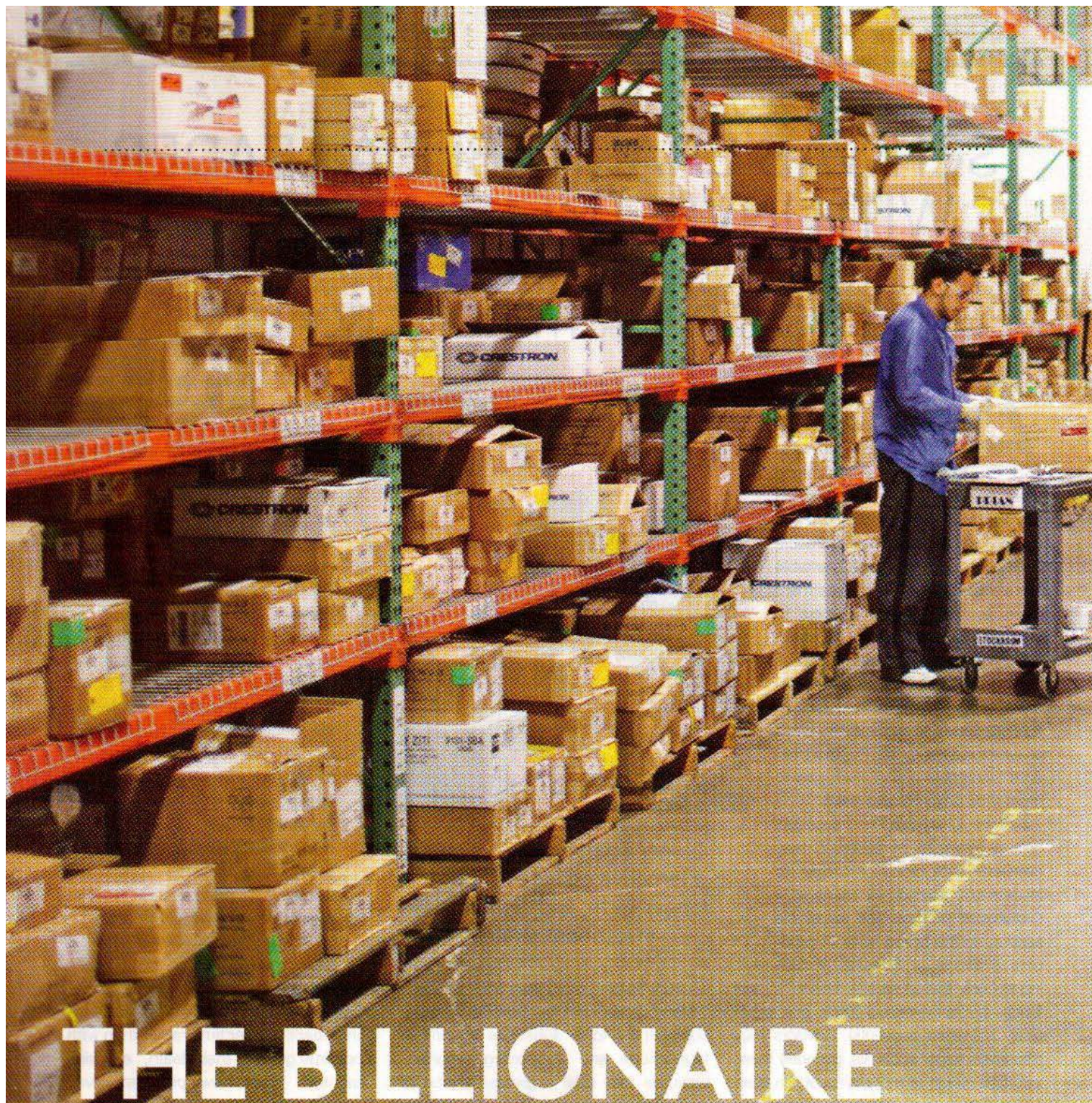




THE BILLIONAIRE FORBES WHO'S HIRING

Four decades after opening for business above a New Jersey deli, George Feldstein does what most American manufacturers can't: create jobs. By David M. Ewalt

PHOTOGRAPHED BY MICHAEL EDWARDS FOR FORBES



AMERICA'S TOP PRIVATE COMPANIES

82 Top 20

Cargill and Koch lead our list of quiet giants.

BY ANDREA MURPHY AND
SCOTT DECARLO

88 What They Sell

Even if you don't know the company, you know (and buy) what they make.

BY ANDREA MURPHY

90 Data Pages

Details on the biggest firms in retail, food and construction.

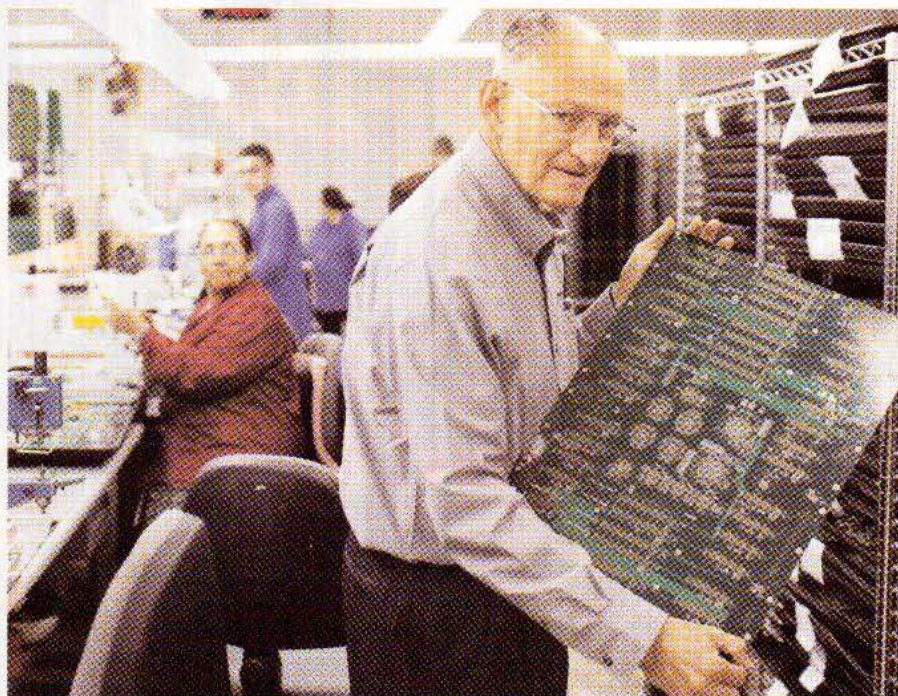
BY ANDREA MURPHY

In a quiet corner of Crestron Electronics' cavernous Rockleigh, N.J. research lab, an aged engineer hunches over a chaotic assembly of plastic tubes, spinning motors and wire. He flips a switch and an exhaust pipe spews a plume of white mist. "This is my Rube Goldberg machine," says George Feldstein, with an impish grin. "I always have to keep my hands busy. Not bad for a CEO, huh?"

At 70 the founder of Crestron Electronics—maker of myriad home automation devices—is as fit and energetic as a man half his age. He's also a tireless tinkerer, with 14 patents to his name. His latest project—a more efficient humidifier—has been in the works for over a year. Typical evaporative humidifiers require water tanks (breeding grounds for bacteria), while the steam-injection variety gobble electricity. So Feldstein invented a system that pressurizes a small amount of water and pushes it through tiny nozzles, atomizing it into vapor. When he tested it in his home last winter, the mist left a dusting of salt all over the furniture. ("My wife nearly threw me out," he says.) With any luck the boss' latest invention will hit the market next year.

Feldstein doesn't just create gadgets—he creates jobs. As protesters, pundits and politicians bemoan corporate America's addiction to cheap overseas labor (the manufacturing sector now employs 11.8 million people, down nearly 40% in three decades), Crestron has added 500 people—20% of the company's workforce—in the last five years.

Feldstein owns 100% of Crestron, which could very well make him a billionaire. (He won't comment on his personal fortune.) Based on sales of similar companies over the last few years, Crestron, which carries no debt and pulls in \$500 million in annual revenue (on its way to our list of largest private companies), could be worth at least \$1 billion. Yet somehow Feldstein has attracted little attention



Man at the controls: Crestron founder George Feldstein at his plant in Rockleigh, N.J.

outside of the trade press, even as he provides new jobs by the hundreds in a prolonged downturn.

"I have great belief in American enterprise," he says. "When the economy went south we brought everything in-house and paid more for it, rather than lay people off. People don't realize the importance of the continuity of labor."

Translation: This isn't about patriotism—it's about *strategy*. By manufacturing 80% of his products—1,500 in all—in the U.S., Feldstein says he is able to build technologically complex devices in low quantities with few errors. Hiring at home also allows him to develop the kind of long-term, committed help he needs to keep expanding. Even with the company's latest growth spurt, Feldstein estimates around 15% of his workforce has been on staff for at least a decade. "We bring in people, and we give them a profession," he says. "It's one of the most important things about a job: It should provide a career for people who want them." And by keeping Crestron privately held, Feldstein doesn't have to answer to pesky ana-

lysts and shareholders who might have him cut costs by shipping production overseas.

Oh, and in case you're wondering: Crestron isn't for sale. "To anyone who asks, the answer is no, not how much," barks Feldstein.

CRESTRON'S SUCCESS STORY is little-known outside of northern New Jersey, but its electronic control systems are everywhere: automated light, sound and temperature controls for luxury homes; fancy digital screens and speakers for conference rooms; surgical-camera controls and displays; classroom projectors; digital signs and retail displays; and even remote controls for hot tubs aboard luxury yachts. (See page 76 for a theoretical home system, tricked-out Crestron-style.) The company's equipment orchestrates conference rooms at Microsoft's headquarters in Redmond, Wash. It's in seven out of eight Ivy League schools; in the penthouse of the Trump World Tower in New York City; and in a situation room at the Pentagon.

Crestron sells its products through a small army of 15,000 independent

THE AUTOMATED HOME

Crestron Electronics' products make homes smarter, safer and cooler. Full installations routinely cost tens of thousands of dollars; plenty run to seven figures. Here's a look inside a theoretical home tricked-out with Crestron gear.



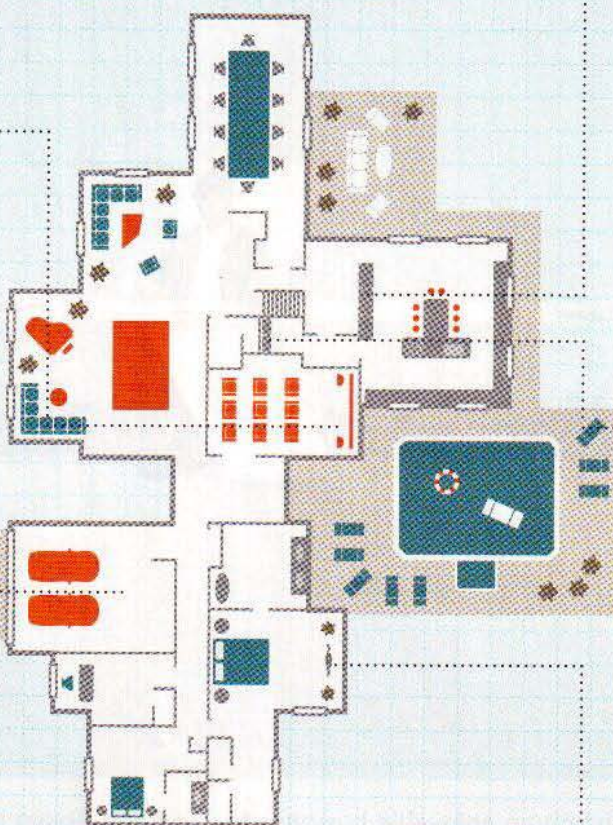
MEDIA BUFFET

The ADMS Intermedia Delivery System plugs into a home-theater setup and ties together media from different sources: Type "Paul McCartney" into the onscreen search box, and it might find music videos on YouTube, Beatles albums in your MP3 collection and the Blu-ray version of *A Hard Day's Night* in the attached 400-disc changer.



MOBILE COMMAND

The Crestron Mobile Pro application for iPad, iPhone and Android devices synchs with a Crestron control system, letting users remotely adjust climate, lighting and security settings while on the road.



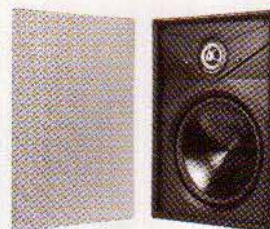
CUSTOM CLIMATE

If it gets too hot in the kitchen, the wall-mounted CHV-THSTAT Heating/Cooling and Humidity Thermostat will cool down the room—while leaving all the other zones of the house at the same temperature.



BRAINS OF THE OPERATION

At the core of the connected home lies the MC3 3-Series Control System, a server that integrates all home entertainment, security and environmental systems.



SURROUND SOUND

Crestron's Sonnex Multiroom Audio System can stream 24 different audio sources to any room in the house. Listen over a pair of Excite 8" In-Wall Speakers, which install flush and blend into any wall.



WINDOW ON YOUR WORLD

A wall-mounted V-Panel 24" HD Touch Screen Display lets you cue up the news when you're getting ready for work—and turn off the outdoor lights when you're ready for bed.

partners and dealers—tiny home-theater vendors to major home builders—backed by an internal sales, customer-support and marketing staff in 57 offices spanning 45 countries. Feldstein's central operations are scattered around Bergen County, N.J., a 30-minute drive from New York City. Its Rockleigh campus houses corporate management, manufacturing, training facilities and a 100,000-square-foot research center. The previous headquarters, in nearby Cresskill, has become an automated preproduction plant, where Crestron assembles circuit boards used in its products.

That's some serious infrastructure for a company started in a room above a Cresskill delicatessen. "I had no money, four kids, a mortgage and a Dodge Dart," says Feldstein. "My capital equipment was my own tools. Now we have two jets and a worldwide business."

Feldstein grew up on Manhattan's Lower East Side, where his father worked as a sewing machine operator. Young George showed an early aptitude for engineering, winning a citywide physics competition at 15, and went on to earn a master's degree in electronic engineering from New York University.

After graduation he landed at a firm that built industrial-control-and-testing equipment, working as chief engineer. In 1969 he had a falling-out with the boss, who fired him. ("They went out of business a year after I left," Feldstein recalls.) The spat convinced him to never work for someone else again. "I came to the realization that I'm not employable, that I never would get along with another boss," he adds. "So I started a company."

In the beginning Feldstein cold-called businesses, offering to build or repair whatever they needed. Crestron's first job, for Colgate-Palmolive, was a

laser-leveling device that helped automated assembly lines put the right amount of powder in boxes of detergent. By 1973 work was steady enough to hire an employee. Two years later the company moved into a commercial garage, where Feldstein whipped up everything from bank deposit machines to human-nerve stimulators. "I did anything to make a buck," he says.

Business really started to pick up after Feldstein developed a wireless remote for commercial audiovisual systems. Then came audio switches, video projectors and lighting control panels. By 1990 Crestron had 100 employees and generated almost \$5 million in revenue, much of it from selling integrated audiovisual systems to companies, colleges and casinos. President Clinton had Crestron's SmarTouch line of touchscreen remote controls installed in the White House.

Performers follow convention. High performers break from it.

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As the company grew, Feldstein faced a different kind of challenge: letting go. "A lot of people have total control as they build a company up," he says. "And then when they don't, they have all these problems." Feldstein relied on what he calls the "black marble" theory: If you don't know what's in a jar but you reach in 20 times and pull out 20 black marbles, it's safe to assume the jar is full of black marbles. The same is true of employees: If every time you check on them they're doing well, they'll probably keep doing well without you. However, says Feldstein, "If I detect something's wrong, I'll spend a lot of time focusing on that."

That balance of vigilance and trust propelled revenue to \$25 million by 1997. Betting on the right customers—specifically, high-end homeowners—helped, too. When the dot-com bubble popped, Feldstein's

core audience still had money to spend. By 2004 Crestron had 500 employees and \$170 million in sales. Today Crestron gets 40% of its top line from customers who don't flinch at spending \$50,000 on a home theater setup.

One banking executive (who would rather remain anonymous) bought a 4,500-square-foot residence on the top floor of the Montage Hotel in Beverly Hills. It was already wired with basic Crestron controls, but the buyer wanted "the ultimate bachelor pad." Roughly \$245,000 later the apartment had the latest in lighting, climate-control and home-entertainment equipment. In one room projectors turned a 35-foot-diameter domed ceiling into a massive video screen. The client can also change the color of the fireplace—made of onyx and backlit with multicolor LEDs—according to his mood.

HIS CUSTOMERS MIGHT BE FLASHY, but Feldstein is not. He holds management lunches at a local diner; wears button-downs and slacks to work; and rides his bike 40 miles a day (weather and work permitting), up to Bear Mountain or along the Hudson River. A licensed pilot, he has been known to take customers for a spin in his Extra 300L aerobatic monoplane, and on occasion he'll fly the company jet to make service calls. "When I started this business, I used to sit by the phone all day and wait for it to ring," he says. "I appreciate my customers."

Crestron is a family affair. Feldstein's son Dan, 39, is vice president of operations and daughter Wendy, 44, is director of engineering services.

"Although my name is not Feldstein, he has been a father to me," says Randy Klein, a 21-year veteran of the company, now executive vice president and chief



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operating officer. "He's technically my 'boss' on the organization chart, but he has always treated me as an equal. We learn from each other." The biggest challenge of working for George Feldstein, according to Klein? "Keeping up with him."

Feldstein often patrols the Cresskill preproduction plant—partly to keep a watchful eye but also because he just can't help himself. "I spend probably an hour a day at my desk and the rest of the time running around," he says. "I don't understand a CEO who runs a car company and doesn't know how to make a car." Inside, rows of laborers in protective blue coveralls assemble circuit boards. Even the simplest tasks—inserting components into a board and soldering them in place—require skill and precision. More delicate work, like operating one of two Panasonic high-speed chip-placement lines, takes plenty of expertise.

During one visit Feldstein stops to issue light warnings to assembly-line workers who hadn't clipped grounding wires onto their clothing. It's a minor infraction but a potentially serious one: Ungrounded workers could damage a circuit with static electric discharge, the same way you get a shock from a metal doorknob. (When his new humidifier is completed Feldstein plans to install a few in the assembly area, where static charges tend to build up in dry air.)

Experienced assembly-line workers earn \$17 an hour, more than double the state's \$7.25 minimum wage and better than the \$14.90 State of New Jersey average for electronic equipment assembly jobs. Employees receive medical coverage, a 401(k) plan "and real coffee ground from real beans," boasts Feldstein. Most of the workers are Hispanic women who hail from working-class neighborhoods in north Jersey, Brooklyn and the Bronx; many hold down two jobs. "We're trying to set up a bus to bring people here from the city," says Feldstein. "We're always hiring, so we don't have enough parking," Feldstein

The Conversation



Senior Editor David Ewalt makes the case in a blog post ...

Losing low-level manufacturing jobs is okay

READER JDMETH: We all need billions of dollars' worth of manufactured goods every year. Not allowing our less capable citizens the chance to do the work sends those billions to China and Malaysia and puts millions on welfare. I have employed people who can barely read but truly enjoyed sorting potatoes for 12 hours a day. People need satisfying work, just don't think that what you think is satisfying will satisfy everyone.

READER ROBERTBARROWS: Take a look at the German cartels prior to World War II and see how much control they had over a lot of the strategic materials necessary for war ... from magnesium and aluminum to gunights, etc. ... Then consider the strategic needs of America and its ability to manufacture things here for our own security. ... Then give me a call, and I'll be happy to discuss the situation with you.

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spends about \$1 million a year developing employees, teaching them new assembly techniques and helping them obtain safety certifications. "Most of our management comes from people who started at a lesser job, including some of our vice presidents," he adds.

A FAR BIGGER CHUNK of the company's budget, roughly 15%, goes toward development of new gadgets. Energy-management devices are especially hot, given the rise in electricity and gas prices. "The market perception of Crestron is still very luxury-oriented," says Konkana Khaund, an analyst with technology consulting firm Frost & Sullivan. "But if they can spin this energy story, it will open up whole new areas for sales."

Craig Foster, senior analyst at ABI Research, a market research firm, thinks the home-automation trend will only accelerate—and not just among Hollywood executives. Foster estimates that worldwide shipments of everything from sensors to servers should rocket twentyfold to 12 million units by 2016.

Energy management is a piece of the automation story, but there are more powerful trends at work. Apple has sold 150 million iPhones and 40 million iPads; throw in competing smartphones and tablets, and Crestron and its competitors have a soon-to-be-ubiquitous built-in interface for their products.

Better yet, their distribution channels are about to get a lot bigger. Telcos, cable companies, security outfits and energy utilities are starting to roll out new bundled-automation packages. In October Verizon launched a home-monitoring service powered by startup control-maker 4Home. iControl Networks, another home-automation firm, has inked partnerships with Comcast and ADT Security Services.

Even more critical to Crestron's future, perhaps: What happens when Feldstein finally runs out of steam? "The succession plan is essentially, 'Everyone keep doing what you're doing,'" he says. Klein, 59, will likely be tapped as CEO.

Until then Feldstein will keep tinkering: "I don't plan on retiring. Even on the weekends I get separation anxiety." ☺