

Whether you restrict your view to the archery industry or expand your scrutiny to the entire world economy, the times they are a changing.

Tim Strickland, Tony Ferraz and Sharon Rose of

Brownell & Company

On the world stage, globalization has effectively shrunk the planet. Cheap global telecommunications and common software platforms have all but obliterated the chief impediments to international competition, and outsourcing, offshoring and supply chaining are flourishing. In the archery industry, innovations, shifting consumer demand and increased competition from new and old companies (domestic and foreign) are stirring the pot.

In the midst of such rolling transformation, the only signposts available seem planted around the notion that businesses will ultimately be successful or not according to their ability to adapt to the strain of external changes.

One business, familiar to archers, that has been doing that for a surprising length of time is Brownell & Company, Inc.

In 1825, Edward Brownell founded a company in Moodus, Connecticut to supply twisted linen and cotton fiber ropes, cords and nets to commercial fisherman. The company prospered as consumer demand for the company's quality products remained high.

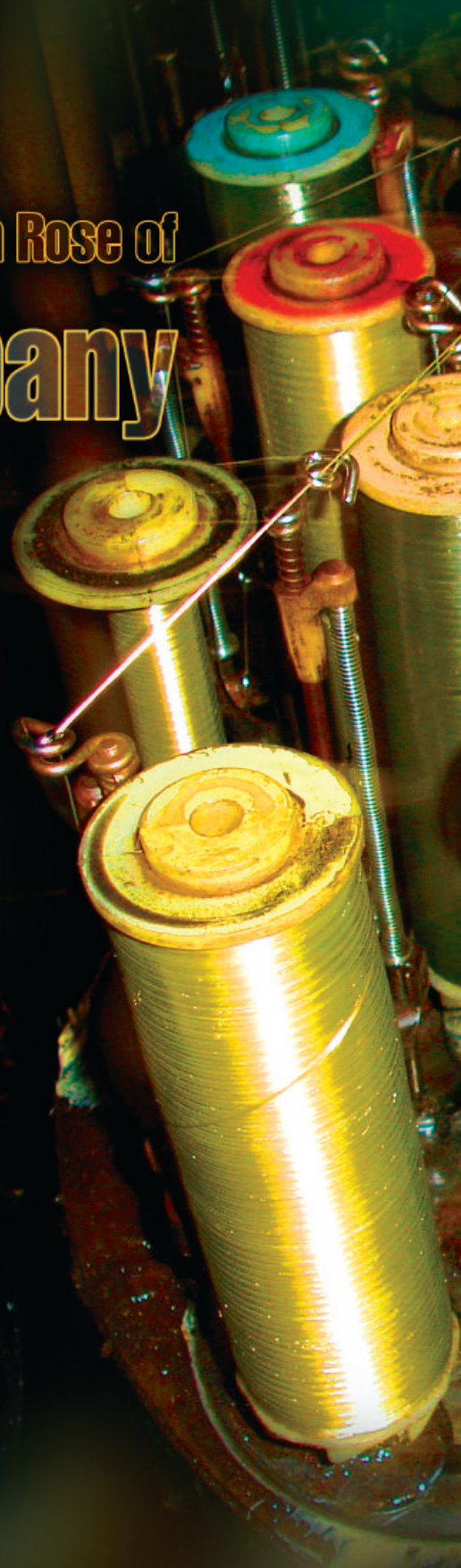
After the Civil War, Edward's son, Charles, assumed the mantle of responsibility for the company, continuing the emphasis on fishing ropes and nets. In

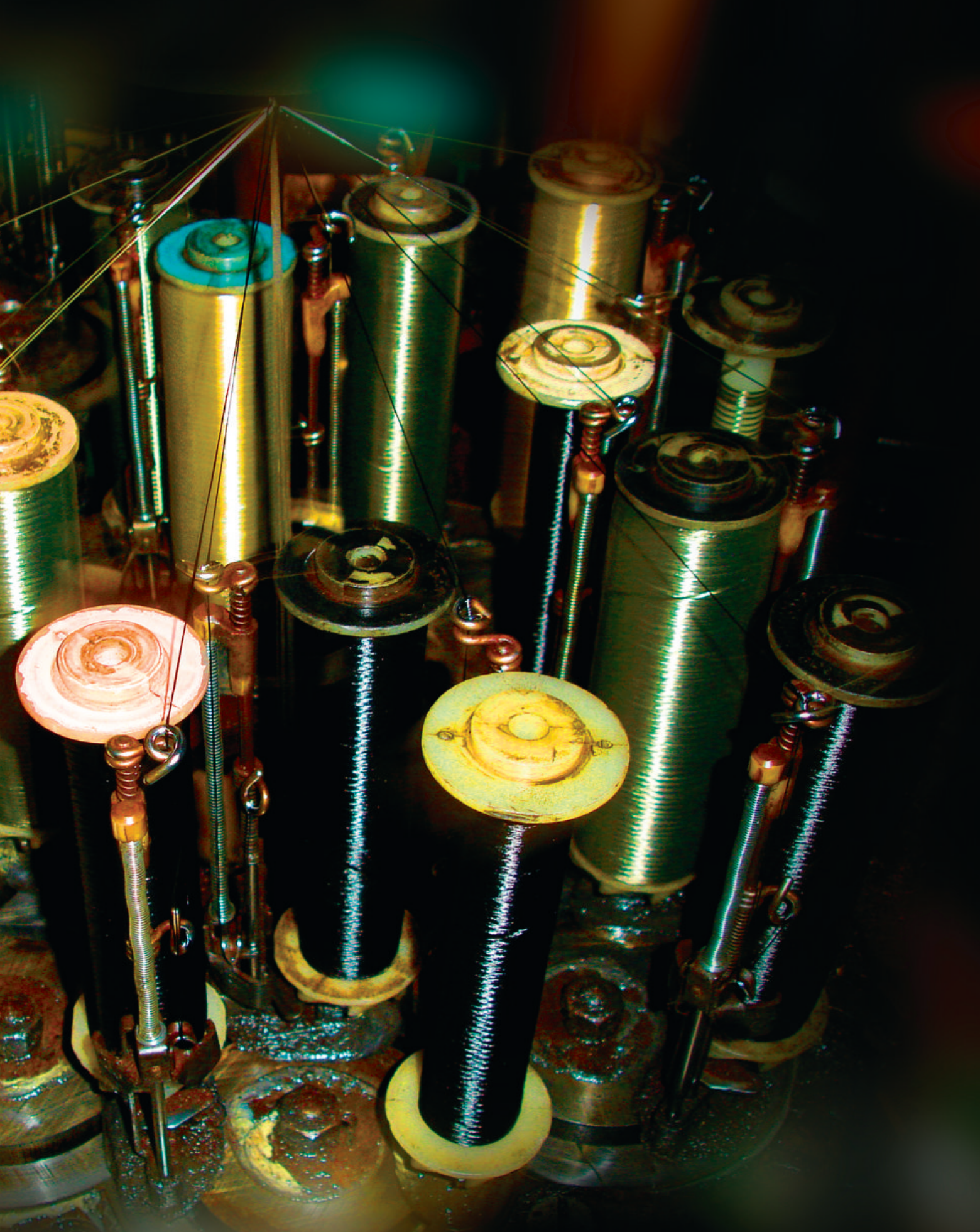
1913, Charles' son, Crary Brownell, became president of the company. By that time, the net and rope making scene was changing. Crary recognized that fact and set out to find new markets and products for the company to manufacture.



Adapting to Change

BY BILL AND SHERRY KRENZ





Brownell & Company *Continued*



Brownell & Company was originally founded in 1825 in Moodus, Connecticut by Edward Brownell to supply twisted linen and cotton fiber ropes, cords and nets to commercial fishermen. Today, the company operates on the same site (the original mill is shown in the background), but specializes in quality archery products, helicopter cargo nets, twine and cordage, and tennis nets.



Cynthia Stackowitz is Brownell's accomplished vice president of operations. Among her many duties is complete human resources responsibility for the company.

the archery world. Brownell's linen bowstring was more durable and had far less stretch than previous bowstrings. Using one of his linen bowstrings, the energetic Crary took sixth place in the NAA National Archery Tournament held in Canandaigua, New York in 1932.

After that success, though, Crary Brownell turned his efforts back to ropes and cords. Archery, at the time, was a very small sport, practiced by only a few, most of whom made their own equipment. Crary Brownell's archery interest went to sleep for 25 years.

In 1957, Crary Brownell was on a business trip to southern California. While reading the paper one morning, he came across an article on the upcoming national archery tournament to be held in Sacramento. Crary called his son back home and told him that he was going to make a one day trip to the tournament to see how things had changed in archery in 25 years.

Crary stayed in Sacramento for the entire week, soaking up archery like a sponge. His archery hiatus was over.

The following week, Crary rushed back to his factory and began making new bowstrings. At first, he tried using the Dacron sewing thread that his company produced, but it had so many twists that it proved unacceptable for bowstrings. Only when he tried Dacron fiber with fewer twists and combined the strands into a bowstring was he satisfied. In fact, it proved to be just what he was looking for—a strong and durable bowstring with a minimum of stretch under tension.

Crary named the new bowstring material B-50 and quickly introduced it to the archery industry. In no time, Brownell's B-50 became the standard bowstring material used by archers worldwide, and remained so well into the mid-1980s.

But by the mid-1980s, the archery world was again changing. A new game, 3D archery, was rapidly altering how archers viewed arrow speed. Serious 3D competitors would practically sell their soul for ten feet more per second, and a growing number of bowhunters were catching on to the advantages of faster arrows as well.

Into that need-for-speed atmosphere marched Allied Signal, a conglomerate

Continued on page 36

Brownell & Company

Continued from page 34



Information systems have become an integral part of business life. At Brownell & Company, all such systems have been developed and are maintained by vice president of information systems, Tom Ferraz.



Brownell plant manager Lois Wornoff (left) goes over production scheduling with Mary Vachon.

company with a textile division. On a spring day in 1985, a representative from Allied Signal walked into the offices of Brownell & Company with a newly developed fiber in hand. The fiber was called Spectra. It was light, nearly as strong as steel and exhibited very little stretch. Allied Signal wanted Brownell to explore Spectra's use in fish nets.

"We were certainly ready to do that," recalls Brownell's current owner and president, Tony Ferraz. "The application for fish nets was obvious, but we also recognized exciting applications for archery. We theorized that bowstrings made from Spectra material would stretch much less than Dacron during the shot, and that would transfer more energy into the arrow. More energy meant more arrow speed.

"Unfortunately, the original finish on the Spectra material brought to us by Allied Signal proved exceedingly slippery. That made it hard to work with as a bowstring material, and particularly hard to serve. Still, we thought that Spectra had the potential to again revolutionize archery bowstrings. Our engineers worked diligently with Allied Signal's engineers to recreate the material's coating, and together we perfected a process. We named the re-engineered product Fast Flight."

In 1986, Brownell & Company introduced Fast Flight bowstring material to the archery industry, and a bowstring-born speed revolution struck archery like a tsunami. Not since the advent of hard cams had archers seen such a significant jump in arrow speed. Brownell's revolutionary Fast Flight bowstring and cable material was an instant archery hit. It was also the forerunner of what would be a long line of synthetic bowstring material innovations from Brownell, a line that stretches right up to the present.

Born in 1825, Brownell & Company is today an archery industry leader. The company employs nearly 60 people and is housed in a 10,000 square foot facility in Moodus, Connecticut, on the same site purchased by company founder Edward Brownell 180 years ago.

"Brownell & Company has a long history of innovation and adaptability," says Ferraz. "We are basically a textile manufacturer. Originally, the company utilized natural materials, like flax and cotton. Today, we make use of space-age synthetics to craft a wide variety of high performance products for carefully selected niche markets, such as archery."

Like many American textile manufacturers, Brownell & Company has felt the pinch of foreign competition. Globalization has made Beijing and Baltimore next-door neighbors.

"Our company has survived for nearly two hundred years by reading the market and continuing to offer the sort of quality products people want," explains Ferraz. "In the face of more recent globalization, that's also meant developing a business strategy based around diversification into niche markets. With

Continued on page 38

Brownell & Company

Continued from page 36



Among Brownell's strongest serving materials are Brownell Crown and Diamondback Serving. Both are braided products. Dean Brown oversees a unique Brownell braiding machine.

low-wage textile manufacturers in Asia gobbling up so much of the world's generalized textile business, Brownell has stayed in the game by specializing in niche markets with very specialized textile needs.

"Brownell & Company currently has four principal divisions: an archery division, a helicopter cargo net division, a twine and cordage division and a sports division. Each division represents a highly specialized textile niche with very specialized needs," Ferraz adds. "Our helicopter cargo nets, for example are quite unique. They're handmade without a single knot and each can lift up to 50 tons. Brownell's twine and cordage division produces all sorts of unique twines for fishing and industrial use. The sports division offers exceptional tennis nets. The archery division, which we consider the cornerstone of our business, produces the world's best bowstring and cable materials and related accessories. In archery lies so much of our company's history and many of our most dramatic technological advances. Archery products currently represent over a third of our total business, so it's no wonder that we concentrate so much of our energies there."

Tony Ferraz grew up in Fall River, Massachusetts, where he worked as a youngster on the family's fishing boat. A hardscrabble New Englander, Ferraz attended the University of Massachusetts where he earned degrees in both textile engineering and industrial engineering.

"My entire working career has been in the textile industry," says Ferraz. In 1983, Ferraz was hired by Brownell & Company to consult on a number of industrial engineering problems. Three years later he was offered, and he accepted, the position of vice president of manufacturing for the company. Just two years after that, he was made company president. In 1997, Tony Ferraz bought the company.

"At the time, I was 61 years old, so taking on the added responsibilities of being Brownell's owner represented a considerable commitment. The company, however, had such potential, produced so many quality products, and was already staffed with exceptional people. Sharon Rose had worked her way up through the management ranks at Brownell and today is Brownell's executive vice president in charge of everything that

happens at our facility. Cynthia Stackowitz is Brownell's capable vice president of operations. Tom Ferraz is our vice president of information systems. Nick Vasile is Brownell's controller. In the archery division, Tim Strickland is vice president of marketing and sales. It's a very talented team."

"I initially went to work for Brownell & Company in 1985," says Sharon Rose.



Brownell & Company winds thousands of spools of high quality bowstring and serving material each month. Mary Vachon tends a jig spooler.

Brownell & Company

Continued from page 38



The proper wax prolongs the life of any bowstring. Irene Willard maintains a machine that applies Brownell's proprietary wax to bowstring material.

"I was brought in as an efficiency and time-study expert. After company restructuring, I was made a floor supervisor for the twisting room, tubing room and treating room. When Tony Ferraz became president, he made me plant manager. In 1996, I was promoted to vice president of operations. In 1999, I became the executive vice president of Brownell. In all that time, I've gotten deeply immersed in the development of cutting-edge archery bowstring materials. Brownell & Company has long been the leader in that field. For decades, Brownell's B-50 Dacron was the standard bowstring material in the archery industry. In the mid-1980s, Brownell turned the archery world upside-down with the introduction of stronger, faster, safer Fast Flight material. And we continue to innovate on archery's behalf.

"In 1994 we debuted S-4, a durable combination of Spectra and Vectran. In 1998, we brought an even more advanced bowstring fiber to the United States. That newest fiber was called Dyneema, it was made in Holland, and we configured it into a remarkably fast and stable bowstring material we named D-75. With each new innovation, we stayed on top of the increasing demands that archers were making of their equipment. Immersing ourselves in each of our niche markets, like archery, to keep very close tabs on those changing landscapes, has been a big part of our success. To further improve our ability to do that, we brought Tim Strickland on board in 1998. Tim began with us as a consultant in archery. Today, Tim Strickland is Brownell's vice president of sales and marketing in the archery division. What he's brought to Brownell is additional archery expertise."

Like a lot of other young troops returning from Vietnam in 1970, Tim Strickland was looking for ways to stay occupied. He found it in archery.

"From almost the first minute I picked up a bow, I loved it," says Strickland. "Originally, I saw archery as a way to expand my hunting opportunities and to get into the woods before the hordes of rifle hunters. I was living in Washington State at the time and the very first year I bowhunted, I took a nice buck, along with an elk and a mountain goat, in Washington and



All Brownell products are attractively packaged. Brownell's Marie Jones oversees a packaging machine.

another deer in Oregon. I was hooked on bowhunting. I also quickly went nuts over competitive archery. I practiced day and night and within eight months of first picking up a bow, I had won the Washington state title, the sectional title and had placed

seventh at the nationals in my class.

“A year later, I was hired by a local gun shop to manage their archery department, and I’ve been working in the archery industry almost continuously ever since. In the early 1980s, I went to work for then-new Golden Eagle Archery in Oregon as a purchasing agent. In 1986, I was hired by Ben Pearson Archery in Pine Bluff, Arkansas, to be their new sales and marketing manager.

“It was about that time, with 3D archery coming on strong and faster bows much in demand, that I first became acquainted with the people at Brownell & Company. With the introduction of Fast Flight, Brownell had almost instantly changed the way the fastest bows were being made. The Ben Pearson Spoiler, for example, was one of the quickest bows of the day and its bowstring was Fast Flight.

“That seemingly simple Brownell bowstring material innovation proved huge for all of archery. Its impact can be compared with the initial development of the compound bow and treestands, and the subsequent development of hard-cams and one-cams. Suddenly, with Brownell’s Fast Flight, compound bows were faster, quieter and safer. Fast Flight bowstrings delivered considerably more energy to arrows, while at the same time proving significantly more durable. Quiet, strong Fast Flight cables completely eliminated noisy metal cables with their troublesome metal teardrops. With Fast Flight, Brownell changed archery.”

In 1989, Tim Strickland became a field representative, one of only a few in the country, for Easton Aluminum. For almost the next

Brownell & Company

Continued from page 41



decade, Strickland and his wife Shirley were regular fixtures at archery tournaments and archery events nationwide. They represented Easton and helped countless bowhunters and competitive archers with arrow selection, tuning and shooting. They also kept a finger on the pulse of archery, relaying the latest consumer whims and preferences to the arrow giant and its subsidiaries.

After more than 25 years in archery, Tim Strickland finally hooked up with Brownell & Company in May of 1998. Today, as vice president of sales and marketing for Brownell's archery division, Strickland still maintains a firm finger on the changing archery scene.

"Brownell has long led the way in bowstring materials," articulates Strickland. "That leadership goes all the way back to the late-1950s when Crary Brownell introduced B-50 Dacron to the archery industry, and it

In addition to archery products, Brownell & Company produces a variety of other specialized products, including combat-proven helicopter cargo nets. The nets are handmade without knots and can lift up to 50 tons when slung under a military helicopter.



continues today. Today, Brownell is still innovating and still adapting to changes in the marketplace. Much of my current role at Brownell is to monitor those changes and develop strategies for coping with them.”

Not every change that Brownell, or any other archery company for that matter, has to deal with is necessarily archery-related. Sometimes, others factors appear.

“In 2005, the United States military threw us a curve,” says Brownell president Tony Ferraz. “Honeywell is the company that actually produces the raw Spectra fibers that we had been transforming into so many quality bowstring materials for so many years. Spectra was the basis for Fast Flight and for a wide variety of other blended Brownell bowstring materials.

“Late in 2004, the U.S. military informed Honeywell that it would need to purchase 80 percent of Honeywell’s entire annual Spectra fiber production for use in armaments. Honeywell complied with that request and additionally reserved the remaining 20 percent of their Spectra production for the lucrative fishing industry. Archery was quite suddenly cut right out of the Spectra loop.”

Time to adapt...and quickly.

“Fortunately, we had already pioneered the application of Dyneema as an exceptional bowstring material,” says Ferraz. “That allowed us to quickly re-engineer various Brownell products. Brownell TS-1 became TS Plus and Brownell Fast Flight became Fast Flight Plus. Both would now be made with Dyneema. A number of serving materials were also changed. Brownell adapted and archers benefitted.”

“Adapt or perish, now as ever, is Nature’s inexorable imperative,”

wrote H.G. Wells. In business, that can be a hard or relatively easy lesson, according to the capacity of the company to acclimatize to the inevitability of change.

For 180 years, Brownell & Company has shown a remarkable proclivity to roll with change. Operating on the same site, it has

embraced new worlds and new markets. In the last half-century, Brownell has embraced archery. It has been an archery leader and an innovator. It has made the lot of every archer better. No finer praise is available for anyone in this industry. Brownell & Company: Circle #117, (860) 873-8625. 