

Early American Circus Engines

By Robert T. Rhode

The Case circus engine is widely known. In *The Iron-Men Album Magazine* for September and October of 1994, Mark Corson published a story entitled "Ringling Brothers Case Engine." Mark devoted years to hunting for clues about *Hercules*. His detective work turned up an article in the York, Nebraska, *Independent* for May 20, 1892: "A mammoth highway locomotive, that darts hither and thither through the streets, running as easily on the roughest road as the finest passenger engine glides along its tracks of steel, is one of the striking features of the gorgeous street procession that precedes the exhibition of the Ringling Brothers' World's Greatest Shows ..."

Following Mark's lead, I published "Feats of Strength: On the Trail of a Mythical Case Road Locomotive" in *Steam Traction* for September and October of 2005. I found a description of the engine on page 8 of *The Daily Journal: Milwaukee* for February 12, 1892: "The J. I. Case Threshing Machine company, of Racine, is just completing a twelve-horse power traction engine for the Ringling Bros. of Baraboo. The machine will be nickel-plated, have a cab similar to that of a locomotive and cost \$2,000. It will be presented to the circus men upon the condition that they use it to pull their menagerie cages through the streets of cities the coming season. The threshing machine company also furnishes an engineer for one year. It is done as a means of advertising the Case engines."

Mark discovered advertisements about the locomotive, including this thrillingly worded promotion, quoted in the Winter 1992-93 issue of *The Heritage Eagle* (Number 21): "This gigantic colossus of motive power marks an important epoch in the annals of scientific inventions ... and was designed and made expressly for the Ringling Brothers at an enormous expense. The carrying power of 'Hercules' is almost incredible, and the mighty thing thunders along the thoroughfares in the grand street parade with a long line of heavy chariots, cages and dens in its train, which appear as merest trifles to its herculean powers ..."

Although we can debate whether a relatively small 12 HP Case engine would have been capable of "thundering" along a thoroughfare, we have no doubt that Ringling Brothers used the engine for a season before returning it to the Case factory for reasons that have not come to light.

While the story of the Case circus engine is broadly recognized, few are aware that, a dozen years before Ringling Brothers began negotiating with Case to build a road locomotive, the major American circuses already

Ten Times the Largest and Best Show on Earth!

St. Joseph, WEDNESDAY, SURE One Day ONLY! JULY 23

COOPER, BAILEY & CO'S GREAT International Allied Shows!

Having just Returned from a grand Three Years Triumphant Tour Around the World, Traveling 67,000 Miles by Land and Sea, have CONSOLIDATED FOR THIS SEASON ONLY, with the

GREAT LONDON CIRCUS And SANGER'S ROYAL BRITISH MENAGERIE.

FORMING A FORMIDABLE COMBINATION.

TWO SHOWS! A DOUBLE CIRCUS! TWO MENAGERIES!

IN OPERATION DAY & NIGHT At Every Performance

Resplendent Redolent Reluigent

ELECTRIC LIGHT!

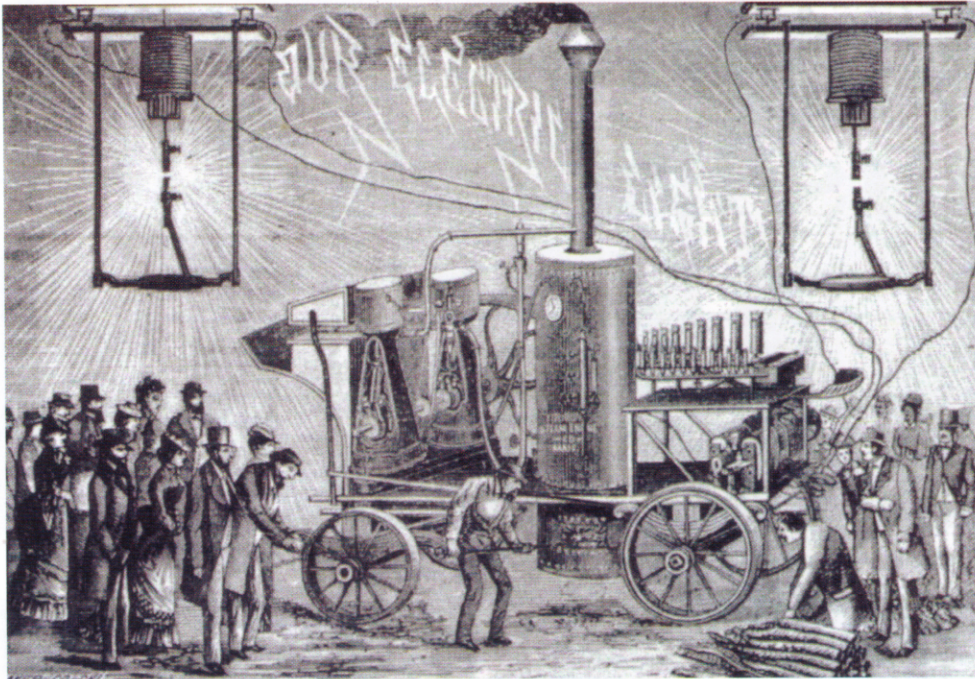
FAINTLY DESCRIBES THE WONDERFUL

"The Public Mind Dazed! The Great Invention! ALL OF OUR VAST PAVILIONS LIGHTED BY ELECTRICITY. 168,000 YARDS OF CANVAS

Are used in the manufacture of the CIRCUS, MENAGERIE AQUARIUM and MUSEUM TENTS, all of



In 1879, Cooper, Bailey & Company became the first American circus to use a steam engine to power an arc light display. The engine was most likely from Fitchburg, Massachusetts; the lighting system, from Brush Electric Company of Cleveland, Ohio. This advertisement appeared in John and Alice Durant's *Pictorial History of the American Circus* (New York: A. S. Barnes, 1957).



Here is a detailed view of the engine that helped to dazzle crowds attending the circus of Cooper, Bailey & Company.

featured steam engines. In *Step Right Up: The Adventure of Circus in America* (Whitehall, VA: Betterway, 1990), LaVahn G. Hoe and William H. Rough gave this account: "The circus is certainly a part of the technological history of our country. In 1879, [Cooper, Bailey & Company] advertised the first major popular demonstration of the dazzling electric light. For the September 26 performance of the show in Rockford, Illinois, the circus bill talked of 'Creating a spectacle of most entrancing loveliness, ravish[ing] beauty, and supernatural splendor; transforming the very earth into a Paradise of Bliss, and carrying the imagination to the Realms of Eternal Heaven. It brings to the soul of every human witness a sense of imperishable ecstasy and enduring charm, and it gilds every object within a radius of two miles, animate and inanimate, with a subdued enchantment that realizes in every intelligent

person the silvered dreams of beauteous fairyland.' Bailey called the electric light 'Heaven's own gift to earth of lightning.' It illuminated far more than his 420,000 square feet of canvas; it illuminated the imaginations of the American people and created a thirst for electricity in the home."

The fact that Sanger and Cooper, Bailey & Company were featuring an electric light display by September of 1879 is all the more remarkable when we consider that Thomas Alva Edison's first successful test of a commercially viable incandescent light bulb occurred on October 22 of the same year! Edison filed for his patent on November 4, 1879, and was granted U.S. Patent Number 223,898 on January 27, 1880. How, then, could a circus have displayed "the dazzling electric light" before Edison had patented the invention? The answer is that half a dozen companies were already promoting arc light systems that bedazzled and enchanted the public. The first electrical light displays were so expensive as to be novelties that could draw a crowd. In *Chilly Billy: The Evolution of a Circus Millionaire* (San Bernardino: Emeritus Enterprise, 2002), William L. Slout wrote, "Cooper & Bailey's 1879 use of electricity proved to be highly successful, which led to other shows promoting an imitation of it in 1880. W. C. Coup's New Monster Shows boasted of a '\$15,000 Electric Light.' The Sells Brothers proclaimed their use of 'the Great Perfected Electric Light.' Old John Robinson inserted 'New Electric Light Show' in his lengthy circus title. So it could be expected that Cole would not be outdone."

Coup had been Phineas Taylor Barnum's business manager before starting his own circus. *The Fitchburg Sentinel* for April 20, 1881, carried this news item: "The Fitchburg Steam Engine company has nearly completed an outfit for an electric light for W. C. Coup's circus. A pair of six-horse power engines with a 12-horse power boiler and a Six Light Brush Electric machine are mounted on a heavy truck. The

THE ONLY
Electric-Lighted, Sun-Eclipsing Big Show
That Ever Crossed the Great "Divide."
 "Cheer after cheer rent the air at each Surprising Feature."—Nashville American.

—THE—
GRANDEST
 —AND—
BEST CIRCUS
 EVER IN
CALIFORNIA.

AT **SACRAMENTO**
 —ON—
Friday & Saturday
Sept. 10th & 11th.

REPRODUCING AND REFLECTING
ALL EARTH'S GRANDEST MAELS
 Under the resplendent glare of the Brush, Dynamo, ELECTRIC-LIGHT, used exclusively with

W. W. COLE'S
 GREAT CONCORPORATION OF
Circus, Menagerie,
AQUARIUM
 —AND—
CONGRESS OF LIVING WONDERS!

W. W. Cole was not to be outdone; he published this advertisement in the Sacramento Daily Record—Union on September 1, 1880.

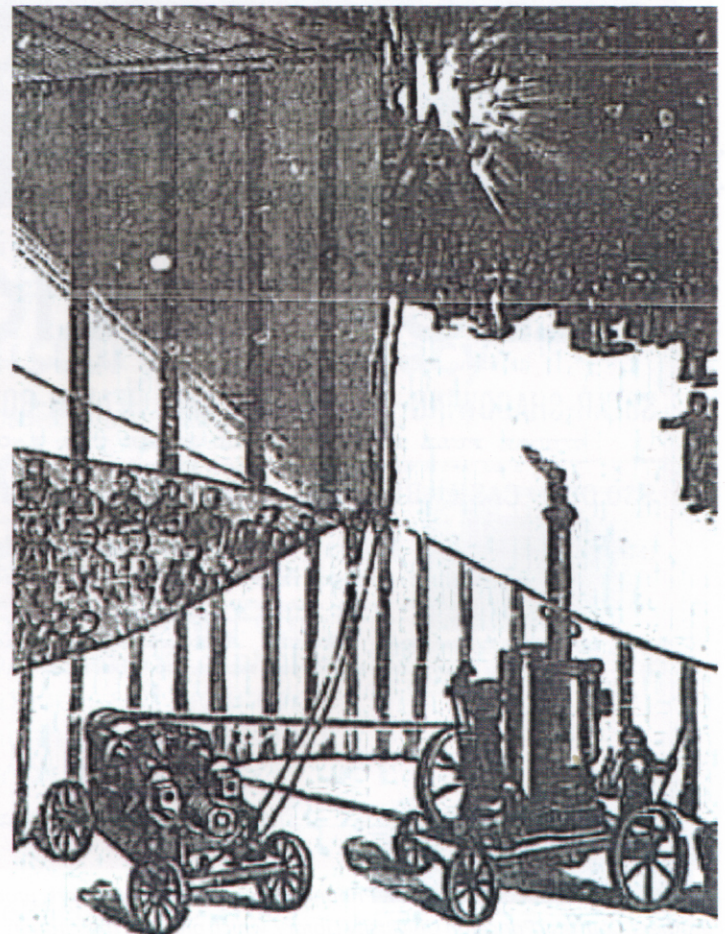


The detail reveals an engine that was perhaps not as elaborately decorated as others. Cleveland's Brush Electric Company supplied as many as nine arc lights for Cole's circus.

boiler is sheathed with black walnut strips encircled with brass bands. The smoke stack is jointed so that the truck can pass under bridges over the highway. The truck is very thoroughly built, provided with heavy springs and broad wheels and is painted a bright red. The machinery is compactly arranged and the apparatus is provided with all the modern appliances. This is the fourth outfit of this kind built at this establishment for different circuses. The last one built by this company has run three years with no expense for repairs." The last sentence implies that Fitchburg was the source of the steam engine that powered the first circus light show in America.

The *American Machinist* for April 17, 1880, said, "Among manufacturing establishments which have recently introduced the Electric light, is that of the Fitchburg Steam Engine Company of Fitchburg. The improvement is not an experiment with them as they have furnished the apparatus for lighting the tents for three circus companies and fifteen manufacturing establishments. The machine for lighting the shop is a four light machine, each light being equal to 3,000 candles. The whole lighting power is equal to 700 gas jets. The amount of power required to run the machine is about three-fourths of one-horse power for each light, or three-horse power for the four lights required to light the shop. The company are running their works day

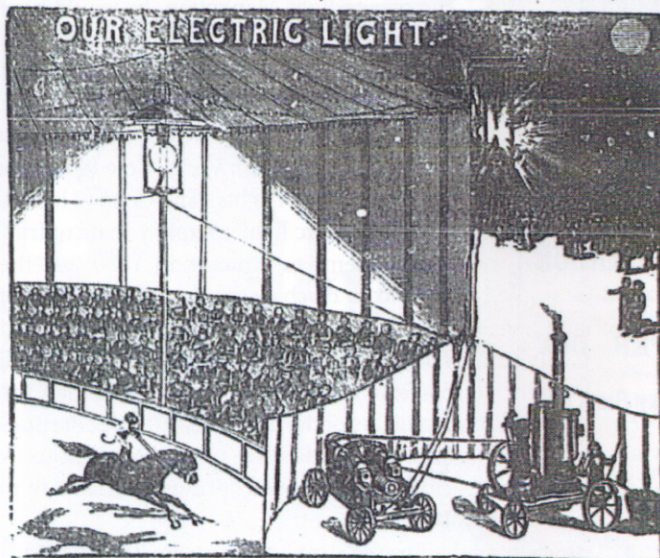
Left: For his circus, John Robinson purchased a Fitchburg engine and a Brush electric arc light system, displayed in this promotion, which appeared in the *Anderson, South Carolina, Intelligencer* on September 23, 1880.



A closer look at Robinson's ad reveals the arrangement of the engine, dynamo, and light.

COMING IN SPECIAL TRAINS --- 50 CARS!

**JOHN ROBINSON'S GREAT
WORLD'S EXPOSITION,
New Electric Light Show, Animal Conservatory, Aquarium and
STRICTLY MORAL CIRCUS,
Will Exhibit at ANDERSON,, on FRIDAY, OCTOBER 8th, 1880.**



This Magnificently Appointed MODEL MONSTER ENTERTAINMENT

INVITES criticism and challenges comparison. There is nothing half so varied and comprehensive on the road. Everything about it is SPIC-SPAN NEW. It is in no sense one of the old-time canvas shows of the past, but is organized on a SCALE OF IMMENSITY hitherto unparalleled. EVERY ACT and FEATURE A NOVELTY. The entire SERIES OF VAST PAVILIONS Brilliantly Illuminated with the new Brush Electric Light, in many respects preferable to the

EDISON ELECTRIC LIGHT!

Requiring a specially constructed steam engine of many horse-power, for the generation of Electricity, and many MILES OF INSULATED WIRE, illuminating all surrounding objects with a soft, mellow, but surpassingly brilliant light, equaling in intensity the noonday sun, a RADIUS OF HALF A LEAGUE. The engine used in connection with this light was constructed especially for this purpose by the Fitchburg Steam Engine Company, of Fitchburg, Mass.

and night and are in need of more good machinists, as they have twenty-seven unfilled orders for engines from 200 horsepower down, still unfilled."

Kenneth L. Cope, in his *American Steam Engine Builders 1800-1900* (Mendham, NJ: Astragal, 2006), said that the Fitchburg Steam Engine Company of Fitchburg, Massachusetts, began "in 1875 when Hale W. Page, Frederick Fosdick and Charles Fosdick bought and reorganized the Haskins Machine

Co. Production of the Haskins engine ... was continued. In 1880, a new automatic cut-off engine ..., equipped with a patented centrifugal governor ... was brought out." In *American Industrial Machinery Since 1870* (privately printed in 2008), C. H. Wendel reported that, in 1877, the firm built semi-portable vertical engines equipped with the company's own boilers, stationary engines from 2 to 100 HP, engines for tugboats, and engines for launches and yachts.

The Brush Electric Light, which Coup displayed, was the product of the Brush Electric Company of Cleveland, Ohio. In *The Electric Light: Thomas Edison's Illuminating Invention* (New York: Chelsea House, 2007), Liz Sonneborn described the fierce competition to light Manhattan: "The Brush Electric Light Company was emerging as a particularly formidable competitor. Two days before Edison met with the aldermen, the company's founder, Charles Francis Brush, held a trial run of the first public electric lighting system in New York City. Powered by three generators, it used arc lights to illuminate Broadway for the 22 blocks from 14th Street to 36th Street. Brush's arc lights were far less technologically advanced than Edison's incandescent bulbs, but neither the press nor the public cared. They were wowed by the incredible electric lights that seemed to turn night into day. Hotels and theaters rushed to hire Brush to set up arc lights. By the end of 1880, the company had erected about 55 in the city. After lighting Broadway for free for six months, Brush signed a contract with the city to continue the service and to set up lights in public areas such as Union Square and Madison Square as well. Edison had no doubt that his lighting system was superior to Brush's. Even so, Edison could see that in the race to light Manhattan, he would have to move faster if he was going to win."

In 1880, the Brush Electric Light Company published a catalog that listed four circuses as customers: Cooper, Bailey & Company (13 lights); W. W. Cole (9 lights); John Robinson (4 lights); and Coup (2 lights).

Another arc light company that contributed systems to circuses in 1880 was the Arnoux & Hochanson Electric Company of New York City, which was founded in that very year. In *Bandwagon* for March and April of 1966, Harry M. Simpson wrote that "the highlights of the history of [Charles Bartine's circus] included the use of the Arnoux & Hochanson's Sun-Eclipsing Electric Light in 1880 ..."

In 1880, newspapers were filled with ads proclaiming various circuses' spectacular illuminations. Typical of such announcements was this one from the Logansport, Indiana, *Weekly Journal* for April 24, 1880: "The Great Electric Light Exhibition ... Among the remarkable and novel features with Sells Brothers Millionaire Confederation of stupendous railroad shows, the great electric light will attract universal and deserved attention, and hundreds will pay the price of

16 OUR DAY AND DATE IS POSITIVE, AND NEVER CHANGED.



**THE SUN-ECLIPSING
ELECTRIC LIGHT**

Is alone used to flood our Monster Tent Metropolis with its
SOLAR-SHADOWING EFFULGENCE AND HEAVEN-BORN SPLENDOR
WHOSE FULL POWER WOULD BLIND THE EAGLE'S EYE.

It has been at length perfected by the Great Electric Genius of the age. Cost as
\$30,000 CASH, BESIDES A ROYALTY OF \$100 PER DAY
And we monopolize it—No other show has it—None other can obtain it—None other could afford to use it.

Employing a 40 Horse-Power Engine—Requiring a 60 Horse-Power Boiler—Demanding a 40,000 Gaslight Power Electric Motor
USING FIVE AGGREGATE MILES OF COPPER CONDUCTORS.

And emitting a constellated conflagration of more than mid-day radiance. Exceeding 240,000 feet of Gas-light per hour. Robing the
Arenic display in more than Planetary Splendor, and yet agreeable to the most sensitive vision.

It is Exhibited Both Afternoon and Evening
AT IF YOU HAVE TO COME 100 MILES, DO NOT FAIL TO SEE IT

WILLIAM BETHEA
PRINCETON UNIVERSITY
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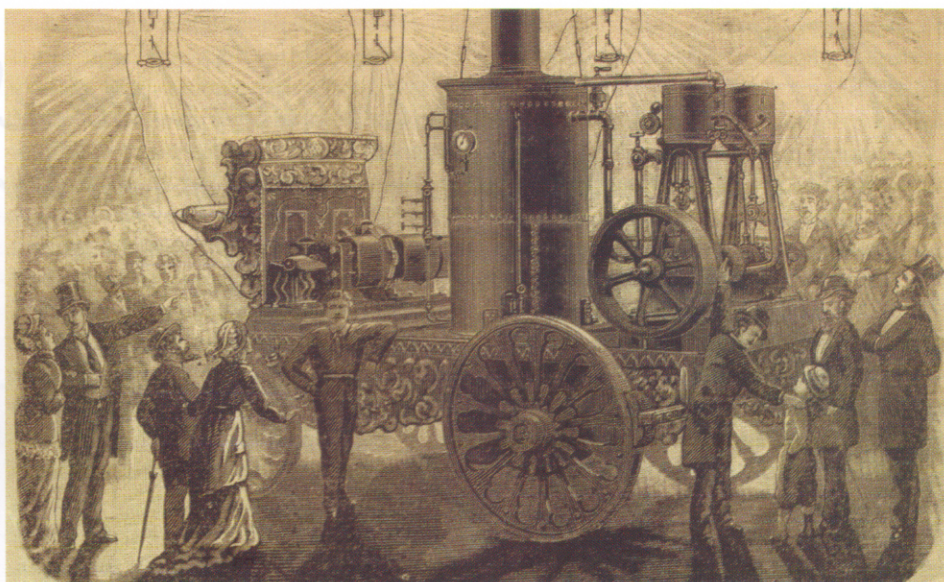
1880-1881

In 1880, the Courier Company Show Printing House of Buffalo, New York, produced this ad for the Sells Brothers. Courtesy Princeton University Library, which provides this citation: Sells Bros. Circus, "This is the greatest show: Sells Brothers millionaire confederation of stupendous railroad shows ..." (Buffalo, N.Y.: Courier Co. Show Printing House, 1880). Graphic Arts Collection, Department of Rare Books and Special Collections. Princeton University Library.

admission to see it alone. No other show will exhibit one here, and, consequently, this will be the only opportunity most of our readers will have to see this grand culminating triumph of the inventive genius of the age. Our country friends will bear in mind that it will be exhibited in the afternoon as well as night, in full operation, propelled by a powerful steam engine, and emitting a ... radiance of planetary splendor."

One century and almost a third of another century have passed since American circuses boasted about the splendor of their electric light exhibitions, and only now are we poised to trade our Edison-inspired light bulbs for LEDs. As the circus engines and their dynamos attest, the advent of electric light was one of the most dramatic events of all time, and, as we know, Edison's incandescent bulb became one of the most tenacious inventions.

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The Sells Brothers engine was ornately embellished, as may be seen in this detail.

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