

# Lie-Nielsen Toolworks at 25

Woodworking entrepreneur rekindled an interest in serious hand tools

BY TOM BEGNAL

In 1981, Tom Lie-Nielsen had a fledgling business making a single model of a bronze edge-plane, doing the assembly work on his kitchen table. This year, the company's 25th, Lie-Nielsen Toolworks makes more than 100 models of high-end hand tools. I recently toured the factory and talked to Lie-Nielsen about the evolution of his company and of hand-tool use over the last few decades.

"My father had a wooden-boat-building shop in Maine



**Two planes that made a plane-maker.** The bronze edge-plane (left) and the bronze skew-plane (right) enabled Lie-Nielsen to gain a foothold in the industry.

where we had a small machine shop and made all the hardware for the boats—custom hardware, mostly out of brass and bronze," he said. It was in that shop, while still in grade school, that Lie-Nielsen developed an appreciation for hand tools.

In 1977, not long out of college, he got his first job. At GarrettWade, a newly created woodworking retailer in New York City, he handled purchasing, importing, customer service, and showroom/telephone sales. It was there that he recognized a need for top-quality, American-made handplanes. Power tools were doing much of the work once done by hand. The major plane manufacturers were shrinking their product lines in response to a smaller market.

"Every year it was obvious where (big manufacturers) were headed, and it wasn't toward the hand-tool

market," Lie-Nielsen said, adding that customers who wanted a discontinued plane had one option: "Find an antique and fix it."

A few cottage-industry manufacturers were still making specialty planes for GarrettWade, many of wonderful quality, but these small makers couldn't deliver on time. Customers wanted the tools, Lie-Nielsen said, but GarrettWade had back-orders all the time. "I couldn't understand why you couldn't make tools in a serious way and have them available for people to buy."


## 1981: The first plane

One supplier made a handsome and functional bronze edge-plane (based on the earlier Stanley No. 95), most commonly used to square the edge of a board to its face. When the supplier lost interest in making the plane, the young Lie-Nielsen felt the time just might be right for a new plane-maker, albeit one with a single product. He arranged to buy the bronze edge-plane business, including all the necessary tooling patterns and some tutoring sessions. He'd have GarrettWade as a likely customer. And the connections he had made while there would be another plus.

He soon moved to West Rockport, Maine, buying property that included a "very decrepit old farmhouse," 50 acres of blueberry bushes, and an old woodshed that became the shop. A nearby artisan with a small bronze foundry produced the body castings. The blades were purchased, the parts farmed out to a few local machinists.

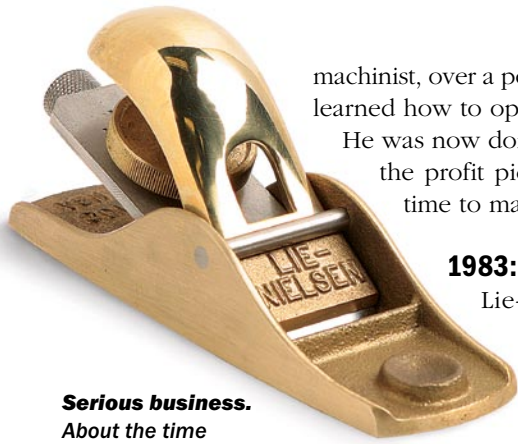
"I was mostly doing the polishing and assembly—on the kitchen table," Lie-Nielsen said. Despite the low-tech production facilities, the first order of 200 planes was delivered successfully to GarrettWade in the fall of 1981.

That first order proved to Lie-Nielsen that he could make a plane, but it remained to be seen if he could make one profitably. Outsourcing the machining was expensive, so one of his first big investments was a milling machine. With the help of an experienced



*'I was growing the business,  
with no particular goal in  
mind other than to make  
interesting tools and do it at  
a very high quality level.'*

—Tom Lie-Nielsen



**Serious business.** About the time Lie-Nielsen began advertising, he added a low-angle bronze block plane to his line and the business began to grow. Soon he had left the farm behind and hired an employee.

machinist, over a period of several months, Lie-Nielsen learned how to operate it.

He was now doing everything but the casting, and the profit picture began to look better. It was time to make a second plane.

### 1983: Plane No. 2

Lie-Nielsen's second plane was a bronze skew block plane, modeled after the old Stanley No. 140. Like the bronze edge-plane, it had long been out of production by Stanley. The tool not only functioned well as a block plane, it converted easily to a rabbet plane by removing a side plate.

Lie-Nielsen now had a line of two planes, but he still was a long way from being a full-time plane-maker. Money remained tight. He and his wife grew most of their own food. Ducks, geese, sheep, and a milk cow were part of the farm. Their summers were devoted mainly to farming chores and to raising blueberries.

"We spent quite a bit of time doing the back-to-the-land thing," Lie-Nielsen said. Plane-making was set aside for the long Maine winters. But with the farm providing the family's basic needs, he was able to develop the plane business at a comfortable pace. He didn't have to bring a plane to market until everything was just right.

### 1985: Low-angle block plane

A low-angle bronze block plane came next. At about the same time, in 1985, Lie-Nielsen began running a small classified ad in *Fine Woodworking*. His

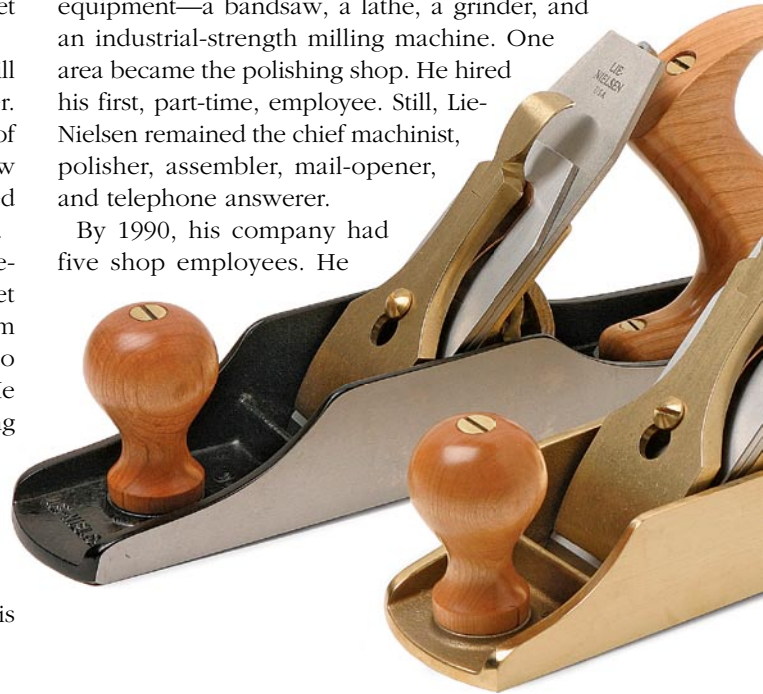
little plane-making business started to grow. As it did, he increased his advertising.

"I (ran) the smallest black-and-white (ad) I could, and I've gradually done more and more. I was fortunate to have *Fine Woodworking* pave the way, educating and exciting woodworkers about tools and techniques that had been forgotten by the power-tool hungry '50s and '60s."

### 1986: To Warren, and growth

In 1986, Lie-Nielsen sold the farm and moved operations to an abandoned icehouse in Warren, Maine. The added space soon filled with more metalworking equipment—a bandsaw, a lathe, a grinder, and an industrial-strength milling machine. One area became the polishing shop. He hired his first, part-time, employee. Still, Lie-Nielsen remained the chief machinist, polisher, assembler, mail-opener, and telephone answerer.

By 1990, his company had five shop employees. He



## Building a plane

It takes more than 100 steps to build a typical Lie-Nielsen bench plane. Machines have an important role, but a good deal of the work is done by hand.



**Side grinding.** A pair of bench planes, clamped end to end, have their sides ground flat and square to the soles.



**Fire and ice.** To improve hardness, the steel plane blades are heated in an oven until red hot (top). Later, to improve wear-resistance, the blades are subjected to a Pluto-like temperature of minus 320°F (bottom).



was starting a line of cast-iron bench planes based on the old Stanley Bedrock model, a decision that brought a new set of challenges. The early bronze planes that were the foundation of his company weren't being made by anyone else, so competition wasn't an issue. But most of these cast-iron bench planes were available from several other established plane-makers. Lie-Nielsen planned to elevate the quality to a new level, but with higher quality came a considerably higher price. Would woodworkers be willing to pay? Then, too, he had to learn the nuances of machining cast-iron—a material he had not used before—and all the other details of making this type of plane. "We had to learn how to make handles (and knobs), all the mechanisms. The whole bit."

A glance through the current catalog shows that the bench planes were a huge success.

They helped the business more than triple in size during the 1990s.

### 2006 and beyond

Lie-Nielsen now makes an assortment of other high-end planes; among them chisel, rabbet, scraper, scrub, and shoulder planes. (I counted about 50 in the catalog.) He also has several dovetail saws and tenon saws. Bevel-edge socket chisels were introduced a few years ago. Recently, he began making workbenches. And he plans to introduce a shave horse soon.

Today, Lie-Nielsen has some 70 employees.

A recent 10,000-sq.-ft. addition effectively doubled the size of the manufacturing and warehousing facilities.

The addition houses a long line of milling machines, including several Computer Numerical Control (CNC) models. Plane and spoke-shave blades are heat-treated in a nearby building.

Lie-Nielsen's approach to quality seems to have remained steadfast. Every plane and chisel still gets a hands-on cutting test before it goes to the shipping room.

Today, all plane blades are made from A-2 steel, which holds an edge longer than other steels. He uses ductile iron in his plane bodies, rather than the more common gray cast-iron; the former is stronger and less brittle.

What's in store for Lie-Nielsen Toolworks over the next 5 to 10 years? "That's the \$64,000 question," he said with a comfortable smile. "We've always steadily progressed toward new products as we could, trying to balance new products with our capacity and our ability to do things."

"The woodworking population does seem to be aging," he added. "But, there does seem to be a number of younger folks getting interested."

At a time when American companies are moving to faraway lands as fast as you can say bigger profits, Lie-Nielsen has figured how to enjoy success without straying from its roots on the New England coastline. □

*Tom Begnal is an associate editor.*



**Plane-maker to toolmaker.** In addition to more than 50 planes, Lie-Nielsen now makes chisels, saws, workbenches, and shave horses.



[FineWoodworking.com](http://FineWoodworking.com)  
Listen to the complete interview with Tom Lie-Nielsen.



**Bring out the shine.** The operator of a polishing machine makes the body of a bronze edge-plane look like jewelry.



**Putting things together.** All the parts converge in the assembly department, where the planes are put together by hand.



**A plane is born.** But before it's wrapped and boxed, every plane, handsaw, and chisel must pass a hands-on cutting test.