



PHOTOGRAPHS BY THE AUTHOR

Left Thomas Lie-Nielsen in the showroom with one of his newest offerings – a No. 8 jointer's plane in ductile iron

Above Rough ductile iron castings as they arrive from the foundry

Plane Poetry

Scott Gibson finds that the celebrated tools of Thomas Lie-Nielsen start with a simple idea – it's quality, not price, that counts

Not counting the T-shirts, Thomas Lie-Nielsen's current catalogue lists 47 tools and accessories. There are nine block planes, 11 bench planes, shoulder and chisel planes, beading tools, saws and a set of Swedish steel hand-scrapers. His tools are expensive, selling for as much as £375 each, and this year Lie-Nielsen expects to sell roughly 18,000 of them to woodworkers he regards fondly as 'notorious cheapskates'.

Just 20 years after launching a company in America with a plane many woodworkers will never own, Lie-Nielsen has turned the corner from minor niche producer to serious manufacturer. While still tiny by most standards, Lie-Nielsen Toolworks has expanded its original line of quirky Stanley designs to include mainstream tools. His smoothing planes, jointers and block planes compete head-to-head with mass-produced versions

from industry powerhouses like Stanley and Record. Since acquiring the Independence Tool Co. in 1998, Lie-Nielsen has added six saws to his line, and he plans a line of chisels. He ships tools abroad—to England, France, Canada, the Netherlands, Germany, even Japan and Australia. Far from being chased out of business by better equipped, more experienced competitors, Lie-Nielsen is prospering.

Hard work and a shrewd business sense have helped, along with something else – the gut feeling a woodworker gets when he opens one of the company's simple cardboard boxes and finds a plane that has been made beautifully and works perfectly. At 47, lanky and energetic, Lie-Nielsen is well on his way to proving a pet theory: it's possible to make high-quality tools, charge a steep price for them, and not go broke in the process! In that sense, at least, he is realising the dream of an out-of-work mechanical engineer who helped to get him started.

Pining for the country

In the late 1970s, not long out of college, Lie-Nielsen and his wife found themselves in New York City. He went to work for Garry Chinn, a former investment banker who had decided he would rather sell hand tools than stocks and bonds. His company, Garrett Wade, had 12 employees and did a lot of business by mail order. Lie-Nielsen (a Norwegian surname pronounced Lee-NEELson) went to work there, learning the trade. Although the experience would later prove invaluable, by the end of three years Lie-Nielsen was tired of New York. He started thinking about moving back to

coastal Maine where he had grown up and where his father still ran a boat-building shop.

As Lie-Nielsen plotted his escape, Chinn was running into a problem. Garrett Wade carried an adaptation of the Stanley 95 edge plane in its catalogue, and the supply was about to dry up. Ken Wisner, a mechanical engineer-turned machinist, had been making the planes in a basement workshop. Although not a woodworker himself, Wisner loved the No. 95. He viewed it as: "one of those near-ideal embodiments of design and function," and believed that keeping the plane alive involved much more than making a living. Now, he recalls with perfect clarity what his business was about: "I felt what I was doing was telling people that craftsmanship was not dead." But by 1981, after laboriously making nearly 2,000 planes, mostly by himself, Wisner was ready to quit.

How it began

Lie-Nielsen went to see him and acquired the fixtures and component parts that would allow him to pick up production of the No. 95 – not in New York but back in Maine. Lie-Nielsen was no machinist, but he thought he could learn the trade. So did Wisner. The arrangement suited both of them. (Although Wisner did not follow Lie-Nielsen's progress closely, ten years later a box arrived unexpectedly from Lie-Nielsen's Maine plant. In it was every plane the company then had in production.)

The Maine chance

With his links to Garrett Wade, Lie-Nielsen had a ready market for the plane, but he lacked both a factory and any technical experience as a toolmaker. He moved to a 50-acre farm in rural West Rockport, 350 miles north-east of New York City, where he and his wife kept a cow, some sheep, and a few ducks. He also had a tiny woodshed, and there he went to work. With a lot of tinkering and some outside expertise, he delivered his first plane to Chinn in the autumn of 1981.

Lie-Nielsen moved into a 384-square-foot workshop on his farm a few years later, but the operation was very small. "That whole period," he says, "was one during which I was learning a lot but not necessarily producing a lot." In addition to the edge plane, he had started making the skew-block plane, recognising only later that he had started with his two most challenging tools. Still, his business was growing and in 1988 he bought the 8,000-square-foot building he still occupies in the nearby town of Warren. About the same time, he was getting a divorce. He moved into what would become his factory because it had a small apartment. "The previous owner had lived here in the winter. So I moved into this great, big empty building and thought I'd never fill it up. I rented out the back half and set up the machines in the front half."

Backwater hitch

A key problem was how to cast the growing number of bronze plane bodies he needed. Lie-



The bottom of the iron plane body is milled flat and true



After rough milling the plane bodies are ground to make plane sides smooth and square



The main shop floor at Lie-Nielsen Toolworks

Nielsen had started by working with the owner of a local art foundry. The owner was helpful, but his interest was not in making big production runs. "I'd come in and make the moulds for the castings – as many as he had room for," Thomas says. "I'd do that in the morning and I'd go away and he would pour them. But, you know, he would pour them whenever the hell he felt like it, which usually meant a week or two later."

With the foundry owner's help, Lie-Nielsen later began an in-house casting program for manganese bronze. However, cast iron plane bodies have always been provided by an outside foundry because the material is more difficult to work. He also did the machining and polishing, assembled the tools and heat-treated his own plane blades. By the mid 1990s, Lie-Nielsen had added skilled employees and more sophisticated equipment. He thought he had solved most of the technical problems associated with plane-making.

How it grew

As the business continued to grow, Lie-Nielsen found reliable subcontractors for bronze and iron

Handle hitch

There were inevitable bumps in the road to success, however, such as producing the cherry handles. Lie-Nielsen decided to turn the complete operation over to the local woodworker who had been making just the handle blanks.

"He took a small milling machine we had for the handles," Lie-Nielsen recalls. "He took a special machine we built for sanding them, and a drilling machine, all the fixtures, all the jigs, a lot of supplies, all the wood and a bunch of handles he'd already roughed out. And he went off to his shop to happily make handles... and two days later the place burned flat."

Handle production returned the same day to Lie-Nielsen's plant where an old machine was pressed into service. Handles have been made in-house ever since!

The wooden plane handles are made in-house



Planes in the showroom – just waiting to be tested by eager customers



Polishing manganese bronze bodies

castings. Blade heat-treating, which Lie-Nielsen for a long time did himself in vats of molten salt in the back of his small factory, is now provided by a subcontractor as the company switches to cryogenically treated A-2 steel. The company buys small screws and turned metal parts. But everything else – from grinding and machining to polishing, assembly and design – takes place in the 13,000 square feet of production space Lie-Nielsen Toolworks now occupies. He has 42 full-time employees.

Building a reputation

Lie-Nielsen planes are by no means the most expensive tools on the market, but they may cost two or three times as much as the mass-produced tools woodworkers are used to seeing. To Chinn and many others, to focus on cost is missing the point. "The perspective on how expensive a tool really is is lost on most people," Chinn says. "A Norris plane – which I admit played a far more crucial role in workshops 100 years ago than it does now – I'll bet was a couple weeks' wages. It was a lifetime tool, as Tom's tools are, a lifetime

investment. They are expensive, but they're only expensive in relation to mass-produced stuff, some of which is pretty damned good for the money."

Part of Lie-Nielsen's success comes from nurturing a relationship between toolmaker and tool-user, and anticipating the reaction when a woodworker joyfully encounters a meticulously made object in an era of mass-produced indifference. "I think a lot of our customers are repeat customers," he says, "because of that very experience. So over the years we've built a customer base of people who have been very happy to spend that extra money, and very happy with the tool they got and they would tell their neighbours. So our reputation for quality is everything, in my opinion."

Connecting to customers

While being polite, Lie-Nielsen says that's what the big companies don't seem to understand. "I don't think they are run by woodworkers any more," he says. "There's nobody there who knows anything about it, and they're just crunching numbers. In a typical manufacturing setup, you have a company manufacturing, selling through a distributor to another distributor and finally to somebody with a



Dovetail saws in the packing room

store, who sells it to the end-user. There's a major disconnect there. In this industry, maybe not so much with other industries, they aren't talking to the end-user. I think it's very, very important to understand what people want, to relate to them. So companies with that awareness are probably not the big ones."

Higher prices allow the company to meet the user's expectations, but Lie-Nielsen recognises that woodworkers are reluctant to fork out more money than they have to. "People have responded well, in spite of the price," he says. "The price is not outrageous, but it's very high. The other thing about price that I think is interesting is that woodworkers, to my mind, are notorious cheapskates! They're the same guys who go out and spend a thousand bucks on a bag of golf clubs or something or take their wife out for dinner and blow a hundred bucks, but when it comes to a tool – they go to a flea market.

"It's kind of a weird mentality that's not unique to woodworking, but is certainly big in woodworking. It's kind of an 'I can make do with this' attitude, which is OK. But comparing our



In the showroom, a visitor quietly takes plane to wood. Woodworker-tourists on the coastal highway often jam on the brakes and turn off the road when they spot Lie-Nielsen Toolworks!



Masterminding operations – Thomas Lie-Nielsen in his modest office



Packing day – planes wait to be wrapped, boxed and shipped out

◀ tools to other tools, I think our tools are fairly priced, certainly with regard to the labour that goes into them. That's my take on it. It's difficult to make these tools at this price, but it is a price we can stay in business at – we won't get rich by doing it, but we will stay in business."

In the hands of makers

Lie-Nielsen knows that some of his tools go to collectors, but working furniture-makers – both professional and amateur – are a bigger part of the picture. Buyers are people like Christian Becksvoort, a well-known American furniture-maker who has steadily increased his collection of Lie-Nielsen planes as he gives away his old ones. He finds it 'astounding' that tool quality continues to improve even as the company expands. Machining has improved steadily, and Lie-Nielsen also has invested in better materials – the switch to ductile cast iron for plane bodies, for instance, and more recently the upgrade to A-2 steel for plane blades.

Lie-Nielsen wants to develop new tools and begin

! One thing my father did – certainly when he was building boats – was making something he loved !

selling more accessories, but making the company bigger is not why he's in business. Remarried for a dozen years and hoping to use a new woodworking shop at home more often, he has scaled his working week back to 60 hours.

He says, "In terms of size, I don't know. Size is kind of irrelevant, almost. A lot of people ask me, 'Well, how big do you want to get?' I want to make tools that I'd like to use myself and have myself and getting larger has been a part of that process – but it's not getting larger that I'm interested in. Getting bigger from a management point of view is a pain, so I'm not necessarily interested in getting a lot bigger. What I'm interested in is a broader range of useful tools."

He's especially interested in new block plane designs – like the low-angle jack plane he calls: "hands-down the best tool we make."

The future

"I am working on a lot of things and they will appear on the market when they are ready. Sometimes I have to wait for time to make them, sometimes it takes time to solve a technical problem, and always I have to fit it into our production timetable."

His machine shop is crowded, the office he shares with two others unassuming. There is no swanky boardroom, lunch might be pizza from a take-away down the road, but Lie-Nielsen's formula seems to be working, partly because his interest in tool-making is undimmed.

"One thing my father did – certainly when he was building boats – was to make something he loved," he says. "That was really important to him, and I feel the same way. I really like doing this at whatever scale I'm doing it at. I've enjoyed it very much and feel lucky that I've been able to make a living at it – although that part took a long time." ■