



# HAND TOOLS

## ADAPTING TO NEW MATERIALS AND A CHANGING WORKFORCE

Far from being a static market segment, hand tools are continually adapting to changes in the materials they work and in the workers who use them as the workforce grows more diverse. Ergonomics are increasingly critical to accommodate different sized hands and hand/arm strength while tools simultaneously strive to maximize productivity and application finesse. These nine top manufacturers are making tools a worker's joy to behold.

### APEX

Wiss is a premier scissors, snips, and specialty cutting tools brand from Apex Tool Group, one of the largest hand tool manufacturers in the world. Wiss has been the leading brand in aviation snips for more than 50 years, driven by two simple principles: performance and durability. That tradition continues with the introduction of its latest product, the Wiss auto-retracting safety utility knife.

"Hand tool safety is becoming increasingly important," says Brian Bogle, director of industrial marketing for Apex

Tool Group. "Attentive manufacturers who are close to the needs of the construction and industrial markets are continually looking for ways to innovate and improve their products in ways that will satisfy market changes such as this. The Wiss auto-retracting safety Utility knife is a good example of how we anticipated the needs of our customers by listening and learning, and designed a product to meet those needs."



BOGLE

To expose the blade of the new Wiss knife, a slider must be moved forward as with normal retractable utility knives. However, with this knife, the blade retracts automatically when the cut is done, even if the slider is held in the forward position. This action cannot be overridden in normal use.

The Wiss auto-retracting safety utility knife from the Apex Tool Group, with rubberized control areas for a comfortable, secure grip, is a great example of the current industry focus on safety and ergonomics.

In addition to safety, convenience and comfort are important parts of this product's design. Blade changes are accomplished quickly and easily and the Wiss auto-retracting safety utility knife accepts all standard blades. Its ergonomically-designed handle features rubberized control areas for a comfortable, secure grip and an integral storage compartment that holds two additional blades.

### CHANNELLOCK

"For 130 years, Channellock has been synonymous with innovation," begins Jon DeArment, president and COO, Channellock, Inc. "Throughout our history, we have had a laser focus on quality. Research and development are important aspects of every tool we make — whether it is a new tool or an existing one that we can improve. Manufacturing has always been the enabler of innovation and a wellspring for new ideas."

Throughout 2016, Channellock has unveiled several innovative new hand tools including four new additions to the Little Champ line, their new professional snips, the 2012 12-inch oil filter/PVC plier with angled head and updated mechanic's tool sets.



DEARMENT

"The new American-made 2012 12-inch oil filter/PVC plier with angled head has all of the strength and reliability of Channellock's iconic tongue and groove pliers and still meets the special needs of large PVC and oil filters," DeArment says. "What makes this tool special is that it has a 30-degree angled head that allows access to previously impossible to reach areas. The 2012 12-inch oil filter/PVC plier with angled head is made with right-angle teeth to grip in all directions.

Channellock has long been known for high quality and craftsmanship, and its product line is a preferred choice of professionals and the serious DIYers who want to get the job done. A commitment to manufacturing quality products in the USA for 130 years has built Channellock, Inc.'s reputation as a leader in the hand tool industry.



Channellock's model 2012 12-inch oil filter/PVC plier with angled head has a unique 30-degree angled head that allows it to reach previously inaccessible areas.



Arrow's T50HS Powershot Advanced Professional staple gun with patented advanced Torsion-Drive Technology offers an ergonomic forward action design to deliver powerful, consistent and "effortless" performance.

### ARROW FASTENER

Any design improvements that improve comfort and save time are valued in the marketplace. These faster, lighter products provide superior performance for users, experienced pros and weekend DIYers alike. Providing a stapler or hand tool that is comfortable both dynamically and statically is what best-in-class ergonomics is all about. These are products that are easy and comfortable to handle and carry around during extended use.

"Ergonomics, lightweight and speed are the current trends in hand tools, and these benefits are exemplified in some of our newest hand tools," states Bill Sokol, vice president of marketing. "For example, our new T50HS Powershot Advanced Professional staple gun is an easy-to-use tool with professional-grade power. It combines our patented Advanced Torsion-Drive Technology with an ergonomic forward action design to deliver powerful, consistent and hassle-free performance."

Arrow's new HT19 and HT26 insulation hammer tackers are designed for installing fiberglass insulation quickly and efficiently. They feature a lightweight, balanced design, quick-load magazine and a soft rubber handle to make it easy to handle for fast, repeated well controlled strikes in tight places.

### FISKARS

Working on the job site takes a toll on the body. Whether you're a general contractor, drywaller or HVAC expert, so much of what you do relies on your arms and hands. To reduce the physical effects of tough work, turn to a robust family of smarter tools.

Fiskars' new, radically ergonomic hardware tools have changed what a day – or a decade – of work feels like. IsoCore hammers offer four times less shock and vibration, significantly diminishing muscle strain compared to traditional handles. Similarly, PowerArc and PowerGear cutting tools make tough cuts dramatically easier, saving you energy and reducing strain. To create truly groundbreaking tools, Fiskars uses a unique, user-centered design program focused on research and engineering.

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The IsoCore shock reduction system in Fiskars' 16-ounce hammer is the result of more than two years of research and development. Fiskars' PowerGear Aviation Snips have patented technology to make cutting metal easier.



CUNNINGHAM

"We want to know how people use our tools, how they work for people of different strength levels, and how an entire day of use affects the body," senior R&D engineer Dan Cunningham explains. "This kind of insight allows us to develop tools that fit your grip and the way your body moves."

Fiskars spent two and one-half years developing the IsoCore shock reduction system, studying the body's interaction with hammers, graphing the speed and force of swings and recording images to better understand human motion. When developing its cutting tools, engineers took into account data spanning gender, age and race in order to overcome common issues such as overextension, fatigue and lack of dexterity.

"Advancements in design are paired with Fiskars' dedication to quality construction and full lifetime warranty. This results in tools that outperform — and outlast — every leading competitor," Cunningham claims.

**KRAFT TOOL**

Contractors are always looking for hand tools that focus on comfort and convenience. The need for comfortable, practical hand tools is influencing the current trends in hand tool designs today. Brick masons have found that basic brick trowel designs can cause wrist fatigue when laying brick and concrete block.

"To address the demand for more comfortable brick trowel handle designs, Kraft Tool has introduced low lift shanks," says Steve Cook, international sales and marketing manager. "The low brick trowel shank design allows masons to keep their wrist at a comfortable angle with less movement. The reduced wrist movement also allows for more comfort and practical application of mortar."

Low-lift shanks were added to the product lines of two popular W. Rose trowel patterns, the Narrow London and Wide London.



Cork handles are offered on Kraft Tools' Elite and Five Star series tools. Mason trowels with low-lift shanks fit more comfortably in the hand and enable more efficient, less tiring mortar placement.

"To continue to meet this demand and the need for more comfortable handles, Kraft Tool has released their new patented cork handle," Cook adds. "Cork is made up of natural moisture absorbent properties, so by using cork as the handle material, the entire handle feels dry and continues to absorb moisture. The softer and smoother feel of cork is a popular alternative to wood and plastic."

The functional design of the handle is slightly curved upward and becomes wider towards the back. This design allows the hand to naturally make a tight grip, and molds comfortably to a contractor's hand to reduce fatigue. Cork handles are featured on Kraft Tool's Elite Series Five Star trowel product line.

**MALCO PRODUCTS**

The growing variety of building materials now available to contractors brings new handling and installation challenges that beg for efficient, safe, ergonomic and health-friendly tools. No less a phenomenon is growing diversity in the workforce, including women in building trades and the need to examine user issues for existing tools.

"Both of these trends are opportunities for Malco," explains Mardon J. Quandt, president and CEO of Malco Products, Inc.

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QUANDT



The compound leverage on Malco's stone coated steel roofing cutter reduces needed cutting force by up to 30 percent compared to other guillotine-style cutters.



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"In the HVAC trade, for example, Malco responded to PEX in-floor radiant heating with floor layout staplers that operate from a comfortable standing position. A new cutter for stone-coated steel roofing installation was made accessible with adjustable table legs and compound leveraged handle. And fast and easy operating TurboShears and Guillotines, for fiber cement siding, produce minimal silica dust!"

Diverse end-user demographics including hand sizes, and hand and arm health on the job have made hand fit a critical design issue for smaller hand tools.

"The challenge is to accommodate any size hand with accessible handle openings while maintaining tool head efficiencies, such as length of cut," Quandt continues. "Malco's answer varies between a 'heads and handles' balancing act, like the Max2000 aviation snip design and a broad-selection approach evident in 10 selections of Andy Aluminum-handled snips and new Ultra-Lightweights."

"Our employee-owned company's success further demonstrates an unbreakable will to manufacture in the United States and provide lasting jobs at fair market wages. We call that 'USA Proud.'"

**OX TOOLS**

While some tools only perform a couple of specialized functions, one indispensable tool that can do countless tasks is the aptly-named utility knife. To increase performance, safety and durability, Ox Tools designed the pro fixed-blade folding knife by addressing overall ergonomics, ease of blade change, leverage on tougher cuts and ease of the folding mechanism.



DIPLOCK

"Ox Tools has added a feature to help reduce the chance of injury, an integrated finger groove that provides better grip and leverage when extra exertion is needed while providing better precision," says John Diplock, managing director for Ox Tools. "A touch of a button is all that is needed for faster and safer blade changes."

An oversized locking/unlocking mechanism allows the knife to open and close with one hand. In the open position, the knife only measures six inches in length and four inches when closed. The handle is less than an inch wide but still has room to store an additional blade and has a sturdy belt clip.



Ox Tools' ergonomically designed pro fixed-blade folding knife features an integrated finger groove and an oversized locking/unlocking mechanism for more sure-handed opening and closing.

Since 1974, Ox Tools has been delivering high-quality professional tools to the general construction, masonry and tiling trades. The company has grown steadily based on the quality of its products and its determined pursuit of service excellence.

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**SNAP-ON INDUSTRIAL/BAHCO**

"Tool design continues to revolve around safety and ergonomics and these two considerations help drive new tool development at Snap-on Industrial Brands," begins John Ficcadenti, product manager. "When it comes to hand tools, the heart of that productivity is the technician. The last thing he or she wants are low-quality tools that can lead to painful muscle, bone and joint problems, not to mention poor end results. In contrast, our Bahco Ergo hand

tools are specifically designed to reduce the risk of strain and injury without sacrificing performance or durability."

Bahco engineers every Ergo tool from the ground up using an 11-point design program. Even something as basic as a hammer can be improved to enhance user safety, performance and durability.



FICCADENTI

"We carefully re-engineered the Ergo hammer's balance for optimal striking power and improved the claw so that less effort is required to pull nails," Ficcadenti explains. "The handle, available in two sizes, was designed to reduce vibration, with an extra-long grip directly injected onto the forged shaft for increased safety."

Bahco Ergo screwdrivers, awls and chisels all feature large three-component handles designed to minimize the strength required, and avoid muscle fatigue, while rounded ends allow for the application of force without hurting the palm of the hand.



Bahco Ergo screwdrivers, awls and chisels feature large three-component handles that minimize required force and avoid muscle fatigue. Rounded ends are easy on users' palms.

**DEWALT**

Prolonged exposure or high levels of vibration causes fatigue and discomfort. The DeWalt carbon fiber hammer tacker features a lightweight carbon fiber composite handle structure that weighs 45 percent less than a leading competing product. Lab testing has also shown up to a 45 percent reduction in vibration over competitive hammer tackers in the market.

"Designed in conjunction with United States Ergonomics standards, the DeWalt carbon fiber hammer tacker's internal components provide an ergonomic, slim, and comfortable handle that allows the user an enhanced feel," states Zachary O'Rourke, associate brand manager.

"To meet United States Ergonomics testing standards, muscle activity levels of the hand and arm were recorded as carpentry and roofing professionals completed a series of common applications with the hammer tacker. The muscle effort levels were analyzed to assess the effort for all major muscles involved in the tasks. Overall the DeWalt tool required 26.2 percent less mean muscle effort and 45.8 percent less total muscle work across all muscle groups to complete the tasks."



The DeWalt carbon fiber hammer tacker weighs 45 percent less than competing models and drives 5/16-, 3/8- and 1/2-inch heavy-duty staples.

The hammer tacker is tested up to 450,000 cycles and a rust- and corrosion-resistant housing is designed to withstand even the most extreme weather.

DeWalt is also making a bang with three new assembly and demolition tools. The model DWHT55051 form lifter offers 60 inches of leverage with a powder-coat finish and a water-resistant steel cap that protects against debris, rain and rust. A precision-ground extra-wide claw improves access while prying. Two new DeWalt San Angelo bars – the 60-inch model DWHT55147 and 70-inch DWHT55148 – are perfect for wedge end prying, levering and cutting. They feature a one-inch hex bar built for strength and durability. Heat-treated ends guarantee long life of the working end. The working end also features a pointed end providing centralized force, as well as a powder-coat finish to protect against rust. **CS**

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