

HISTORIC ROOTS

HISTORIC ROOTS

Ann E. Cooper, *Editor*
Deborah P. Clifford, *Associate Editor*

ADVISORY BOARD

Sally Anderson	Nancy Chard
Marianne Doe	Mary Leahy
Robert Lucenti	Caroline L. Morse
Meg Ostrum	Michael Sherman
Marshall True	Catherine Wood

Publication of *Historic Roots*
is made possible in part by grants from the
A.D. Henderson Foundation, the Vermont Council
on the Humanities, and Vermont—NEA.

A Magazine of Vermont History

Vol. 3

August 1998

No. 2



A worker at the flat turret lathe in 1907.

DAVE RUSSELL: A LIFE OF WORK IN PRECISION VALLEY

By SUZANNE NOTHNAGLE

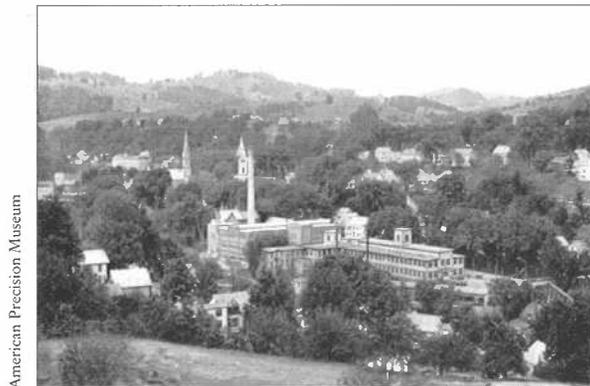
Vermont is known as a farming state. But a combination of genius and geography also made it the birthplace of the machine tool industry. The area between Springfield and Windsor in Vermont's Connecticut River Valley is known as Precision Valley. The genius of a few local men fueled the development of these new tools. And the water power of the Connecticut River was there to fuel the factories.

Machine tools are used to make parts for machines. They are made of metal, so they will last a long time. And they must be made very precisely, so that the parts they make will be exactly the same. Hence the name, Precision Valley.

There were three large machine tool companies in Springfield. The Jones & Lamson Company began in Windsor and moved to Springfield in the 1880s. James Harkness, the owner then, developed a metalworking lathe called a turret lathe. His chief engineer, Edwin R. Fellows, developed another machine tool

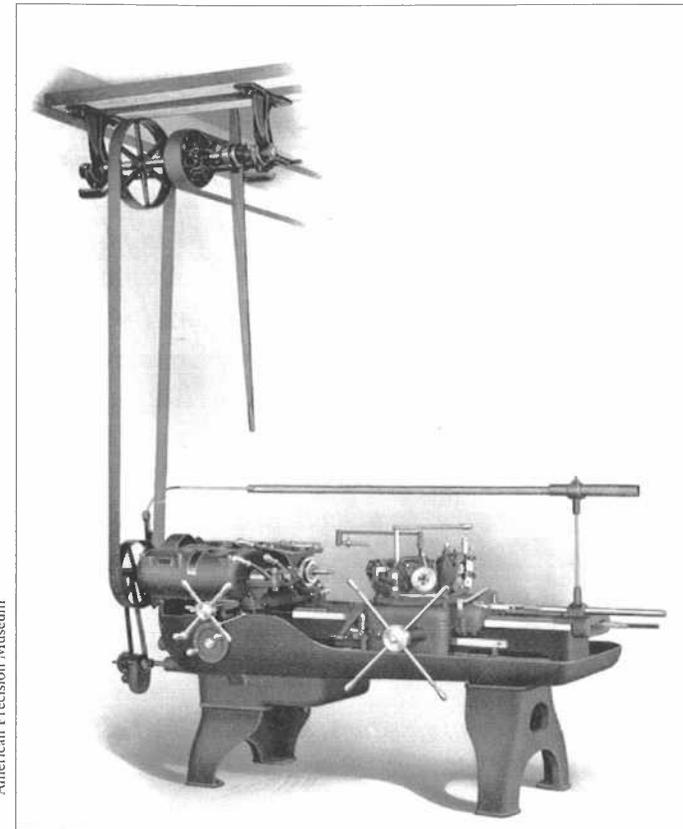
called a gear shaper. With Harkness' help he started his own company, Fellows Gear Shaper. William Bryant, Harkness' next chief engineer, also developed a new tool, a kind of grinder. Harkness, a very generous person, helped him found his own company too. So Springfield became a center for machine tools and factory employment.

Some of the earliest machine tools were created to make parts for rifles, so that owners could easily replace a broken part. Until then, each part of each rifle was made individually and would fit only the rifle for which it was made. The new machine tools made parts that were exactly the same and would fit in any and all of the rifles the company made. Today, machine tools make parts for almost everything we use, including cameras, aircraft, cars, farm machinery, computers, and clothing.



American Precision Museum

A view of Springfield and the Upper Plant of Jones & Lamson.



American Precision Museum

Another view of the flat turret lathe.

Dave Russell, a retired machinist and farmer, told of his family's experience with Jones & Lamson.

Pop...was a registered steam fitter and mechanical engineer. He came to Springfield because that's where the jobs were, same as I did 50 years later. Pop worked there from 1888 to 1912....



Dave Russell today.

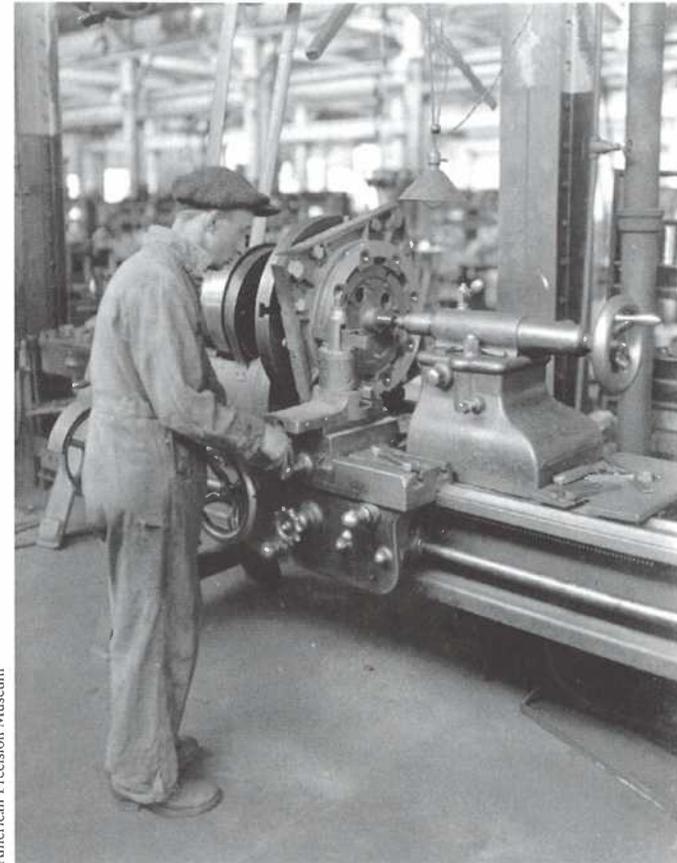
I went to work there summers in 1936. I worked two years and in 1938 I started full time. I ran a hand mill and table drill. I ran just about every machine in the shop before I got through....Somebody must have thought I had

some potential because I got the chance to run all those machines. They'd assign me to an operator and he'd teach me how to do it. I'd run it for a month or two and then they'd say we need a man here on the turret lathe, so they'd put me on the turret lathe.

I got the golden opportunity to run one of Harkness' original flat turrets. It was the only one in existence in operation at that time. I worked on that for about 18 months. There weren't very many people who knew how to run one.

I worked on it daytimes with [another] operator. Since my social life was nonexistent anyway,...after supper I'd go down and hang around the shop and watch the old guy who was running it. I asked the superintendent if I could run the machine. So most of that summer I ran that machine the best part of two shifts....Of course, I didn't get paid for the second shift. I made 40 cents an hour. That was all right.

During World War II, which lasted for the United States from 1941 until 1945, machine tool factories were kept busy making tools to make parts for tanks, planes, and other military vehicles. Precision Valley was so important to the war effort that it was feared that it would be a prime target for enemy bombs. Luckily no bombs reached the United States.



American Precision Museum

Turning the two-spindle turret lathe, 1919.

Thousands of people came to Springfield and Windsor to work in the 1940s. Dave Russell told about a rooming house in Springfield where the beds were filled 24 hours a day. The men from the night shift crawled into beds that day shift workers had just left.

There was something like 2,400 people at J&L during the war, when there normally had been about 1,000. Bryant's normally had 500 and they had close to 2,000. The town was wide open. It was a rip-snorting town.

After the war, Dave Russell "went to farming....It lasted about five years before I lost my shirt. Before I lost my pants [too], I went back to work in the shops." He worked for Lovejoy Tool and then for Bryant Grinder, where he operated a turret lathe. He spent the next 21 years working there and became a liaison engineer.

If a part wouldn't go together, I'd have to get out the blueprints and find out why. It might be in the shop or it could be in the blueprint. I would figure it out and tell the draftsmen¹ what had to be changed. I enjoyed it.

Dave Russell retired in 1978. His work life and his father's cover the history of Precision Valley, from its early days through its heyday. More recently the number of workers has

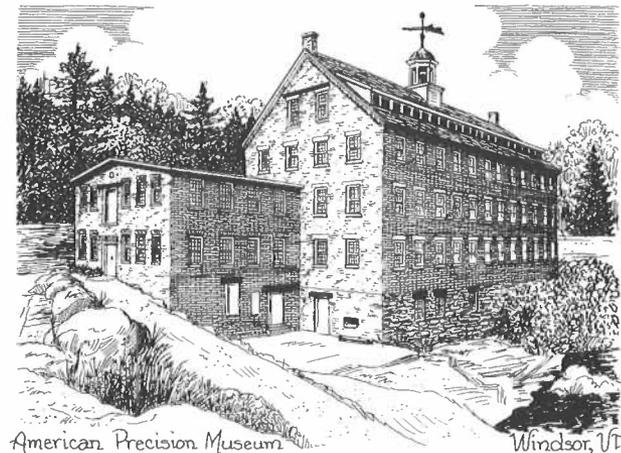
¹Draftsmen drew the plans by which the machines and parts were made.

declined and some factories have closed. But the men and machines of Precision Valley helped change the way the world works and the way we all live.

Rooting Around

The Springfield Art and Historical Society has an exhibit of pictures of machine tool factories and workers. The Society, is at 9 Elm Street and is open Tuesday-Saturday, from mid-April until the end of October. Call 802-885-2415 for hours and directions.

The American Precision Museum, at 196 Main Street in Windsor, houses a collection of machine tools and has exhibits that focus on the local factories and the products their tools helped make. The museum is open seven days a week, from Memorial Day until the end of October. Call 802-674-5781 for hours and directions.



American Precision Museum

Windsor, VT