Real Life Safety Heroes: Gordon McKay

Born in Pittsfield, Massachusetts in 1821, Gordon McKay is best known for inventing a sewing machine that transformed footwear manufacturing from cottage industry to an enterprise of mass production. Actually, McKay didn't invent the sewing machine. He invented a device that improved the machine and allowed it to be used to sew the sole of the shoe to the uppers—the portion of the shoe that encases the foot.

McKay was also a shrewd businessman who came up with the idea of leasing rather than selling his machinery outright. McKay collected a small royalty for each pair of shoes manufactured with his equipment. By 1876, McKay was earning a staggering $500,000 per year in royalties.

United Shoe, Monopolization, & Mechanization

In 1899, McKay teamed up with Charles Goodyear, Jr., son of the inventor of vulcanized rubber, to form the United Shoe Manufacturing Company. The vast United plant monopolized shoe production in North America. It also mechanized the shoemaking process.

Historically, shoemakers had worked in a "ten-footer" shop, hunched over their work in cramped, poorly ventilated spaces. In addition to musculoskeletal disorders, this posture restricted lung capacity and made workers

susceptible to tuberculosis. By allowing workers to stand upright and breathe more normally, McKay's machines led to a decrease in tuberculosis cases among shoemakers. The machine also automated the arduous task of "pegging" (hammering wooden pegs) and hand-stitching soles, reducing the extreme repetitive manual labour previously required to craft a pair of shoes.

Because McKay leased rather than sold his machines, his company retained control over their maintenance and provided training to operators to ensure machines were better maintained and utilized. In addition to receiving the instruction and training denied to them in the past, workers were able to earn higher wages and work reduced hours.

Modern Methods Create Modern Hazards

However, mechanization also introduced new work hazards. McKay machines utilized unguarded gears, belts, flywheels, and other moving parts that snared workers or clothing leading to lacerations, amputations, crushing, and other gruesome injuries. Workers manually feeding shoe materials into high-speed needles were especially vulnerable to severe injuries to the fingers and hands. Some workers were even decapitated by the overhead line shafts and belts that powered the machines.

While mechanization reduced physical exertion, many workers found it depressing and mentally fatiguing because it turned a skilled craft into a repetitive, monotonous task that required little mental or physical activity.