

A Code to Live By

A Brief History of Our Plumbing Code, and of The People Who Created It

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WE OFTEN FORGET HOW OLD OUR TRADE IS, and how much it has evolved over hundreds of years. Our profession's name—plumbing—comes from the Latin word *plumbum*, meaning, "lead." Thousands of years ago Roman "workers of lead" helped create some of the world's first plumbing systems. In the generations since, our predecessors developed detailed standards for our trade. Today, those of us in Massachusetts can

proudly say that our Plumbing Code is as fine as any in the world.

But where did our Code come from? How did it evolve, and who helped create it? To answer those questions, you must go back hundreds of years to England, where some of the first plumbing standards were written down.

Some of the first plumbing standards were written down hundreds of years ago in England.

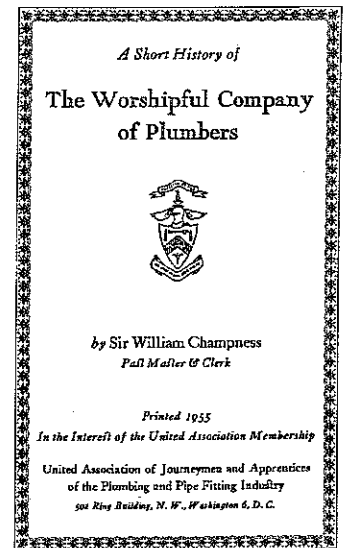
THE WORSHIPFUL COMPANY OF PLUMBERS

A Guild of Plumbers was active in England going back possibly as far as the year 1200. We know that by 1365 the City of London had established "The Worshipful Company of Plumbers." This was one of the many craft guilds whose "journey-men" journeyed from town to town, and job to job. They

were part of a great movement which built many of the grand estates and cathedrals of the Middle Ages.

In fact, guilds had their roots in religious traditions, and the "The Worshipful Company of Plumbers" even had its own Patron Saint. To this day St. Michael the Archangel remains the recognized patron of plumbers. For centuries his image appeared on the lead plumbers melted to form pipes.

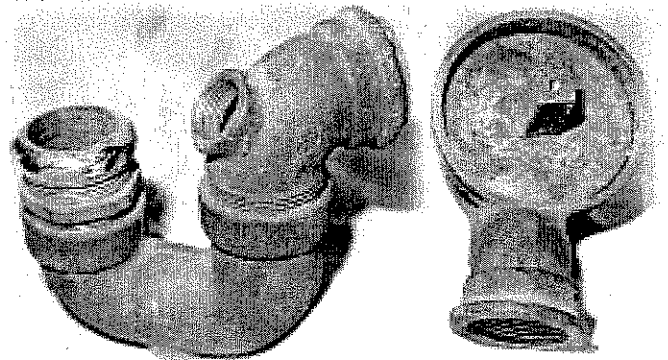
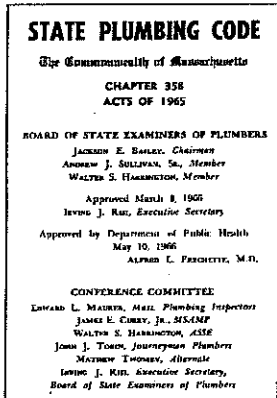
Once the guilds were formed, there needed to be some form of licensure. One can imagine meetings of the "Worshipful Company of Plumbers" where a member would complain about the "handymen" who had no understanding of the trade.



Plumbing Board Executive Secretary Lou Visco has in his collection this book on the history of the plumbing guilds in England nearly 700 years ago.

In what may have been the world's first plumbing licensure, the legal charter for the Company set out guidelines for becoming an official plumber. In 14th century London, no man could call himself a plumber, unless it

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Just over half a century ago, it was common for different types of traps to be used in different cities and towns. From the collection of Lou Visco: A Lynn trap with a cleanout, and an ARRC trap that was commonly used on bathtubs in Newton.

Report of Proceedings 1910-1911
 Conventions American Society of Inspectors of
 Plumbing and Sanitary Engineers

The Evolution of the Water Closet.
 By Herbert S. Renton.

Fifty years ago it was the custom in large cities, New York especially, to run an open sewer with oval bottom through the house cellar. A stone flagging was laid over it. A brick trap at the front wall, called a mason's trap, was intended to keep rats - not sewer-gas at all - but rodents who had a ravenous appetite for lead-pipe. The rats who got in some other way were

From the PHCC archives: A Report from 1910 regarding the evolution of the water closet. Note that 50 years earlier, in 1860, cities like New York still had open sewers. Such poor sanitation led to the reforms of the 1880's and 1890's.

could be certified "by the best men in the trade that he knows how well and lawfully to work and to carry out his work, so that the trade be not scandalized, or the commonality damaged and deceived by folks who do not know their trade."

"Every journeyman working with another plumber, if he does not bring with him a hammer, knife and shaving hook shall forfeit fourpence."

The charter, like today's Massachusetts code, even had a section on materials—with the added detail that prices were specified. One example: "No plumber shall work a clove of lead for gutters or for roofs of houses at a charge of more than one halfpenny, or work a clove for tap-troughs, belfreys and

conduit pipes at a charge of more than a penny."¹

Even behavior was strictly defined in this early code: "If a plumber is found stealing lead, tin or nails in the place where he works he shall be ousted from the trade for ever."

By 1488, additional ordinances were added, including one which would be of interest to today's plumbing contractors: "Every journeyman working with another plumber, if he does not bring with him a hammer, knife and shaving hook shall forfeit fourpence."

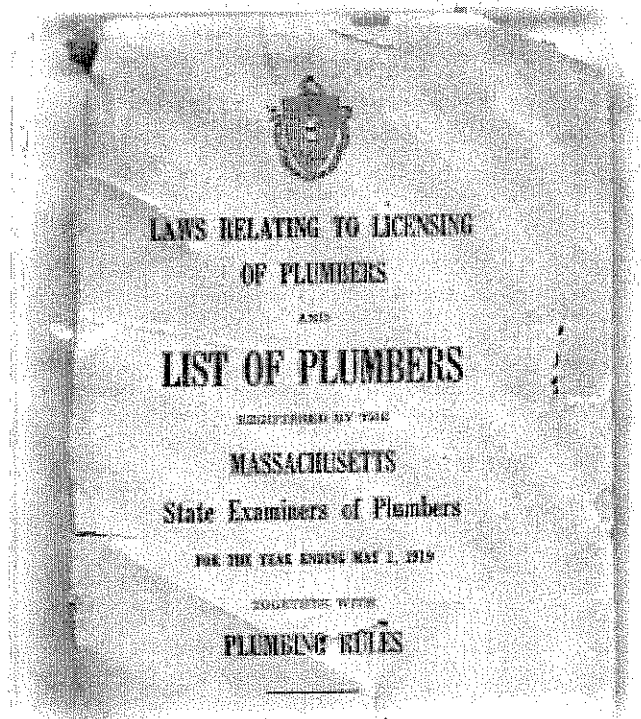
And by 1520, one of the first "Plumbing Boards" was

evolving. In that year it was specified that the King's Plumber would sit with the leaders of the Worshipful Company at all their meetings.

THE 1880'S: NEW PLUMBING LAWS

It appears that up until the 1880's members of the trade remained in guilds and associations. Except for some spotty efforts in London, there was little effort made to determine who was a qualified plumber. There were constant complaints by tradesmen that workers with

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Beginning in 1909, plumbers in Massachusetts had to be tested. This book, published ten years later, lists the licensed plumbers in the state.

¹In former English colonies such as Australia, plumbers still repair metal roofs.

Plumbing Regulations Through the Centuries



- 1365, LONDON:** Apprentices must serve 7 years
- 1488, LONDON:** Fines of 3 shillings for setting lead in a furnace
- 1611, LONDON:** Apprentices must “go to church on Sundays and Holidays and spend the rest of the day in seemly sort.”
- 1687, LONDON:** Plumbers sue undertakers for misuse of lead
- 1698, LONDON:** Court fines three plumbers for using bad solder
- 1875, LONDON:** Legal complaints that laborers are doing plumbers’ work
- 1882, BOSTON:** Plumbers in Boston must register with city
- 1893, WORCESTER:** Death of State Rep’s child by cross-connection leads to first statewide requirement for plumbing inspections. Also establishes statewide registration of plumbers.
- 1909, MASSACHUSETTS:** Law establishes State Board of Plumbing Examiners. Annual registration fees: \$2 for Masters, 50 cents for Journeymen
- 1955, MASSACHUSETTS:** Still no state-wide plumbing code
- 1960, MASSACHUSETTS:** No state-wide regulations on gas piping. Utilities still doing most of gas piping inside homes.
- 1962, MASSACHUSETTS:** First bill filed calling for statewide plumbing code. Defeated overwhelmingly because cities and towns do not want to give up control.
- 1963, MASSACHUSETTS:** Bill passes establishing state-wide plumbing code. Boston is exempted.
- 1971, BOSTON:** Capitol city no longer exempted from state code
- 1977, MASSACHUSETTS:** Plumbing and Gas Boards are combined: 9 members
- 1997, MASSACHUSETTS:** Most recent amendments to state code. Authorizes use of composting toilets and ‘grey water’ systems in unsewered areas.
- 2003, MASSACHUSETTS:** New governor to authorize Board to conduct hearings on dozens of proposed code changes?

no skills were being allowed to install plumbing systems.

But by 1880, people on both sides of the Atlantic understood that sanitation had a powerful affect on public health. In both England and in Massachusetts laws were passed setting out requirements for the registration of plumbers. Originally, these laws applied only to large cities, like London or Boston, where the public health risks were greatest.

In 1882, a law was passed requiring that plumbers in Boston register with the city.

A direct result of that law was the founding of our Association one year later, in 1883. It was known as "The Master Plumbers' Association of Boston and Vicinity." The 1883 date still appears on our stationery.

An incident occurred around 1890 which caused a major expansion of the laws

affecting plumbing. An old book published by the Association of Plumbing Inspectors (see cover) describes what happened:

By 1880, people on both sides of the Atlantic understood that sanitation had a powerful affect on public health.


"Whatever action was taken under [earlier laws] accomplished very little and regulation of the plumbing

trade was not operative when, in 1893, Representative Alfred S. Roe of Worcester, who had suffered the loss of a child whose death was attributed to imperfect plumbing in Worcester, presented a petition...for the enactment of law somewhat similar to the Maryland law which was then in operation."


The young girl had apparently died as the result of a cross-connection, and there was a furor to make sure that amateurs were stopped from installing piping systems. Appealing to the Committee on Public Health, Representative Roe called for strict, state-wide registration requirements. Despite a conflict at the last minute between a group of "Master Plumbers" and their journey-men employees, the bill became law. Representative Roe became known as "the father of effective plumbing regulation in Massachusetts."

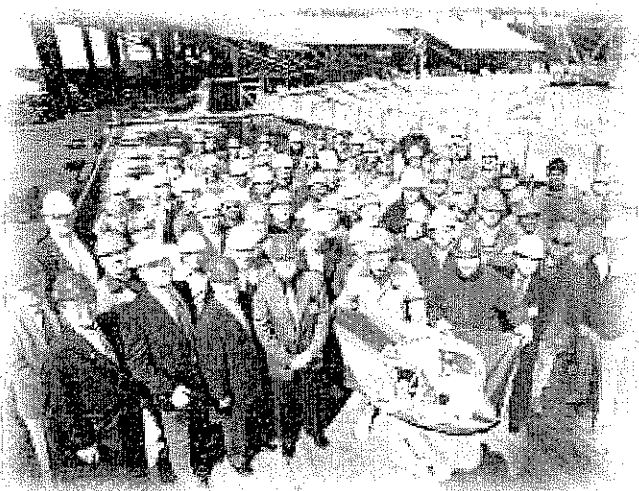
The 1893 law also contained language calling for the inspection of plumbing systems by "practical plumbers." A "practical plumber" was someone who had worked both as an apprentice and "for at least one year as a first class journeyman plumber."


Then, as now, some opposed effective inspections

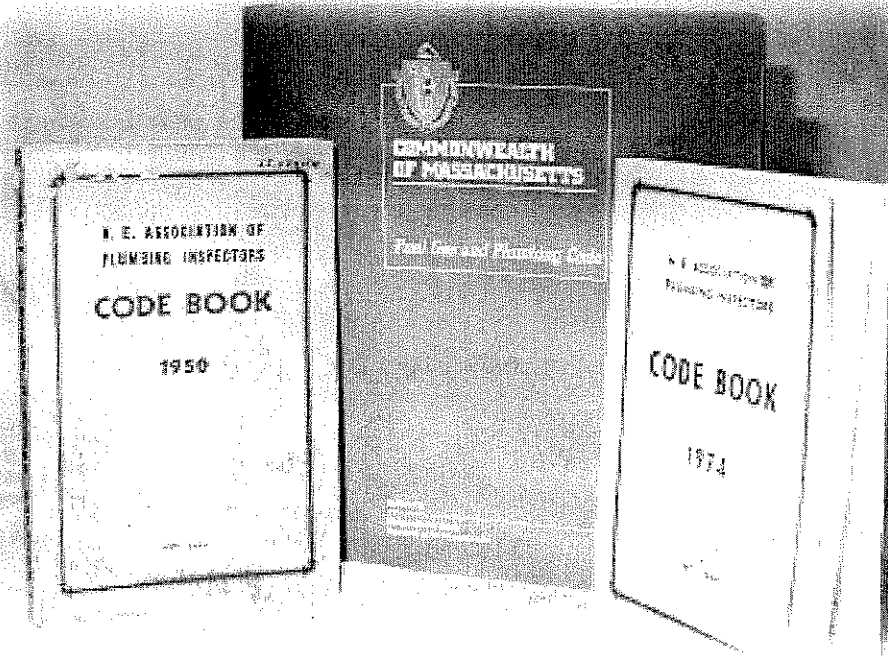
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 Above: The plumbing crew of the William McKenna Company during the renovation of Fenway Park in 1934.



 At left: The tradition lives on as plumbers working with contractors J.C. Cannistraro and American Plumbing and Heating are shown here at the new Gillette Stadium in Foxboro. Also shown are United Association Officials including Local #12 Business Manager Kevin Cotter; Agents Harry Brett, George Donahue and Jack McGinness; Special Representative Bill Turner; and UA General Secretary Martin Maddaloni.



Two World Wars and the Great Depression kept attention away from the task of creating a comprehensive code for the Commonwealth. During those years, each city and town developed its own plumbing code. For its day, the Boston Code was fairly detailed, and included sizing for drainage pipe. But many of the town codes were only a paragraph long. Nahant was typical. Its code consisted of about 100 words, including the stipulation: "No cesspool nearer than twenty feet from the building."

For many years the Plumbing Inspectors' Association printed the Code. Today, the book is published by the State. Our current Board is working on an update, and hopes to hold hearings in 2003.

In those years, the Boston Code remained a model, but there were those at the State Board of Examiners who believed that it, too, could be significantly improved. As always, the battle over the code became a political battle.

of plumbing systems. So it came as no surprise that in 1894 there was an effort to limit the role and training requirements for inspectors. But a noted public health expert and "chemist" from Boston, Dr. Bennett Davenport, met with representatives of both Masters and journeymen, and a new bill was passed which further strengthened the registration and inspection requirements.

Efforts to repeal these plumbing laws continued for several years. Alliances between various groups were formed, then collapsed, and then formed again. Journeymen accused Masters of betraying them on some bills. Inspectors meanwhile fought for lifetime appointments,

which in turn were opposed by some local Boards of Health.

A major development finally occurred in 1909, when legislation was passed creating a State Board of Examiners. For the first time, plumbers would not only be registered; they would also be tested. The three-member Board of Examiners would administer the test. The First Examiner, who must be a "practical plumber," would also serve as the clerk. The law stipulated that he be paid the sizeable sum of \$2,000 per year. The other two examiners would be paid no more than "five dollars a day for every day of actual service, nor more than three hundred and fifty dollars in one year."

LOCAL STANDARDS RULE—UNTIL 1963

For several decades following the passage of the 1909 bill, plumbing legislation was not a top priority on Beacon Hill.

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First meeting of Association of Plumbers in Worcester, June 1894. Standing (left to right): R. J. Brown, G. J. Brown, J. J. Brown, G. J. Brown, J. J. Brown, M. H. Brown. Seated: R. I. Moulton, J. A. Moulton, J. F. Moulton, J. F. Moulton, J. W. Taylor.

The Plumbing Law of 1893 set up for the first time requirements that all plumbers be registered—but not tested. However, the law also established the first plumbing inspection requirements. By 1895, the Massachusetts Association of Plumbers had been formed. Here is a picture from their first meeting in Worcester held in June of that year.

Into the middle of the struggle came Joe Risi, who had been a Local #12 apprentice after World War II, and was appointed a State Plumbing Investigator in 1954. When he became the Board's Executive Secretary in 1960, he saw his primary task as creating a strong, state-wide plumbing code.

He was concerned, too, about regulation of gas piping. Even then, the year Kennedy was elected President, there was practically no oversight of gas installations. "It was completely town by town," said Risi in a recent interview. "And the towns really did nothing."

Working with friends in the State Legislature, Risi planned to file a bill in 1962 that called for the creation of a uniform plumbing code.

"State Rep Bob Ambler said he would file it," Risi said. "But he warned me,



Joe Risi, the Board's Executive Secretary for a quarter-century beginning in 1960, looks back at some of the pioneering plumbing code work he helped develop.

"You'll never get it passed. It would take away too much power." Ambler was right. The bill got clobbered."

"There are some plumbers, and even some inspectors, who think they can do anything they want. But that's why we have a state code, and a state board."

"But we went back the next year. The three members of the State Plumbing Board were solidly behind

the bill. Yes, there was a lot of political activity. That was how you got things done. I would go up to the State House and talk to people. We got everybody together. The unions, the inspectors, everybody. The one bunch that was trying to stop us was the City of Boston. They liked their own code.

"We got the bill through the legislature, but then it sat on the Governor's desk—Volpe. It was December. If he didn't sign the bill by midnight, it was dead. So I went back up to his office with Dominic Carnavale, who was Volpe's Commissioner of Labor and Industry. Carnavale had been Business Manager of the Plumbers Union in Peabody. He went in and talked with the Governor. It was almost midnight. When Dominic came out, he was smiling. "Joe, you got it."

Once the bill was passed, people had to be brought together to write the details of the code itself. This

happened quickly, in a matter of a couple of months. Those writing the Code included head of the State Inspectors Association Ed Maurer; Local #12 Business Manager Charlie Ahl; and Walter Harrington, a plumber, engineer, and the father of Paul Harrington, the current PHCC of Greater Boston President. They and others put together the code that, in many respects, is the same code we use to this day. Interestingly, the City of Boston remained exempt from the new Uniform Code. Boston did not come under the state regulations until 1971, when Risi struck a deal with Boston Building

Commissioner Jim Reid, who was himself a plumber.

Were there problems with the enforcement of the new code? Risi admits that there were some. "Just like today, there are some plumbers, and even some inspectors, who think they can do anything they want. But that's why we have a state code, and a state board, for consistency." Risi points out that back then, in the 60's and 70's, all local inspectors had to be approved by the State Board.

THE FUTURE


Like most technical laws, our plumbing and gas codes will evolve in the years to come. When you look at the history of plumbing regulation, it is not often you see major changes like those that occurred in 1893, or 1909, or 1963. Most changes occur slowly, sometimes after much raucous debate. One example would be the introduction of plastic pipe, which occurred in the 1970's over the objections of many in our industry.

The coming decade is sure to see important debates. New technologies and new materials will be embraced by some, opposed by others.

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Meanwhile, the

current Board, under the leadership of Chairman Bill Callahan, continues to press

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H. ALFRED ROE
The father of the first plumbing inspection in Massachusetts

Representative Roe of Worcester lost a daughter because of a cross connection. He authored the 1893 bill that established statewide registration and inspections.



William T. Callahan, Chairman of the Mass Board of State Examiners of Plumbers and Gas Fitters.

the Governor's office to authorize formal hearings on dozens of proposed code amendments. When and if these needed changes are made will depend on the next Governor of the Commonwealth.

There will be other discussions ahead about major changes to our codes, and perhaps even about linking ours to one of the national codes. We can be sure that not everyone will be on the same side of every proposal. This is the nature of our business, and every business. The discussions that occurred in London in 1365 were undoubtedly sometimes heated. But guided by the common sense of honorable tradesmen, those early plumbers began a process ultimately designed to serve public health. If we follow in their spirit, today's Massachusetts plumbers will leave a legacy that we will all point to with pride.



Special thanks to those who shared their thoughts and historical materials as part of the preparation of this article. Appreciation goes to Plumbing Board Chairman Bill Callahan; Former Chairman Lou Stifano; Executive Secretary Lou Visco; and former Executive Secretary Joe Risi.