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Over the Workbench

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Election season is in full swing

By Tod Riggio

The Woodwork Career Alliance of North America elected Brian Bond, professor of Sustainable Biomaterials at Virginia Tech, to serve as chairman of its board of directors.

Bond will serve as chairman for a one-year term. He has been a member of the WCA Board of Directors since 2009. Bond was instrumental in helping develop the format of the WCA Skill Standards, the core of the WCA's Passport credentialing program.

"The WCA is in good hands with Brian at the helm," said Scott Nelson, president of the WCA. "Through his long-standing dedication to fostering excellence in woodworking education, Brian has been a valuable member of the WCA team and has helped us propel our mission forward."

Additionally, the board selected Mark Smith, industrial technology teacher at Reed-Cutler High School in Braidwood, Ill., to serve as chairman of the WCA Education Committee.

Smith has been a woodworking instructor for nearly three decades and has helped hundreds of students earn their WCA Sawblade certificates.

"Mark's dedication and expertise to making his woodworking student's workforce ready makes him perfectly positioned to run the Education Committee," Nelson said. "Under his guidance, we anticipate significant advancements in our educational initiatives. The WCA will also greatly benefit from his social media expertise."

General members of the **Cabinet Makers Association (CMA)** have elected Amy Thrasher of Price of D & H Cabinets in Lindale, Texas, and Kolin Veldman of K & S Woodworks in Lynden, Wash., as new board members. They will each serve three-year terms.

The CMA also confirmed the following officers who will remain in their appointed roles until June 30, 2025:

- President – Randy Niewind of Randy's Cabinets & Woodworks in Grand Rapids, Minn.
- Vice president – Lois Snyder of Periwinklers in Tarpon Springs, Fla.
- Treasurer – Terry Steffey of Dibbleville Woodworks in Fenton, Mich.
- Secretary – Gregory Paolini of Gregory Paolini Design in Canton, N.C.

The Power Tool Institute has released a new video demonstrating how to properly handle a battery that's in thermal runaway, available at powertoolinstitute.com.

"A lithium-ion battery that is too hot to touch, melting, smoking, or on fire may be in thermal runaway, which can be caused by misusing or abusing the battery, such as by dropping, puncturing, damaging, or exposing the battery to liquids," the institute explained.

"Lithium-ion batteries, when purchased by an OEM for their respective tools, are safe. More and more counterfeit and knock off batteries have appeared in the market and can cause serious issues, including fires." W

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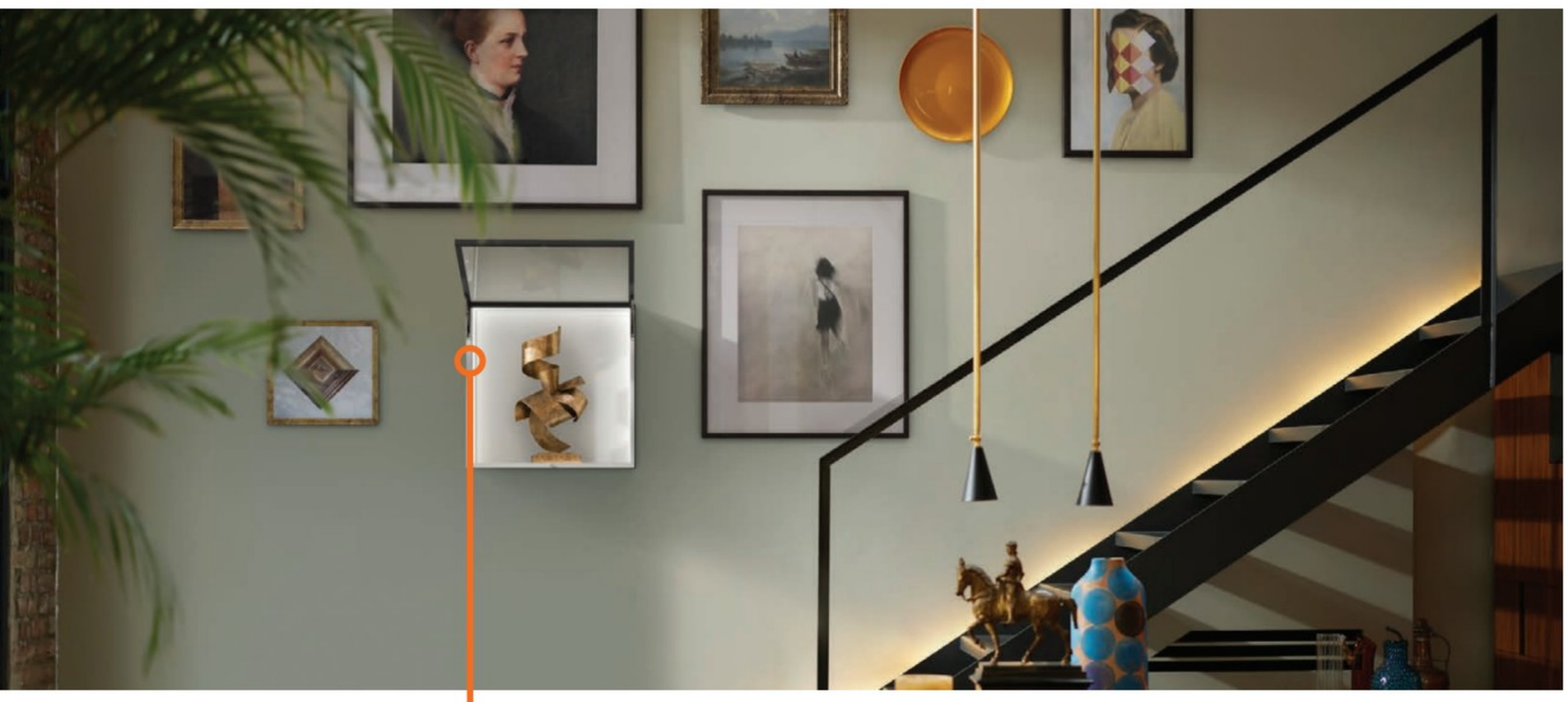



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Milwaukee Tool has new guns that use its nitrogen air spring, including a compact M12 brad nailer and an M18 duplex nailer.

Nailers, pinners & staplers

A look at the latest tools in the fastener category

By John English

Since the advent of cordless power, both battery and hose driven nailers, pinners and staplers have become more adroit and flexible. They're also getting lighter and smaller as design engineers take advantage of advances in metallurgy, plastics, mechanics and electronics.

Before we look at what's new, just a quick word about definitions. The higher the gauge, the smaller the diameter of the nail, so a 15-gauge finish nail is fatter than a 16-gauge. Brads are 18-gauge, and pins are usually 23-gauge. Some manufacturers might vary things a little, but most nail suppliers follow those guidelines. Pins leave a smaller hole than brads but have less holding power. And some nails are available in plastic for designated guns, so they can be used in fixturing for a CNC without harming the tooling. The power sources are noted too: pneumatic guns require an air hose, electric ones have a cord, and cordless ones are battery driven.

NEW AND IMPROVED

A new 18-gauge cordless brad nailer from **Milwaukee Tool** (*milwaukeetool.com*) runs on the company's M12 Fuel battery system and provides great access to tight spaces. Built around a nitrogen air spring mechanism, it sinks 5/8" to 1-1/2" and weighs only 4.6 lbs. when paired with a 2 Ah battery. Milwaukee is also introducing a new cordless M18 Fuel duplex nailer that combines the manufacturer's nitrogen air spring technology with a Powerstate brushless motor and Redlink intelligence.

Senco's (*senco.com*) new pneumatic Finish & Trim tool set is a family of five oil-free tools that includes a 1-1/4" to 2-1/2" 15-gauge angled finish nailer (TN51P1P); a 2-1/2" 16-gauge straight finish nailer (TN41P1P); and a 2-1/8" 18-gauge brad nailer (BN31M1P). These three tools have dry fire lockout, contact and sequential firing modes, a quick clear latch for jam clearing, and tool-free depth adjustment.

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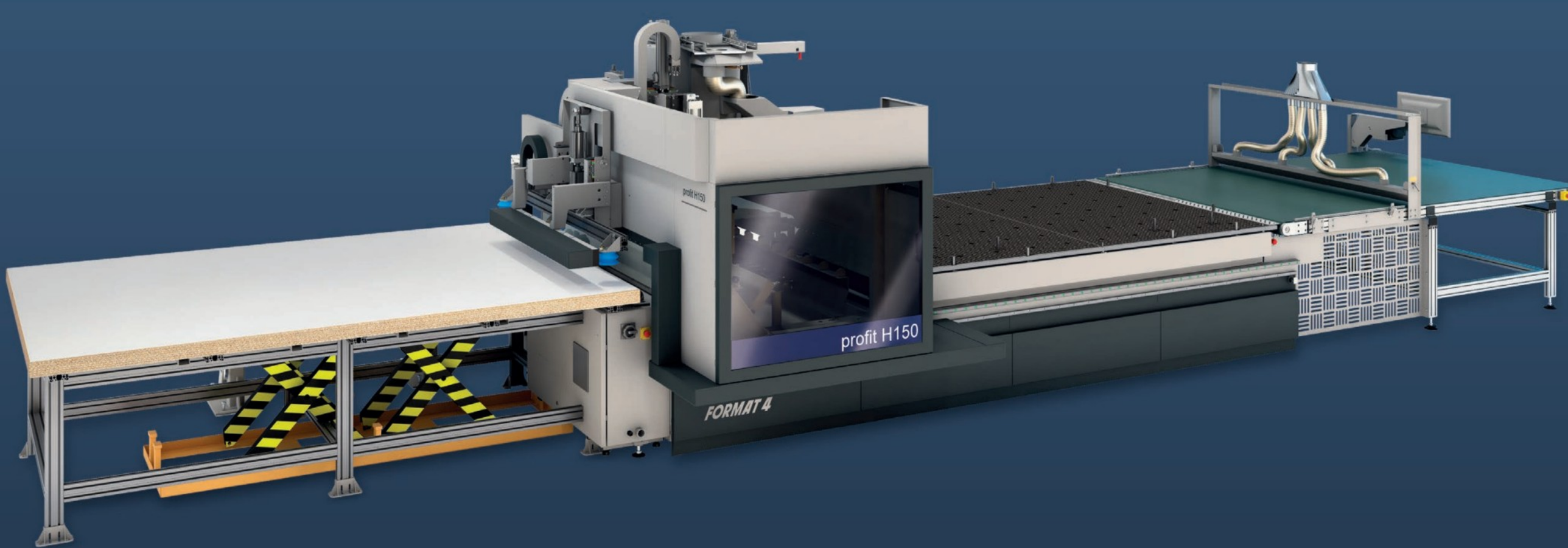

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Makita's new 23-gauge pinner.



Meite's 16-gauge crown stapler.



Porter-Cable's PCC790B.





Next up is a 1-3/8" 23-gauge pin nailer (TN11G1P) that has an ultra-narrow nosepiece that allows access to tight corners and other hard to reach areas. It also comes with a reversible belt hook that mounts to either side of the tool, and a no-mar pad that prevents damage to the worksurface. And the fifth tool is a 1/4" x 1-1/2" 18-gauge finish stapler (LS61H1P) that has a 360-degree adjustable exhaust that directs air away from the operator or worksurface, and a rotatable belt hook for right- or left-hand access.

Grex (*grexusa.com*) has improved its familiar P635 pneumatic 23-gauge headless pinner with a new L model that has features such as an auto-lockout with one-touch override, and an on-board adjustable edge guide. The lockout feature on the all-metal pinner (which can shoot nine different lengths of pins from 3/8" to 1-3/8") halts firing when the tool is down to about seven pins. Those can then be fired individually with a single press of the override button. The new L model uses the same core parts as the original P635 but adds new additions including the edge guide that lets a woodworker shoot pins in a straight line without measuring. Just set the offset distance and precisely fire pins – even into the edge of very thin material. There's also an onboard holder to store the guide when not in use.

REFINED AND NIMBLE

Among the newer cordless tools from **Makita** (*makitatools.com*) is the GTP01Z, a 40-volt XGT brushless 23-gauge pin nailer that's built for speed. It has a refined firing mechanism that reduces recoil and the amount of force required, a magazine capacity of up to 120 pin nails, and a narrow nose design that allows easy nailing access in confined areas (the tool is only 10-3/8" long). It can drive six different lengths of nails from 5/8" to 1-3/8" and has a trigger lock, anti-dry-firing, and tool-free depth adjustment features.

Porter-Cable's (*portercable.com*) PCC790B is a 20-volt, 18-gauge cordless brad nailer that has been around for a while. It comes with two LED work lights, sequential firing, and tool-free depth setting for nails from 5/8" to 2" length. At 5.1 lbs., it's described as nimble, lightweight, and balanced.

The SmartPoint line of nailers from **Bostitch** (*bostitch.*





The Bostitch SmartPoint line.



DeWalt's Atomic Compact 23-gauge pinner.

com) are specifically designed to reach into tight corners, and the BTFP family here includes an 18-gauge brad nailer (12233), 16-gauge finish nailer (71917), 15-gauge angled FN (72156) and DA (72155) style finishers, and a 23-gauge pinner (2350K). In finish guns, DA models generally have a handle angle of about 34 degrees which can be quite useful in tight spots, while the FN lies flatter (and some say more comfortably) at around 25 degrees. There are more DA models on the market, but FN gun reservoirs can usually carry more nails. DA was originally conceived by engineers at Senco, and the D means 15-gauge while the A denotes a round brad head and smooth shank. FN nails, created by Bostitch, have a more rectangular head and the letters simply indicate 'finish nail'. DA and FN nails are not interchangeable and will cause jams if inadvertently switched.

Many of the latest finish and brad nailers from **DeWalt** (*dewalt.com*) are 20-volt cordless tools that use the company's Max battery system. The batteries are interchangeable, so a woodworker can choose the Ah rating based on needs. DeWalt is still introducing air-powered guns in this smaller range, too. Among the newer offerings are 23-gauge cordless and pneumatic pinners (DCN623B and DWFP2350K); two pneumatic and one cordless 18-gauge brad guns (DWFP12231, DWFP12233, DCN680B); four 16-gauge finishers including cordless angled, pneumatic straight, Precision Point pneumatic and cordless straight models (DCN660B, D51257K, DWFP71917, DCN662B); and cordless angled, pneumatic angled, and DA angled 15-gauge finish guns (DCN650B, D51276K, DWFP72155).

DeWalt also makes cordless and pneumatic narrow crown 18-gauge staplers (DCN681B and DWFP12232), and a pneumatic 18-gauge finish stapler (DWFP1838). The company supplies a variety of specialty staplers for flooring, fencing, and electric wiring applications.

SHOOTING GALLERY

In March 2017, Stanley Black & Decker acquired the **Craftsman** brand from Sears Holdings. Today, the Craftsman catalog (*craftsman.com*) includes 18-gauge narrow crown staplers, 16-gauge finish nailers, and 23-gauge pin nailers in both cordless and pneumatic models. The V20 cordless



Paslode's new 16-gauge angled finish nailer.



Metabo's new NFR 18 LTX 90 BL can pound two nails per second.

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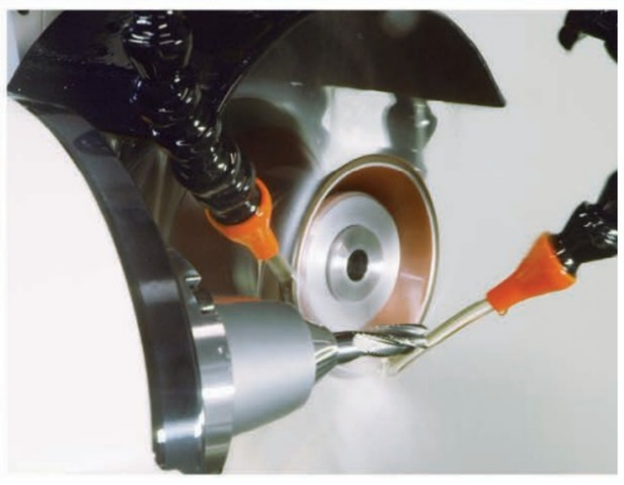

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The updated P635L from Grex USA has auto lockout with One-Touch override and a guide for thin edges and straight lines.

tools have brushless motors, tool-free jam release, and LED lights. The matching V20 batteries come in 2, 4, 6 and 9 Ah versions with a variety of chargers.

Metabo (*metabo.com*) makes pneumatic staple and brad guns, and the company has a new 18-volt cordless nailer, the NFR 18 LTX 90 BL, which can set two nails per second, and has single shot and contact triggering. It can handle nails up to 3-1/2" in length. The woodworker can choose between single shot mode and contact triggering, and there's tool-free depth adjustment. The gun has blank shot protection and a safety shutdown after 30 minutes of inactivity. One of the more intriguing description notes is that the gun has a "multi-position" but there are no photos or details given on the website. The gun does, however, work with all 18-volt battery packs and chargers of the CAS brands (more details at cordless-alliance-systems.com).

Paslode (*paslode.com*) has added a 16-gauge angled finish nailer and says that this is "the lightest cordless finish nailer on the market" at 4.5 lbs. It's designed to fit into tight spots, offers an excellent line of sight, and drives 12,000 nails on a fully charged battery and 1,200 nails on a full fuel cell. The Paslode's Fuel System uses both gas and electric power. The company has also just introduced a new cordless 30° framing nailer.

The KBAT161002 is a 23-gauge pneumatic pin nailer from **Kobalt**, available from Lowe's (*lowes.com*), that fires 1/2" to 1" long pins.

Wurth (*wurthmachinery.com*) lists a 23-gauge tool that shoots both micro-pins and micro-brads and has an auto-adjustable pusher for different fastener lengths. Identified as WR11191W, it comes with a lock-out to prevent dry firing.

Originally known as the Guangdong Meite Mechanical Co., **Meite USA** (*meite.com*) has added a 16-gauge 7/16" continuous firing crown stapler that shoots staples from 1" to 2" in length. The N851F has an adjustable rotating exhaust on top of the housing and a magnesium body to help reduce fatigue. **W**

Courtesy of manufacturers

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Birch, maple lead plywood sales

By Jennifer Hicks

All types of hardwood plywood are in high demand this season, particularly Baltic birch and pre-finished maple. Overall, prices have stabilized and decreased since the pandemic, according to suppliers interviewed by Woodshop News.

"It seemed like during the pandemic the pre-finished maple market kind of went crazy because a lot of people weren't using Baltic birch because of the price," says Carl Mahlstedt of Goosebay Sawmill & Lumber in Chichester, N.H.

"Baltic birch was also extremely popular even before the pandemic. We sold more of that than anything else, and then the price skyrocketed between the pandemic and the war, then the price came back down to earth a little bit. It just has so many uses and is such a good, stable plywood."

Pre-finished maple panel pricing is holding steady, according to Mahlstedt. He says costs are a little lower, but not going down the way Baltic birch did.

"The pre-finished maple is kind of high, but for what you get it's a good value. It's only around $15 more per sheet than unfinished, and it would take you a lot more than that to get a nice finish on it."

"Shop birch is a big one that we sell a ton of right now," says Dave Norman of Parkerville Wood Products in Manchester, Conn. "Baltic birch has definitely made a comeback. The prices have come back down and it's a pretty good deal. We also see a lot of movement with MDFs and paint-grade cabinets.

"With interiors for cabinets, a lot of people use pre-finished maple, so we sell a lot of that. Pre-finished maple is highly versatile, it comes in 1/4", 1/2" and 3/4", and it's highly functional. It's got a great polyurethane that they put on it, so it's very durable. It's a very pretty finish. The other panels are still expensive, so it's a nice hybrid because it's finished."

Josh Nozick of FreeState Timbers in Timonium, Md., has seen higher demand for white oak plywood.

"Over the last six months, I've seen more demand for high quality paint-grade plywood, and also for white oak, both plain sawn and quartersawn face veneers, just higher quality paint grades than you're going to get at the box stores," says Nozick. **W**

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Windgate Fellows announced

By Jennifer Hicks

Courtesy of Museum for Art in Wood

The Museum for Art in Wood in Philadelphia has awarded nine fellowships for its 2024 Windgate Arts Residency Program in Wood (WARP Wood).

The program is a collegial experience in which the resident Fellows explore new work through research, exploration, and collaboration.

"The WARP Wood is a unique and valuable opportunity for artists and thinkers all over the world to challenge themselves, stimulate creativity, and build community within art in wood," says Jennifer-Navva Milliken, the museum's executive director and chief curator.

"The 2024 cohort of artists, designers, makers, and researchers was chosen from a very competitive pool of applicants. We are thrilled to welcome them to Philadelphia and its many cultural landmarks, and excited to witness their transformation of local materials and experiences into inspiring new works and ideas."

The 2024 Wingate Resident Fellows include artists Chance Coalter (San Diego), Melissa Engler (Asheville, N.C.), Jamie Herman (Layton, N.J.), Jodi Prud'homme (San Francisco), Sara Tabbert (Fairbanks, Alaska), and Sarah Watlington (Los Angeles); Student Artist Brittany Rudolf of Portland, Ore.; Documentary artist Molly Nemer of Minneapolis, and Scholar Folayemi Wilson.

The residency concludes with an exhibition, scheduled for Aug. 2 to Oct. 20 at the museum, comprised of work made by Fellows before and during the program.

Learn more the residency program at *museumforartinwood.org*. **W**

IWF selects finalists for Challengers Awards

By Jennifer Hicks

Twenty finalists have been selected from 92 entries, submitted by 75 companies, for the Challengers Distinguished Achievement Awards at the upcoming International Woodworking Fair in Atlanta.

A panel of nine judges will review the entries on Aug. 5 and seven winners will be announced on Aug. 6 during the four-day industry trade show at the Georgia World Congress Center. The finalists' products will be displayed in the Challenger's Award Art Gallery.

The awards recognize companies who have distinguished themselves by developing innovative technology in products, services or manufacturing techniques that will advance the woodworking industry.

The finalists are:

- Apollo Sprayers for the Precision-6 Pro HVLP Turbo Spray System.
- Current Composites for Liberty Wood.
- EasySupply USA for Circular Economy & Plywood.
- GEW Inc., a provider of UV curing systems.
- Koch for Stack & Move (SAM) by Paul Saws.
- Kundig USA for the Eco Cleaning System.
- Kyocera Unimerco Tooling for the EQS Edge Sealing System.
- Leybold USA for NDK High Vacuum Systems.
- Macoser for the Omec F11TS and Salvamac Salvapush 2000.
- Make it Snappy Tools for iCARB Indexable Carbide Countersinks.
- Northtech Machine for the iGlue.
- Ovvo for the Ovvo Dowel Connectors.
- Sunflower Corp., a manufacturer of interior decorative panels, HPL, MFC, postforming HPL and compact laminates.
- Timber Wolf Forest Products for Fast-Snap.
- Total Finishing Solutions for the VD Simple Dynamic Spray Machine and Walcom True Light 2.0.
- Unilin Panels for Unilin Master Oak.
- Vanguard Digital Printing Systems for the VK300D-SS UV-LED Flatbed Printer.
- Whiteside Machine Co. for the Ultra-Long Ultimate Flush Trim Bits. **w**

Lowe's partners with Metallica

By Jennifer Hicks

To help meet the rising demand for skilled trades education at community and technical colleges nationwide, the Lowe's Foundation has donated $500,000 to the heavy metal band Metallica's Scholars Initiative.

"Partnering with programs like the Metallica Scholars Initiative is key to the Lowe's Foundation's efforts to ensure the next generation of builders can meet the demands of our modern world," said Janice Dupré, Lowe's executive vice president of human resources and chair of the Lowe's Foundation. "As we bring our shared goal to life and strengthen the skilled trades pipeline, we're excited to see students unlocking their full potential through these transformative careers."

The donation will benefit hundreds of students at five community colleges to help fund training, equipment, recruiting and wraparound services in carpentry, automotive, welding and other industries. The colleges include Pima Community College in Tucson, Ariz.; College of Lake County in Grayslake, Ill.; San Juan College in Farmington, N.M.; Western Dakota Technical College in Rapid City, S.D. and Milwaukee Area Technical College in Milwaukee.

"Now entering its sixth year, the Metallica Scholars Initiative is an exceptional program focused on workforce education that has proven to be a galvanizing force across the community college ecosystem," Peter Delgrosso, executive director of Metallica's All Within My Hands philanthropic organization, said in a statement. "We are honored to partner with the Lowe's Foundation to grow the trades while positively impacting many lives."

The investment is the latest in the Lowe's Foundation's five-year, $50 million commitment to support the training of 50,000 people for skilled trades careers. Since 2023, the Foundation has awarded approximately $18 million in Gable Grants to 24 organizations offering innovative and scalable skilled trades training across the U.S.

Learn more at *lowes.com/foundation* and *allwithinmyhands.org*. **w**



Dura Supreme launches lighting program

By Jennifer Hicks

Dura Supreme Cabinetry, a cabinetry and component manufacturer, introduces a new Integrated Lighting Program that allows customers to light their space with under-cabinet, in-cabinet, and floating shelf lighting included with their cabinetry product selections.

This new program is designed to streamline the process for designers and homeowners wanting to add lighting to their cabinetry, the company says.

"There is no question as to the power of beautiful lighting to transform a space, not only to feature open cabinetry and set a mood, but also to deliver ease of use and visibility to specific tasks within the kitchen," says Karen Wistrom, Dura Supreme's vice president of marketing for Dura Supreme Cabinetry.

All lights are low voltage, LEDs with a soft, continuous, diffused 4000K neutral white light. They are routed into the cabinet to be flush with the cabinet surface.

The lights can be controlled with a wall switch, remote, and Wi-Fi enabled voice activation, such as Alexa. Learn more at *durasupreme.com*. **W**



Under cabinet and floating shelf lighting available from Dura Supreme Cabinetry.

E-Z LOK OFFERS INSTALLATION TOOLS FOR DIFFERENT TYPE INSERTS

E-Z LOK, a manufacturer and distributor of threaded inserts for metal, plastic and wood, has a wide range of installation tools available regardless of the type of threaded insert being used.

These include drive tools for E-Z LOK (Solid Wall) inserts, knife thread, coil and Hex drive.

"Drive tools are designed for threaded insert installation in metal as well as woodworking," the company said in a statement.

"Versatility is at the core of the tool collection. Threaded insert tools are constructed using top-quality materials, ensuring they are durable, dependable and ready to tackle numerous installations without faltering."

Learn more at *ezlok.com*.

UPCOMING WORKSHOP ON URBAN WOOD DRYING

North Carolina State University's Wood Products Extension and Oregon State University's Oregon Wood Innovation Center are partnering to offer a 2.5-day urban wood drying workshop on July 29-31 in Oregon City, Ore.

The workshop will provide information to better control drying in an urban wood operation and resources to develop a strategy and implement best practices.

It will include lectures by N.C. State's Frederik Laleicke and Oregon Wood Innovation Center's Scott Leavengood, hands-on activities, and labs.

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New turning tools, smoothing plane from Grizzly Industrial

By Jennifer Hicks

Grizzly Industrial introduces a new line of Grizzly Pro turning tools and the 10" Legacy No. 4 smoothing plane with adjustable handholds and removable depth stop guides.

The line of turning tools consists of 22 gouges, chisels, skews, parting tools and scrapers, and four curated sets. They feature blades made from cryogenically treated M2 high-speed steel, long beechwood handles, and solid steel ferrules.

"Steel is a big deal with turning tools, and a comfortable length is important so our main focus when we developed this line was the cryo-hardened M2 steel blades and full-size handles and shanks," says product manager Pat Raynor.

"These are traditional-style tools with an edge quality that allows you to develop your technique to the fullest and get as creative as you want to be."

The Legacy No. 4 features an adjustable frog; 9-1/2" cast-iron sole: anodized aluminum cheeks and knobs; solid wood handle, and 2" steel blade.



"We wanted to keep the guts of how a traditional plane works but add functionality with the adjustable hand positions and depth guides," says Shabir Balolia, COO of Grizzly Industrial.

"We made this a very usable tool but also gave it some beauty. Not only do you want something that functions well; you want something that when you put it on your shelf it looks good."

Learn more at *grizzly.com*. W

Courtesy of Grizzly

Lamello adds the Cabineo X connector

By Jennifer Hicks



Colonial Saw introduces the Cabineo X, a new addition to Lamello's line of Cabineo connectors. The Cabineo X offers more fastening options and is particularly suited for closet applications, according to the company.

"The Cabineo X is the most versatile option now in the Cabineo family, and it allows a lot of efficiency in closet-type installation applications," says Chris Hoffman, US Lamello product manager.





The Cabineo X connector.

The Cabineo X features an open housing that can be used in combination with the Cabineo 12, 8 and 8 M6 screws, and 3 and 5mm shelf supports.

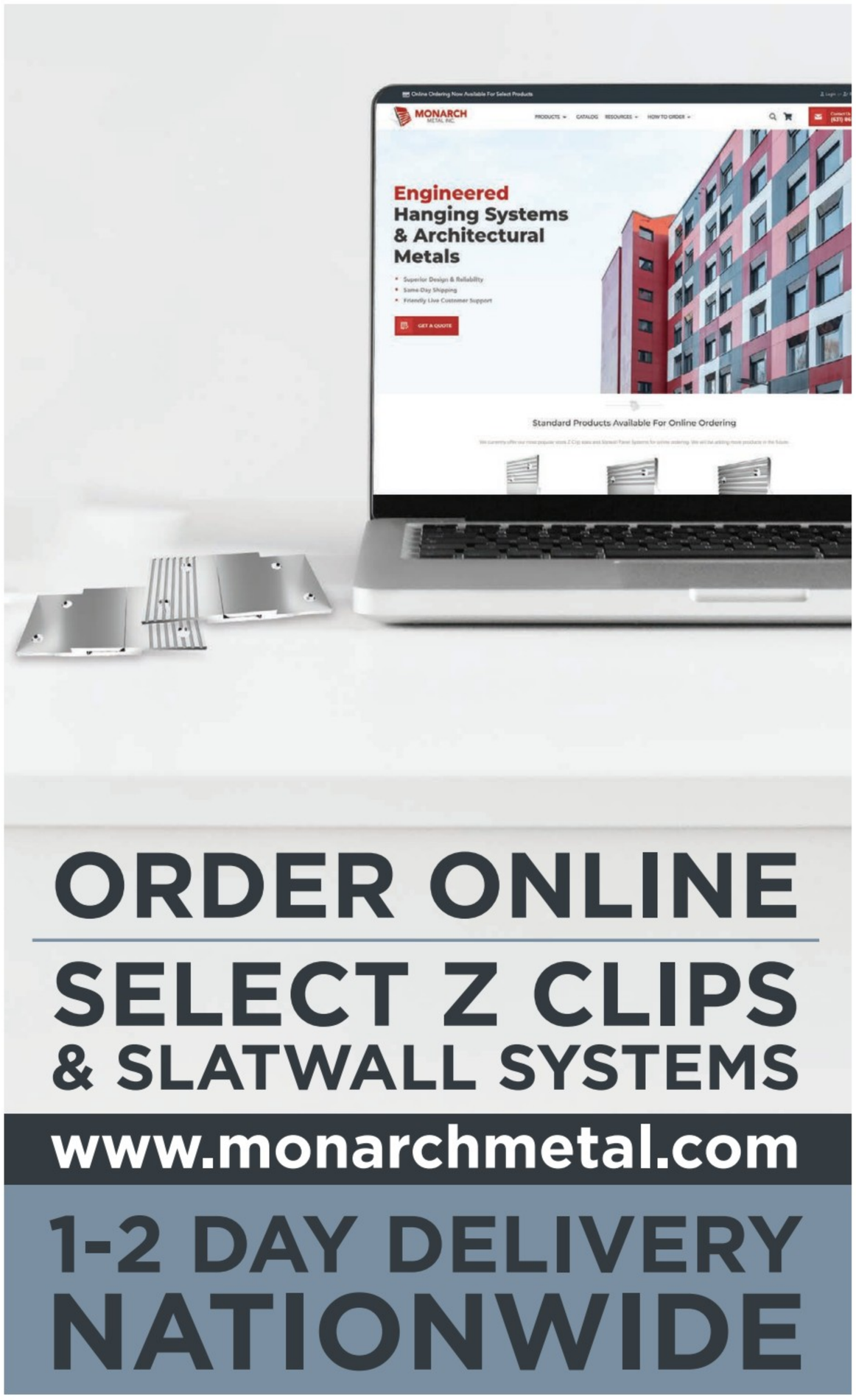
"With the Cabineo X, you can put any of those three bolts into the connector before you put the connector into place or put bolts into the workpiece, after the cabinet's installed. This augments and supplements the existing products. It doesn't come packaged with any of the bolts, those are purchased separately, and you can put them in after the fact," says Hoffman.

The Cabineo X is also designed for easy integration into 3-axis CNC machines without additional edge drill holes for wood dowels.

Learn more at *csaw.com*. **W**

Courtesy of Colonial Saw





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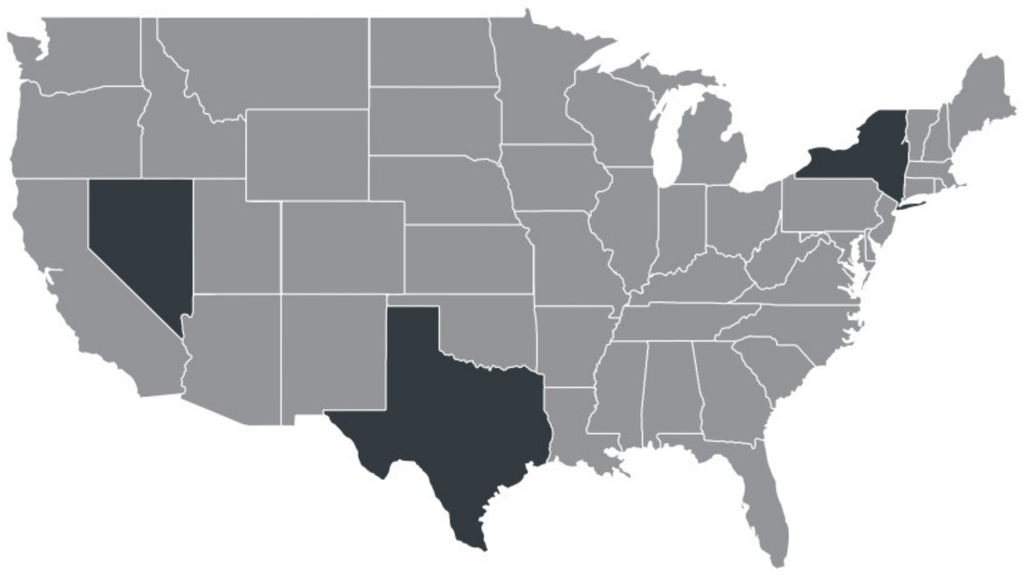

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PaintLine's new base for its 20-shelf ProDryingRack TT.

PaintLine adds accessories

By Jennifer Hicks

PaintLine presents two new accessories for two of its best-selling racks, a rolling base with locking casters for its 20-shelf ProDryingRack TT (the PDRTT) and a shelf lock set for its expandable 15-shelf ProDryingRack EX (PDREX).

"The new base transforms the highly portable PDRTT into a rolling drying rack," says Kyle Robinson, PaintLine's president.

"The PDRTT sits securely in slotted grooves on the base. Because the PDRTT rack itself has tool-free assembly, and folds easily for transport or storage, the PDRTT with base product configuration makes it ideal as a mobile jobsite drying rack solution."

The shelf lock set increases material security and stability, ensuring that when operators are quickly adding or removing panels or parts from the PDREX, the shelves and material stay securely in place.

The base sells for $87 and the PDREX shelf lock set costs $35 for a pack of 30.

Learn more at *paintline.com*. **W**

Courtesy of PaintLine

New Simple Set Fence Gauge from Woodpeckers

By Jennifer Hicks

Woodpeckers, a tool manufacturer in Ohio, introduces its new Simple Set Fence Gauge, an alternative to alignment tools with dial indicators.

"While many of us, myself included, prefer to work with a dial indicator, some people prefer using their sense of feel in judging the drag of a probe. We have a couple different saw gauges with dial indicators, this is just a simpler, less expensive option for those who prefer to work by feel," said Richard Hummel, president of Woodpeckers, in a statement.

The Simple Set Fence Gauge is designed to work with any table saw that has a miter slot nominally 3/8" x 3/4". Each gauge features a patented leaf spring in the miter bar for a snug fit in miter slots that are either slightly undersized or slightly oversized. The user can set the probe to the blade or fence at the front, then move it to the back, and make adjustments accordingly, the company explained.



Courtesy of Woodpeckers

Simple Set Fence Gauges fit in a table saw miter slot and hold an extendable touch-off probe perpendicular to the slot.

A pair of Simple Set Fence Gauges sells for $119. Optional extension rods are available to check rip fence parallelism at long distances from the miter slot.

Learn more at *woodpeck.com*. W





Amerock's Everyday Basics.

Outfitting the cabinet

Function meets form in lighting and hardware, plus new ideas for drawers, pullouts and appliance lifts

By John English

Bruce Lee, John Wayne and Clint Eastwood were some of the toughest, meanest, baddest movie stars, and each of them did something extraordinary every morning at work.

They put on makeup.

If a Hollywood artist can transform those guys into sympathetic characters, a woodworker should have no trouble turning a well-made cabinet into a conversation piece. Adding accents such as lighting, slides, lifts and decorative pulls to bare boxes can completely transform the look, feel and functionality of a kitchen, bathroom or closet.

DRAWER SYSTEMS

One place we're seeing a lot of new ideas is drawer boxes. Just as doors and fronts have moved significantly from hardwoods to hard surfaces, drawer interiors are following suit. Metal and plastic are gaining ground on the machined and hand-cut dovetail look, and woodworkers don't seem to be objecting. That's because an entire job using top quality drawer kits can be assembled in about the time it takes to set up a dovetailing jig or CNC toolpaths.

Among the manufacturers offering new drawer systems is **Grass America** (*grassusa.com*), whose current catalog includes options from the its budget-conscious Zargen drawer system all the way up to the premium Nova Pro Scala. This latter takes a traditional five-panel drawer box down to three elements by using single-piece steel drawer sides. The system has an integrated, synchronized, full-extension drawer slide, with options that can include Tip-matic soft-close and Sensomatic opening. Grass says that Nova Pro Scala is "a breeze to assemble and install, with integrated height, depth, and side adjustments", and it has a quick-release drawer front for easy cleaning.

Grass's Zargen system's slide travel is from 13.78" to 21.65", which covers most closet and kitchen needs. And Nova Pro Scala has a wider range at 11.81" to 25.59", which accommodates those larger and deeper drawers that inhabit storage rooms and closets. It also includes standard and pencil drawers, roll-out trays, and customizable side and height adjustments that help designers build spaces for clients with specific needs.

The AvanTech You drawer system from **Hettich** (*hettichdesign.com*) is another strong alternative to shop-built wooden drawer parts. It delivers "design diversity and creative flexibility" with concealed working parts instead of drawer slides, and a slimline and sleek drawer side profile. It's very customizable with a wealth of options in

terms of colors, sizes and materials. Attractive highlights can be added with designer profiles, DesignCapes, and inlays. Those capes are clip-on covers and they let the client choose the external drawer side color. Components in the system can be combined easily because they all use the same drilling pattern, which helps with cost and efficient workflows, and makes for a broader product lineup.

The new Merivobox family of metal drawer box systems from **Blum** (*blum.com*) also offers flexibility, aesthetic appeal and easy manufacturing. A variety of looks can be achieved with just a few components, and they all use the same across-the-board installation sequence. That simplifies the learning curve on both the shop floor and the jobsite, as users can easily switch between different heights and designs without learning new techniques. And the simple, clearly labeled, and easily accessible three-way adjustment options make it easy to align fronts. The system comes in a choice of two colors and the drawer sides form the frame of the drawer. That makes it possible to build, say, a deeper drawer with a closed metal side, or an open side with a gallery rail. The sides reflect light for visual interest, and the full extension drawers hold up to 170 lbs. and can be as wide as 55".

OTHER ACCENTS

Beyond drawer boxes, Blum has also introduced the Space Step, which uses the toe kick space under the cabinet to provide a built-in step for users to reach higher surfaces and cabinets. The step slides out of the way to reveal storage space, and it works with any of Blum's drawer runners or box systems. And the new Aventos HKi lift system from Blum is integrated into the edge of a cabinet side, so it completely disappears when closed. (It's also quite discreet when the door is open.) This fall, Blum will bring its Aventos Top program to the U.S., which is hinged on top rather than on the sides. With different opening styles, the HF, HS and HL tops will offer different ways to attach lift-up doors for unobstructed access to stored goods, and the design makes for easy manufacturing and assembly processes.



Richelieu has added oversized pulls with a contemporary aesthetic.

Open, floating shelves are currently trending as a wall-mounted alternative to upper cabinets, and Hettich's CubePlus system certainly addresses that need. From the woodshop's point of view, it's incredibly versatile when it comes to design. The units assemble quickly in the shop or on the jobsite, and Cube Plus somehow manages to simultaneously bring both drama and order to the same space.

Häfele's new modular lighting, called Loox LED, has attracted quite a bit of interest already. The system adapts easily to a shop's designs and needs, and works in practically any interior environment. Installation is plug-and-play, which allows for all manner of placement, switching controls, and personalization. It can be used in both dry and wet areas, in drawers and cabinets, closet fixtures, cubbies, built-in furniture and other casework, and in practically any area of a home or business. The options range from bright, flat lights at just under 1/4" thick to bedside gooseneck reading lights with two built-in USB chargers. Loox strip lights are available in a variety of color temperatures from yellow to blue/white, and can be installed with an included 3M backing tape. They can also be housed in an assortment of extrusions for a sleek, finished look. Strip lights can be cut to fit for length, and the system's puck lights, which come in a range of finishes and trims, can be surface or recess mounted.

In addition to mechanical push button and door activated switches, Loox offers switching by remote control, single-stage motion detection, dual-stage motion detection and body heat activated switches. There are also capacitive switches, which can be recessed into wood and then



Blum's Space Step offers exactly that — access to storage space behind the toekick, and a step for access to higher wall cabinets.





CabinetParts offers a lift that raises an appliance to countertop level.

turned on or dimmed with just the wave of a hand. LED light fixtures radiate very little heat and conserve energy well, and these low-voltage lights have an extremely long life and are quite powerful. They have a rich and saturated color that, with a simple push of a button, can dramatically illuminate any room or accentuate a specific area.

In March, **Hera Lighting** (*heralighting.com*) announced the launch of Spot-AI, an app-based platform that lets retailers manage a store full of track spotlights from the convenience of a phone by using Bluetooth and WiFi. The app has tunable color and it monitors foot traffic, analyses data, and tracks energy management.

Outwater Industries (*outwater.com*) carries a full range of LED cabinet lighting, and the company also offers angled power strips that fit snugly up under wall cabinets to provide plenty of outlets without interfering with the view of the backsplash or revealing ugly wires.

Tresco Lighting (*trescolighting.com*) offers a very brief but quite informative free guide to lighting online, which is called Lighting 101. This is an unusually helpful company that works with woodshops to design and manufacture specific lighting solutions.



Schaub and Company's fused glass collection offers pulls and handles in a variety of shapes.

DECORATIVE HARDWARE

Richelieu Hardware (*richelieu.com*) invites woodworkers and designers who are looking for large handles to make a statement with its oversized pull. At 50-3/8" between screw centers (6" and 12" matching versions are available, too), these massive pulls are designed for big projects such as sliding doors, very wide drawers, pull-down beds and the like. There are two designs: the 8765 which has straight sides that taper slightly as they reach into the room, and the more modern and crisper T-profile 8460.

The new Loxley Collection from **Jeffrey Alexander** (*hardwareresources.com*) consists of a single drawer pull, a round knob and a rounded rectangular knob. And while there are only three elements, each is offered in a choice of seven finishes. This is elegant simplicity at its best. The pull

and knobs are metal, smooth, almost tactilely liquid, and designed to add an exclamation point to superior doors and drawer fronts.

Another new Jeffrey Alexander collection, Southerland, consists of pulls available in three lengths, with two coordinating knobs. The design is inspired by a four-leaf clover and brings a hint of whimsy to what might be considered a classical Georgian design that perhaps leans a bit heavily on its Greek roots.

Sometimes a client is looking for something original, rather than trendy. Last year, **Schaub and Company** (*schaubandcompany.com*) introduced a fused glass collection of pulls and knobs that fits that bill. These are squares, half-circles, ovals, rounds and rectangles of this bright, reflective and quite elegant manmade art material, where each is set on a brushed stainless steel or gold metal stud. So far, there are eighteen distinct pieces of decorative hardware in the series (8 pulls, 10 knobs), with the pulls on either 4-1/2" or 6" screw centers. They could make for an interesting installation, given their luminous nature and the new opportunities that LEDs provide for indirect lighting.

Idaho-based **Rocky Mountain Hardware** (*rockymountainhardware.com*) is a small foundry that turns molten bronze into custom hardware. Each item is handmade from mold to finish, and the pricing reflects this. But the result is a line of product that is unusual if not unique to each



Goldenwarm's offerings include these gold and black pulls.

kitchen or bath it graces, and that is most definitely made in the U.S.A. Among the newest additions to the catalog is Phases, which is a collaboration with designer Jennifer Hoey's Suede Studio. This is a new line of premium bath and kitchen accessories, and while the collection is just eight items, it is stunning. Included are four bathroom fixtures, plus a cabinet knob and two pulls, and a large door pull that comes in options up to 18" on center with a dozen finish choices.

Amerock has debuted 12 new bath accessory collections. The hardware has traditional roots and a functional, sensible feel. And despite its name the company's other new catalog, Everyday Basics, seems more contemporary and has the added benefit of affordable pricing. With 49



Rev-A-Shelf's universal pullout was designed to store a step stool, but woodshops have used it for cutting boards and other large items.





CabinetParts' new pull-out has shelves with grid bases and short railings.

collections, this catalog includes a lot of brass and black with sleek lines and graceful curves. The website is a good sales tool, too. The way that Everyday Basics is presented online (*amerock.com/everyday-basics*) makes it easy to explore with a client while physically or virtually standing in their space, and it lets the woodworker help them make choices based on an extensive range of finish options and coordinated looks.

Century Hardware (*century-hardware.com*) is a Michigan manufacturer with a creative streak that can both surprise and delight. The company's Black + Wood line of knobs is a good example. Century says that this is the perfect combination of a matte black zinc base that is filled with a natural beech or sapele insert, or white enamel. The pull is 45mm (a hair over 1-3/4") in diameter and projects 1-15/64". The wood insert pulls have the potential to look quite dramatic when installed on paint or foil monotone cabinets, or combined perhaps with a sapele or beech worktop.



Century Hardware makes the Black + Wood line of knobs that have a black zinc base and real wood or white enamel inserts.

New products from **Sugatsune America** (*sugatsune.com*) include the HES1F fully adjustable slim frame concealed hinge system that can handle doors as large as 106-5/16" tall by 35-7/16" wide. And the newest products from **Fulterer USA** (*fultererusa.com*) are the FR56 family of heavy-duty, full-extension slides, and the FR5619 with a built-in anti-tilt mechanism. Another nice piece of engineering, the Air hinge from **Salice** (*salice.com*), is inserted into the top and bottom of the cabinet and the door, so it's practically invisible. It's quiet, too, with an integrated decelerating system for gentle operation.

FUNCTIONAL HARDWARE

New at **CabinetParts.com** is a sleek yet elegant solution for pantry hardware. The VS TAL three-shelf pantry pull out works with openings that are at least 15" wide. This is a metal pull-out where the three shelves each have a grid bottom (rather than a solid sheet), and a short railing that allows easy access to stored goods and great visibility. The finish is powder-coated carbon steel gray, and the unit comes with soft-close, full-extension, bottom-mounted slides. It works for installation heights from 28-3/4" to 47-1/4" tall, and the action has a dampening and self-closing mechanism.

CabinetParts.com also offers a mixer/appliance lift (item HR-ML-1CH) that fits in a base unit that's at least 12" wide. It raises an appliance to countertop level and has a soft-close mechanism and chrome components.

Rev-A-Shelf (*rev-a-shelf.com*) also makes appliance lifts, but shorter customers are also grateful to the company for another idea. In a kitchen with a full-height storage wall, reaching those top cabinets can be a challenge. Rev-A-Shelf came up with a simple solution: a slide-out that holds a small step stool. Item 4UH-BC-9C is described as a "wood universal holder pullout" because it gets used to



Shops can choose five side heights with Grass America's Zargen drawer system.

store all kinds of objects such as cutting boards and pizza trays, but its original function was to carry the step stool. It's a simple gizmo (just a pair of slides, a backer and a strong spring clamp), so it's easy to install in a cabinet with at least a 9" opening.

Another clever way to gain access to just-out-of-reach cabinet contents is the Rev-A-Shelf pull-down shelf (5PD-24CRN). This is a chrome-plated, two-tier, moving shelf that brings items down by 11-1/2", while pulling out 16-3/4" from the cabinet. It requires a 21" wide cabinet opening.

Device charging is always on people's minds now, and **Doug Mockett & Co.** (*mockett.com*) has just added several options to his catalog. Among them is the minimalist Surface Mount Power Grommet (item PCS85C/UC2), which



Rev-A-Shelf's pull-down shelf.

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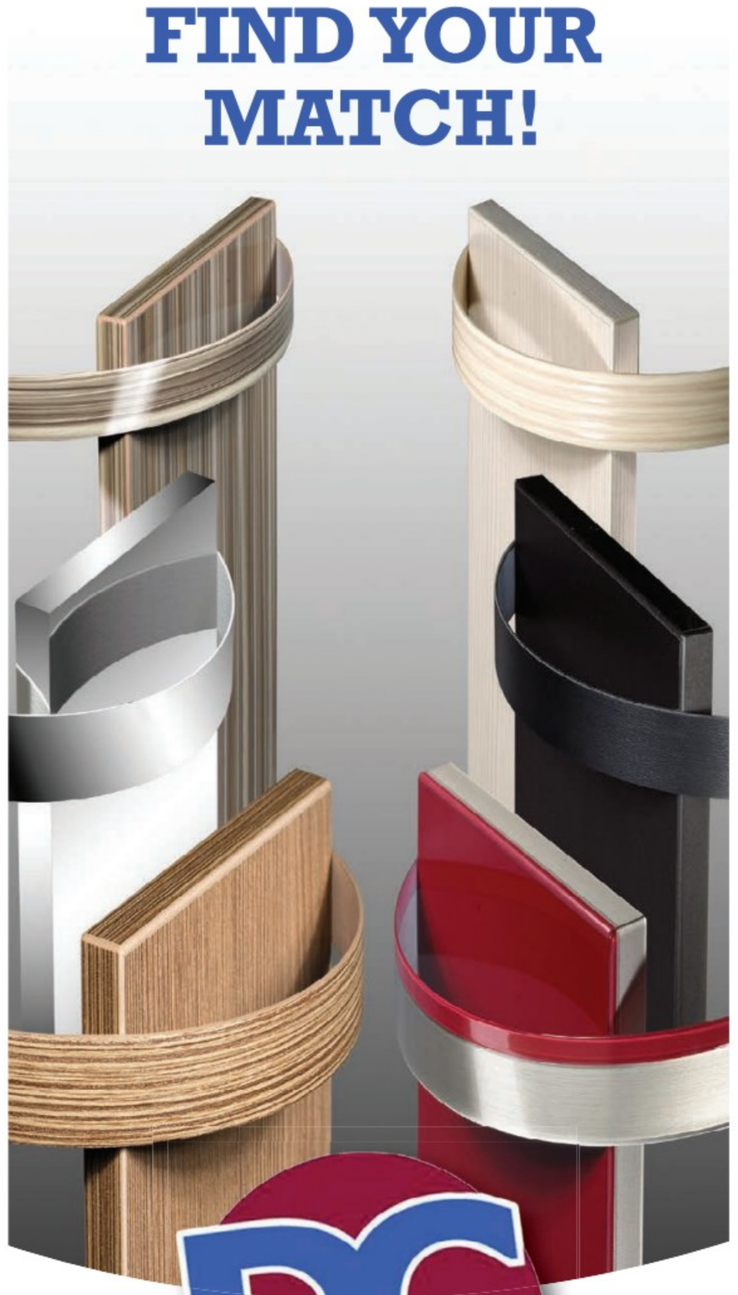

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Salice's Air hinge is inserted into the top and bottom of the cabinet and door, so it's practically invisible.

gives customers three standard household outlets and two dual USB A and C charger ports. What's unusual here is that the exposed surface has a very flat profile. The back protrudes quite a way, so there are some restrictions as to where it can be mounted.

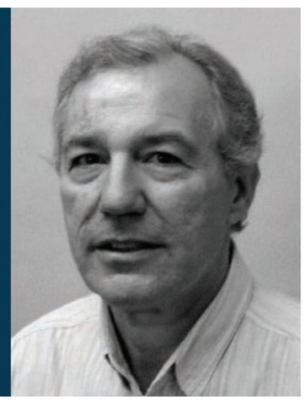
Goldenwarm is a new name in discount hardware, but one worth noting. Based in Suzhou, China, the company is online at *shopgoldenwarm.com* and manufactures much of what it sells. The catalog caters to limited budgets, such as the newly added 20-pack of kitchen pulls (LS-4466GDBK96B) that listed for $113.99 in late June, which comes to just $5.70 apiece. This is an intriguing rectangular gold pull with a square stud aesthetic and a black inlay that flows across most but not all of the top. A similar item (LS4460GDBK) is a gold pull with a black insert in the top, where the ends of the insert are enlarged a little and rounded.

Stronghold Brackets (*strongholdbrackets.com*) makes shelf and casework brackets that offer robust holding strength with a touch of modern elegance. The collection caters to a variety of needs from a minimalist look with floating shelves to sturdy brackets for heavy-duty storage.

And **Century Components** (*centurymade.com*) in Sugarcreek, Ohio, offers a full menu of ways to outfit cabinets including American-made pullouts, organizers and charging/docking drawers. **w**

Courtesy of manufacturers





Bringing automatic tool changing to small-shop CNCs

By B.H. Davis

I have a second-hand 4x8 CNC that performs well but lacks an automatic tool changer (ATC). While I really wanted to add this feature, I couldn't justify the cost of $10,000 or more for a brand-name setup in relation to the overall value of my 20-year-old machine. Then I discovered the RapidChange ATC.

This mechanical tool changer, at under $1,000, is a game changer for the non-industrial class of CNC routers.

Don Greilick is behind this mechanical tool changer and a bunch of fun to talk with on the phone. He has a strong background in both the arts and engineering, and along with his computer code savvy son, developed the RapidChange ATC.

HOW IT WORKS

The RapidChange runs the spindle forward to load a collet/nut assembly with a pre-loaded router bit and in reverse to remove it. The spindle is typically set to run between 700 and 1,000 rpm during loading and somewhat higher for unloading. After loading the bit assembly and giving an initial amount of locking torque to the collet nut, the Z-axis will raise about 1/2" and while still spinning lower again into the tool slot to "tap" a lock ring to provide a secondary torque down of the nut. On each tap the rotational force as the spindle stops creates the torque needed to tighten the nut.

This works because each location in the tool magazine has a spring-loaded lock ring designed to grab the collet nut the same way as your wrench would. This is the case whether your collet nuts have milled slots for the wrench to grab or are simply hex shaped. The spindle rpm is set low enough so that the downward motion of the Z-axis can drive the nut onto the grab pins in the lock ring while being fast enough to create the needed torque to tighten the nut. Depending upon the collet design (ER11, ER16, ER20 and others), two or three total taps of the tightening procedure will do the job.

There are various length tool magazines available, so the system can be sized to your needs. Options include four to eight tool holders and a retracting dust cover.

TECHNICAL CHALLENGES

Greilick got the idea for the RapidChange ATC in 2022 while cutting material on his CNC. He came up with his first prototype magazine that very day and had a product to sell in six months.

There were, however, some challenges to overcome, such as running the spindle in reverse for unloading. This can be done with most variable frequency drives (VFDs) that run high-speed spindles, but not with hand-held routers used on many low-cost CNCs. This means that not all existing CNC routers can take a RapidChange ATC without a spindle upgrade. You can find a 2- to 3-hp spindle with matching VFD for under $500, keeping the RapidChange to a small fraction of the cost of a traditional air-driven ATC system.

Next up was probably the biggest question Greilick faced. What about torque? Could the slow speed loading rpm create enough rotational torque to solidly lock the collet nut to the spindle shaft? Greilick was initially skeptical. However, experimentation on the prototype showed that with some tweaking to the process, and with multiple taps using the spindles rotational force to bump the nut tighter as the spindle stops, he could get the nuts as secure as with a set of collet wrenches.

But this type of loading process, where the spindle is brought to a momentary stall, brings up the question of possible damage to the spindle. To be honest, I haven't found any research in this area. But with hundreds of RapidChange ATC units in service, Greilick says there have been no reports of spindle failures.

Once the torque issue was sorted out, the last major question was could the collet nut be made to consistently spin up onto the spindle without cross threading. Further, even if that could be done, what would happen if for some reason the nut did bind on the initial grab. That could be a major problem. You wouldn't want a



The RapidChange ATC magazine provides a fixed, known position for each tool location in X, Y and Z machine coordinates.

partially mounted collet/bit assembly running at a high rpm.

To handle this, Greilick came up with a method to reduce the chance of cross threading and added safety features if it should occur.

On this issue of cross threading, I will say that a new owner shouldn't be surprised if it happens on the first tool pickups. There are some very precise alignment steps that need to be completed in order for the tool changes to work seamlessly. Even if the installation is guided by a wizard (only currently available on UCCNC control software), your first run through might not end up with the precision settings needed to make this work. For other control software packages that don't yet have setup wizards, the process is a bit more rigorous but doable. Greilick continues to work to make the wizards available in more CNC control packages.

THE INSTALLATION

To do the setup in a way that will lead to repeated successful tool pickups and drop-offs from all the tool positions, the magazine needs to be exactly parallel with one of your router's axes. The company provides a CAD drawing of the mounting hole locations to help with this positioning.

After the magazine is mounted, the exact location of tool holder position No. 1 needs to be established. If the recorded position is off by even a few hundredths of an inch, clean tool pickups might not happen. I had some initial issues here but was able to narrow them down to a few small out of alignment factors. My final check was to mount a 1/2" rod in the spindle and examine the squareness to my spoil board. To my surprise, I found it was off by about .03" over the 5"-long rod. This was enough to give me some inaccuracy during tool pickup and was easily corrected by loosening my Z-axis mounting plate bolts and tweaking the spindle's vertical orientation.

Lastly, to assure that a bit assembly has loaded correctly, there is an IR eye on the retracting dust cover assembly that scans across the magazine after tool pickup. If the collet nut has been threaded all the way up and above the IR transmitter level, an "all clear" signal will be sent to the software. If the nut has not spun all the way up, the eye's line of sight is blocked to the receiver, subsequently sending the router to a convenient wrenching location to fix the problem.

The only other possible issue I know of is bit slippage when sitting in the magazine. Not all router bits are a tight fit when inserted in a collet and thus depend upon tightening the nut for a solid grab. One solution is to put a dab of hot melt glue on the butt end of the bits when putting them into the collet. This should be all it takes to



prevent slippage and shouldn't cause any problem with high rpm spindle balance. Again though, this would only be if a bit is slightly loose to start with.

BIT LENGTH MEASURING

Router bits don't end up in the same spot in the collet every time the nut is tightened. Bit creep as the nut is tightened or slippage in the magazine can change the length of a bit below the collet face. Since the bit/collet/nut assembly has been sitting free in the magazine it needs to be measured with each pickup. That means that while your top of material location will remain constant with bit changes, the bit length assigned to each tool needs to be updated with each tool pickup.

The end slot in the tool magazine is set up to accommodate a touch down plate (sold separately) instead of a router bit assembly. If someone already has a different style touch down plate available, or simply wants that magazine slot for another router bit, they can mount an external touch down plate somewhere near the magazine. Either way the M6 tool change macro supplied with the RapidChange ATC accommodates the various setups via the software interface.

On my CNC, I added a retracting platform that the RapidChange ATC and an external touch down plate are mounted upon. This is so the ATC can extend over the work surface where my spindle can reach it when needed and retract off the 4x8 work surface when not in use. The RapidChange ATC software has an option to run a pre and/or post tool change custom macro which I use to activate the extending platform's air cylinders at the appropriate time.

USING THE RAPIDCHANGE

The RapidChange ATC is used just as any other automatic tool changing system. You set your CAM software to the tool changer post processor for your machine and load up the tool magazine in the software, just as you would with an air-activated ATC spindle system. You do need to make sure your post processor places an "M6" in the tool number line in the G-code (M6 T01, for example) to activate the tool change process.

When a tool is called up in the G-code, the router will go to the correct slot, pick up the tool assembly, measure the bit, and travel to your cut start point.

Greilick isn't resting on his laurels. In addition to accommodating more CNC controls with matching wizards he's working on a turret magazine, looking at bringing the system to milling machines, and working with some smaller CNC manufacturers to include the RapidChange ATC.

For more product information, visit *rapidchangeatc.com*.W

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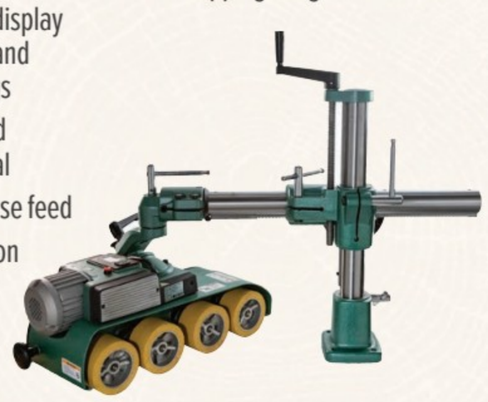

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Ben Cox operating the shop's Thermwood CNC.



THE VOICE OF EXPERIENCE

Paul Downs has dealt with success and failure while growing a woodworking business

By Jennifer Hicks

Paul Downs, owner of Paul Downs Cabinetmakers in Bridgeport, Pa., started as a one-man shop in 1986 making dining tables, chairs and some office furniture. After switching to conference tables, a big change occurred in 2002 when he formed a 50/50 partnership with an acquaintance from another manufacturing business to bring things to the next level.

"At that point, I was 40 and kind of stuck where I was. I was running a five-man shop and doing everything except the building. I hit the ceiling and was tapped out. I also had a young family at that point, and just didn't have the time or resources to get beyond that point. The partner gave me that opportunity, an injection of capital and expertise, and so we were able to start out an expansion path," says Downs.

In 2003, the business trajectory changed forever when Google listed the shop's conference table as a top search result. Orders started flowing in from around the country.

"Before that, we had been growing and trying to expand sales through different marketing channels. We opened a showroom and we did all these 1985 moves to try to grow the business. They were slightly successful, but what happened in 2003 took a while to process. When I look back, I wasn't ready for what was about to happen."

The shop grew to 18 employees and about $1.5 million in annual sales by 2005. While the internet kept bringing in more clients, the partners worked on incorporating new technologies, such as SEO and 3D design programs.

"With all the imports from Vietnam and China, people were thinking of furniture purchases as disposable versus a once in a lifetime thing, so that really affected the conversations I was having," says Downs.

"The 3D software showed up and gave us the ability to have credible communication with people and they would give us an enormous about of trust. They could see you were real, thousands of miles away. With the software you can build a model that looks pretty much like something they're going to get."

Downs has continued hiring over the years, and prides himself on having a diverse workforce. He says he wants his company to "look like America."







Logos, created with a Vytek laser engraver, have been a popular option.



The busy shop made over 600 tables in 2023.

GOING ALL IN

The partnership dissolved after difficulties during the Great Recession and Downs is once again the sole owner.

"2008 was a difficult year," he says. "We were growing too fast and failing. It was tough to survive the recession.

"At that point our domestic furniture business was dead, but we still had conference tables going. That's what kept us going. We had a lot of government orders, military orders, and after the recession, I realized I needed to go all in on conference tables.

"There are lots of advantages to the conference table as a product and the main one is the people that are buying it aren't spending their own money. Also, when selling residential, you're selling on nights and weekends, and when you're selling to businesses, you're selling during the business day. I wanted to be home with my family on nights and weekends."

The company's client list includes architects, interior designers, the U.S. government, Fortune 500 companies, universities and colleges, international organizations, and private clubs. It currently has 26 employees and generates about $5 million in annual sales.

The shop produces hundreds of tables in varied sizes and shapes per year. Last year it made over 600. A custom ERP software package makes it all possible.

"Our software system allows us to run a lot of jobs at once, and that was one of the things that became very important to us as we got calls from more sophisticated clients, like NASA, the military, or the World Bank. You need to have systems that allow you to manage that in a way that looks credible to them, and with the software, we're capable of managing many very big projects at the same time," says Downs.

SHARING IS CARING

Downs is an advocate of sharing his business experiences, the good and the bad, so that he can help others stay motivated and confident.

"In 2009, we had such a rough year. I thought I was going to go out of business. I started looking on the internet for what happens when a business fails and couldn't find anything because nobody wants to talk about it. I was looking in the New York Times at a column aimed at small business owners called You're the Boss. I wrote to the editor that everyone in the column is successful and nobody talks about failure, and that I was about to fail and was willing to talk about it.

WHAT'S IN THE SHOP

Brandt edge bander • CTD 12" chop saw • Hofer veneer saw • JBL 8' x 16 spray booths • JDS Multi-Routers • Jet & SawStop table saws • Joos veneer press • Kaeser compressor • Martin sliding table saw & planer • Original radial arm saw • Thermwood CNC • Tech Con dust collector • TigerStop CNC fence system • Vytek laser engraver



The shop's tables can be found in the World Bank Preston Room and Harvard Business School (below).



"The editor wrote back that he'd never had anyone offer that before. He hired me and I became a blogger for the Times on what it was like to run [a failing] business. It became incredibly popular and I ended up writing for them for four-and-a-half years."

Downs published a book, "Boss Life: Surviving My Own Small Business", in 2015. He has given numerous talks for the Cabinet Makers Association and other industry organizations. He also participates in business groups to further refine his own management skills.

Downs practices what he preaches and has found the best strategy for a successful shop is to create a healthy atmosphere for its employees.

"As a business owner, you need to think about how people communicate with each other, how they communicate with you, what kind of culture you're building, and what kinds of trouble is going to pop up," he says.

"Learning how to manage a team and get them to understand why they're doing what they're doing is important. You need to give people guidance on how to get along and what you're trying to accomplish."

Downs is 62 and looking to retire by his 70s, but still has major expansion goals.

"I'm not looking to hire today, but I think we will be continuing to hire for the next couple of years. I'd like to get up to $10 million before I retire."

Learn more at *custom-conference-tables.com*. **W**

Courtesy of Paul Downs Cabinetmakers



THE FINISHING TOUCH

The perfect finish lies where four elements converge – sanding, dust control, coating, and light.

The new Cup Brush sander from Gibbs machine eliminates almost all hand sanding of cabinet doors, drawer fronts and other components after machining, and it's also capable of performing the most delicate of sealer sanding tasks. It's easy to operate and there's a final cleaning function that leaves doors and drawer fronts dust-free and ready to coat.

Sand Pro sanding tables and booths are also all about fine dust collection and a safer, more efficient, and more desirable work environment. In woodshops that finish in-house, a clean work area is absolutely essential for a perfect finish. Sand Pro tables and booths are perfectly designed for both raw wood sanding and scuff sanding between coats of primer, paint, or clearcoat.

New high-performance polyurethane and acrylic coating systems from Chemcraft provide a complete spectrum of sheens from high gloss to dead flat. They're produced in North American modern manufacturing facilities using high-quality raw materials and, following comprehensive testing, the Selva Pro coatings offers proven, well-rounded performance.

After the coatings are cured, beautiful cabinets comes alive in different ways as a room's light changes, and Richelieu offers a vast range of lighting options to add a special finishing touch to great casework. But the company's vast LED catalog isn't just about looks. In addition to setting the mood, it provides exquisite task and functional light that makes spaces safer, easier to navigate, very customizable. The company's new LuminR catalog contains sixty-six pages of elegant 24-Volt LED lighting solutions

Read on to find your finishing touch with Gibbs, Sand Pro, Chemcraft and Richelieu.

Chemcraft.com 40-41

Richelieu.com 42

GibbsGroupNA.com 43

SandmanProducts.com 44

Designed with passion, created to perform, ready to deliver

A new range of coatings from Chemcraft® wood coatings is set to create a new standard in high-performance polyurethane and acrylic coatings systems for the professional and industrial woodworking community. The Selva™ Pro 2K polyurethane and 2k acrylic systems by Chemcraft represent a harmonious blend of artistry and manufacturing precision.

The new Selva Pro systems draw inspiration from the rich heritage and craftsmanship of trusted Italian-inspired formulations and are backed by decades of industry expertise to give layers of confidence in every coat.

The range comprises three systems offering the ultimate choice for craftsmen and manufacturers alike. They have been designed with passion and crafted to provide a complete spectrum of sheens – from high gloss to dead flat – and offer limitless color possibilities for the most creative imaginations. Selva Pro systems provide substantial protection, longevity, beauty and design freedom so they are ideal for multiple uses, from commercial applications to residential projects, from kitchens to bathrooms, yacht interiors to musical instruments, hockey sticks to pool cues.

Selva Pro coatings demonstrate exceptional, well-rounded performance and the range is being launched with a compact selection of supporting products which, when combined, deliver a total solution that can be easily integrated into existing processes. And with simple, consistent mix ratios across all systems, complexity is reduced. The Selva Pro range is set to become popular in the industry: product training is easy, application is accurate and reliable, and inventory management is streamlined.

All elements of the new system are being produced in North American modern manufacturing facilities using high-quality raw materials and following stringent US standards for quality assurance.



Selva Pro Chiaro
Clear 2K Polyurethane System

Selva Pro Chiaro is a high-build, high-solids clear system that offers robust protection for wood against wear and moisture. Ideal for areas like kitchens and bathrooms, it is durable yet soft to touch. The formaldehyde-free formula has minimal odor and comes in a wide variety of sheens. Chiaro uses the same hardener as Bianco, with a consistent 2:1 mix ratio for minimal complexity.

Selva Pro Bianco
Pigmented 2K Polyurethane System

Selva Pro Bianco is a high-build, high-solids pigmented system that offers robust protection for wood against wear and moisture. Also ideal for areas like kitchens and bathrooms, Selva Pro Bianco is similarly durable yet soft to touch. The formaldehyde-free formula has minimal odor and comes in a wide variety of sheens. It offers unlimited color opportunities and excellent tinting* stability (when using a neutral base), especially with lower sheen finishes. Bianco uses the same hardener as Chiaro, with a consistent 2:1 mix ratio for minimal complexity.

*Tinting requires natural base.

Selva Pro Acrilico
2K Acrylic System

The smooth formulation of Selva Pro Acrilico enhances wood grain, particularly on expressive and/or high-quality wood-types. The Acrilico system includes a pigmented topcoat; a neutral topcoat with excellent tinting* stability especially with lower sheen finishes; and a clear 'Naturale' topcoat which has a modern dead flat finish inspired by the latest trends, and highly sought after by customers. Only one hardener is needed, with a consistent 10:1 mix ratio for minimal complexity.

*Tinting requires neutral base. Naturale cannot be tinted.

Chemcraft is a brand of AkzoNobel, a global leader in paints and coatings that is active in over 150 countries and an expert in the manufacture of sustainable coatings. Being part of the AkzoNobel family means Chemcraft wood coatings benefits from extensive research and development capabilities, technologies, and support networks, which have been crucial in the development and launch of the new Selva Pro range. AkzoNobel's expert R&D team has a global track-record with polyurethane and acrylic-based wood coatings systems, which have earned global trust from the professional and industrial woodworking community over several decades. Following comprehensive testing the new range offers proven, well-rounded performance so woodworkers can be confident that Selva Pro coatings are the right choice.



Selva Pro coatings will be readily available through the Chemcraft network of knowledgeable and experienced local distributors who, with the support of the Chemcraft team, pride themselves on the quality of the technical advice they can provide end-users.

For more information, visit www.chemcraft.com or contact your local Chemcraft distributor.

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2K POLYURETHANE SYSTEMS

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ITALIAN INSPIRED AMERICAN MADE

A Lighter Touch

Beautiful cabinetry comes alive in different ways as a room's light changes, and Richelieu offers a vast range of lighting options to add a special finishing touch to great casework.

The company's new catalog, LuminR – Make it Brighter, is sixty-six pages of elegant 24-Volt LED lighting solutions. It covers both lighting shapes such as linear, flexible and puck, and a host of ways to control lights including battery and wire-free switching.

Richelieu's state-of-the-art 24-Volt DC LED lights generate less heat than 12-Volt options, which not only extends their lifespan but also creates a safer and more





comfortable environment for clients. It's more uniform than other light sources, and has fewer variations in light intensity. That makes it ideal for environments such as retail stores, professional offices, and well-designed homes where even light distribution is not just desirable, but often essential.

The catalog's range of products delivers superior energy efficiency, optimal performance, and aesthetic values that blend perfectly with fine cabinetry. That's especially true of Richelieu's extrusion and cutting service, which lets cabinetmakers choose among elegant and functional extruded profiles for housing LEDs in a way that takes full advantage of the manner in which the light is diffused.

But it not just about looks. Richelieu's 24VDC system also outperforms other LED options in so many ways. For example, it can supply 33% more lamps with its 96 watts of power, compared to the 60 watts found in a 12VDC system. That means more light, but also more flexibility in design without compromising performance.

The LuminR catalog gives homeowners and commercial space managers a vast range of LED lamp choices, guidance in choosing among the options, and innovative ways to control lights. Woodshops looking for a unique finishing touch will discover exactly what they need in Richelieu's comprehensive catalog of LED choices.

Richelieu

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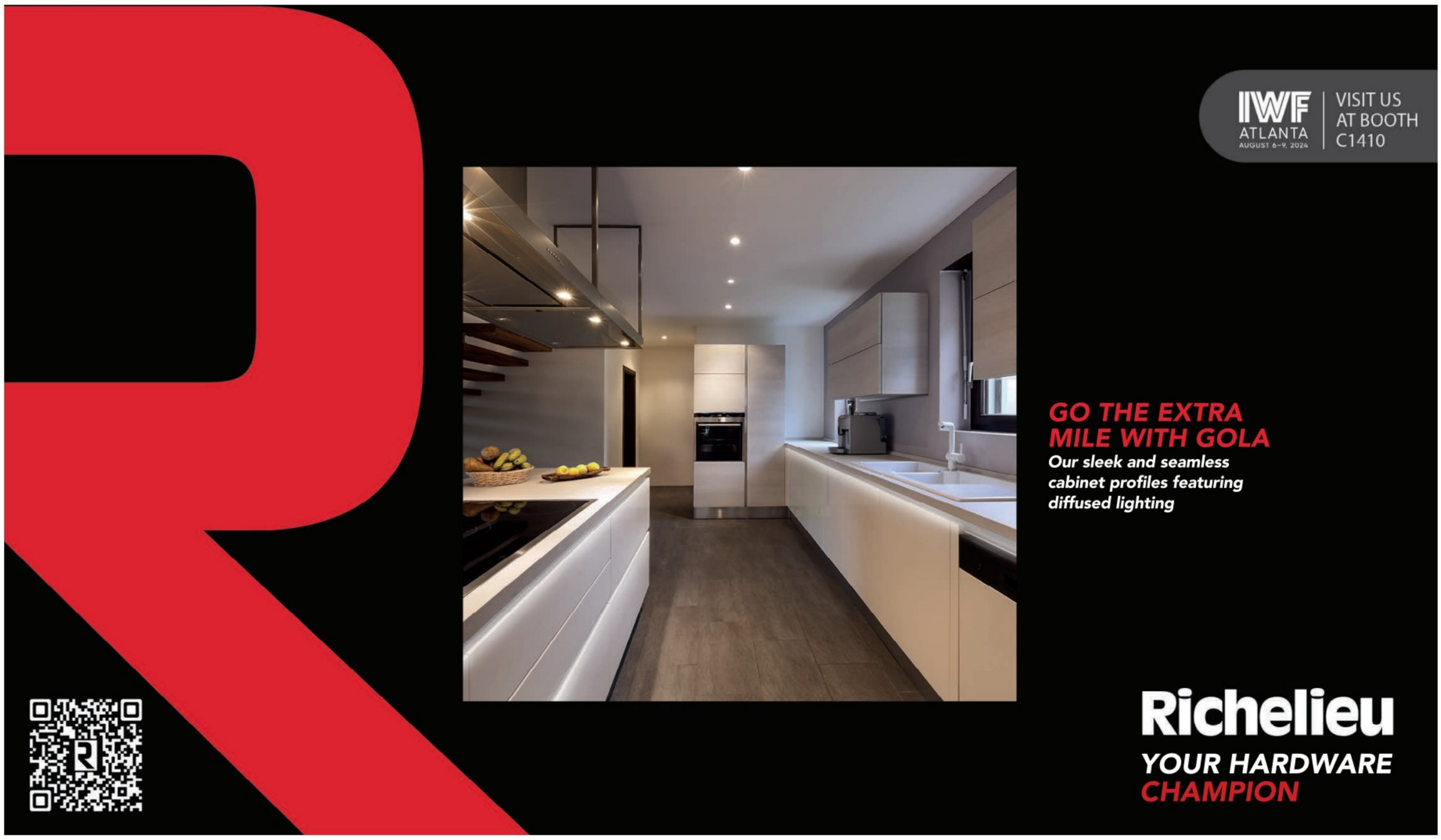
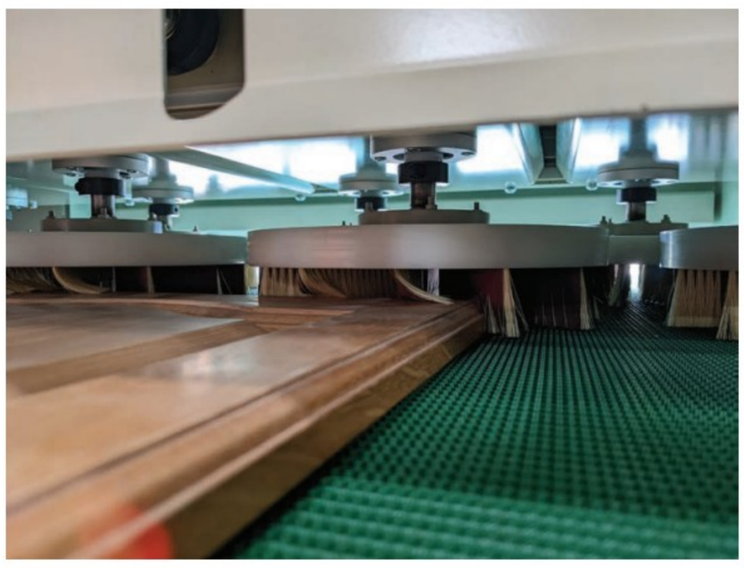


A Superb Finishing Touch

At AWFS in Las Vegas last year, Gibbs Group NA introduced its new Cup Brush Sander to the North American market. The machine eliminates almost all hand sanding of cabinet doors, drawer fronts and other components after machining, and prior to coating. Using cup-style brush heads in denibbing machines is not a new concept, but when the technology is adapted exclusively for finish sanding, the results are both consistent and impressive.

The new machine's robust construction supports its ability to perform the most delicate of sealer sanding tasks, while it also handles a wide range of general sanding duties. It uses Gibbs' unique 360-degree brush surface sanding technology, and offers easy and low-cost brush and abrasive replacement. The Cup Brush Sander is easy to operate using a touchscreen control with six customizable programs for easy and fast changeovers. And there's a built-in automatic cleaning function that leaves doors and drawer fronts dust-free and ready to coat. Various models of the Cup Brush Sander are available to accommodate different woodshop space and throughput needs.

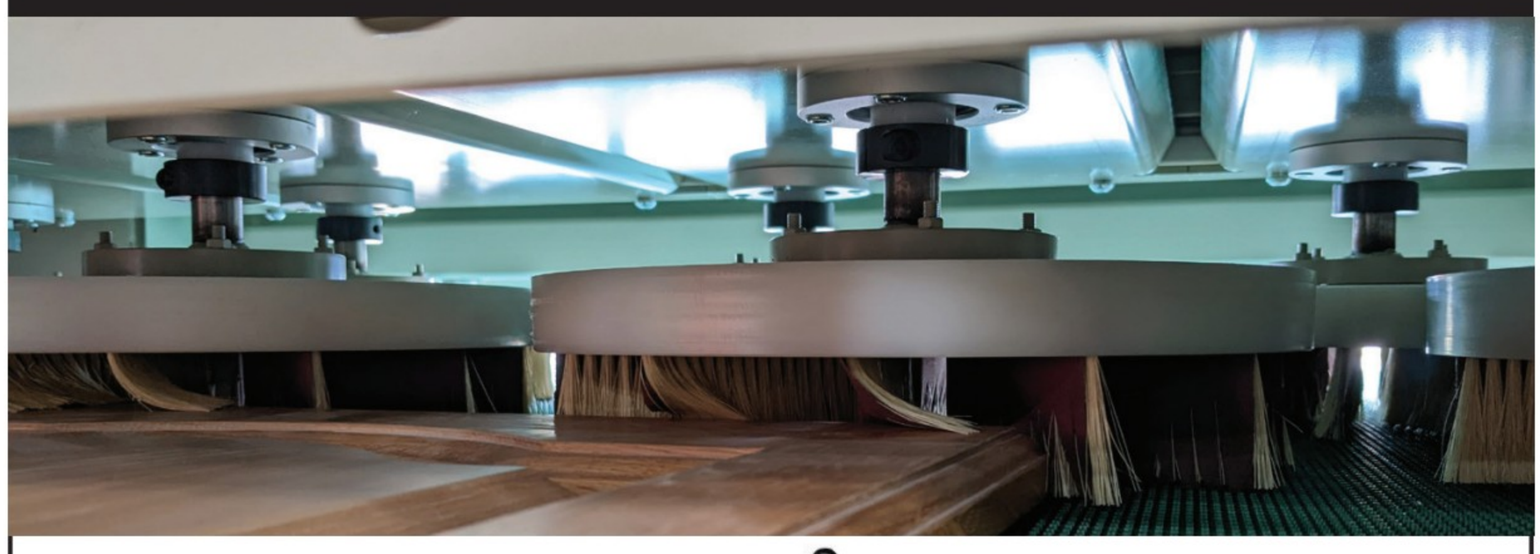


In addition to the Cup Brush sander, Gibbs Group NA also offers its Woodwelder to North American woodshops. This is a portable radio frequency machine that is capable of setting glue joints in 15 seconds or less. It works with standard PVA and UREA glue, and while it can be used for many applications that use water-based glue, its most common application is assembling cabinet doors and boxes.

Gibbs Group NA is located in Georgia. The company also offers a full line of drying racks and spray tables, and all of its equipment is built in the UK. If catalog items don't quite fit a woodshop's needs, the team at Gibbs is happy to discuss custom design changes.

CUP BRUSH SANDER

The New "Mid-Market" Cup Brush Sander
we have all been waiting for...



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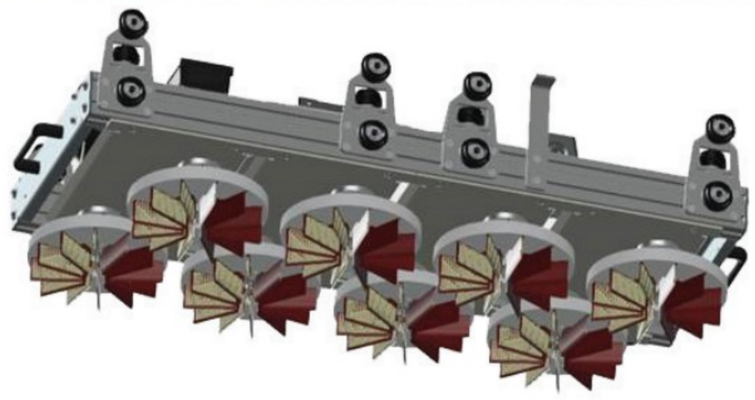

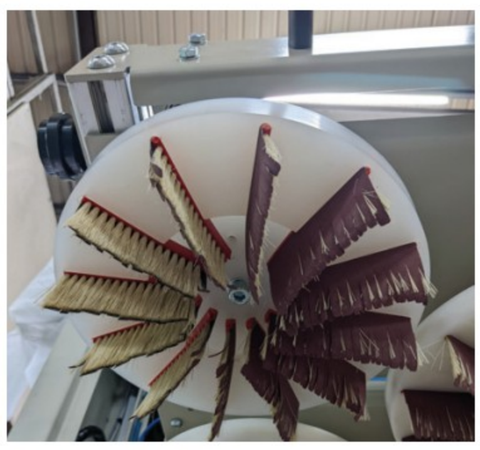

The unique system of "Cup Brushes" couldn't be easier to maintain & the oscillating carriage simply slides out for easy access

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The Makor Ultradry from Stiles Machinery is a UV tunnel with three adjustable modules on top, and the option to add a fourth below.

At the finish line

From spraying to drying, manufacturers have a solution

By John English

Innovations in the finishing spectrum are often groundbreaking in scope, but not always. Sometimes, they cater to smaller operations and help custom woodshops compete.

Guffey Systems in Tennessee (*guffeysystems.com*) takes that to another level as it differentiates between the needs of small- and medium-sized shops by offering both single station and line systems. Guffey's entry-level PivotPoint is a low-cost option that allows a woodworker to finish both faces of parts, such as a cabinet door, without additional fixturing or extra handling, and it works well when floor space is at a premium. It can be set up initially as a complete kit or added to piecemeal over time. The core system includes a spray arm that allows complete access to the part and a mobile drying rack.

Guffey's more comprehensive PivotLine is a higher volume system that's based on a rail which lets the shop prep, spray, bake and move a complete job's worth of doors, drawers, etc. through the booth in an efficient, low defect, time-sensitive process. The key to its effectiveness is a serious reduction in material handling. Guffey says that "PivotLine rivals the speed and throughput of an automated line at a fraction of the cost, space, and implementation time." The company has just introduced four new Quick-Start Kits that allow a shop to process about 40 parts at a time, and the kits can be easily expanded as needs grow.

DRY TIME

At the end of the coating process, fast curing is essential to preserve the quality and integrity of finishes. The longer a coating is liquid, the more susceptible it is to contamination. Accelerated curing also frees the booth for the next job, allows the shop to assemble parts faster, and it even reduces the environmental impact of the process.

Indiana-based **Green Fast Cure** (*greenfastcure.com*) takes that to heart and offers a simple plug-and-play drying system that works by mixing fresh air and gas in a process that delivers very effective infrared generation. This provides an oxygen-rich atmosphere for better oxidation of the fuel, so it can generate



The new Precision-6 Pro HVLP finishing system from Apollo.



The PivotLine from Guffey Systems.



The Dry Jet 2 hand-held drying tool from SATA.

the power necessary to reach long distances – from six to eight feet away from the sprayed part. GFC describes infrared as "an invisible radiant wavelength of energy, lying just beyond visible light, on the red side of the radiant light spectrum."

Headquartered in Grand Rapids, Mich., **Stiles Machinery** (*stilesmachinery.com*) offers a vast array of finishing systems, including several flat line drying options such as the **Makor** Ultradry UV Tunnel. This smaller machine allows polymerization of photo-sensitive UV paints, and the UV lamps are housed in independent modules equipped with parabolic mirrors. The modules can be repositioned to properly cover the surface with UV rays. It's possible to vary the lamp quantity, power and ray emissions as needed, and a bottom lamp can be added to help dry edges that aren't being treated fully by the upper lamps.

SATA (*sata.com*) makes an interesting and economical hand-held drying tool called the Dry Jet 2. This is a low maintenance, dry blow gun that can significantly shorten flash-off and booth occupancy times. It uses the Venturi principle, where supplied compressed air is combined with a large volume of ambient air, to achieve shorter drying times with water-based paint systems.

BGK (*carlisleft.com*) designs and manufactures electric infrared curing solutions that work with all conveyor types and are available in boosters, ovens or combination systems. They cure powder and liquid coatings, and several other types of finishes and adhesives.

APPLICATION SYSTEMS

Last year, **Apollo** (*hvlp.com*) introduced its new Precision-6 Pro HVLP finishing system that features a six-stage motor, 11.5 psi of sealed pressure, and the company's Precision Pressure Control System (PCS) which manages motor speed, voltage and amperage, adjusting automatically for a shop's altitude and the current barometric pressure. An LCD readout includes an hour meter that allows the shop to track usage for maintenance planning and job costing; accurate pressure reading to 0.10 psi; and alerts for idling, filter status, and temperature that let the operator preemptively address issues that may impact the work. Apollo's new PowerPause feature

is a 60-second, auto-idle mode that preserves motor life and allows for the highest available flow pressure when needed, while extending the lifespan of the tool. And the company's QuadraClean feature includes dual automotive air filters, plus a 32' Apollo-Flex ultra-light weight hose with alloy couplers on both ends and an exclusive Ultra-Flex whip hose at the spray gun end.

SCM Group (*scmgroup.com*) offers a complete range of finishing systems from Superfici, including automatic or robotized spraying lines, flat dryers, vertical dryers, UV and UV-LED curing systems, complete roller coating and curtain coating lines, and a range of printing machines, robots and 3D lines for doors, window frames and three-dimensional panels.

Total Finishing Solutions (*totalfinishingsolutions.com*) is based in Vancouver, Wash., and provides turnkey liquid and powder coating systems, including conveyors, ovens, robots, flatlines, and spray booths that can be purchased or leased. TFS also offers automation solutions from **Epistolio Robotics** and **ABB Robotics**.

Binks manufactures low- and high-pressure manual and automat-



The new Graco Powershot comes as a Standard battery-powered airless gun that works with any sprayer or as a dedicated XT model.

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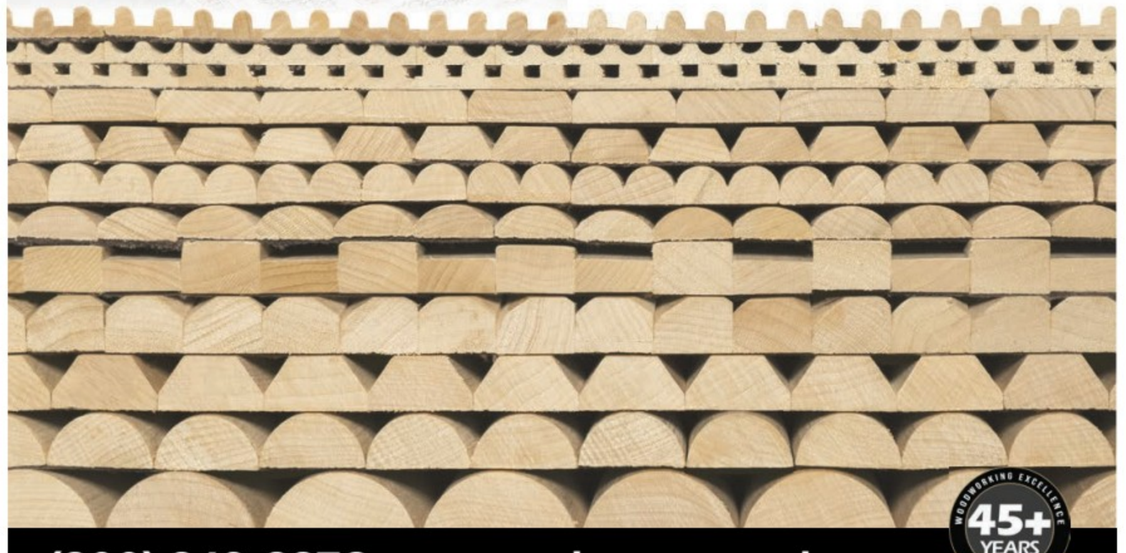

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Sames has introduced the Cyclomix Evo mixing unit that delivers the perfect mix ratio with solvent- or water-based paints.

ic spray guns, accessories, airless and air-assisted airless spray outfits used in many industrial applications. Binks also makes high- and low-pressure fluid handling pumps and regulators, pressure feed tanks, 2k electronic paint mixing machines, and paint circulating systems. Binks is part of the Finishing Brands family of manufacturers that also includes **DeVilbiss**, **Ransburg**, and **BGK** (*carlisleft.com*).

Sames (formerly Sames Kremlin, *sames.com*) has introduced the Cyclomix Evo modular dosing unit, which can be used with solvent- or water-based paint. It's designed to give a perfect mixing ratio, and it allows pre-mixing at the injection point. A unique algorithm lets the operator reproduce the mix ratio, regardless of flow rate and variations. The system can be expanded as needs change, such as adding a second gun, regulators, or different types and sizes of flowmeters. The company says that Cyclomix Evo has a short learning curve, and an intriguing new feature is an optimized waste manager that lets the woodshop use up to 70 percent of the paint that's in the hoses at the end of production. Plus, there's an app to control and monitor the system.

Among the new finishing system components from **Graco** (*graco.com*) are the PowerShot Standard and the Powershot XT, which the manufacturer says are the industry's first electric powered (as in, battery) airless guns. The Standard is built to connect to any airless sprayer. The XT, on the other hand, is specifically designed to work with Graco's new line of XT sprayers. The company





says the Powershot guns are 30 percent lighter than traditional alternatives, and they run on a DeWalt 20-volt powerpack that will spray all day on one charge. Each gun has an inline filter, a belt and holster to carry it around, and a 6′-long flexible hose. The XT offers wireless communication that lets the operator remotely adjust pressure at the powerpack from up to 200′ away from the sprayer.

Dubois Equipment Co. (*duboisequipment.com*) offers flat line wood finishing systems that include scuff sanders, stain application roll coaters, reverse fill roll coaters, differential roll coaters, stain wipe units, high-velocity gas fired ovens, IR curing ovens, UV curing ovens, cooling tunnels, and conveyors.

NMR Spray Equipment (*nmrspray.com*) in New Jersey describes itself as a global distributor of spraying equipment for contractors. The company offers a selection of new and reconditioned sprayers and accessories, plus repairs, parts and service for most major brands.





Courtesy of manufacturers

Total Finishing Solutions supplies everything from flat-line CNC and robotic coating to spray carts and full-featured booths.

Two years ago, the **Architectural Woodwork Institute** (AWI) published a short guide to purchasing a finishing system that can be found at *awiqcp.org*. It's quite basic but has links to some more detailed discussions. And the **American Hardwood Information Center** has published a very helpful overview of AWI's finishing system guidelines at *hardwoodinfo.com*. This is quite technical but very informative, providing great insight to woodworkers who are choosing a specific coating. **Cefla** also offers guidelines on wood finishing at *ceflafinishing.com*. **W**







The Sound of Nature by Talia Drury.

‘Rhythms’ explored at Esherick exhibit

By Jennifer Hicks

The Wharton Esherick Museum (WEM) in Malvern, Pa., opened “Rhythms: WEM’s 30th Juried Woodworking Exhibition”, on June 13.

Since 1994, the annual event highlights connections between Esherick’s creative legacy and the work of contemporary craftspeople that reflect a form or theme drawn from his life.

“This year, WEM invited artists to share works that explore the rhythms that shape their creative lives,” according to a statement from the exhibit’s organizers. “Rhythm — often defined as a strong, regular, repeated pattern of movement or sound — has appeared in Esherick’s artistic life in both concept and practice.

“Many of the progressive artistic communities Esherick aligned himself with believed that human, creative, and natural rhythms are inextricably interconnected. We see this in form when walking into Esherick’s Studio. Visual rhythms echo throughout the building in features as varied as the repeating sculptured treads of Esherick’s iconic Spiral Staircase (1930) and the dappled paint of the silo, whose color reflects the annual rhythm of autumn’s changing leaves.”

Juried artists include Christian Burchard, Abigail Castañeda, Kate Cameron Davidson, Raul De Lara, Alicia Dietz, Talia Drury, Karen







Reaction by Chelsea Witt.



Hypnotizer Cabinet by Rob Spiece.

Courtesyt of WEM

Ernst, Roberto Gastelumendi, Martin Goebel, Graham Hyun, Alex Jarus, Zac Keane, David Knopp, Rainy Lehrman, George Lorio, Aaron Michalovic, Matthew Mosher, Cory Olsen, Hilary Pfeifer, Bella Rielly, Seth Rolland, Rob Spiece, Stephen Thrasher, Chelsea Witt, and Leah Woods.

The exhibit runs through Sept. 8 and can be viewed online at *whartonesherickmuseum.org*. **W**

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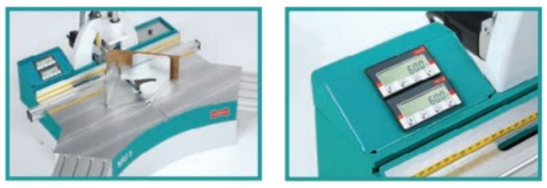

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Include name, dates, location, description of event and a contact address or telephone number. Calendar items, which should be typed or printed clearly, must be received at least 60 days before the event.

Please note that fees, as listed, might not include materials or shop fees. Check with a specific class for further details.

— Compiled by Jennifer Hicks

ARIZONA

Sept. 23-Oct. 31 — Fundamentals of Traditional Woodworking III. Advanced course for students to further develop joinery and shaping techniques, along with finishing. Fee: $1,198. Location: Southwest School of Woodworking in Phoenix. Learn more at *sw-sw.org*.

CALIFORNIA

Monthly — Society of Wood Manufacturing, a chapter of AWFS consisting of educators, manufacturers, hardware and industrial suppliers, and machinery dealers, meets during the second week of each month.



FLORIDA

Sept 22-24 — Architectural Woodwork Institute's annual convention, featuring networking opportunities, guest speakers and more on Amelia Island. Learn more at *awinet.org*.

MAINE

Ongoing — The Center for Furniture Craftsmanship offers year-round classes in woodworking to the highest degree of craftsmanship. One- and two-week workshops from June through October, 12-week Furniture Intensives, a nine-month Comprehensive, eight-week Turning Intensives, and Fellowships. *woodschool.org*

MASSASACHUSETTS

Sept. 19 — Open shop tour at Premier Builders in Georgetown, sponsored by the Cabinet Makers Association. *cabinetmakers.org*

MINNESOTA

Monthly — The Minnesota Woodworkers Guild meets on the second Tuesday of each month at various locations. *mnwwg.org*

MISSOURI

Oct. 2-4 — National Hardwood Lumber Association's annual Convention & Exhibit Showcase at America's Center in St. Louis. *nhla.org*

NEW JERSEY

Monthly — The North Jersey Woodworkers Association meets the third Monday of every month. Learn more at *njwawoodworkers.org*.

Monthly — The Professional Woodworkers Guild of Upper New Jersey meets the third Wednesday of every month. *njwoodguild.com*

NEW YORK

Monthly — The Woodworkers of Central New York holds meetings on the first Thursday of each month at 6:30 p.m. at the Belgium Cold Springs Fire Department in Baldwinsville. *woodcny.org*

Monthly — Northeast Woodworkers Association meetings held on the second Thursday of the month at various locations in the Albany area. *woodworker.org*

Monthly — The Long Island Woodworkers meet on the first Wednesday of each month at 7 p.m. at the Frank Brush Barn of the Smithtown Historical Society in Smithtown. Learn more at *liwoodworkers.org*.

NORTH CAROLINA

Monthly — Triangle Woodworkers Association meetings held on the third Tuesday of each month at 7 p.m. at Klingspor's Woodworking Shop in MacGregor Village in Cary. *triangle-woodworkers.com*

Monthly — Charlotte Woodworkers Association meets the third Tuesday of each month at 6:00 p.m. at MakerSpace Charlotte. Leartn more at *charlottewoodworkers.org*.

OHIO

Ongoing — Cincinnati Woodworking Club meets the second Saturday in the months of Jan., March, May, Sept. and Nov. from 8:30 a.m. to 12:30 p.m. at the E.B. Mueller in Reading. Visit *cincinnatiwoodworkingclub.org*.

RHODE ISLAND

Nov. 8-10 — Fine Furnishings Show featuring handcrafted furniture, art, accessories and more for the home at the WaterFire Arts Center in Providence. *finefurnishingsshows.com*

TENNESSEE

Nov. 10-12 — STAFDA Convention, an industry event that includes educational programs, seminars, networking and more at the Music City Center in Nashville. Register and learn more at *stafda.org*.

TEXAS

Oct. 6-9 — World Millwork Alliance 2024 Millwork Convention & Tradeshow at the Henry B. Gonzalez Convention Center in San Antonio. Register and learn more at *worldmillworkalliance.com* W

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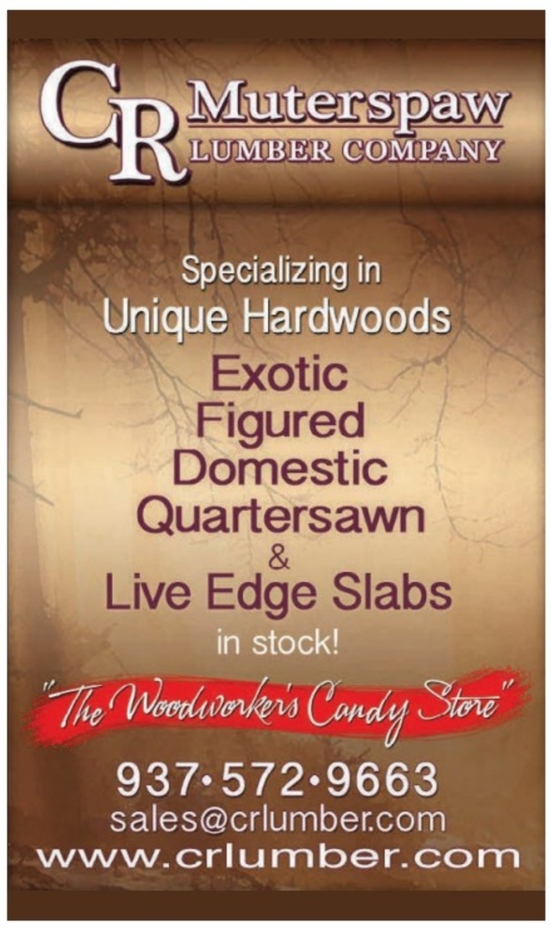

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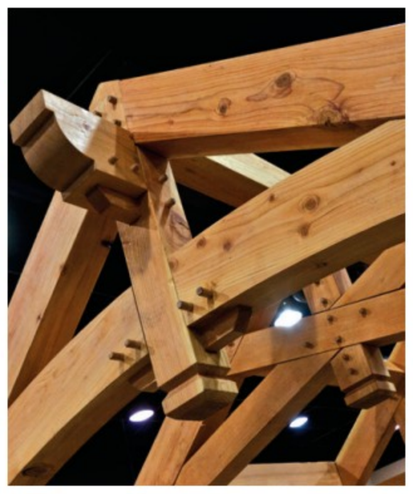


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Two hundred pine storage boxes by students at Hutchinson Middle School; Elliot Perciaccante's three-section liquor cabinet.

Top of the class

Castle USA has announced the Class and Individual winners of its 2023/2024 "What's Your Angle" student woodworking contest. Now in its third year, the contest evaluates student project entries based on the effective and innovative use of pocket screw joinery as well as their overall look and presentation.

"This year we were blown away by the quality of the entries," says Mathias Forsman, CEO of Castle USA. "Each and every one was so impressive."

Forsman reports a record number of entries this year. Castle equipment was not required, but the entries had to include pocket joinery and be comprised of at least 75 percent wood material.

A woodworking class at Hutchinson Middle School in Hutchinson, Minn., led by instructor Richard D. Buchholz, won the Class category for mass producing over 200 pine storage benches. It won Castle's TSM-12 pocket cutting machine. Reed-Custer High School in Braidwood, Ill., placed second and Monroe High School in Monroe, Wis., was third.

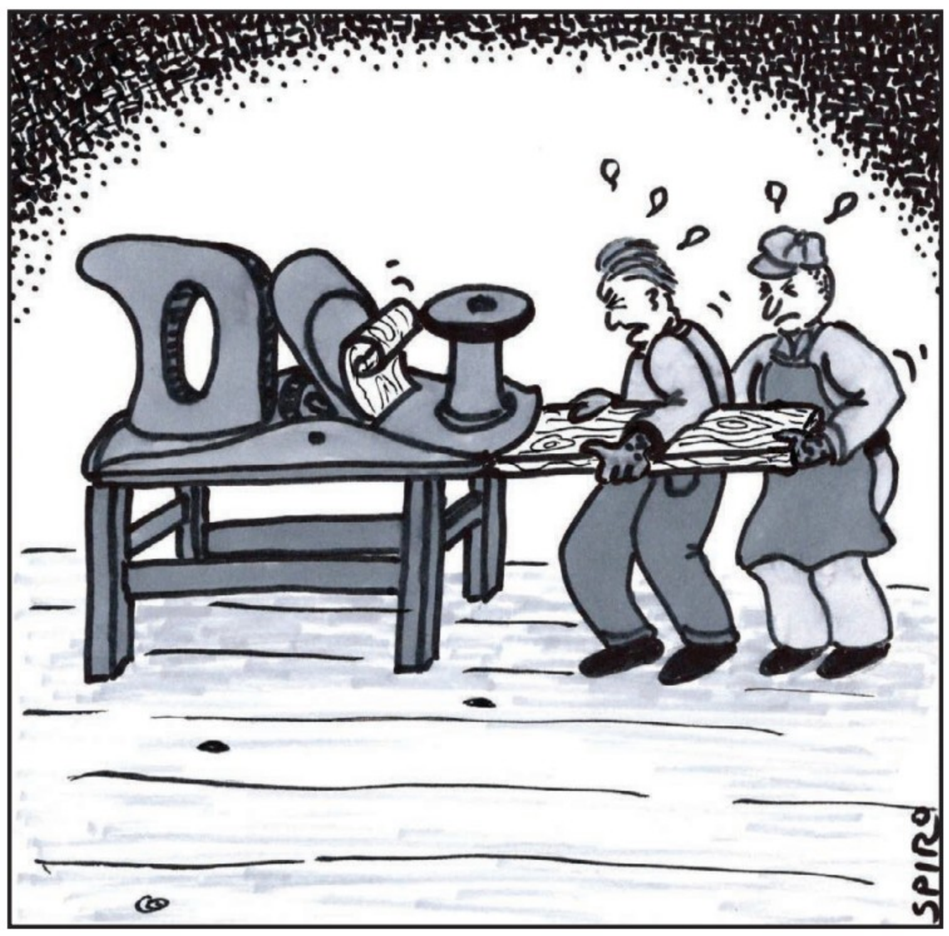
Elliot Perciaccante of Cedar Ridge High School in Hillsborough, N.C., won the Individual category for a three-section liquor cabinet featuring a lift assembly and multiple joinery options, including pocket screws, biscuits, dowels, and Dominoes. He won the Castle 110 pocket cutter professional bundle. Luke Patterson of Arrowhead High School in Hartland, Wis., and Max Denson of Broken Bow Public Schools in Broken Bow, Neb., placed second and third, respectively.

Honorable mentions were awarded to East Henderson High School in East Flat Rock, N.C.; West Henderson High School in Hendersonville, N.C.; Connor Murrenus and Brett Barker of Arrowhead High School; Keith Knaak, Camden Dean and Duncan Holmes of Lincoln East High School in Lincoln, Neb., and Emily Stanziale of Hammonton High School in Hammonton, N.J.

Learn more about the competition at *castleusa.com*. **W**

60 Grit

Rough humor by Steve Spiro



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