



Useful tips, news and information from James CRAFT & Son, Inc.



Blending tower conveyor lines.



Clean-in-place (CIP) piping.



Rooftop chillers.



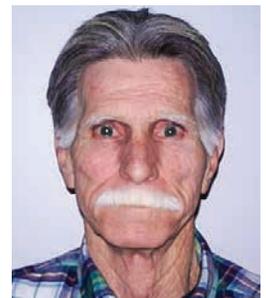
The lobby of Fuchs North America's new 210,000-square-foot facility in Carroll County.

Fuchs North America Headquarters Facility

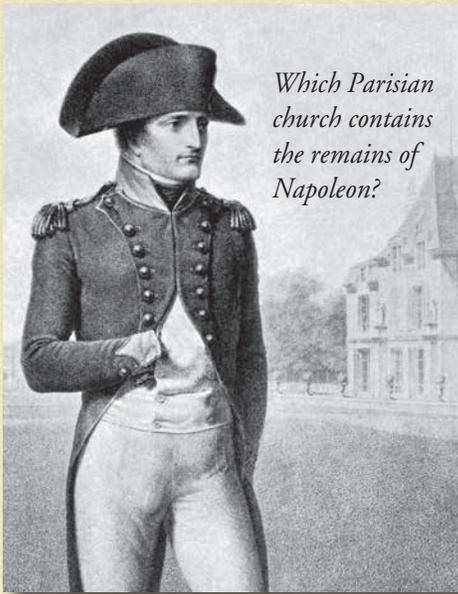
German-owned spice and seasoning manufacturer Fuchs North America recently relocated from Baltimore County, where it was landlocked, to its new modern facility only miles north in Carroll County. This 210,000-square-foot facility houses 160 workers and includes manufacturing, administration, product development and sales—all under one roof.

JC&S broke ground on the plumbing and HVAC package in the Fall of 2015 and the project stretched to the Summer/Fall of 2016. Contracted by Kinsley Construction, James CRAFT & Son performed the design-build HVAC and plumbing portion of the project.

A special "thank you" is due to the late Charlie Wolf for securing this contract and for his 19 years of service at James CRAFT & Son. He will be greatly missed by our employees, as well as the many customers he served over the years.



Charlie Wolf (1947-2015).



Which Parisian church contains the remains of Napoleon?

Trivial Pursuits

- 1) In which city is the world's largest medieval cathedral to be found?
 - a) Florence
 - b) Seville
 - c) Paris
 - d) London
- 2) What world-famous landmark was built on Bedloe's Island?
 - a) Christ The Redeemer
 - b) The Moai Monoliths
 - c) The Statue of Liberty
 - d) The Little Mermaid
- 3) Where in the world can you see two bridges linking one continent with another?
 - a) Bosphorus
 - b) Denmark
 - c) Romania
 - d) Germany
- 4) Which Parisian church contains the remains of Napoleon?
 - a) Le Sacre Coeur
 - b) Notre Dame
 - c) Les Invalides
 - d) Reims Cathedral
- 5) Which palace was built by Cardinal Wolsey and presented to Henry VIII?
 - a) Blenheim Palace
 - b) Kensington Palace
 - c) Buckingham Palace
 - d) Hampton Court Palace

Answers: 1) b; 2) c; 3) a; 4) c; 5) d

Why Do Golf Balls Have Dimples?

According to *Scientific American*, engineers and scientists in the golf industry study the impact between a golf club and a golf ball to determine the ball's so-called launch conditions. The impact typically lasts only 1/2000 of a second, but it establishes the ball's velocity, launch angle and spin rate. After this brief impact the ball's trajectory



is controlled entirely by gravity and aerodynamics. As a result, aerodynamic optimization—achieved through dimple pattern design—is a critical part of overall golf ball development.

A smooth golf ball hit by a professional golfer would travel only about half as far as a golf ball with dimples does. Most golf balls have between 300 and 500 dimples, which have an average depth of about 0.010 inch. The lift and drag forces on a golf ball

are very sensitive to dimple depth: a depth change of 0.001 inch can produce a radical change to the ball's trajectory and the overall distance it can fly.

The dimples on a golf ball create a thin turbulent boundary layer of air that clings to the ball's surface. This allows the smoothly flowing air to follow the ball's surface a little farther around the back side of the ball, thereby decreasing the size of the wake. A dimpled ball thus has about half the drag of a smooth ball.

Dimples also affect lift. A smooth ball with backspin creates lift by warping the airflow such that the ball acts like an airplane's wing. The spinning action makes the air pressure on the bottom of the ball higher than the air pressure on the top; this imbalance creates an upward force on the ball. Ball spin contributes about one half of a golf ball's lift. The other half is provided by the dimples, which allow for optimization of the lift force.

What Chapter Was That?

A minister told his congregation, "For next week's sermon, I would like everyone to read the 17th chapter of Mark from your Bible. This will help you fully understand my topic on an important sin."

The following Sunday, the minister opened his sermon with, "Now, how many of you have read Mark 17 this week as I asked?" Nearly all the hands went up.

The minister smiled. "Mark has only 16 chapters. I will now proceed with my sermon on the subject of lying."

Keep Motivation High By Combining These Factors

Motivating employees through specific projects and goals doesn't have to be difficult. Just combine these two important elements:

- **Involvement.** Employees who influence the direction and shape of the project will tend to be more enthusiastic about carrying it out. Ask for their ideas, and incorporate their feedback.
- **Development.** Most employees will thrive on stretching themselves, especially if they have a chance to learn new skills. Include them in planning, and delegate important tasks so they have a chance to grow professionally.

How TB Changed Our Culture

Tuberculosis once ravaged the nation, and although it's relatively rare in the U.S. now, its impact is still felt today. According to "The Forgotten Plague," a PBS television series, it continues to influence our culture:

- **Ice cream cones.** Waffle cones were developed to replace the small glass containers vendors served ice cream in at the beginning of the 20th century. Customers would return the bowls for reuse, but concern about germs created the need for something that would reduce the possibility of contagion.
- **Short skirts.** Long women's skirts that dragged on the ground could easily pick up germs from the streets, especially since spitting was once considered socially acceptable until concerns about disease rose. Women quickly adopted skirts and dresses with shorter hemlines that reduced the danger of picking up unwanted germs.
- **Shaving.** Long beards and mustaches were considered stylish, but again, worries about the germs they could carry changed people's minds. The clean-shaven look caught on and became a symbol of the rising middle class.
- **Recliners.** Patients in sanitariums recovering from TB often sat in chairs that could be adjusted to tilt back, allowing them to rest in the sun and fresh air at any angle. Recliners caught on among the upper classes and are still popular today.

SPEED BUMP

Dave Coverly



Why We Rate Engines in Horsepower

From your car, to your lawn mower, to your snow blower, to your chain saw—the power of almost every engine you deal with is measured in terms of horsepower. None of these things seemingly have anything to do with horses, so where did that measurement come from?

Well, actual horses. According to *mental_floss*, in the early days of the steam engine, inventor and engineer James Watt made some significant improvements to the Newcomen steam engine, and attempted to market and sell his new version. This was easy enough when Watt was dealing with people who already had a Newcomen engine, and could directly compare the output of the old engine to his models. Some potential customers didn't have a steam engine at all yet, though, and were still using draft horses to move weight and power machinery. He needed a way to explain his engine in terms that these people would understand.

Watt worked out the idea of horsepower while watching some draft horses lift coal at a mine (in some versions of the story, he watched a horse turn a mill wheel). He determined that a horse could do 33,000 foot-pounds of work in a minute (for example, move 330 pounds of coal 100 feet in a minute, or haul 33 pounds of coal 1000 feet in the same time), and dubbed that "one horsepower." He then used that as a way to make the apples-to-oranges comparison between horses and his machinery, and could say that a steam engine had power equivalent to X number of horses.

Use Your To-Do List To Bolster Career Development

The typical to-do list reduces your job to its most tedious elements: scheduling meetings, sending emails, solving problems, etc. This can undermine your desire to find purpose and meaning in your work.

Try this: Create a list of big-picture goals—getting a promotion, completing a major project, improving customer's lives, and so forth. Break these goals down into bite-size pieces that you can accomplish soon, and add two or three of these to your to-do list every day. You'll make progress on what you really want to achieve, and turn your to-do list into a career development tool instead of a simple list of everyday chores.

York Country Day School

New Construction & Renovations

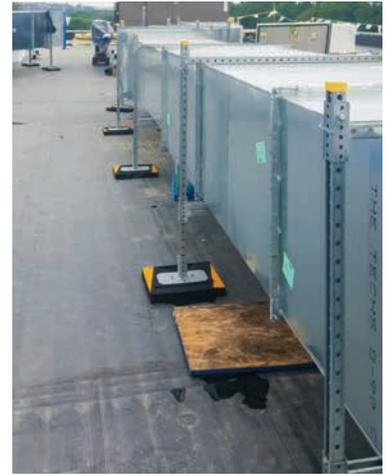
This \$15 million project for York Country Day School nearly doubled the size of the school with a 40,000-square-foot addition, featuring a performing arts center, where 400 seats slide away to provide space for project-based learning. Labs for work such as costuming, set fabrication, sound and video editing, robotics, and other subjects, surround the center.

James CRAFT & Son provided all plumbing construction work for the project, including the sanitary sewer and vent piping, storm sewer and domestic water piping. Also awarded to CRAFT was the HVAC construction including all heating and air conditioning equipment, ductwork, grills/registers/diffusers, system balancing, testing and commissioning.

York Country Day School is an affiliate of York College of Pennsylvania and currently has more than 230 students enrolled from pre-school through 12th grade, according to information provided by the school.



Underground piping.



Roof-mounted ductwork.



New boilers.



Unit ventilator.

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Quality CRAFTsmanship In Every Job

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