

GOING TO BLAZES

By Joyce Geary Volk

Fire has been, and remains, a persistent problem in our world. Ways to deal with it vary, dependent on the many different circumstances. Today, if we have a sudden blaze at home, we can dial 911, and the fire department arrives shortly and with quite efficient equipment, not only puts it out but blows out the smoke and helps with the cleanup. Firemen are heroes to us all everyday, as the horrors of 9/11 so dramatically confirmed.

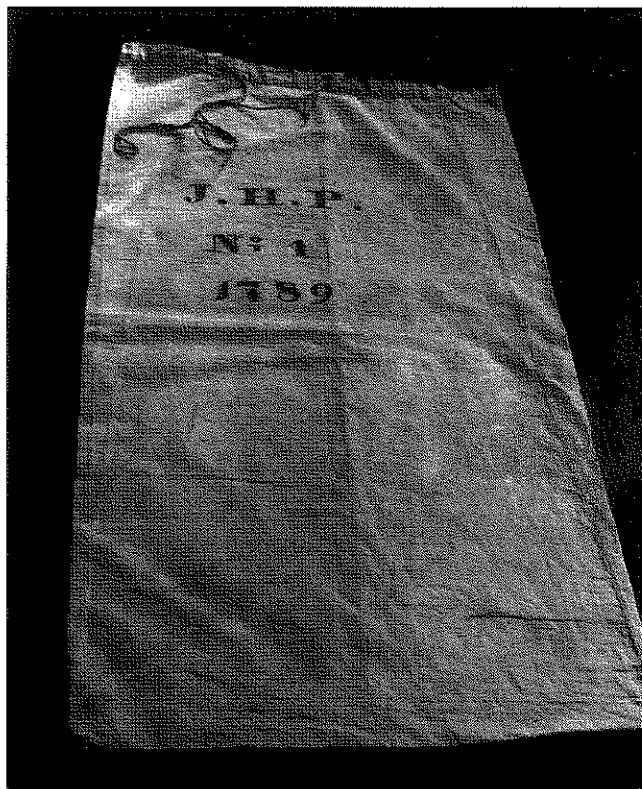
The history behind modern firefighting is truly a fascinating one. I became intrigued, when, as the new curator in 1994 of Macpheadris-Warner House in Portsmouth, New Hampshire, I first saw one of those large canvas bags from our collection, the type required to be in each fire bucket. I wanted to display it with our buckets, and came to the Portsmouth Athenaeum to see if I could find out the name and occupation of "JHP" initials on the bag (4.1).

This brought me to a small volume with the rules, regulations and membership list for the Federal Fire Society,¹ founded here in 1789, the year on our canvas bag. I quickly located Dr. James H. Pierpont, who was the leading medical man in town in the 1820-30s. But the rest of the volume, and subsequent research, was an eye-opener. A visit to Phoenix, Arizona, the following year added much to my knowledge as the largest museum devoted to firefighting is there—The Hall of Flame.

Portsmouth happens to be an almost perfect town to dig into the subject of early firefighting, as we had three major fires in 1802, 1806, and 1813, and our archival resources are good. These three fires completely changed the appearance of the city, so that almost the entire downtown area from the first block of Market Street to Court Street, and from Church Street to the river was rebuilt in Federal style brick, and wooden buildings were outlawed.

The 1813 fire was the worst of them all, and started on the site of what is now the Universalist Unitarian Church. Strong winds carried the flames right down to the river and its docks and piers. If you look down Court Street, you'll notice that the North side of the street has either Federal style brick structures or later ones, and the South side, where Strawberry Banke begins, several wooden buildings of eighteenth or early nineteenth century date. The dividing line is clear (4.2).

When major disasters occurred, as our three fires, many documents attest that other towns offered to help, and provided funds, food and other aid. After Portsmouth's third fire in that eleven-year period, some thought our town might be more careful. News traveled slowly in those days, so to spread the word and receive aid more quickly, written reports of the devastation were printed in our local papers with the



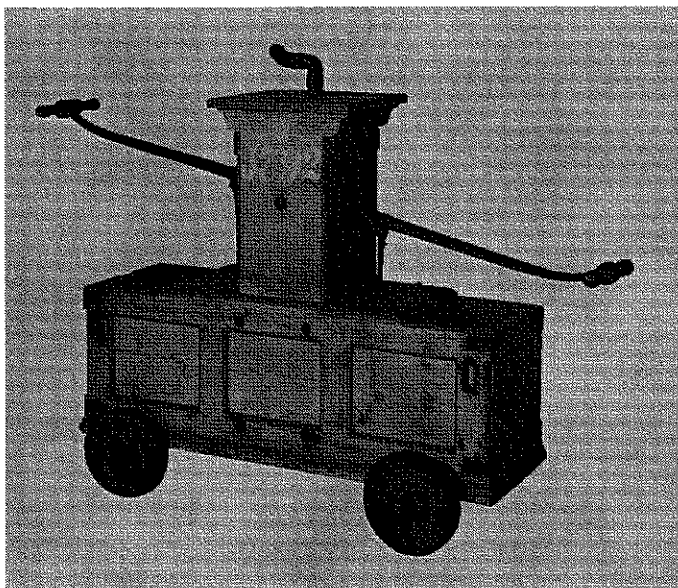
4.1 Large canvas bag owned by Dr. James H. Pierpont, who joined the Federal Fire Society of Portsmouth, N.H., in 1829.

suggestion that other papers copy them. One composed by a local committee after the 1802 fire, where damage was estimated around \$200,000, brought in a respectable \$45,000 or so. And a circular written after the 1806 fire, and sent to other towns or their wealthy citizens—the Portsmouth Athenaeum owns one addressed to "The President of the Saco Bank, Saco, Maine" (they knew who had the money)—raised only \$4,300 to cover damages of around \$70,000. That total, however, may not include money raised separately among Episcopalian parishes to build a new St. John's, replacing the church destroyed in that fire. The 1813 fire was so massive—about 250 homes, businesses and other buildings were destroyed—that it engendered more sympathy. The town received \$77,000, a little better than one quarter of the estimated reconstruction cost of \$300,000.²



4.2 Court Street in Portsmouth, N.H., showing the path of the 1813 fire. Buildings on the right are part of Strawberry Banke Museum and of eighteenth- or early nineteenth-century date. Those on the left are all post-fire structures.

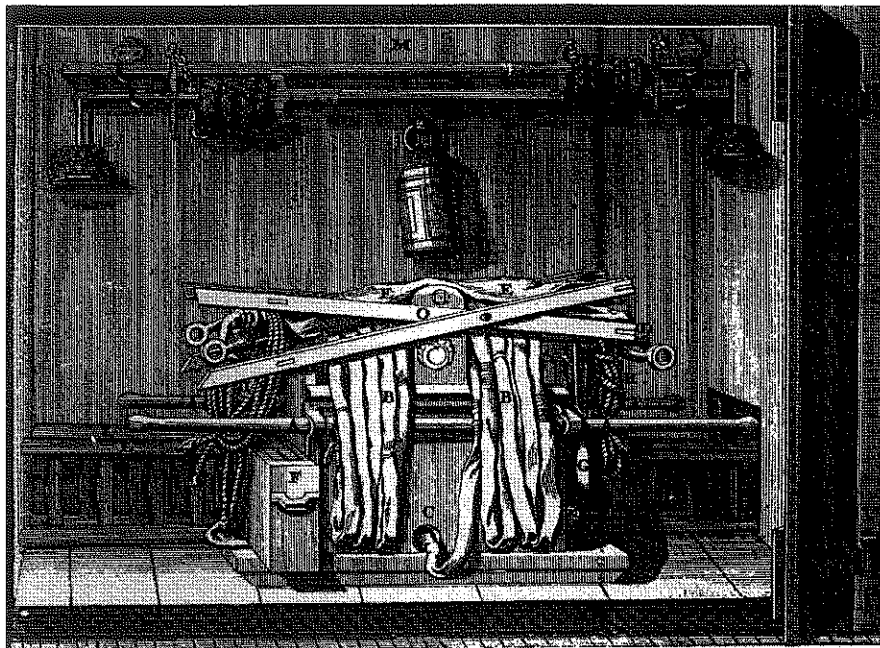
Now comes the burning question: how did our ancestors battle these blazes? Reasonably well for the time. Most American towns, and Portsmouth among them, had some form of organized firefighting practices. Purchase of the first wooden tub engine, the standard machine of its day (4.3), was authorized in 1756, and the selectmen also procured six hooks, twelve buckets and six axes for the town, and named twelve fire officers. In 1763, there were three pumpers of varying sizes used to fight a fire at John Wendell's house on Washington Street. In 1806, the year of the second huge fire, there were five engines, and three hundred and ninety-eight buckets and two hundred and ninety ladders owned by townspeople and ready for action.³ Bucket brigades filled the wells of the pumpers. The ladders were useful for chimney fires, and houses were required to have regular chimney inspections.



4.3 Wooden tub pumper with brass nozzle on the top, the type made by Richard Mason of Philadelphia, 1792. Water from the bucket brigade would go into the two tubs at the sides and be hand-pumped through the nozzle.

By then, fire officers, or fire wardens were in charge of different districts set up throughout Portsmouth. Some citizens were conscripted, some volunteered to fight a fire, and there were early laws requiring every household to own buckets. The town provided leather buckets to those who couldn't afford them. When an alarm sounded—church bells, wooden rattles or ratchets, cries, whatever—these buckets would be carried to the fire by their owners or thrown into the street for a passerby to use if the fire occurred at night and the owner had to dress before answering the alarm. The designated fire wardens and crews would be responsible for bringing the wooden tub engines and other equipment to the scene.

Tub pumpers were not terribly efficient. They had a fixed metal nozzle on top, through



4.4 Fire engine from Jan van der Heyden's book of Fire Regulations of 1720, reprinted in the translation of his 1690 volume (see n. 4), xvi. A: the carrying poles which double as pump handles; B: the hose; C: the pump house and cistern; D: the nozzle; E: trestle and water sack; F: storage box for water supply hose; G: hose repair kit; H: rope to lift hose to high places; I: tow rope; K: fitting for water supply hose; L: ladders; M: torches; N: lantern.

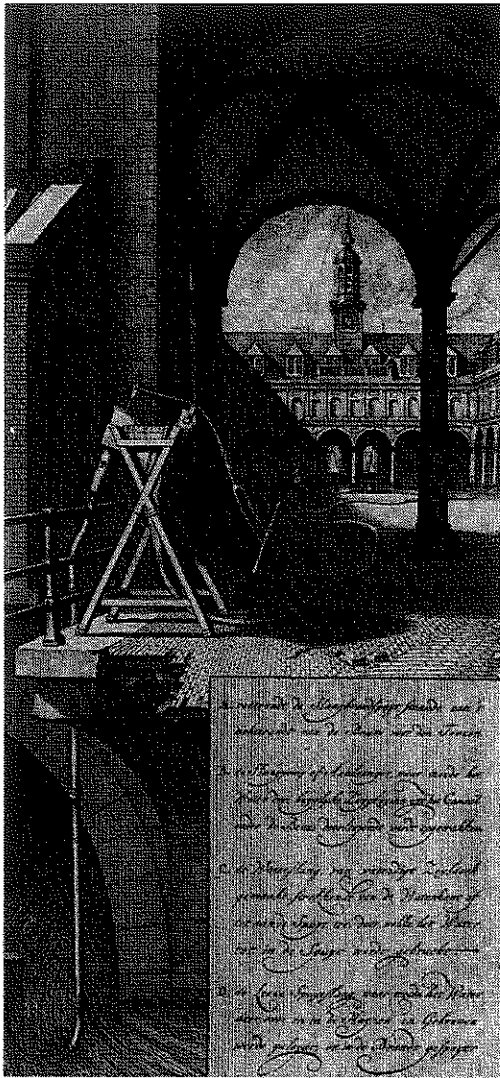
which the pumped water was played onto the fire. Two major problems were that the pumers could only be used outside the building to water down the facade or roofs or spray through open windows—and the stream was intermittent unless the machine had an air chamber, and not all did. That's why most towns had more than one of these machines, as they were more effective in wetting down adjacent structures and saving them than extinguishing the original blaze.

The key requirement for more efficient indoor fire fighting was a reliable hose. Jan van der Heyden, best known as a painter of delightful Dutch

street scenes in the seventeenth century, was also an inventor, and served as Fire Marshal of Amsterdam toward the end of that century. He wrote a treatise on the many excellent and ingenious practices he evolved to fight fires, published in the Netherlands in 1690.⁴ He divided the city into sixty-five overlapping sections so that every building was covered by six fire companies. When fire occurred, alarms would sound and the nearby church towers would show two lanterns on the side where the fire was, and one on the opposite side, making it easier for the companies to find it quickly. The first company on the scene was paid, and the other five, only if needed. The money came from fines collected by inspectors who monitored buildings for fire safety. (A Dutchman spotted me with the reprint of van der Heyden's book and asked to see it. He said he grew up in Amsterdam, and his father always referred to the firemen as "van der Heydens," but he had never known why.)

Van der Heyden claimed he had devised a usable hose of canvas or leather. This was a component of his new firefighting machine. 4.4 shows his first version, published in his Fire Regulations of 1720, but almost identical to that shown in his 1690 publication. It also has a copper suction hose. Amsterdam, with all those canals, had a huge advantage over other cities with its handy water supply. The suction device can be seen in 4.5 at a training area for firefighters, and also the long reach of his hoses. His machines had an air chamber to provide constant pressure assuring a steady flow of water from the pumper, a great step forward.

But certainly his most important contribution was a flexible hose which could be brought inside and used to attack the seat of the fire, and this improbable illustration (4.6) shows it all. Van der Heyden never really gives a good description of this hose, as he wanted to have others buy it from him, not copy it. How well it worked in practice is questionable, as his machines seem to have been used only in Germany and his home country for the most part. The English relied on that old metal nozzle tub, and we followed suit. Even in Dutch Nieuw Amsterdam, the nozzle tub prevailed. The hoses were most likely



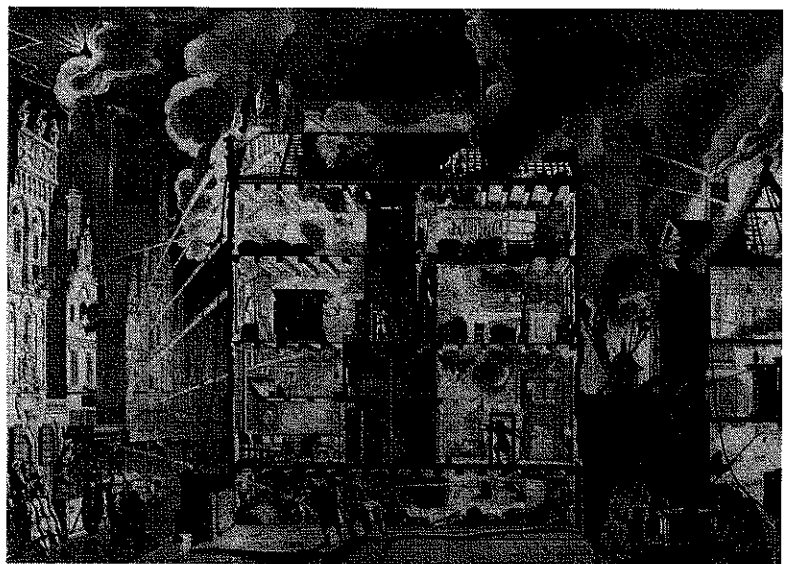
4.5 The Amsterdam Exchange during a fire drill. The metal suction pipe is in the canal, and fills the canvas bag on the trestle. Water then is pumped to the fire engine seen in the background and goes to the hose being used by the man on the balcony. (See citation in n. 4, 100, pl. 23.)

The word "curfew" comes from the French *couvre-feu*. This was a metal object shaped like a quarter-sphere, often decorated, which was placed over the coals when raked together. There was a set time in France, and throughout Europe, for banking or extinguishing or covering household fires as a fire prevention measure. By 1760, Portsmouth had established inspections of chimneys and businesses with flammable materials to

sewn, and the problem was that with strong arms manning the pumpers, giving good water pressure, the seams often burst. It is telling that each of van der Heyden's machines included a hose repair kit.

His sewn leather hose had the same problem. This persisted until 1807 when two Philadelphia firemen, James Sellers and Abraham Pennock, tried riveting the leather.⁵ Problem solved. Even with loss from seam breaks, it is estimated that the output of these early hoses was about that of four garden hoses, not bad for the day. Van der Heyden may have used some wire wrapping around his hoses for added strength, but we really don't know. So in spite of his grand firefighting print, truly reliable tubular canvas hose wasn't available until the mid-nineteenth century, and most fires could be attacked only from the outside.

Wooden pumper tubs were filled by the bucket brigade. Two lines were formed, one for the full buckets and another for the empty ones (4.7). Few old buckets have their original handles or rings as these were the most vulnerable to rough treatment. Water sources in Portsmouth were a few major town wells, the Piscataqua River and the mill ponds, and by 1792, the beginnings of a piped water system. Hollow logs were used to pipe water from an aqueduct system by gravity. In case of fire, a hole was drilled into the wooden pipe and water siphoned off and used to fill buckets. The hole was subsequently closed with a wooden plug, and the term "fire plug" is still used for hydrants.



4.6 In this highly improbable illustration, Van der Heyden contrasts his new methods of firefighting with the old ones, showing how flexible hose could be used from an adjoining building on the exterior, or brought inside to attack the seat of a fire. (See citation in n. 4, 12, pl. 2.)



4.7 A New York bucket brigade around 1809, painting on cardboard by William P. Chappel owned by the Metropolitan Museum of Art, New York City. (R.S. Holzman, *The Romance of Firefighting* [New York: 1956], 13.)

assure safe practices, and fines were implemented if conditions were dangerous. Most fires then were started by accident or carelessness. Hearth cooking or untended hearths, inattentive use of candlesticks and lanterns, hot coals left unemptied in bedwarmers or footwarmers, flammables placed close to a hearth, all were common sources of fire.

Once a fire broke out, and a group was assembled to fight it, there could be problems. Not every conscripted citizen or passing volunteer was a good guy. Here are two examples from one Portsmouth blaze. In 1761, a barber shop on Daniel Street caught fire, and the blaze spread to James Stoodley's tavern next door which was destroyed. Two weeks later, the *New Hampshire Gazette* had an article that asked that several "pillowbears, bolsters, sheets, etc" and "several good rings" known to have been removed from the premises, be restored to Mr. Stoodley, "no questions asked" ⁶ Wyseman Clagget's house was across the street and threatened by the blaze. It was decided to remove all possible goods from his house, which did indeed suffer slight damage from the fire. Clagget had a detailed inventory of his belongings, and took out an ad in the paper listing all the articles that had not been returned to him, including "five Holland shirts; 8 pair white thread stockings; 3 new damask napkins" and many baby clothes. He offered a \$10.00 reward for information leading to the conviction of the thief and the return of his goods.⁷

It is for this reason fire societies were formed, not to fight fires but to protect the belongings of members. The first in America was established Boston in 1717, and the first of six societies founded in Portsmouth, the United Fire Society, began in 1761, possibly inspired by the experiences of Stoodley and Clagget earlier that year. These were private groups of friends and neighbors. The rules vary slightly from one to another, but basically are in agreement. Membership was limited to about twenty-five, and was by invitation only. The reason for this exclusivity was that each member was shown exactly where all the others kept their most valuable possessions—money, jewelry, silverware, important papers and so on—so that these articles could be removed promptly in case of fire and kept safely. Once that was accomplished, they could join those fighting the fire.

Each member had to have at least two leather buckets with the member's name, and the name or initials of the fire society and its founding date. Inside, each bucket had to contain a large canvas bag with a drawstring—big enough to "hold four bushels", according to the Federal Fire Society—and a bed wrench to take apart those fourposters which, with their hangings and linens, were usually the most valuable items of furniture in a house. The canvas bags were used to pack the valuables or clothing or linens and remove them quickly from a threatening fire. The Federal Fire Society also required woolen mops with handles at least fifteen feet long. These were put in water and used to snuff out sparks on building roofs. Some societies required ladders and hooks to pull down the walls of a burning building and help prevent the spread of a fire, but most town fire wards were supplied with these.

Societies had watchwords, changed frequently. Picture to yourself an eighteenth-century nighttime

fire scene, dark with smoke, no street lighting to help visibility, and outside the building, a frantic crowd forming a bucket brigade to fill the wooden tubs of the pumpers, others manning the pumps to shoot that intermittent spray from a metal nozzle atop each pumper onto the facade of the burning structure or to wet down adjacent structures. Manpower was used to bring most pumpers through the streets, but larger machines could be horse-drawn. So crowded confusion reigned outside, and it was hard to tell one chap from another in the darkness.

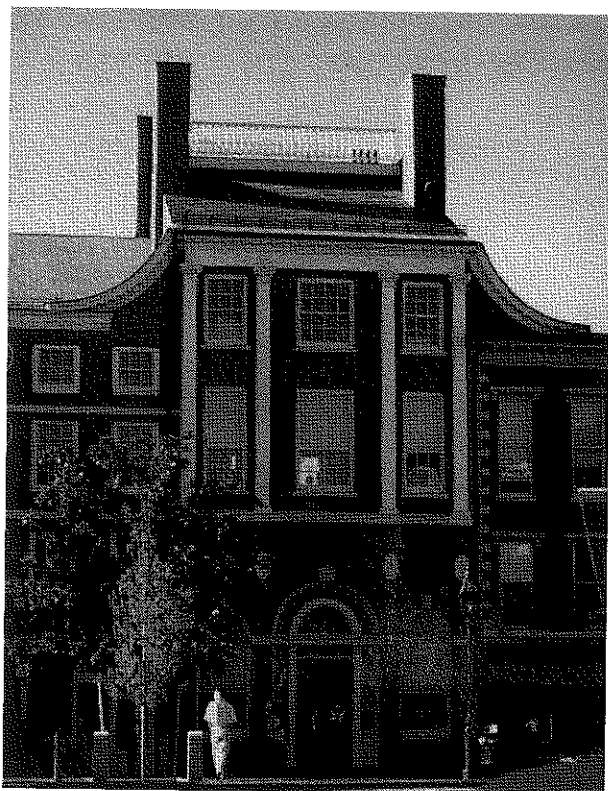
Here's where the watchword comes in. A designated member of the fire society would station himself at the door of a fellow member's house, and anyone entering had to give the current word, identifying him as a brother and allowing him to remove objects from the building. At a safe distance from the blaze, two more members were stationed, with banners of the society displayed, and the bags were taken there and guarded.

Once a fire was extinguished, the buckets were either claimed by their owners, or taken to the Old State House in Portsmouth, or some central place, to be claimed the next day. This is why all the buckets are marked with the name of the owner and usually the year he purchased it. With fire society buckets, you have the date of the society's founding, and to know the age of the bucket requires knowing the year its owner joined a society. There are also clues in the way the bucket is made. The old ones could have hard use, and were solidly constructed. New ones are purely for decorative purposes and not as well put together.

Two of these societies continue to exist in Portsmouth, the Federal Fire Society of 1789, and the Mechanic Fire Society of 1811. The term "mechanic" today is pretty much limited to automobile shops, but in 1811, it had a meaning that would be closer to "computer whiz" today. Part of the Portsmouth business community formed this group for their mutual protection.

Recompense for loss by fire was an obvious concern, and it was Benjamin Franklin who established the first mutual insurance company to answer this need in 1752. A member was assessed in case of loss according to a set top percentage of the value of his domicile.⁸ Each subscriber was given a plaque known as a fire mark. Franklin's Philadelphia Contributorship had four clasped hands (the Oppenheimer Fund stole this), and when a member saw a house on fire with this mark, he had a pressing financial incentive to extinguish the flames and keep possessions from harm.

Franklin was exceedingly cautious about flammables, and considered trees around a house reason to deny membership. Another insurance group was formed that allowed this, and its mark was, naturally, a green tree. Portsmouth's own New Hampshire Fire and Marine Insurance Co. was founded in 1803 after the first major fire a year earlier, and was wiped out by the subsequent 1806 and 1813 fires, along with the many ships lost in the war of 1812. The company built a lovely early Federal structure on Market Square in 1805-07 (4.8). Now it just so happened that Nathaniel Haven was the President of the insurance company, and his son, Nathaniel Jr., was president of the town's private library, the



4.8 Built by Bradbury Johnson for the New Hampshire Fire and Marine Insurance Company in 1805-07, this has been the Portsmouth Athenaeum since 1826.

Portsmouth Athenaeum, which wanted to find a larger space. So guess what happened?

I cannot find any evidence that Haven's company ever had a fire mark. The earliest New Hampshire example I saw is mid-nineteenth century with Chinese characters surrounding the name of the state. There is a fire mark on a house in Gates Street, and that was put there by its owner whose father bought it years ago for a quarter. It's not a New Hampshire company. Another graces a South End garden, but that's from the Sun Insurance Company, London, and dates to the early eighteenth century.

Fire marks are much sought-after collectibles today, as are leather buckets. On August 6, 2000, Northeast Auctions of Portsmouth sold a pair belonging to Nathaniel Moulton, who joined the Mechanic Fire Society in Portsmouth in 1813, for \$90,500, the current record for a pair (4.9). Some were painted by local artists. One by John Blunt for Portsmouth's Leonard Cotton is owned by Strawberry Banke Museum. Artists also decorated engines. One panel from a circa 1840 pumper was by the Philadelphia painter John Woodside.⁹ Voice trumpets, lanterns, fire helmets, bells, alarms, nozzles, staffs, axes, badges, and engines of all kinds have their fans and do well at auctions or sales. Prints of firefighting are also popular, especially Nicholas Currier's "Life of a Fireman" series of 1854 and its later reprints. One of these, (4.10), is "Now then, with a will, shake her up, boys."

By early nineteenth century, some fire fighters were paid, though there were still volunteers or conscripts. By 1834, the Portsmouth system of town fire wards had become the Portsmouth Fire Department. Professionalism had arrived, and the fire societies were no longer needed. Like any good going organization, this did nothing to discourage them, or at least the Federal and Mechanic societies. They are still with us, some two hundred years after their founding, and both after being made obsolete by the mid-nineteenth century.

The reason, of course, is that they were having too much fun. Even in their early days, they made their meetings enjoyable. From the mid-nineteenth century on, they were only social clubs, membership still by invitation only. Federal meets twice a year in black tie, Mechanic four times in business suits. They still require their members to have two leather buckets and bags with their names or initials and those of the fire society and the year of its founding. These must be kept in the front hall, and are inspected by wardens before each meeting, and the member is fined if all is not in order.

At the meetings, there is a brief business session, and then the main event—lots of good food and drink and camaraderie. Even the pre-meeting inspections of buckets and bags by the wardens were very jolly occasions. A person whose father was a member of the Federal Fire Society gave me a copy of a poem he wrote in 1955 as his warden's report. He and his fellow warden started their inspections at seven o'clock one evening and ended close to midnight with only eight houses investigated but many potables and comestibles consumed. A contemporary warden told me a recent inspection ended after only one very hospitable visit.



4.9 This pair of firebuckets set a new price record, selling for \$90,500 at Northeast Auctions of Portsmouth, N.H. on 8/6/2000.

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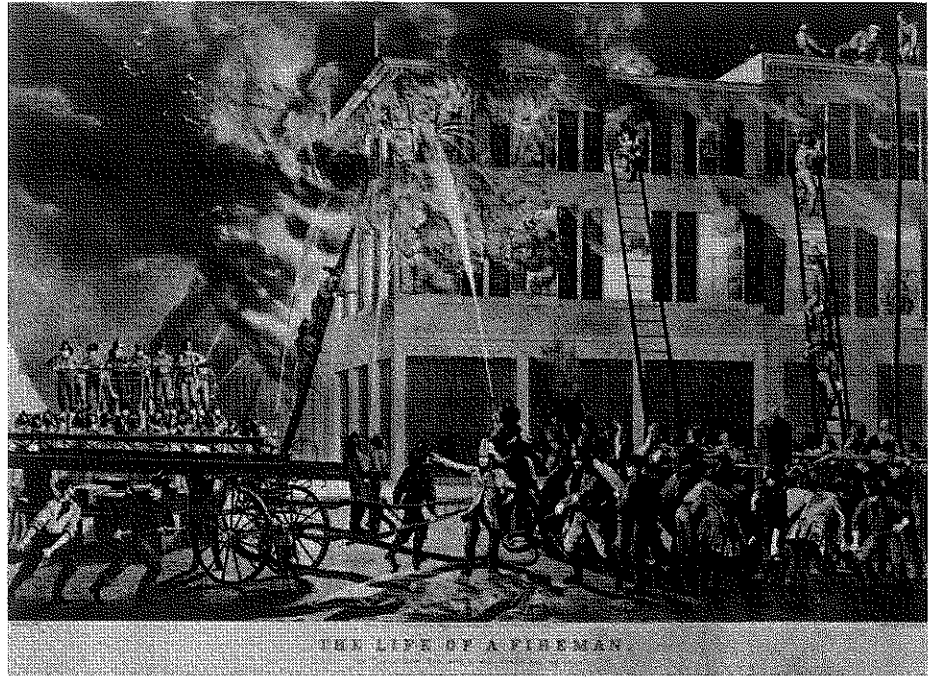
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Both societies have song books, and the staid nature of these evenings can be gauged by such numbers as "Little Brown Jug," the opening song for the Federal Fire Society, or the last entry in the Mechanic society's book, which starts, "I gave a shilling to see ...the old tattood ladie..." and goes on to report that "one inch from her kidney, was a bird's-eye view of Sydney."¹⁰ Both have their banners, displayed at the meetings, and each produces its special treasure for the occasion. Federal was given a custom-made *famille rose* punch bowl ordered by one of its members in 1870 from China with the insignia bucket of the society as part of the decoration. This is kept in a bank vault and used on special occasions. Mechanic passes around a well-worn and venerable snuff box. All its members partake and give the traditional sneeze.

That kind of brotherly socializing was also part of the professional firefighters' lives. It grew out of their shared danger and need to rely on and trust one another, forming bonds that were unusually close. Firemen's balls and clambakes and barbecues still go on, often in tandem with a competition between fire companies. These are friendly, spirited affairs. I saw one in Beaver Bay, Minnesota, on the July 4, 1976 bicentennial celebration. Two high poles were put up with a rope between them, and hanging from the center of the rope on a pulley was a full keg of beer. The local fire company and one from an adjoining town stood on opposite sides and both played their hoses on the beer keg. The object was to move the keg with hose power to the opponent's pole, proving your company was the better. The winner received the beer, shared by all. The most fun was had by the children who enjoyed a good soaking shower while running under the spray.

There were times in the early nineteenth century when competition got out of hand. Several sources have stories about companies that sent a fireman or a boy racing to the scene of a fire to cover the nearest hydrant with a barrel and sit on it until his comrades arrived. That way, they had the best water source to themselves and could beat the other companies.

Tom Hardiman, Keeper of the Portsmouth Athenaeum, gave me another grand example from the journal of the painter Charles Granger which he is editing for publication. Granger was in Baltimore in 1839 when someone yelled, "Fire!" He wrote, "The engines were soon in the street. I had often seen how fires were treated in Boston and N. York, and had some curiosity to see the same here. I soon found that there was no order in their proceedings, and a great noise and outcry, with a still greater disposition to fight. There were several knocked down, and one had the ferrule of an umbrella run through his cheek, but for what reason I could not discover for the time: but I was afterwards informed that there was much rivalry and animosity between the members of different engines. That they at one time carried this so far, that



4.10 "Now, then, with a will, shake her up, boys," from the series of prints by Nicholas Currier in 1854, "The Life of a Fireman."

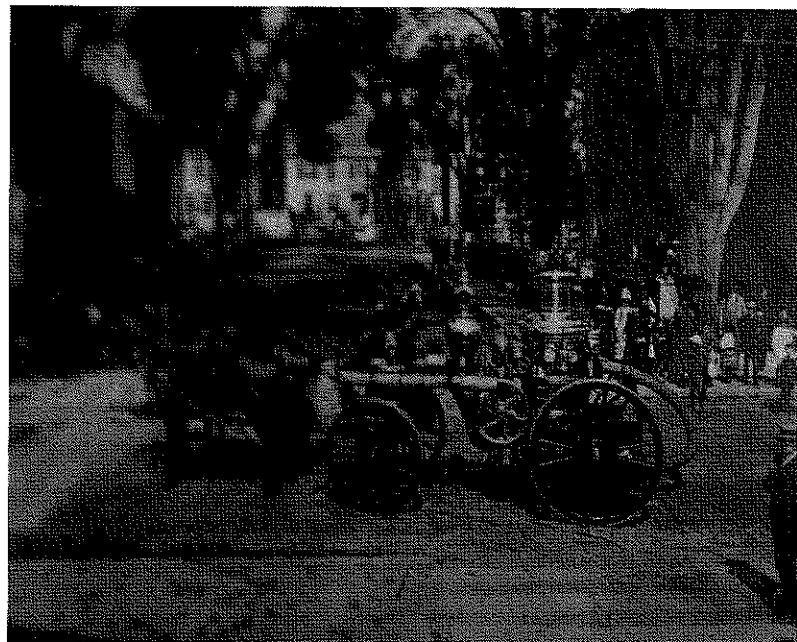
they wore red coats and had clubs and hatchets painted red to show their disposition, and often fought for water plugs, striking with these weapons. This appeared to me to be an extremely bad state of things, and I do not see how such things can exist among a civilized people, particularly as these men are the safeguards of the city. Although on this occasion there was no fire, there was actually more noise and confusion than in N.Y., when ten or twelve houses were burning at the same time. So much for the firemen of Balt.”

Professionalism soon ended such tricks. But the men still delighted in running their engines through the streets, racing to be first on the scene.

As equipment grew heavier, horses were a better option for transport, and the new steam engines of the 1860s really required horses. It wasn't long before self-propelled models were available that could speed through the streets at ten miles per hour.

Portsmouth had a new steamer of the horse-drawn kind purchased in 1870, the Kearsarge (4.11). On the evening of Nov. 9, 1872, a monstrous fire started in Boston, and the city telegraphed surrounding towns for help. Our call came at 1:00 the next morning, and by 3:00 the Kearsarge was on a flatbed rail car, going to Boston with its crew. The horses couldn't travel that way, so either the men took the steamer through the streets when it arrived at 4:45 or more likely used horses provided. The Kearsarge had a powerful spray, and was sent to the threatened Old South Meeting House to keep the exterior wet and douse any jumping flames. She did the job well. The historic 1729 Old South, where many meetings leading to our Revolution took place, including the organization of the Boston Tea Party, remained unscathed and still stands today.¹¹

Portsmouth's grand machine is now in private hands in Massachusetts, and there are several citizens who want to return this shiny hero to Portsmouth. If it does come home, it can join another 1872 machine still here, the Eureka. This one was not operated by steam, but by sweat. Firefighting was never easy, and still isn't in spite of modern technology. Our thanks and blessings to all firemen, now and in the past.



4.11 The steam engine Kearsarge, seen in Portsmouth shortly after its purchase in 1870 in an unidentified photograph.

¹There are actually four of these in the Athenaeums' collection: *Regulations of the Federal Fire Society* (Alfred Mudge & Sons: 1880); *Federal Fire Society of Portsmouth, NH* (Published by the Society, 1905); *Regulations of the Federal Fire Society* (Portsmouth: The Randall Press, 1914); and *Federal Fire Society*, n.d. but with a last dated entry of 1963.

²The estimates of damage costs and the amounts received are in Nathaniel Adams, *The Annals of Portsmouth* (Portsmouth: 1825), 325, 340, 356-57. The appeal letter written after the 1802 fire and addressed to "The President of the Saco Bank/Saco, Maine," is in the collection of the Portsmouth Athenaeum. It begins, "To the CHAMBERS OF COMMERCE, INSURANCE OFFICES, BANKING ESTABLISHMENTS and MERCHANTS OF THE UNITED STATES: with the AFFLUENT and WEALTHY of ALL ORDERS and NAMES!"

³Anon., "In the Old Days: How Portsmouth Has Fought Fires," *The Portsmouth Times*, 8/15/1907.

⁴*A Description of Fire Engines with Water Hoses and the Method of Fighting Fires now used in Amsterdam*, trans. from the 2nd ed. of 1735 by L.S. Multhauf (Canton, Mass.: 1996).

⁵ P. M. Molloy, Catalogue, *The Hall of Flame: Museum of Firefighting* (Phoenix, Arizona: n.d.), 3.

⁶ 2/13/1761.

⁷ *New Hampshire Gazette*, 2/6/1761.

⁸ *The Papers of Benjamin Franklin IV*, L.W. Labaree, ed. (New Haven: 1961), 281-95.

⁹ M.J. McCosker, *The Historical Collection of Insurance Company of North America* (Philadelphia: 1967), 118.

¹⁰ The two books, *Songs: Federal Fire Society* and *Songs Sung by Members of Mechanic Fire Society* are in the collection of the Portsmouth Athenaeum.

¹¹ This information came from a special centennial edition on the great Boston fire in 1872, "Cheers for the Old South and Kearsarge 3," *The Boston Sunday Globe* (12/12/1972), 35.