

## 1945 August 6-12

### Trane Company and the A-Bomb

The massive [Manhattan Project](#) to create the atomic bomb required contributions by many companies on the home front. One of them was the Trane Company in La Crosse, Wisconsin.

James Trane started a family plumbing business in La Crosse in 1885. He was joined by his son, Reuben, who was a mechanical engineer. What set them apart from other plumbers was their creation of a low-pressure steam heating system.<sup>1</sup>

James, Reuben, and Stella Trane incorporated the Trane Company in 1913 as a heating and plumbing business.<sup>2</sup>

The company patented its first air conditioner in 1931. Seven years after that, Trane developed a new water chiller for air conditioning large buildings.<sup>3</sup>

During World War II, the Trane Company, along with many other manufacturers in the area, produced equipment that aided the war effort. By the end of 1942, 95 percent of the work that the 1,022 Trane employees produced was for war production.<sup>4</sup>

For example, Trane air conditioning units decreased the humidity from the air entering blast furnaces. This application regulated the humidity in blast furnaces and increased steel output by 10 percent.<sup>5</sup> The steel produced was also of better quality.<sup>6</sup>

The Trane contribution to the making of the atomic bomb was much more closely guarded.



(La Crosse Tribune, 1945 August 8, page 4)

What this newspaper story at the time did not mention was an even more direct role played by a Trane Company employee in the construction of the atomic bomb.

Einar Lunde was born on October 10, 1896, in La Crosse, to Mathias and Christine (Gunderson) Lunde. He married Margaretha Wostal on February 7, 1925. They lived in Galesville, and Einar Lunde worked as a tool designer at Trane Company.<sup>7</sup>

Lunde of was the foreman of the die department at Trane Company during World War II. In 1944, some “government men” showed up at the company and asked Reuben Trane to take them to the man in charge of making tubing. Tubing was used in Trane air conditioners, and Lunde knew how to make tubing. The “government men” told Lunde that he was coming with them immediately. He was taken to the [University of Chicago](#). After two days of background checks that included questioning people in La Crosse and investigation into Lunde’s ancestors in Norway, Lunde was told that the United States government was working on an atomic bomb, and they needed “some very precise aluminum tubing” as a key component of the device.<sup>8</sup>



Einar Lunde

*(La Crosse Tribune, 1995 August 12, page A1)*

You might say that Einar Lunde helped create a “firing pin” for the atomic bomb. While he was in Chicago for a week, Lunde designed a 14-inch long tube “with .012-inch side walls and a .050-inch base.” Lunde drew designs for seven dies, made of a certain type of steel, that would create the tube from a certain type of aluminum. His forms had to be precise to a thousandth of an inch. Alcoa, the manufacturer of the aluminum, maintained that it could not be done. Lunde knew his dies could do the job. The finished tube contained a uranium rod that was fired at a mass of uranium to ignite nuclear fission.<sup>9</sup>

When he returned home after his week-long secret mission in Chicago, Lunde could not tell his boss, his co-workers, or even his wife what he had done while he was gone. It was not until August 7, 1945, when an announcement came over the radio that Hiroshima had been destroyed by a new super bomb that Lunde could tell his secret.<sup>10</sup>

Lunde became the chief tool designer before retiring in 1962 after working nearly 40 years at Trane Company.<sup>11</sup>

He was sitting in his favorite chair at home in Galesville on January 28, 1980, when he died of a heart attack at the age of 83. Einar Lunde's brief obituary made no mention of his work on the bomb that brought an end to World War II.<sup>12</sup>

That was not unusual, because Lunde seldom talked about his part in this historic project. Years later, his son, Philip, said, "I think he was proud he could help out his country."<sup>13</sup>

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#### Sources & Notes:

<sup>1</sup> "Rich Heritage," *Trane Technologies*, 2019, <https://www.trane.com/commercial/north-america/us/en/about-us/our-history.html>.

<sup>2</sup> "Trane Firm Incorporates," *La Crosse Tribune*, La Crosse, Wisconsin, 1913 April 5, page 6.

<sup>3</sup> *Trane Technologies*.

<sup>4</sup> "La Crosse At War," *La Crosse Tribune*, La Crosse, Wisconsin, 1942 December 31, page 13.

<sup>5</sup> "Trane Blast Furnace Air Conditioning Units Speed Up Production Of Nation's Steel Mills," *La Crosse Tribune*, La Crosse, Wisconsin, 1942 July 12, page 2.

<sup>6</sup> "Trane Plant Aids In U.S. Effort To Boost Quality Steel Production," *La Crosse Tribune*, La Crosse, Wisconsin, 1942 February 23, page 1.

<sup>7</sup> "Einar Lunde," *La Crosse Tribune*, La Crosse, Wisconsin, 1980 January 29, page 11.

<sup>8</sup> Susan Snyder, "Local man designed key 'Little Boy' part," *La Crosse Tribune*, La Crosse, Wisconsin, 1995 August 12, page A1.

<sup>9</sup> *La Crosse Tribune*, 1995 August 12.

<sup>10</sup> *La Crosse Tribune*, 1995 August 12.

<sup>11</sup> *La Crosse Tribune*, 1995 August 12.

<sup>12</sup> *La Crosse Tribune*, 1995 August 12; and *La Crosse Tribune*, 1980 January 29.

<sup>13</sup> Steve Cahalan, "No regrets: Rural Galesville man and Trane tool-and-die maker had a hand in the Manhattan Project," *La Crosse Tribune*, La Crosse, Wisconsin, 2005 August 6, page A1.