



Needleworkers in Redditch, England, circa 1909.

*Photograph courtesy of the Forge Mill Needle Museum, Redditch, Worcestershire, England.*

## Making Needles *in the* Nineteenth Century

**C**OILS OF STEEL WIRE arriving at the needle mill had to be drawn down to the required thickness through a series of progressively smaller holes in a metal block. Next, the wire was cut into lengths from which two needles could be made (beginning in the early nineteenth century, needles have been made two at a time). A single coil of wire could produce as many as 60,000 needles.

Up to 15,000 cut wires packed tightly between two iron rings were heated, placed on an iron table, and rolled vigorously back and forth for two to three minutes using a rubbing file. As the wires rubbed against each other, they straightened out. The straightened wires, called “stiffs” or “flips,” were ready for pointing.

For workers during the first half of the nineteenth century, needle pointing was the most dangerous—but best paid—job in needle manufacture. The pointer placed between 50 and 100 flips between the palms of his hands and held them against a pointing stone spinning at about 2,000 revolutions per minute. He could point both ends of the flips in less than 30 seconds.

Needle pointing held grave perils, however: Slivers of metal could fly up and blind the pointer or the pointing stone could shatter, causing terrible injury or even death. More commonly, though, it was inhaling the ever-present stone and metal dust that affected the needle pointer; the crippling lung disease called Pointers Rot was so prevalent that few pointers lived beyond thirty-five years of age.

After pointing, the needle eyes were formed using a kick stamp and a fly press. The “double” (the still-joined pair of needles) was placed on a die bearing the shapes of needle eyes. The kick stamper placed his foot in a stirrup, which lifted a drop hammer; as he released it, the ham-

mer fell and stamped the impressions of two needle eyes onto the double. The stamped double was placed beneath a fly press containing a double punch that pierced the eyes. A kick stamper and a fly-press operator could stamp as many as 5,000 and 4,000 doubles per hour, respectively. By contrast, a worker could eye only 500 needles per hour by hand.

Stamping produced an excess of metal (“flash” or “splash”) around the needles’ eyes. To remove it, “out-workers”—women or children working at home—typically threaded the doubles onto thin metal “spits,” placed the spits in clamps, and ground off part of the flash. At this stage, they manually broke the double into single needles and filed off the remaining burrs.

The needles now were perfectly formed but too soft to use. To harden them, workers next stacked them on metal trays, heated them in a furnace to about 1,472°F (800°C), and quenched them in whale oil. (Until 1840, water had been used as a quench, but this resulted in up to one-third of the needles becoming bent. These “crooks” were not thrown away, however: Women would straighten each individually by placing it on an anvil and pounding it with a small hammer.) Because hardening left the needles brittle, they were tempered by reheating them to about 392°F (200°C) and letting them cool naturally in the air.



FAR LEFT: A needle pointer at work. Pointing the needles was the most dangerous job in the needle-making industry. LEFT: A needle hardener at work. The needles were hardened and tempered before being sent to the scouring mill. *Photographs courtesy of the Forge Mill Needle Museum, Redditch, Worcestershire, England.*



The scouring mill where needles were cleaned and polished.  
*Photograph courtesy of the Forge Mill Needle Museum, Redditch, Worcestershire, England.*

At this stage, the needles were covered in a black scale from the hardening process and scratched from pointing and needed to be scoured, the cleaning and polishing process. These “hand ins”—brown-paper-wrapped bundles of needles—were unwrapped and transferred to strips of canvas and burlap laid inside a wood trough. Soft soap and emery powder were added, and the bundle of needles,

called a “sett,” was tied tightly with twine. Each sett held up to 60,000 needles and weighed some 28 pounds (13 kg). The setts were placed under the scouring runners. Two needle setts acted as rollers between the runner and the scouring bed. Vertical “whee-whaws” (so called because of the noise they made) powered from a crankshaft driven by a water wheel propelled the runners back and forth. As the sett rolled beneath the scouring runner, the abrasive and soap circulated and scoured the needles. Scouring might take one day for “commons,” a week for the “best brights.” During the procedure, the sett was removed at two-hour intervals and more lubricant added if necessary.

After any residue had been washed off, the needles were glazed (polished) by rolling them for two to three hours longer in a new sett to which oxide of tin and olive oil had been added. Rewashed and dried, the needles were now placed in barrels with hot sawdust to revolve for about twenty minutes. They then were separated from the sawdust using a handworked fanning-out tray, packed in brown paper, and sent back to the manufacturer, where they were inspected, repackaged, labeled, and distributed to all parts of the globe.

*Information courtesy of the Forge Mill Needle Museum, Redditch, England.*

## *For More Information on Needle-making*

Redditch, England, was a needle-making center for centuries. The Forge Mill Needle Museum in Redditch documents the history of sewing needles, and items from the museum’s gift shop are available by mail order. Contact Forge Mill Needle Museum, Needle Mill Ln., Riverside, Redditch, Worcestershire B98 8HY, England; 44 1527 62509; [www.redditchbc.gov.uk](http://www.redditchbc.gov.uk); [museum@redditchbc.gov.uk](mailto:museum@redditchbc.gov.uk). Also see “Redditch: England’s Needle-Making Center” in the July/August 2007 issue of *PieceWork* magazine.