became folklore. For example, the guy who wrapped electric cable around his midsection, then fainted when it cut off circulation. Everyone at that time knew the stories; no one actually knew the culprits.



As they spilled out into the street, they took home with them the soilings and smells of shipbuilding. Just outside the gates, newspaper vendors hawked the afternoon edition of the local newspaper.

At the yard’s main gate, streetcars were lined up on their tracks embedded in the middle of Washington Avenue. What little vehicular traffic there was came to a halt as a sea of humanity dissipated throughout the community known far and wide as “Shipyard Virginia”.

There was one exception to this routine. That came every Friday...payday! Instead of heading home after their shift, workers detoured to a large open area behind the yard’s main office building.

Paved, this part of the shipyard was used for parking company automobiles. During both World Wars, it was also the site of numerous noontime war bond rallies. Approximately in the center of this open expanse stood a rough-hewn stone monument with weathered bronze tablet affixed which proclaimed the credo of the yard’s founder, Collis P. Huntington.

Workers milled about this promise and pride of their profession to again queue up, by departments - but absolutely no sooner than 4:10 p.m. - at a series of awning-sheltered windows in the basement of the main office building. Identification was provided by the display of ID badges or calling out brass numbers, although many long service employees were on a first name basis with the pay clerks. Each worker received a small brown envelope that contained his week's wages...in cash.



The exterior of the envelope contained a handwritten account of hours worked, rate of pay, deductions and resultant net pay due.

These calculations were all neatly recorded in ink on a stamped form that included, of course, that self-same, all-important brass check number. In 1940, typical wages for forty hours of labor ranged from \$45 for skilled craftsmen to \$15 for inexperienced helpers and first-year apprentices.

These patterns of work were repeated, week after week, as *AMERICA* grew deck by deck. Skilled craftsmen applied their expertise and communicated in an extensive and often bewildering jargon unique to their trade. While terminology such as aft, deck and bulkhead might be recognizable by the average citizen, most terms used in shipbuilding would defy common recognition...or definition...now, as well as then. Workers understood one another perfectly when they talked (nay, shouted above the racket of riveting) about such things as camber, doublers, gusset plates, intercostals, rider frames, scarfing, strakes and tripping brackets.

The construction of her hull might be imaged as a kind of giant body autopsy conducted in reverse. Starting with an inclined work surface and a series of supports, her backbone (keel) was positioned. As other parts of her skeleton (frames) and skin (plating) were assembled, level by level, her vital organs (boilers and engines) were inserted in logical sequence. At the same time, her major blood vessels (piping systems) and primary nervous system (electrical power cables) was also installed and connected.

All this activity was controlled by a master plan that largely depended on numerical identification of everything. To provide highly visible clues as to each item's final destination, unique numbers were rough-painted by hand directly on large assemblies and pieces, or stamped on ribbon-like tin tags wired to smaller items. At the end of each day, empty paintpots, worn-out brushes and discarded tags littered the ship.

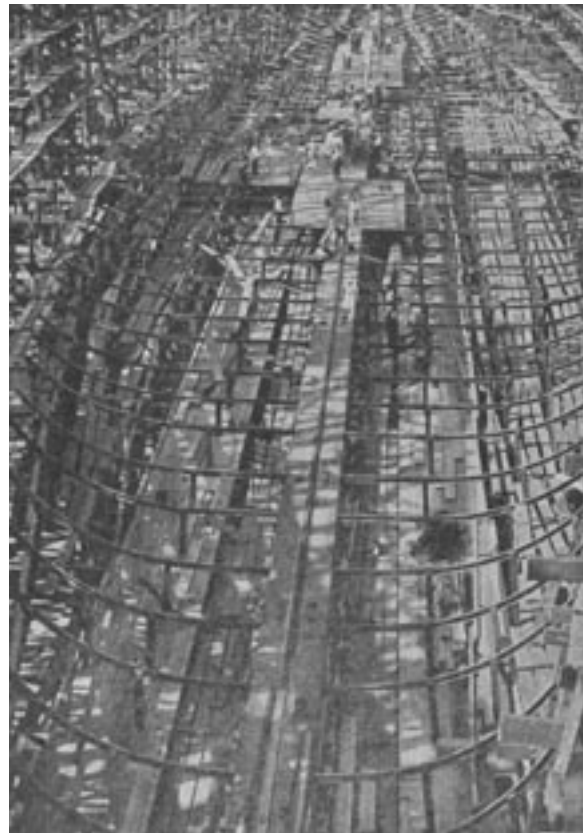


After a year of this intense, complicated activity, *AMERICA* was topped off with a brain (the wheelhouse) and made ready for launch. Although structurally complete and fit for initial introduction to her ultimate salt-water home, she was still far from being finished. After launch, additional months of intense effort would be required to fully complete her.

Most of those in public attendance at the christening ceremony, who cheered when Hull 369 truly became *AMERICA*, could not possibly imagine what had gone on before; to get that massive vessel to such an impressive, albeit incomplete, stage of construction. And in their wildest imaginations, they would not have been able to conceive of what it was like inside her compartments at the height of construction activity.

Since a seagoing vessel must by absolute necessity be a watertight one, access into the interior, lower decks becomes more difficult as construction progresses. At the very beginning, her creators could just walk along the shipway and step directly into what would soon become a labyrinth of lowermost compartments.

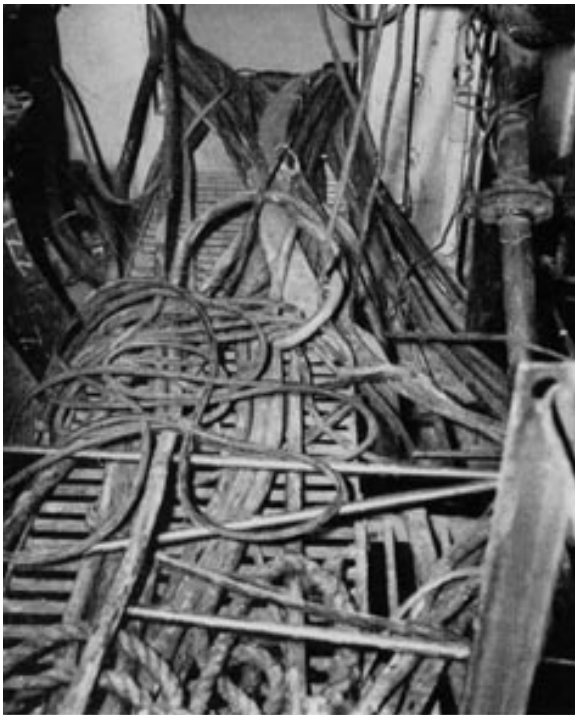
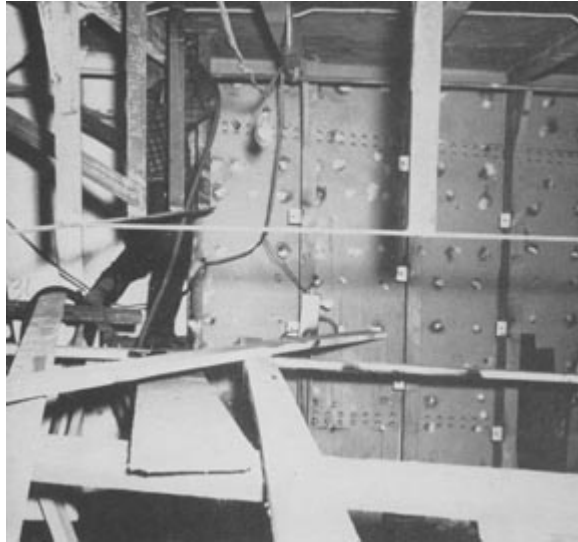
As the erection of her hull structure progressed, eventually rising over 70 feet above the inclined shipway, temporary openings were made watertight. After that, access to her lower spaces was only possible by first trudging up ramps positioned in the shipway trestle structure, then crossing over by way of rough, temporary gang planks. Gangplank is a very apt descriptive term, since the workers, in gangs, did indeed walk on wooden planks. Their only protection from falling were waist-high strands of loosely strung wire rope.



Once on the then-highest deck, the men would descend on rough wooden ladders into the various compartments where their assignments awaited. Some spaces, such as the angular, cramped, low overhead tanks and voids that are the inevitable byproduct of streamlined steel structures, provided barely enough room for individual productive work to take place.

These spaces were often incredibly cramped, and also held the never-ending fear of unintentional entrapment. Stories, not altogether untrue, of shipbuilders' skeletons being found in ships being scrapped were part of the craftsmen's crude initiation of newcomers to the trade.

Other spaces, by vivid contrast, were virtual steel canyons, often several decks high, whose internals had to be filled with scaffolding to provide worker access. Such spaces provided more than adequate room to work, but the number of people assigned there were often engaged in tasks that created conflicts of closeness. At times, confrontations that resulted were later settled 'outside the fence'...and outside the jurisdiction of the yard's strict disciplinary rules of personnel conduct on the job.



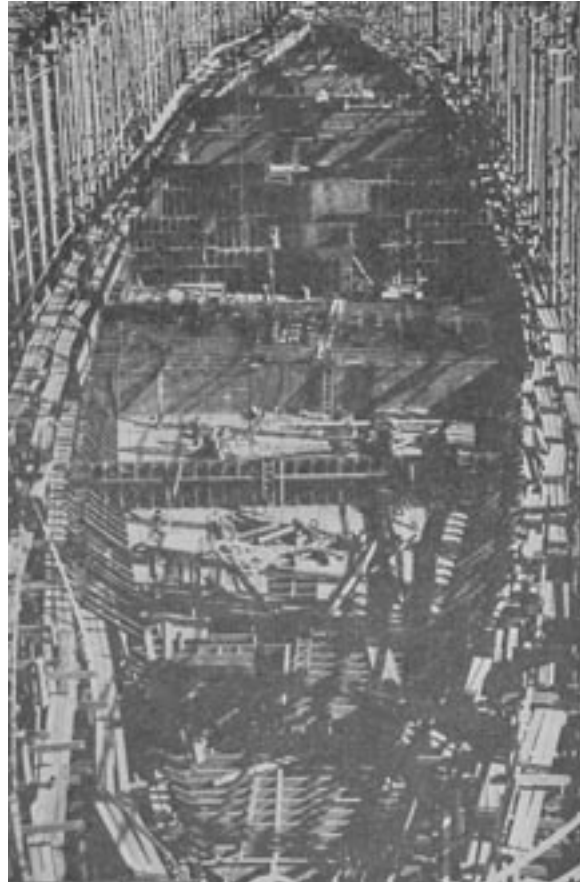
To move laterally, low in the ship, workers utilized openings in watertight bulkheads, both temporary and permanent. But in so doing, they had to contend with a multitude of air hoses, welding leads, oxygen/acetylene dual hoses, temporary ventilation ducts, and electrical lines, large and small.

Vertical movement entailed climbing one or more rough wooden ladders. If a shipbuilder's tools had not been left in place the night before, his toolbox had to be carried, along with his ever-present lunch pail, down those multiple ladders each morning. And, remember, this effort was expected to be completed in time to start actual work when the 7 a.m. whistle blew.

As the early morning stillness was shattered, deep in the bowels of the vessel the senses of all those working within became assailed; almost overwhelmed. Visibility inside those unfinished steel compartments was not good, and welding and burning quickly caused visibility to further diminish. A few bare bulbs in each space provided temporary lighting. With some of them invariably broken, additional illumination for close work was accomplished by using individual drop cords that ended in caged lights.

Predictably, working inside such a steel box was also extremely noisy. Decibel levels when multiple riveting and chipping operations were also in progress became almost unbearable. Workers' only relief was to stuff cotton batting (available from tool rooms alongside the shipways) in their ears. But this sometimes created even more dangerous situations, so many opted to endure the noise – at the eventual price of varying degrees of deafness in later years.

The metal-forming and working methods utilized also produced a number of unpleasant smells, plus the creation of airborne contaminants from welding, burning and grinding operations that inevitably clogged the nasal passages of workers in their smoky, smelly, steel cage-like workplaces. Strong fumes from application of zinc chromate primer paint (and often from follow-on burning and grinding operations on newly coated surfaces) added to the general discomfort.



But the worst odor of all was the acidic smell of urine. Sometimes, tired workers, faced with the chore of climbing several ladders – twice – just to get to the nearest toilet facility and then return, simply opted to relieve themselves in any handy, dark corner. No wonder it was a men-only world down there!

These blended smells permeated everything, and often made the sense of taste somewhat distasteful as well. Many workers chose to eat their lunch on the job, rather than endure the long climb back to the outdoor world. With no organized breaks, they took sips from their thermos bottles during work hours and sat down at noon adjacent to – or on – their workproduct to eat whatever their wives or mothers had placed in their lunchpails hours before. The texture of hearty sandwiches mixed with metallic residues and seemingly innocent asbestos pipe insulation fibers that frequently found their way into workers' noses and mouths – and lungs - during work hours.

Shipyard publications frequently included 'lessons learned, cautions and suggestions about safety. To get workers' attention, cartoons that invoked 'gallows humor' were often included.

The men's sense of feel was also both affected and offended. Steel gets cold, and stays cold in the winter. It gets hot, and stays hot in the summer. Added layers of warm clothing got in the way of work efficiency, so the men could not really bundle up in the winter. Their self-purchased gloves had to be removed for many tasks. Ground-in grime gave their exposed palms and fingertips a feeling of coarse contamination not easily removed; even after repeated applications of such pumicing products as lava soap.



In the hot, humid Tidewater Virginia summers, clothing for protection from the scrapes, scratches and searings of working metal took precedence over comfort. Most of the ventilation was aimed at smoke and fumes' removal to improve the production rate; not for creature comfort.

Rainy weather compounded their feelings of unpleasantness. Rainwater would run down and seek out the small openings left for this purpose, washing away at least some of the personal wastes so improperly placed in dim, dank corners. But snow was the worst. Deposited on the open decks, it would melt all day long and drip, drip, drip...

But at least within the confines of the construction they were sheltered from the winter's wind and the summer's sun that plagued the men working in the open. Here, out of sight and earshot of any woman or shipyard official, they joked, daydreamed and shared manly intimacies. At times, they might even tack-weld a novice's lunchpail to the deck after dispatching him topside on an errant mission to find that fabled (and non-existent) 'bucket of steam'.

When a special tool was needed, not one normally provided in a worker's standard set of tools, the worker would emerge from an access opening choked with temporary service lines to visit a toolroom alongside the shipway. Once there, he would exchange one of his ten precious tool checks (yes, another round, brass disc with his number stamped on it) for the desired tool. Once his total allotment of tool brasses was thus 'spent', he had to return an unused tool in order to check out another one. The 'pooling' of checks by men working together to amass needed tools was commonplace, which not only helped production, but also minimized the number of trips up and down those shaky ladders just to go to the toolroom.

Many of *AMERICA*'s creators undoubtedly suffered from a variety of occupational ailments later in life, as did millions more, worldwide, exposed to similar heavy industrial work conditions of that era. In describing the heyday of sailing ships, the phrase 'wooden ships and iron men' is often used. But that phrase could not be reversed when ships of steel became common – iron men were still required.

Mid-twentieth century, shipbuilding was the second most hazardous occupation in the United States, according to government statistics. Only coal mining had a worse record. A contributing factor was the then-standard safety practices – or lack thereof. Period photographs of *AMERICA*'s construction reveal that the men rarely wore wear hard hats or safety glasses. Steel-toed shoes were unheard of, as were hearing protection devices or respirators.



Current OSHA safety measures, such as providing handrails (and mandatory 'tie-offs' when working above ground level) were largely non-existent. It was not uncommon then for the shipyard to experience one or two fatalities each year, often the result of falls or crushing accidents from dropped loads that perhaps were hastily rigged. It was a time, post-depression, when men were glad to have a job at all, regardless of the risk, or the discomfort, or the eventual adverse health affects.



A time for iron men indeed...

And if all that was not enough of a challenge, consider the practical problems that building such a large project – entirely on an incline – entailed. The 723-foot long hull of *AMERICA* was assembled piece by piece on a constant fore-to-aft downward slope of 9/16ths of an inch to the foot. Placing each multi-ton subassembly (of which there were few) and each plate or beam (of which there were hundreds) required careful alignment so that the as-built structure's bulkheads and shell plating would be properly perpendicular to the decks and overheads when the ship was waterborne on an even keel.

Each piece, large or small, had to be mostly manhandled into position. Alignment was aided by the use of 'slope boards' – hand-made measuring devices that compensated for the declivity. Steamboat jacks and turnbuckles were employed to force structural components into place. Brute force was the order of the day for fit-up, but paradoxically required accuracy to fractions of an inch on, or in, a steadily sloping work environment. At bow and stern, and bilge turn, furnaced plates with complex curves, created by heating and beating into shape in nearby shipsheds had to be aligned in their final, planned configuration by talented individuals with an eye for fairness of line. The final fit-up of thick steel hull plating also had to conform to the curvatures of the underlying frames.

Once each plate was positioned properly, it had to be held in position by temporary bolting or strongbacks tack-welded to structural components already in place to permit pre-drilled, deliberately under-sized holes in overlapping plate edges to be reamed out together in preparation for riveting. Then, the ship's structural members were permanently made one by the process of riveting. Vintage movies and TV have publicized this process, at least on skyscrapers and bridges.



But for a ship, mere structural strength is not enough. Each joint created by joining overlapping plates together by riveting had to be made watertight by actually deforming the metal edge of one plate to fit very tightly against the other. This was called caulking, and along with riveting it is also a lost art; entirely given over today to welding to form watertight closures.

When *AMERICA* was created, ships' structures were fastened together by dozens of five-man gangs consisting of a heater boy, a thrower, a catcher/positioner, a riveter and a buckler. In spite of all efforts, members of riveting gangs carried unwanted 'badges of honor' on their skin in the form of burn scars from errant, red hot rivets.

Their coke ovens, their air tools and snake-like hoses, their crude protective clothing, and their tongs and pails for tossing and catching the 'red hots' are now museum artifacts.

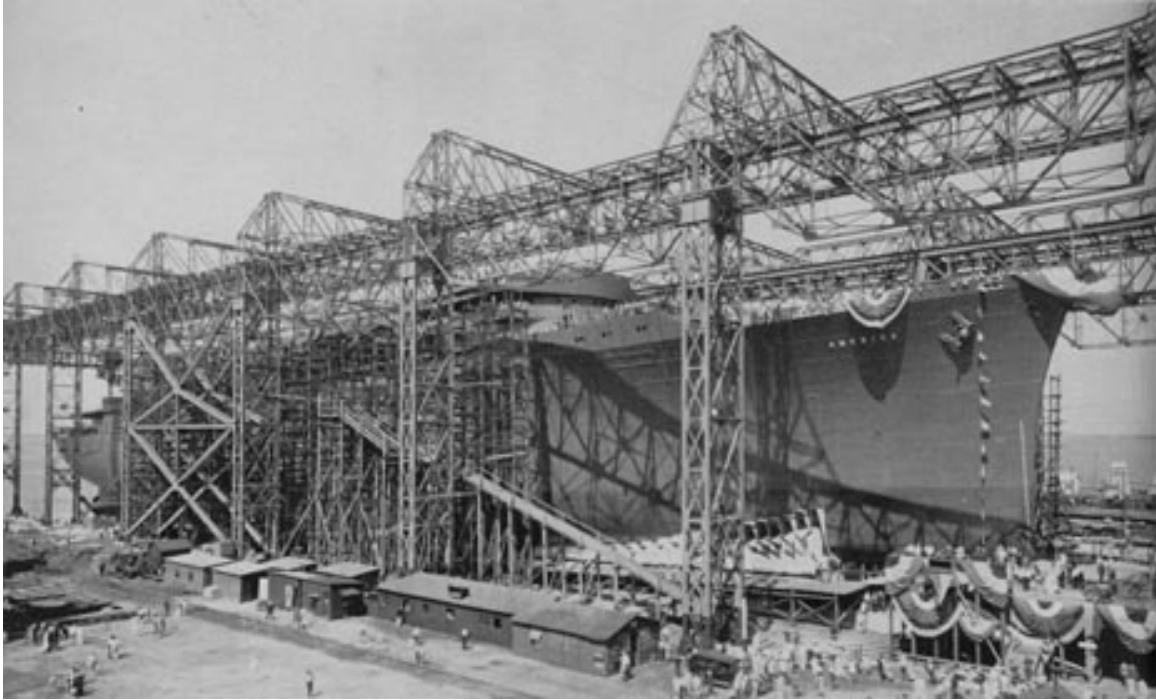
For *AMERICA*, and countless other sea-going vessels of her time, riveting was state-of-the-art. To complete her hull, thousands upon thousands of rivets were driven and tested before taking their proper positions alongside the first two driven by Admiral Land...and to likewise become declared 'well and truly made'.

Welding has largely taken the place of riveting as a means of constructing ship's hulls. Scenes like this, where the 'buckers' of four riveting gangs are positioned outside *AMERICA*'s hull at the turn of her bilge, will never be repeated.

Along with their tools, the gangs' individual and highly descriptive job nicknames are now long in disuse. Contemporary shipbuilders probably would not recognize any of them, except, perhaps, 'riveter'.



After almost a year of such intense effort, NNS Hull #369 was structurally complete. Months of interior finish work would follow, after launching. But first, she had to be prepared for christening. Once surrounding scaffolding, for the most part, was removed, her sleek lines and massive size became apparent to all.



Many other operations preceded and followed the basic building of *AMERICA*'s structure; a process barely touched on here while recapturing the atmosphere of steel hull construction sixty years ago and the pride of yesterday's craftsmen who earned, endured and eventually – and proudly – enjoyed the hard-won, unassuming title of *shipbuilder*.

Shipbuilding then was more of an art than an exact science. It was also a highly individualized, yet collective and cooperative act of literally thousands of craftsmen, practicing dozens of trades that ultimately resulted in the realization of an admittedly inanimate object that roamed the seven seas as if she were a living, loving creature.

The very procreation of such functional beauty as *AMERICA* under demanding, daunting and dangerous work conditions was a monumental – yet supremely soul-satisfying – achievement which undoubtedly sparked many a shipbuilders' continued interest in the lifelong welfare of mankind's most graceful of creations.

Veteran shipbuilders sometimes wax poetic. Usually after they're long retired. At such times, there's often a hint of irony in what they say or write. An anonymous author summed up the experience of shipbuilding, very nicely and succinctly, by giving us his impression of what the phrase "The Bittersweet Romance of Shipbuilding" means.

The author is unknown, but he *must* have been a shipbuilder...

## THE BITTERSWEET ROMANCE OF SHIPBUILDING

There is something about a ship that makes it the most loved of man's inanimate creations. To share in the formation of a seagoing vessel brings to the shipbuilder *That Certain Feeling* and he belongs to her episodes thereafter. He participates in her trials, he rejoices in her good fortune and fame, he sets her apart from all others as his very own, and he mourns her eventual demise.

A crewmember may feel as if he is part of a ship, but the shipbuilder knows he is. He knew her before she was fully conceived in the drawing rooms, he saw her lying helpless in her shipway cradle, he was at her christening, and he witnessed her graceful slide into her natural element. He remembers her first unassisted step as she backed into the channel, turned her bow seaward and rounded that last bend – going out of sight – perhaps forever.

To others who may line the riverbank, it is a grand and joyous occasion. She gathers speed, her freshly painted topsides sparkle, she passes other vessels at anchor, she proudly returns their welcoming salutes with virtually continuous blasts of her own steam whistles.



But to the shipbuilder, it is as if he has given up a daughter in marriage to King Neptune. As she passes from view, and even as he turns to his next creation, the shipbuilder hesitates, he strains to hear her last faint goodbye. And then he has *That Certain Feeling* forevermore.