

# A Precious Tool

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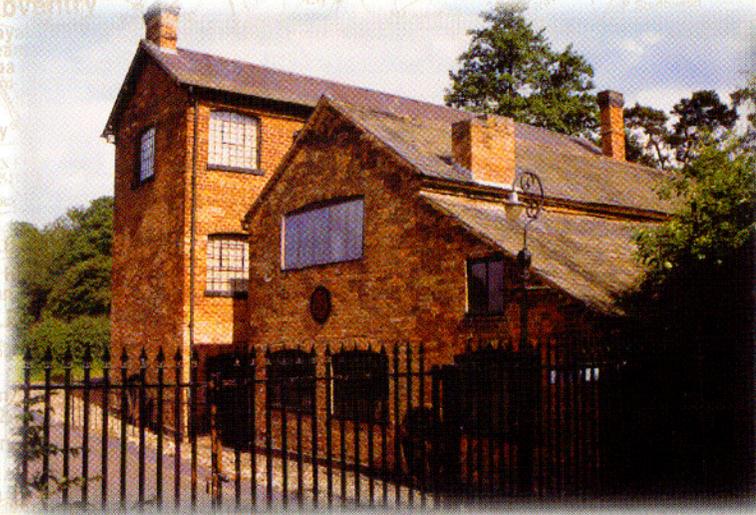


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Forge Mill Needle Museum.

I remember a story I read as a youngster about a little girl whose mother sent her to a neighbor's house to borrow a needle. The neighbor wrapped the needle carefully with a piece of cloth and warned the little girl not to lose it—needles were precious in those pioneer days. Walking along a wooded path, the little girl stopped to check on her needle, but it was gone! She eventually found it after much searching, but the details of the story have faded for me. Today, we pick up a needle and think little of it. A simple tool, it carries our thread through beads.

Have you ever wondered where these shiny nickel-plated needles come from and how they're made? The familiar black and yellow package of needles I always have on hand states that they are made by John James & Sons, Ltd. at Studley, Warwickshire, England—just a few hours by train from London where I recently vacationed. After I had written to inquire about a tour of the factory, the people at John James kindly referred me to the Forge Mill Needle Museum in nearby Redditch to learn more about needles, a tool even older than the wheel, and the business of making them.

Constructed of rough red bricks, the small cluster of buildings that makes up Forge Mill is set on the banks of the Arrow River in idyllic English countryside. The Forge Mill dates from 1725, but the mill pond and water courses were probably constructed by the monks of Bordesley Abbey for grinding corn or even forging iron as early as the 15th century. This original water wheel and water-powered machinery still operate, and were used until 1958. At its peak during the Industrial Revolution, the mill polished needles for 90 percent of the world's market. Inside the museum, one steps back in time and, through recreated scenes, witnesses the entire process of producing needles for a wide variety of uses—a process that is remarkably similar today, though considerably more mechanized, even computerized.

Made from bone, ivory, or horn, the earliest needles share similarities with today's. Both are pointed at one end to pierce the material being sewn. But needles didn't always have eyes. Some early needles had grooves carved at one end so that a thong loop could be attached, while others had a notch into which thread could be inserted.

From these early needles, the first metal needles made of bronze were developed. They varied in length and diameter, and had points at one or both ends. Eyes ranged from one to three or four and were placed at the end(s) or in the middle. With the coming of the Iron Age, needles were made of iron, but iron rusts, so no examples exist.

Nuremburg, Germany lays claim to the first documented evidence of needlemaking. Although the Spaniards claim they taught the Germans, there is no proof for this assertion, but we suspect it is true from the fame of Toledo for its sword making.

Needlemaking came to England at the behest of Queen Mary I, who encouraged a Spanish Moor to set up a business and teach the art of needlemaking to the English. However, the Moor kept



Needle pointing.

nose and mouth, the pointer sat in front of a stone grinding wheel and held the wires so that they would rotate as he pressed them against the wheel. Pointers received top wages because their job was the most dangerous. As they ground the needles, dust rose from the grindstone and the steel wire to create a lethal mixture that the pointer inhaled. Within a few years, a pointer would begin coughing up blood and his lungs would be permanently damaged. Few pointers lived beyond age thirty. When the factory owners tried to install fans to remove the dust, the pointers objected fiercely because they feared their wages would be cut.

Next, the pointed wires moved on to stampers who stamped the impression of two eyes in the middle of the wire. Eyes were punched with a small hand press, primarily by women who could "eye" 20,000 needles a day. But the needles still were not ready for market. They had to be cut in two and the eyes burnished to be smooth enough not to fray thread. Hardening made the needles strong and tempering gave them a slight spring, important because the needles would be brittle otherwise.

## Can you guess the length of the longest English needle?

*Answer: The longest needle is 6.5 feet and is used to sew mattresses lengthwise.*

his process so secret that, when he died, none of his workmen could carry on. Elizabeth I, who followed Mary to the throne, convinced one Elias Krause to emigrate from Germany. His business flourished in London, but later needlemakers congregated near Redditch, northwest of London, and England was on its way to becoming needlemaker to the world.

In the 1800s, the process of needlemaking was specialized, and different families were responsible for various phases. Needles began with a coil of steel wire, about as thick as a child's little finger. The wire was stretched to a finer diameter by pulling it through a small hole in a steel plate. With hand shears, the wire was cut to the length of two needles. This was more efficient than making one needle at a time. Because the wire was slightly curved from the drawing process, these lengths had to be straightened by heating and rolling.

The pointer's job was to put a sharp tip on both ends of each piece of wire. With a rag tied over his



Needle hardening.

ILLUSTRATIONS COURTESY OF THE FORCE MILL NEEDLE MUSEUM

Finally, the needles were scoured, or polished, to remove the grime that had accumulated from the hardening process. The scourer put a length of heavy fabric into a trough and within it placed up to thirty pounds of needles, along with emery dust and soft soap. Tied tightly, the bundle of needles resembled a large fat sausage as it was moved to the "scouring bed," a long table with a heavy block on top that rolled the bundle back and forth. Before water power or steam power, these blocks were rolled by hand. The needles, emery dust, and soap rubbed against each other to produce shiny needles. After washing, drying, packaging, and labeling, the needles were ready for transport to all parts of the world.

And the world was happy to trade for this little instrument. Easily carried in large quantities over long distances, needles were ideal items for English explorers to take along to the remote corners of Africa and the frontiers of North America. A valuable commodity, a packet of needles could buy a wife in Sudan in the early 1800s. Even today, the humble English needle still performs astounding feats. A tiny curved needle no bigger than your eyelash is used in eye surgery, while a needle enabled the first flights of the spaceship Columbia to go aloft—an English darning needle sewed together the soft new heat-resistant covering that replaced some of the tiles in the nose of the ship!

The English take great pride in making needles of the highest quality. All English needles are manufactured of Sheffield carbon steel with a copper coating to reduce corrosion and nickel plating for smoothness. Look at an English needle through a magnifying glass—you will see that the eye is clean and smooth, all excess metal ground away to provide a gentle taper from the eye to a perfect point, resulting in ease of threading, smooth stitching, and little fraying of thread.

We should treasure our needles. They allow us to do wonderful things. ❁

*The Forge Mill Needle Museum, open year round, is located on Needle Mill Lane, Riverside, Redditch, B98 8HY, northwest of London (a two-hour train ride) and south of Birmingham. Phone: 01527-62509.*

#### FURTHER READING

Gloger, Jo-Ann and Patrick Chester. *More to a Needle Than Meets the Eye*. Redditch, England: Forge Mill Needle Museum, 1998.

## Needles for Every Purpose

During the Victorian period, special needles were made for almost every purpose. Today there are six major types of needles available.

**Sharps**, the most commonly used needle, have a beveled eye for ease of threading. They come in sizes 1–12. The grooved eye, a feature of sharps and most other needles, allows the thread to lie snugly in the groove and prevents the need for a hole larger than necessary.

**Between**s are beloved by quilters and tailors for their shortness and strength, allow fine, even stitching.

**Crewel needles**, used mostly for embroidery, are the same length as sharps, but have a long darning eye for ease of threading stranded threads.

**Tapestry needles** have blunt, rounded points that won't split the canvas.

**Darners** have long eyes to take thick wool.

**Bodkins**, either flat or round, are used for threading cords, ribbons, and laces.

*Guide to the Forge Mill Needle Museum*. Redditch, England: Forge Mill Needle Museum, 1998.

Lee, Bernard T. *The History of the Needle*. Studley, England: Entaco, Ltd., 1979.

*Diane Fitzgerald is a nationally-known teacher and artist who lives in Minneapolis where she runs her store, Beautiful Beads. She has written several books, including Counted and Charted Patterns for Flat Peyote Stitch, Sea Anemone Beadwork, and Zulu Beaded Chain Techniques. With Helen Banes, Diane co-authored Beads and Threads: A New Technique for Fiber Jewelry.*