



In this triple-decker, a fire-breathing dragon lays siege to a castle while princess inside hollers for help.

The 500-piece jigsaw puzzle features uneven edges, tricky interlocks to add confusion. Cost: nearly \$2,000.

By Richard Wolkomir

The ‘Rolls-Royce of puzzles’ drives its fans round the bend

Expensive, beautiful and maddeningly difficult, Stave puzzles explore baffling new jigsaw frontiers. Are you set for a Double Whammy?

There are jigsaw puzzles and then there are jigsaw puzzles. Some are a lot sneakier than others. Lately I’ve been agonizing over a particular kind of puzzle that’s so exasperating it can make your head ache. In fact, several are sold complete with bottles of aspirin for that very reason. Once, the company that produces these brain-busters—it’s called Stave Puzzles Inc.—sent out a Santa Claus puzzle with three extra pieces that didn’t fit. The leftover pieces, each carved as the word “Ho,” together formed a merry message. The idea, according to Steve Richardson, one of Stave’s founders, is to make a puzzle “that’s possible to do but that nobody can do.”

Richardson is a 50-ish former computer analyst whose wife, Martha, is his business partner. He has one son in law school and another studying art. He wears aviator glasses and a genial grin, but don’t let that fool you. This is Mr. Diabolical himself. The jigsaw puzzle has been evolving for more than 200 years, and Richardson embodies its fiendish culmination. In his airy workshop just outside Norwich, Vermont, he plots trompe l’oeils that make your teeth grind.

C) Copyright 1990, Smithsonian Institution

Maybe, for example, your puzzle fits together three different ways, but only one of those configurations is correct. Or it may have three layers. Or some pieces may fit only if you turn the back sides up. Beware of Richardson’s fake-you-out “Whammy Edge.” Also the “Double Whammy.” And his truly insidious “Triple Whammy”—but more about these later.

Apparently, Richardson’s victims want him to drive them nuts, and they’re willing to pay for their frissons of frustration. Stave puzzles range from about \$95 for a “petite” to more than \$7,000 if you like your bafflement deluxe. As the founding father puts it: “We’re the Rolls-Royce of jigsaw puzzles.”

You don’t have to be rich or famous

Queen Elizabeth has one. The list of other Stave aficionados includes such prominent names as Mellon, du Pont and Roosevelt. But anyone, celebrity or not, can order a Stave puzzle, and what you get is an original art print bonded to a specially made plywood backing. In the Vermont workshop, this sandwich is sawed into a puzzle by a cutter who operates an electric jigsaw with a blade as thin as the hair of a horse’s tail. Part of the system for cutting out these intricate pieces is secret, but each cutter works freehand, so that no two puzzles are alike.

The pieces that make up a puzzle connect, or interlock, by way of the knobs and sockets on their edges. In Stave puzzles, the interlocks come in several different styles. Some of the pieces come in different styles too. These are called silhouettes, and they are shaped into customers’ initials, memorable dates and figures representing their hobbies, favorite sports, pets, whatever they request. Certain of these pieces, fitted together, form larger silhouettes. Others form a rebus, a puzzle within the puzzle. Recently, a customer ordering a \$2,000 puzzle specified 58 silhouettes, which were divided into such categories as “Memorable Humans” (“husband, overweight, glasses, 55 yrs.,” “bald banker brother,” “short round father”); “Memorable Pets” (“75-lb. Bouvier des Flandres,” “klutz kat”); and “Memorable Vehicles” (“Jaguar XKE coupe,” “Mercedes 190SL sport conv.”).

The service, too, can be personalized. One December afternoon several years ago, a Philadelphian called the workshop. Christmas was two days away and he had to have a Stave puzzle for his mother’s gift. The Richardsons were just closing up, but the man sounded desperate. “You start driving, we’ll start cutting,” Steve Richardson said. At 1 A.M., just as the couple finished cutting out the puzzle’s final piece, the customer knocked. He arrived back in Philadelphia in time for Christmas Eve.

Then there was the 26-year-old administrator from Texas who requested an unusual puzzle for his girlfriend, an Indiana travel agent. As she slowly assembled the thing, in a New Hampshire inn, she discovered that it showed a demure Victorian bride dressing for her wedding. (Stave provides no helpful box-top pictures of the finished puzzle.) When the puzzle was finally completed, this message appeared in intaglio across the picture’s bottom: “Will You Marry Me?” She said yes.

Richardson’s forte, however, is not sweetness and wedding bells. It is addiction, malediction and masochism. As one satisfied customer recently wrote: “It took three of us about 40 minutes with some good white wine and lots of screaming. Thanks!” Dru Carter, of Glen Ellyn, Illinois, a Stave devotee, describes the puzzlers’ appeal this way: “They can drive you absolutely batty.”

Customer relations often hinge on amiable antagonism. Charles Alan Wright, a professor of law at the University of Texas at Austin, has been exchanging nasty letters with Richardson for years. “He tells me I’m too dumb to do his



Puzzle master Steve Richardson peers through one of his most challenging creations, a butterfly chase.

Photographs by Richard Howard

Puzzles that drive people nuts

puzzles, and I tell him his puzzles are too dumb to warrant the time of an intelligent man," Wright says.

Before he became a puzzle maker, Richardson worked for a large accounting firm in New Jersey. He fled the urban rat race in the late '60s for a more easygoing life with a small computer outfit in bucolic Hanover, New Hampshire, only to be laid off six months later. With Dave Tibbetts, the same company's former art director, he set up a game-designing partnership. "We always had jigsaw puzzles around the house when I was a kid," Richardson says, "and I used to dream up little games to try out on my friends."

Richardson and Tibbetts began by converting newspaper crossword puzzles into cardboard jigsaw puzzles. One day, a man called from Boston and offered to pay them \$300 for a wooden jigsaw puzzle. The partners were then getting \$3 for each of their cardboard puzzles (at wholesale rates), so naturally they were intrigued. Richardson drove down to Boston to meet the caller, who showed him a fancy wooden jigsaw puzzle made by the Par Company Ltd., which was no longer in business. "I was in awe—the pieces were beautiful," Richardson recalls.

He discovered that one of Par's two owners had died and the other had retired, leaving the firm's addicted clients gnashing their teeth in frustration. They didn't want low-cost cardboard puzzles, stamped out cookie cutter fashion in large factories. They wanted fancy, handcrafted, wooden jigsaw

Mr. Wolkomir wrote last month about landfills. His earlier subject matter has included running shoes and the Royal Canadian Mounted Police.

puzzles. And for those devotees price was no object.

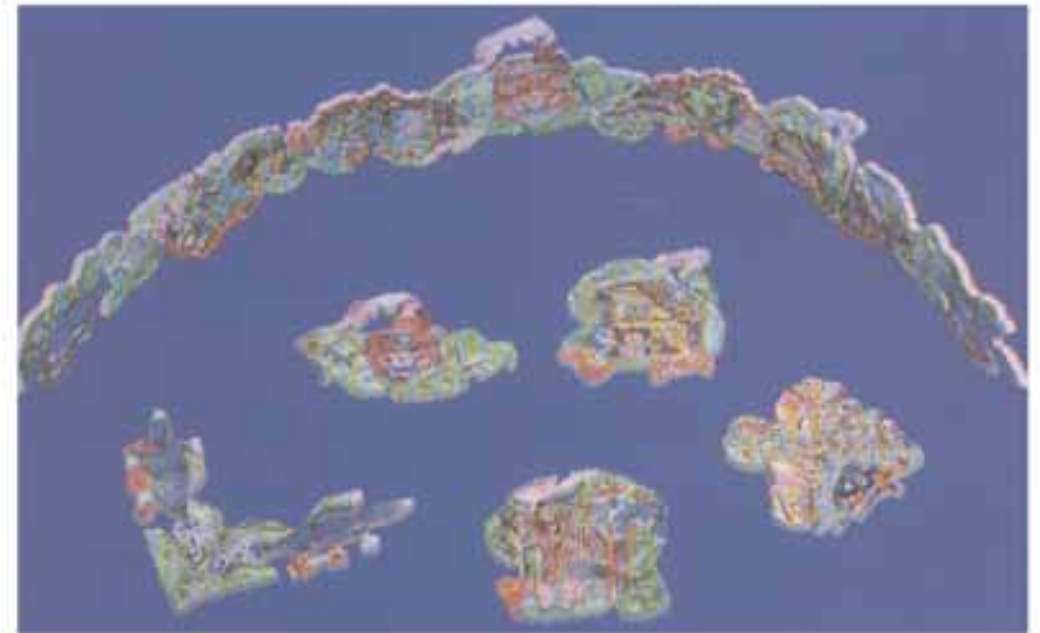
Since the market was out there, Richardson and Tibbetts decided to go for it. They combined their names, Steve and Dave, into "Stave," advertised their new approach in the New Yorker magazine and watched the orders pour in. From that time on, there was never a dull moment—except for Tibbetts, who eventually got bored, sold Richardson his share of the company and started up another one. (He's now a leading designer of children's puzzles.) Richardson continued jigsawing puzzles from existing prints and from artwork supplied by customers, but he also struck off in a new direction by commissioning original artwork specifically designed for puzzles. That way, the artist and the puzzle cutter could collaborate on tricks, feints and visual hocus-pocus.

To see what sets Stave products apart, I recently tried a typical mass-produced puzzle. It was made of cardboard, consisted of 500 pieces and cost a mere \$8.27. It took me the better part of six evenings to assemble it. The artwork was fuzzy and the cutting was robotic. In fact, because so many puzzles are stamped out with the same pattern of cuts, regardless of artwork, an artist in Iowa City has invented a new form of puzzle art. Mel Andringa combines pieces from different puzzles to produce surreal "found-art collages." Cardboard is fine for Andringa, but I missed the heft of Stave's wooden pieces and the sense of matching minds with a witty artist and a crafty cutter, not to mention the thrill of playing with a toy that costs as much as a diamond ring.

To get a better idea of Stave's niche in puzzle evolution, I visited Anne 13. Williams, an economics professor at Bates College in Lewiston, Maine. Probably the country's top jigsaw-puzzle maven, she is the author of *Jigsaw Puzzles: An Illustrated History and Price Guide* (to be published by Wallace-Homestead Book Company next month) and was curator of a puzzle exhibition at Bates two years ago. The Cape Cod-style house she shares with a gray cat, Emily, is also the home of what may be the largest repository of adults' and children's jigsaw puzzles in the world—more than 2,000 relics of the cutter's craft.

If you can't beat 'em, eat 'em

Among the many unusual puzzles in that remarkable collection is one made of chocolate ("I used to have two," Williams confesses cheerfully) and a Japanese item with



Puzzle called "Three Little Pigs" can be put together 64 different ways but only one of them is correct. The five

segments in foreground, above, are wrong. Is the more linear arrangement of 150 pieces right? Perhaps. . .



Stand-up baseball puzzle has a scoreboard that wraps around playing field. Customer specifies team colors.

Both cow puzzles are assembled correctly. Pieces are reversible, but most puzzlers try using only one color.

pieces so tiny that it comes with a pair of tweezers. Williams also owns one of the world's oldest jigsaw puzzles (p. 108). It was created in 1766 by John Spilsbury, a London printer. He mounted a map of Europe on a mahogany board and cut it into pieces along national borders "in order to facilitate the teaching of geography" to children.

Anne Williams' collection makes it clear that many Stave features—wooden pieces, handcrafting, high quality esthetics—are actually a revival of an earlier tradition. Just as such Stave puzzles as "Venice Beach Vibes," featuring the quintessential colors and people of California, reflect our era, earlier puzzles reflected theirs. "Puzzles are artifacts of their time, a window on the past," Williams says.

At first, most jigsaw puzzles were cut-up maps, like Spilsbury's, but makers soon branched out into other images that were considered edifying for children, such as Old Testament prophets and British or French rulers, or the 1821 puzzle "A Representation of Thirty-six Birds Commonly Seen in England." In those days, puzzle pieces did not interlock, and a violent sneeze could destroy an evening's



Anne Williams shows part of her puzzle collection, including a 1766 map (foreground) by John Spilsbury.

effort. Puzzle makers soon learned to cut interlocks into the edge pieces, so that they formed a rigid outside frame. By the 1840s, in French and German puzzles, all of the pieces interlocked.

In 1850, the first jigsaw puzzle known to have been made in America went on the market. It was called "Geographical Analysis of the State of New York," with all of the counties included. A few years later came "Mitchell's Dissected Map of the United States." West of the Mississippi it showed mainly Indian tribes and the California goldfields. It came with a picture of the assembled puzzle, but puzzlers were admonished not to look at it "until a patient effort has been made to put the Dissected Map together without it."

Inevitably, puzzles became an advertising medium. The series of state maps published by the enterprising Rev. E. J. Clemens in the 1880s featured an advertisement for White sewing machines or Sherwin-Williams paint on the reverse side of each puzzle. A 1932 puzzle showed a child determinedly brushing her unwilling bull terrier's teeth with a particular brand of toothbrush. "After that puzzle went out, toothbrush sales quadrupled," Williams says.

In the 1700s puzzles were made of hardwoods, which broke easily and did not lend themselves to intricate cutting. Gradually over the next century or so, manufacturers shifted to pine and other softwoods. Just before World War I, they began using plywood, which was stronger. But by then, many producers had already begun making children's puzzles out of cardboard, which was much cheaper than wood.

Wooden puzzles did not go away though. Around the turn of the century, improvements in machinery had made it possible to cut larger and more complicated versions, which in turn lofted the wooden jigsaw puzzle's popularity to new heights among adults. Newport and Long Island socialites threw weekend "puzzle parties." In 1909 demand was so high that Parker Brothers stopped production of all other games and devoted its resources entirely to puzzles, with 225 women sawing away.

An antidote to Depression'

The Great Depression was a boom time for jigsaw puzzles. People seeking diversions from their troubles constituted a large market, and out-of-work craftsmen seeking to earn cash exploited it. Every Wednesday, puzzlers could buy a 300-piece "Jig of the Week" at newsstands for 25 cents. The enthusiasm for puzzles in many parts of the country was such in those days that libraries actually rented them out.

By 1933 two unemployed New Yorkers, John Henriques and Frank Ware, were turning out beautifully handcrafted jigsaw puzzles for an elite clientele that eventually ranged

from the Fords, the Vanderbilts and the Astors to Bing Crosby, Marlene Dietrich, Gary Cooper and Marilyn Monroe. They formed the Par Company Ltd., which specialized in bonding fine European prints to custom-made plywood. Once, when their plywood supplier ran out of mahogany, one of their customers—a diplomat—helped them import the wood directly from Honduras, to hasten the arrival of his next puzzle. In their jigsaws, Ware and Henriques used German blades, seven-thousandths of an inch thick. They hired chemists to formulate special bonding glues. And they customized their puzzles, including such personalized pieces as their clients' initials. They also studded their puzzles with artful silhouette pieces, including their trademark, a sea horse.

Ware and Henriques were tricky. They cut pieces that looked like corners but really weren't. They cut out areas inside puzzles, so that customers tried to fit pieces into spaces where only spaces belonged. Their puzzles came in plain black boxes, with no helpful clues. Even the titles were confusing. For example, they called a knight in armor "Kid in a Can."

Two years after Henriques died, in 1972, Ware retired. He turned over the business to a longtime assistant, but after a few years the assistant retired, too. By then, Stave had taken up the Par mantle, although a New York hobbyist still cuts a few puzzles under the name.

Always dreaming up new tricks

Many of Steve Richardson's tricks are classics of the puzzle maker's art. He cuts straight-edged pieces that seem to be part of the puzzle's border, but aren't. He also makes phony corner pieces, puzzles with irregular borders, and "split corners" made of two pieces, neither of which looks as if it could possibly be part of a puzzle's squared-off corner. But Richardson is constantly dreaming up new tricks, too—tricks like the Whammy Edge, in which two abutting pieces don't interlock. "It drives puzzlers crazy, because you need a third piece to tie them together," the master of confusion cackles. The Triple Whammy? "All three pieces have two perpendicular straight edges making them look like corner pieces . . . but none of them are." That cackle again.

Sometimes a Stave design calls for a "sculpt," in which the cutter carves out slivers of wood to create an incised image, such as the sun rising over a hill. "That drives them nuts because of the empty space," Richardson says. Then there are puzzles like the "Three Little Pigs," which fits together in 63 wrong ways and one right way. These are what Richardson calls his "Third Generation" puzzles.

"First Generation" puzzles are made from an existing print, personalized with as many pieces—such as a favorite car or a beach house—as the customer specifies. "Second



Puzzle made around 1910 amounted to little more than an ad for sewing machines. People enjoyed it anyway.



Puzzle made by Parker Brothers in 1920 incorporated a number of familiar silhouettes as part of the picture.



Mystery puzzle from Depression days came complete with a "novelette" (right) and a special "piece" (top).



Cutter in Stave's Vermont facility works freehand at a jigsaw with a blade that's as thin as a horse-tail hair.

Credits for Stave Puzzles artists: Candy Thun of Plymouth, New Hampshire, did the artwork for *Denzel the Dragon*, *The Butterfly Chase* and *The Three Little Pigs*. Jemifer Brown of Strafford, Vermont, did the baseball puzzle, and Carlye Klein of Norwich invented the two-sided cow.

Generation" puzzles are hand-painted, based on original artwork commissioned by Stave. "Third Generation" puzzles go together more than one way, but only one is the right way. And "Fourth Generation" puzzles not only go together more ways than one, but you also must turn over some pieces to get them to fit. For instance, to assemble a green pine tree, you must turn up the brown reverse sides of some pieces to form the trunk. "What Richardson has done," says Joseph Taylor of Honeoye Falls, New York, "is turn puzzles into pieces of art." Taylor should know. He's been a puzzler for nearly 70 years.

How to account for the curious love-hate relation- 7 ship that exists between Stave and many of its customers? "It's a case of sadists and masochists," Richardson explains half jokingly. "We're driven to think up new tricks by having our customers tell us, 'Nyah, I did it, ` you can't fool me.' They know this infuriates us."

"Puzzlers are a little compulsive," says Betty Ford, the director of student teaching at California University of Pennsylvania in California, Pennsylvania. A few years ago, she began a behavioral study of puzzlers at the now defunct national jigsaw puzzling championships in Athens, Ohio. The research convinced Ford, a puzzler herself, that one of the fundamental appeals is the satisfaction of transforming chaos into order.

Whatever the attraction, it keeps Steve and Martha Richardson and 12 employees busy. Everyone at Stave except the receptionist runs jigsaws and designs puzzles, working with five outside artists. Richardson often wakes up in the middle of the night with an idea. Once, he imagined three interlocking circles, which an artist transformed into a beautiful butterfly that encloses three smaller, free-floating butterflies.

Sometimes Richardson outfoxes himself. Several years ago he came up with an idea for an April Fool's puzzle called "Five Easy Pieces." The joke was, no matter how you put it together, there was always one j piece that wouldn't fit. A lot of customers didn't think it was funny. They called, pleading for the solution.

But there wasn't one. The pieces didn't fit, and that was that. "I had to buy back all 30 of those puzzles," Richardson recalls glumly.

But his darkest hour came a year ago, when he began to worry that he had reached a dead end. It seemed quite likely that he had explored every possible design ` approach and run out of ideas. Then, doodling on a beach in the Virgin Islands one day, he was struck by inspiration: "A Mobius strip concept!" Richardson refuses to say more because it's secret. But he does allow as how "the possibilities are absolutely unlimited." This innovation will be the basis of Stave's "Fifth Generation" of puzzles. Aficionados will be outwitted, hoodwinked, flummoxed. They will be in torment. In short, they will be happy customers. Mr. Diabolical breaks into a big grin just thinking about it.