

THOLOS

**FEATURE:
HIGH-VOLTAGE
TEAM POWERS
THE POWERFUL**

**PROJECT UPDATES:
SET IN STONE**

**THEN & NOW:
U.S. CAPITOL
COURTYARDS**

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PROJECT UPDATE: A newly carved bracket attached to the underside of the U.S. Capitol's cornice. *Photo by James Rosenthal*



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COVER: A recently installed lantern top at the U.S. Capitol, replicated to match the original lanterns designed by Frederick Law Olmsted. *Photo by James Rosenthal*

AOC DOORWAYS:
A brief history of the famed Amateis Doors.



THEN & NOW:
A look back at the transformation of the U.S. Capitol courtyards.

FEATURE:
Learn how the AOC's High-Voltage team keeps the campus running.





LEFT: Photo by Steve Payne MIDDLE, RIGHT: Photos by James Rosenthal

What We Hold Precious

Walking through the Capitol campus, I frequently come across ornamentation in our buildings made from various metals. I was recently taking in the splendor of the gilded Torch of Knowledge above the Thomas Jefferson Building when my mind began wandering through the many additional decorative elements found within that grand building.

Architecture is always representative of culture when it is built. The 19th century's influence on the design of the Jefferson Building can be seen from the theatrical and heavily ornamented Beaux Arts style, which uses lavish materials like gold.

Notable gold features include the striking ceiling of the vestibule near the Great Hall and the coffered dome of the Main Reading Room with 320 gilt rosettes. Even the copper roof was initially gilded with 23-carat gold; imagine that!

Some of the precious details inside, however, aren't treated with this same embellishment but with another more surprising metal instead. Aluminum was chosen for leafing in several prominent places of the building

that are not obvious at first, including around the ceiling laylights of the Great Hall.

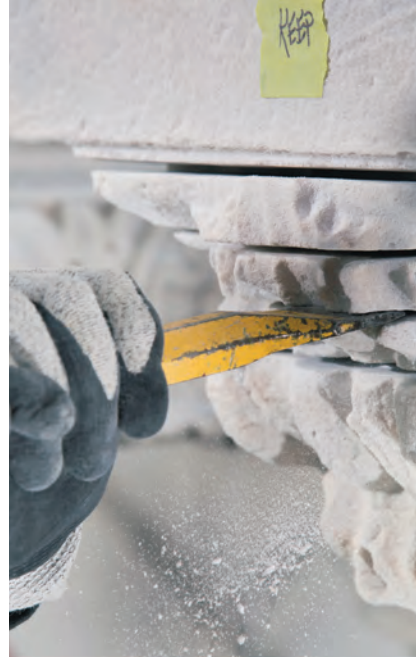
Aluminum wasn't always as ubiquitous as it currently is. Just before the Jefferson Building's construction, the largest piece of cast aluminum that had ever been created was the 8.9-inch tip placed atop the Washington Monument in 1884. It was considered our most precious metal at the time — more so than gold and silver — because it was incredibly difficult to obtain and to refine.

The gold, copper, bronze, aluminum and other metal elements all play an important role in the inspiration of the Jefferson Building. They are a delight to the senses. Treasured spaces like these on the Capitol campus create inspiring memories for staff and visitors alike. And the memories made here are precious indeed. ❁

Stephen T. Ayers, FAIA, LEED AP
Architect of the Capitol



Photo by James Rosenthal



Photos by James Rosenthal

Set in Stone

Stone preservation is a top priority for the Architect of the Capitol (AOC), and with good reason. Weather, age and deferred maintenance are destroying the finer hand-carved details of the stone. Over time, cracks in the stone grow more serious and costlier to repair; ultimately the degraded stone can fall from the building, causing a serious safety concern to those who work and visit the nation's capital.

Stone is one of nature's most enduring materials, which is a desirable feature for buildings intended to last for generations. The time now spent preserving the historic stone on these beautiful buildings is an investment to ensure they will endure for generations to come.

U.S. CAPITOL

The AOC has begun an ambitious and necessary multi-stage initiative

known as the U.S. Capitol Exterior Stone and Metal Preservation project to prolong the life expectancy and preserve the historic features of the U.S. Capitol, America's iconic symbol of democracy. The project includes cleaning the stone and pediment sculpture, replacing the mortar and sealants at all of the stone joints, treating the carved stone and pediment sculpture, replacing stone where elements are

missing or cannot be repaired, and replacing bird deterrent systems.

"Stone throughout the campus is in need of attention, but exposure to prevailing weather, from the northwest, has made the conditions on the Senate-side of the U.S. Capitol Building most pressing," says Mary Oehrlein, Historic Preservation Officer. The stone of the Senate Extension has not had a comprehensive restoration since its



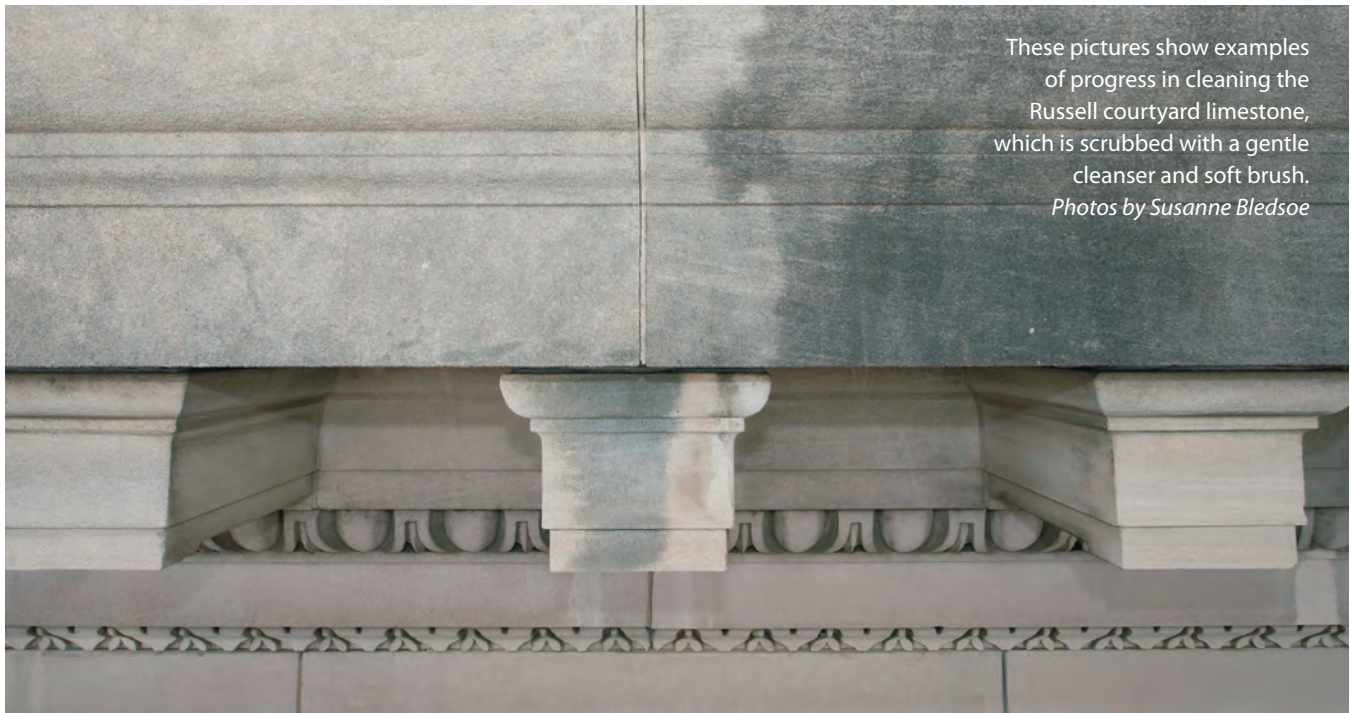
Damaged stone that cannot be repaired is removed, and the ornaments are replicated and reinstalled. *Photos by James Rosenthal*



completion in 1865.

When the stone is too damaged to save, it is removed and the ornaments are replicated. The Lee, Massachusetts, quarry that provided the stone for the Senate extension construction is no longer functioning. The damaged stone is being replaced with material that the AOC removed and stored during the extension of the East Front in the 1960s. Salvaged stone from a variety of places, primarily Baltimore, is being used to repair the Cockeysville, Maryland, stone used at the column shafts.

An automated carving machine replicates the simple pieces off-site, which are hand-finished. The more complex items are hand carved by a stone carver on-site. Replacement ornaments are installed with mortar, bonding adhesives and, where needed, stainless steel pin anchors.



These pictures show examples of progress in cleaning the Russell courtyard limestone, which is scrubbed with a gentle cleanser and soft brush.
Photos by Susanne Bledsoe



RUSSELL SENATE OFFICE BUILDING

The Russell Building is the oldest of the three Senate office buildings and a wonderful example of the Beaux Arts style of architecture. However, over time, weathering and age have diminished many of the fine details of its exterior stone, allowed water to penetrate into the building, impaired the building's energy efficiency, and

caused operational and safety concerns.

Stone cleaning has begun in the Russell Courtyard for the Russell Exterior Envelope Repair and Restoration project. Scaffolding installation is also in progress on the C Street NE, side of the building, with restoration work following.

Stone cleaning and restoration are key components of the multi-phase project to preserve the exterior

envelope of the Russell Building, including its exterior stone, wood windows and glazed doors. The project also includes rehabilitation of the balcony flooring, balusters, balustrades and roof chimneys.

To make the necessary repairs, a number of methods are used, starting with the least invasive, gentlest materials and methods possible to clean the stone. ❁

The Amateis Doors are prominently on display in the U.S. Capitol.



The Doors to Nowhere

WRITTEN BY ERIN NELSON • PHOTOS BY JAMES ROSENTHAL

Few doors are created to lead to nowhere, but that is exactly where the U.S. Capitol's famed Amateis Doors have always led.

In 1901, Congress passed legislation to appropriate funds for the Architect of the Capitol (AOC) to submit plans for reconstructing the center of the U.S. Capitol, a project that included refacing the West Front in marble. As plans were being developed, Superintendent of the U.S. Capitol and Grounds Elliott Woods began working with sculptor Louis Amateis to design a set of magnificent bronze doors for the new façade that would be comparable to those at the entrances of the East Front.

Initially, the pair wanted to portray a series of historical scenes on the doors, but further research persuaded Amateis that the West Front doors would be too narrow for displaying anything so complex. After developing several drawings and models, they selected final subjects that represented more general themes, such as the arts, science and agriculture.

The doors, initially called the "Apotheosis of America," were cast in 1910. However, legislation for the

AOC employees, seen here in 1972, installing the Amateis Doors in the U.S. Capitol. *Photos courtesy of AOC Photo Branch Archives*





improvement of the West Front had not been authorized, so a specific location for the doors was never identified — perhaps a contributing factor to their fate.

The Amateis Doors, as they became known, were lent for display to the Corcoran Gallery of Art from 1910 to 1914 and the Smithsonian Museum of Natural History from 1914 to 1967. The doors were then returned to the AOC and placed in storage until a suitable location was identified. In 1972, AOC employees spent days cleaning and installing the 800-pound doors in the U.S. Capitol near the Crypt, where they continue to hang today. The doors may not open to the West Front or have a view of the National Mall, but their prominent display just down the stairs from the Rotunda allows millions of visitors to stop — uninterrupted by humidity, wind or rain — and admire their intricate details of our nation's great history. ❁

The transom (a bar across the top of a door or window) is titled "Apotheosis of America" and depicts a symbolic figure of America surrounded by figural representations of the nation's great achievements in education, architecture, painting, literature, music, sculpture, commerce, mining and industry. Below the transom, Amateis created two panels filled with scenes of many of these subjects as well as jurisprudence, iron and electricity, sciences, agriculture, and engineering. Bordering the transom and panels are 18 portrait figures and 28 medallions of people noted for their work in the fields represented in the adjacent scenes. To learn more about the doors, visit www.AOC.gov.





LEFT, BOTTOM LEFT: Views of the U.S. Capitol before the courtyards were transformed into meeting rooms, offices and connecting hallways in the building's basement level. BOTTOM RIGHT: The construction site as the courtyards were filled in. *Photos courtesy of AOC Photo Branch Archives* TOP RIGHT: A modern-day, aerial photo of the U.S. Capitol. *Photo by Chuck Badal*

U.S. Capitol Courtyards

WRITTEN BY ERIN NELSON

There is always a story waiting to be uncovered in the U.S. Capitol — not of politics or policy, but of the building itself.

A building of such prominence and formal tradition would seem unlikely to have undergone so many changes over the decades, but our iconic U.S. Capitol continues to change to this day. The building has been topped by two domes and has continued to expand and evolve since George Washington laid the first cornerstone in 1793.

The Architect of the Capitol (AOC) has been in charge of most of those projects and, therefore, is the keeper of many records and images that detail the building's long-forgotten features. I recently discovered

photos of the courtyards that once existed on the U.S. Capitol's West Front. It was the first I had heard of them and — as someone who sits in an office that has no windows to the outside — I wondered what had happened to them. As it turned out, I see the answer every day.

In the 19th century, the courtyards had provided natural light and ventilation to rooms in the basement of the U.S. Capitol. In 1989, modern lighting and air conditioning had reduced the courtyards to little more than storage yards.

THEN & NOW



TOP, BOTTOM LEFT: A view of the courtyard before and during construction. *Photos courtesy of AOC Photo Branch Archives*
TOP MIDDLE: A roof now covers the courtyard areas. *Photo by Steve Payne* BOTTOM MIDDLE, RIGHT: A skylight allows natural light to fill the hallway once occupied by a courtyard. *Photos by Chuck Badal*

A 1986 study had determined that the marble Olmsted Terrace of the U.S. Capitol had structural defects. The study identified the need to repair the flat terrace roofs, which leaked and also highlighted the condition of the retaining walls that were out of alignment.

The Olmsted Terrace was designed by famed Landscape Architect Frederick Law Olmsted and completed in 1891. Its historical significance was a key element of the terrace restoration and courtyard project. It had been designed as a grand pedestal for the U.S. Capitol, so the project was carefully planned to ensure the additions and modifications were seamlessly incorporated into its design.

As the need for more space materialized and repairs to the West Front terrace were planned, the idea to transform the courtyards into office space was born. What was once the courtyards is now meeting rooms, offices and connecting hallways in the basement level of the U.S. Capitol — which I, along with many others, use every day.

As I began researching our files for this article, I stumbled across a November 1993 article from

Progressive Architecture that described how Frederick Law Olmsted's "...original 1885 west terrace was separated from William Thornton's west façade and Charles Bullfinch's central addition by sunken spaces intended as gardens but never planted. Architect of the Capitol George M. White hired [Hugh Newell] Jacobsen to fill in the wells with office space, to redesign and repave the existing terrace, and to design integrated wheelchair ramps for Thomas U. Walter's north and south façades."

As an AOC employee, I often hear references to many of those names, but seeing them joined together with their grand achievements in one short, simple paragraph made me pause and marvel at their collective work. Over the course of several decades, these few men created one of the most iconic buildings in the world.

For many, it stands today as a symbol of democracy. For AOC employees, it is a constant reminder of the great work before us each day to preserve the past, while seamlessly incorporating the present and planning for the future. ❀



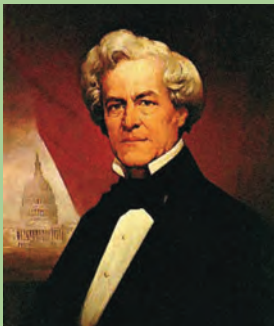
DR. WILLIAM THORNTON (1759–1828)

Dr. William Thornton was an amateur architect who is honored as the first Architect of the Capitol because his design for the U.S. Capitol was accepted by President George Washington in 1793. He received \$500 and a building lot in the city of Washington for his composition.



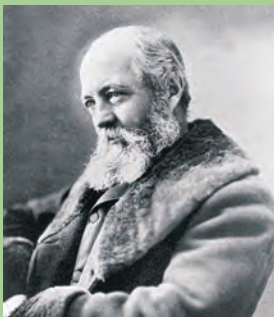
CHARLES BULFINCH (1763–1844)

Charles Bulfinch was appointed as the third Architect of the Capitol by President James Monroe and the Commissioner of Public Buildings in January 1818. Bulfinch designed the original domed center building of the U.S. Capitol and oversaw its construction between 1818 and 1826. He also planned the U.S. Capitol Grounds and the original west terraces.



THOMAS U. WALTER (1804–1887)

Thomas U. Walter's plans for the enlargement of the U.S. Capitol were approved by President Millard Fillmore, and he was appointed Architect of the Capitol Extension in 1851. While he oversaw the construction of new marble wings, the commissioner of public buildings maintained the existing U.S. Capitol and the surrounding grounds. Walter also designed a new cast-iron Dome, which was authorized in 1855 and continues to sit atop the historic building.



FREDERICK LAW OLMSTED (1822–1903)

Regarded as the founder of American landscape architecture, Frederick Law Olmsted is best known for designing the grounds of New York City's Central Park, the U.S. Capitol in Washington, D.C., the Biltmore Estate in Asheville and the 1893 World's Columbian Exposition in Chicago.



GEORGE M. WHITE, FAIA (1920–2011)

George M. White, FAIA, was appointed the ninth Architect of the Capitol in 1971 by President Richard Nixon. White created the Master Plan for the future development of the Capitol complex. He oversaw construction of the Library of Congress James Madison Memorial Building, the Hart Senate Office Building, the Thurgood Marshall Federal Judiciary Building, and the U.S. Capitol terrace restoration and courtyard project.



Photo by Dewitt Roseborough

High-Voltage Team Powers the Powerful

WRITTEN BY FRANKLIN BRADLEY

In the 1800s...

The Senate employed one horse and one wagon to carry all of its mail.

Pages maintained the candles lighting members' desks during night sessions.

House roll call votes performed by hand averaged 45 minutes.

In 2017...

More than 1 million emails were sent to senators — in one month from members of one group about one issue.

Long-lasting, energy-efficient LED lighting provides bright, even illumination around the clock without the heat of traditional lighting, cutting air conditioning and electrical costs.

Most House votes are electronic and last only 15 minutes, an approximate annual savings of 90 hours.

One technology made these remarkable advances possible —
ELECTRICITY.

The Capitol campus continuously consumes high-voltage electricity, with each building being fed by up to four 15,000 volt cables, known as feeders. All of this power is managed by the high-voltage electricians of the Architect of the Capitol (AOC), who perform maintenance to prevent electrical outages. Each feeder carries enough current that if anyone were to get too close, the electricity in the feeders could arc through the air like a lightning bolt and strike them.

“I’ve seen what electricity can do to a person, so I respect it,” said Keith Degay, High-Voltage Electrician Supervisor, who moves and gestures with a precise military bearing. After

almost 20 years working with high-voltage, which requires following safety procedures exactly, precision has become second nature to him.

It wasn’t always this way, of course. Originally, artificial light was provided in the U.S. Capitol by flame, fueled first by whale oil, then by natural gas, which had its own dangers. Shortly after Edison patented the incandescent lightbulb, the then-Architect of the Capitol, Edward Clark, found that gas leaks were killing shrubs planted by Frederick Law Olmsted as part of his landscape redesign for the U.S. Capitol Grounds. Clark promised to investigate electrical lighting.

Gas also presented greater dangers. On the evening of November 6, 1898, U.S. Capitol Police Lieutenant Robert S. Akers was knocked out of

his chair by a gas explosion that tore open the floor of the small Senate rotunda. Windows were blown out throughout the Senate wing of the U.S. Capitol. A natural gas fire raged in the cellar below, and scattered small fires threatened to climb into the ceiling, a tinderbox of dry wood. Fortunately, vigilant firefighters averted this disaster.

Ironically, by that time, following successful experiments in the mid-1880s, thousands of electric lights had been installed throughout the U.S. Capitol, and Clark had built a power plant to support them. It had been impossible, however, for him to remove all gas lights, due to suspicions of the new technology and fear of electrical shocks. The explosion reminded people of the dangers of gas and, during this

LEFT: The 1898 gas explosion blew away the stone floor in the small Senate rotunda, exposing the cellar where a fire raged until the AOC’s chief electrician crawled through the debris to turn off the gas. RIGHT: Members of the press work below a chandelier with both gas and electric lamps. *Photos courtesy of AOC Photo Branch Archives*





Testing the House Chamber Voting Display Board after installation in 2011. The House electronic voting system made votes more efficient, reducing the time one vote takes from 45 minutes to 15 minutes. *Photo by Dewitt Roseborough*

period of conversion, alluring new uses for this revolutionary energy source were being discovered, making possible advances in communications, conveyance and cooling.

One could say that the first text message ever sent emanated from the electrified U.S. Capitol when Samuel Morse tapped out, “What hath God wrought?” in his first telegraph message, sent from the chamber of the U.S. Supreme Court, which was still housed in the U.S. Capitol. The message went to Baltimore, and the immediate reply was a harbinger of the information age and 24-hour news cycle, “What is the news from Washington?”

As wires conveyed the latest developments, cables connected to

electric motors carried members of Congress to and from their chambers in newly installed elevators and on a subway from the new Senate office building (now known as the Russell Senate Office Building) to the U.S. Capitol for debates and votes. A few years later, as Congress worked through a long, hot summer, electric fans made their debut in the U.S. Capitol to circulate the air chilled by blocks of ice held on 1,000 feet of rough boards purchased for that purpose.

With the advent of air conditioning in the 1930s, the Capitol Power Plant started supplying chilled water to cool buildings on the Capitol campus. While the power plant no longer

generates electricity, it continues to provide chilled water and steam to cool and heat 23 facilities, including the U.S. Capitol, the Library of Congress and the Supreme Court of the United States. The local utility provides electricity to those buildings, at which point the high-voltage electricians ensure it is distributed into the buildings.

To keep the lights on, AOC electricians must regularly turn off each of the 15,000 feeders one at a time to perform preventive maintenance. Because the other feeders continue to carry electricity, this process requires the electricians to follow precise procedures and wear heavy-duty personal protective equipment (PPE).



High-voltage electrician Da'suan Mason follows precise procedures and wears a fireproof 40 cal arc flash suit while performing regular preventive maintenance on a 15,000 volt circuit. *Photo by Dewitt Roseborough*

“We start with heavy rubber gloves that are rated at 15,000 volts,” Degay explains. “We cover those with leather gauntlets, which are just to protect the rubber gloves. Then we put on our 40 cal arc flash suit, which is head-to-toe, with a hood that has face shields. All of that is fireproof.”

It's more than just fireproof, and for good reason. The 40 cal rating means the suit will protect against a blast producing 40 calories per square centimeter. It only takes 1.2 calories/cm² to produce a second-degree burn, and 4 calories/cm² will ignite a cotton shirt. If a feeder were

to arc, it would create an arc flash, generating blinding light, deafening noises and temperatures of 35,000 degrees Fahrenheit that would vaporize the metal conductors, explosively blasting the superheated metal shrapnel outward in a supersonic shock wave.

With all their PPE on, the high-voltage electricians must first shut off the feeder by opening a breaker, which is like a circuit breaker in your house, only much larger. And, the amount of current carried by the feeders requires electricians to switch them off from a safe distance. When

the feeder is off, a piece of equipment called a network protector ensures that occupants see no interruption in service by distributing the current from the redundant feeders supplying the building.

When the breaker is off, it must be cranked out of its case, along with any sub-breakers, to a safe position, where the high-voltage electricians verify contact resistance, perform cleaning and use a purpose-designed cabinet to test the vacuum bottles inside the relay. In addition to this relay maintenance, they also test and maintain those network

protectors that automatically switch to redundant supplies while they maintain the feeders. Those protectors are in place to ensure there is no loss of electricity in the building if there is a power surge, such as from a lightning strike or a utility outage.

Outside the buildings, the high-voltage crew keeps the lights on, literally. They are responsible for all the streetlights, parking lot lights and park lights across the campus, which is why a second shift monitors those areas at night. Additionally, during all outdoor events like Inaugurations, the Papal visit and the annual West Front concerts, they provide the power for security facilities, lights, sound systems, medical tents, television cameras and more.

We can't picture living without electricity, and the high-voltage electricians of the AOC work tirelessly to ensure we never see that day on the Capitol campus.

Electricity makes it possible for Congress and the Supreme Court to serve the nation. Electricity propels the subways, escalators and elevators they use to get to and from their offices; powers the computers, phones and tablets they use to connect to citizens; and even heats the coffee they sip to stay warm working through winter nights. And, in the instant when the Speaker of the House flips a switch and 5,600 bulbs on the U.S. Capitol Christmas tree flash to life, bringing light to the dark December night, electricity illuminates and inspires us all. ❁

The U.S. Capitol Christmas tree illuminates the West Front.
Photo by Steve Payne



Berry Russom, High-Voltage Electrician Leader, works on a streetlight. Switching to high-efficiency lamps across the campus is one way the AOC has reduced energy consumption by 30 percent within 10 years. *Photo by Susanne Bledsoe*



Photo by Dewitt Roseborough

A Series of Compassionate Events

WRITTEN BY JUSTIN KIEFFER

One person's small act of compassion can start a chain reaction of kindness.

Such is the story of a 16-year-old girl named Brittney James, who saw a commercial on TV and decided to sponsor a three-year-old Kenyan named Newton. Brittney hoped to one day meet Newton, but three years later she was found dead in her apartment at the age of 19. Her parents, whose lives were turned upside-down by her death, wanted to do something in her memory and so her father, Steve James, set out to meet Newton six months later.

While in Kenya, Steve volunteered his time as a nurse anesthetist. After seeing how people were suffering, he thought he could do more. Steve came back to the U.S. and started KenyaRelief.org, a group which, for the last 15 years, has focused on providing physical, mental and emotional aid through its orphanage, school, health clinic and outpatient surgery center in Migori, Kenya.

At the beginning of each year, an advance team travels to Migori to conduct repairs on the organization's

buildings. Their work allows more than 20 teams of doctors and nurses to travel throughout the year to volunteer their time to perform surgeries for the residents of Migori, who would otherwise not have the opportunity to receive these services.

Earlier this year, Bill Burns, an Architect of the Capitol Woodcrafter Supervisor in the Planning and Project Management's Construction Division, received a phone call from a co-worker asking if he would like to volunteer to go to Africa to help restore power and water for an orphanage. Bill who

has lived in Pasadena, Maryland, his entire life said, "I had to consult with my wife, Mitzi, my high school sweetheart of 29 years about leaving home for 12 days and the risk of traveling to a foreign country, but told him I would most likely go! It was an opportunity that in normal circumstances, I would never have accepted, but I am sure glad I did. I went to help children and that was it."

The trip included 20 hours of flying and 10 hours of driving, and even though the volunteers were well aware of the many 12-hour workdays ahead of them, they



Bill Burns poses with some of the guards that work for KenyaRelief. *Photo courtesy of Bill Burns*



Bill Burns visits with children from the orphanage. *Photo courtesy of Bill Burns*

knew it would all be worth it after the children welcomed them with singing upon their arrival.

Bill spent a lot of his time identifying issues for the other volunteers to repair, such as open junction boxes and a backup generator that had switching problems. He fixed playground equipment, traveled into town to forage for the supplies needed for repairs and helped design a new water control mechanism for their tanks.

Steve James was extremely impressed with the people that came to volunteer their time to ensure systems would function properly for the year. “The level of expertise of the volunteers was a godsend,” he exclaimed.

Most of the work was just another day at the office for Bill, except on a completely different continent where everywhere he looked reminded him of how hard-working, but poor the people of Kenya are. While driving to Migori he saw people on

the side of the road cutting brush, making bricks and completing other intensive chores that would earn them almost nothing, but there is very little opportunity to do anything else to make money.

One day the group visited a family where the mother had died and the father could not afford childcare, so

he could not work. The volunteers pooled their money and bought two goats for the family so that they could perhaps get milk or sell future offspring from the goats.

“I always say that life is a journey,” Bill stated, “but little did I know how much this journey would change the way I look at things today. I made the same trip Steve James took when he went to meet

Newton, and I felt the way he must have — that we have to help these children that lost their parents and are struggling to survive.”

Although not everyone may get the opportunity to travel to Kenya to help, Bill believes that you don’t have to travel as far as he did to brighten someone’s life. “People can easily perform a random act of kindness for someone they don’t know without expecting anything in return. The feeling you get from doing that is indescribable and contagious. I realized that it is the little things in life that are important. Wanting what you already have and being content in life is the true meaning of success.”

Steve James still visits Newton, now 18, about twice a year and also supported Newton’s older sister through college. To Steve, Newton is probably a constant reminder of how the loss of his daughter is what brought him to Kenya, but also what brought KenyaRelief.org to Migori.

“ I always say that life is a journey, but little did I know how much this journey would change the way I look at things today. ”

When Brittney decided to sponsor Newton, she set out to try and make one person’s life a little better. Despite her untimely passing, she started a series of compassionate events that continues to spread thanks to other compassionate people, like Bill Burns, that will go on to help numerous people in Kenya and across the globe. ❀

Two Thumbs Up for Taking the Edge Off

WRITTEN BY FRANKLIN BRADLEY • PHOTOS BY CHUCK BADAL



Ernie Wichman, Sheet Metal Mechanic in the Senate Office Buildings, who brought this tool to our attention, demonstrates how he uses it to prevent injuries.

Although most of the buildings under the Architect of the Capitol's (AOC) care are historic, their continuing use requires them to be updated to meet the needs of Congress, the Supreme Court and millions of visitors. Installing electric lights, air conditioning, and cell phone and Wi-Fi stations made it possible for work to extend into the night and the summer and for communications to extend around the world at the speed of light.

All of those technologies, however, required metal conduits or metal ducts, all of which must be custom fit. Because the historic buildings they're installed in weren't designed with these modern marvels in mind, the metal

that carries them must be cut and shaped to fit within the space available.

When metal is cut, however, the edges can be razor-sharp and punctuated with burrs that can catch on and tear anything that rubs against them, like work gloves. That's why when the Senate Sheet Metal Branch learned about the deburring tool that their counterparts in the Capitol Building use to remove sharp edges from sheet metal from 1/32" to 1/4" thick, they immediately started using it.

Although it's small and seemingly simple, this little tool reduces injuries by saving hands, which is why we give it two thumbs up as a cool tool. ❁



Communications and Congressional Relations
U.S. Capitol, Room SB-16
Washington, DC 20515

The Architect of the Capitol strives to meet its mission 24 hours a day, 365 days a year to **serve** Congress and the Supreme Court, **preserve** America's Capitol, and **inspire** memorable experiences for all who visit the buildings and grounds.

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www.aoc.gov

Visitor Assistant Lisa Kause engages visitors during a Family Thursday program. In June, the Capitol Visitor Center welcomed 325,768 visitors and welcomed its 19 millionth visitor this summer since its opening in 2008.

Photo by Marcey Frutchey

