

UNITED STATES MONUMENTS



THE STATUE OF LIBERTY NEW YORK

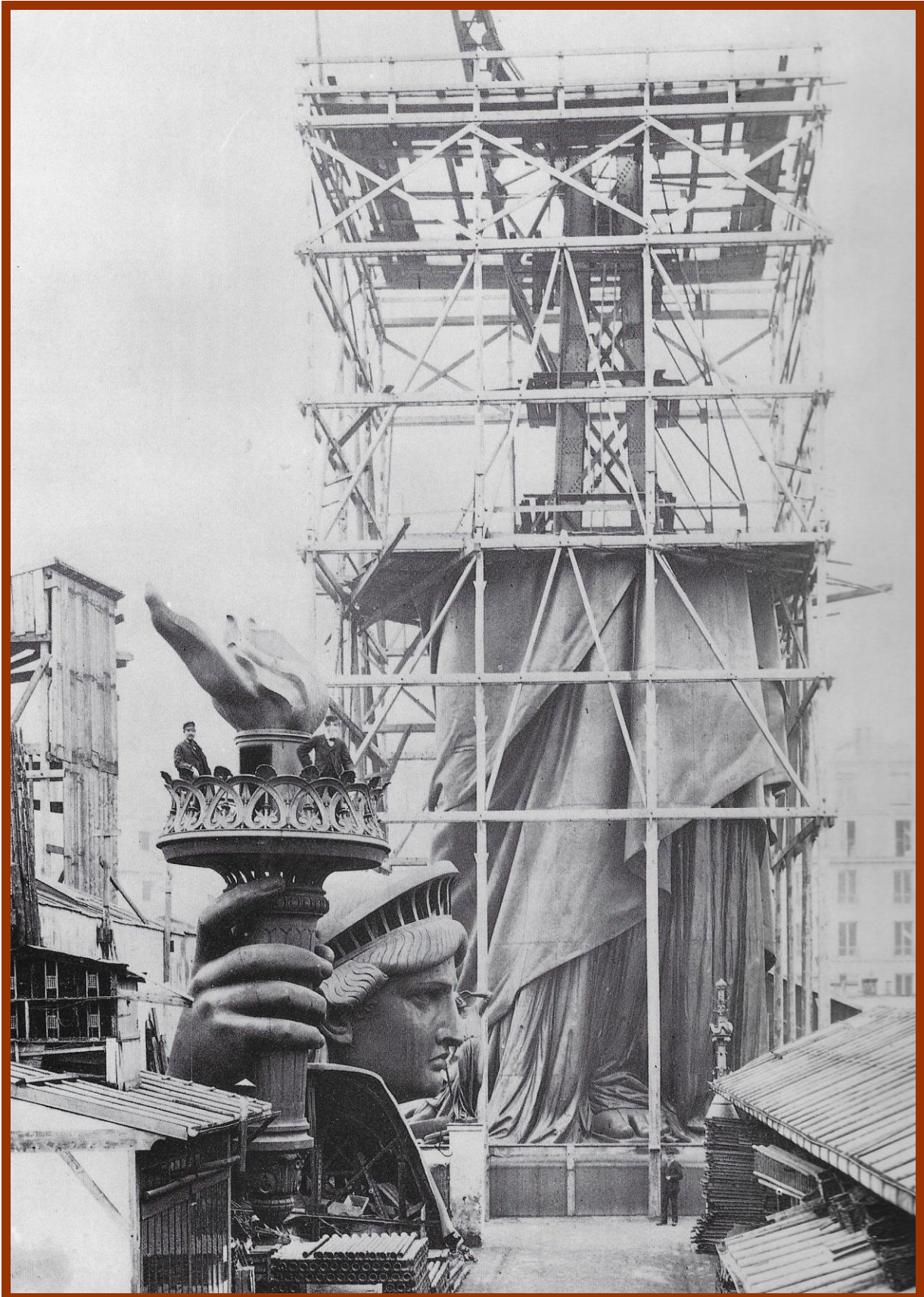
THE WASHINGTON MONUMENT

THE ST LOUIS GATEWAY ARCH

BRIAN ROBERTS

<2>

CONSTRUCTING LIBERTY IN PARIS



LIBERTY ENLIGHTENING THE WORLD

The **Statue of Liberty** (Originally named from the French as **Liberty Enlightening the World**) is a colossal statue on Liberty Island in New York Harbour. The statue stands 151 ft high. Positioned on a giant stone pedestal, it measures 305 ft from ground level to the torch. The copper statue, a gift from the people of France to the people of the United States was designed by French sculptor Frederic Auguste Bartholdi and its metal framework was built by Gustave Eiffel, better known for building the Paris tower which bears his name.

The statue was built in France, shipped overseas in some two hundred wooden crates and assembled on the completed pedestal on what was then called Bedloe's Island. The statue is said to be of Libertas, a robed Roman liberty goddess. She holds a torch above her head with her right hand. Her left hand carries a tablet inscribed **July 4, 1776** (in Roman numerals), the date of the **U.S. Declaration of Independence**. A broken shackle and chain lie at her feet as she walks forward. This commemorates the then recent national abolition of slavery.

The original suggestion of 1865 was that any monument celebrating U.S. independence should be a joint project of the French and U.S. peoples. Progress was halted by the Franco-Prussian War until 1875 when it was proposed that the French build and finance the statue and the U.S. provide the site and build the pedestal. Bartholdi completed the head and the torch-bearing arm before finishing his design, these pieces then being exhibited for publicity. When eventually the funds became available, the statue was built in France, shipped to the United States and assembled on the completed pedestal on Bedloe's Island (later renamed Liberty Island).

The Statue of Liberty's completion was dedicated in a ceremony on 28th October 1886, presided over by President Grover Cleveland. After its dedication, the statue became an icon of freedom and the United States, seen as a symbol of welcome to immigrants arriving by sea.

<4>

FREDERIC AUGUSTE BARTHOLDI



<5>

GUSTAVE EIFFEL



BARTHOLDI EARLY SKETCH



<7>

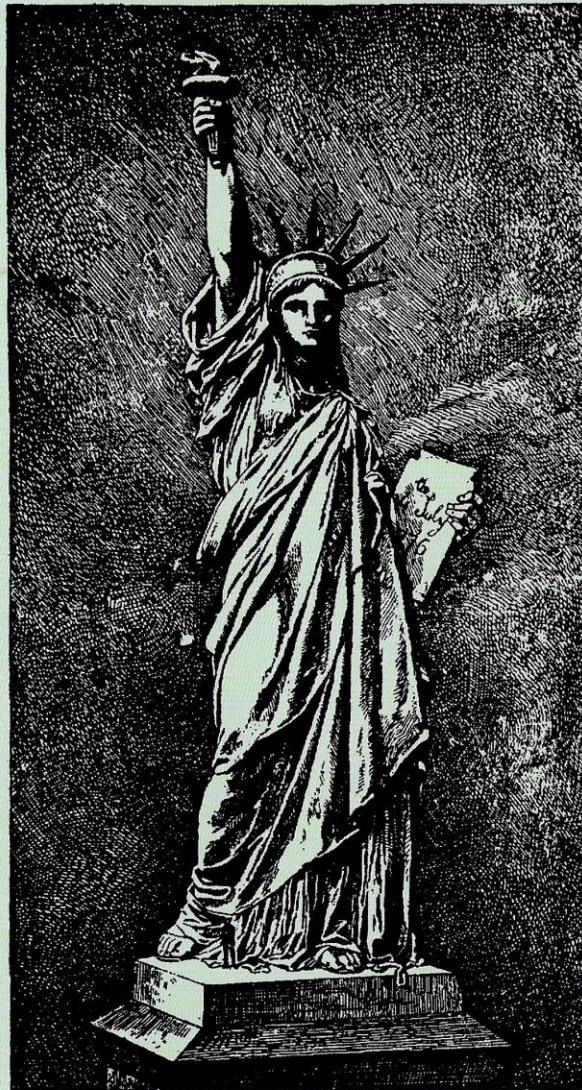
BARTHOLDI DESIGN PATENT 1879

DESIGN.

A. BARTHOLDI.
Statue.

No. 11,023.

Patented Feb. 18, 1879.



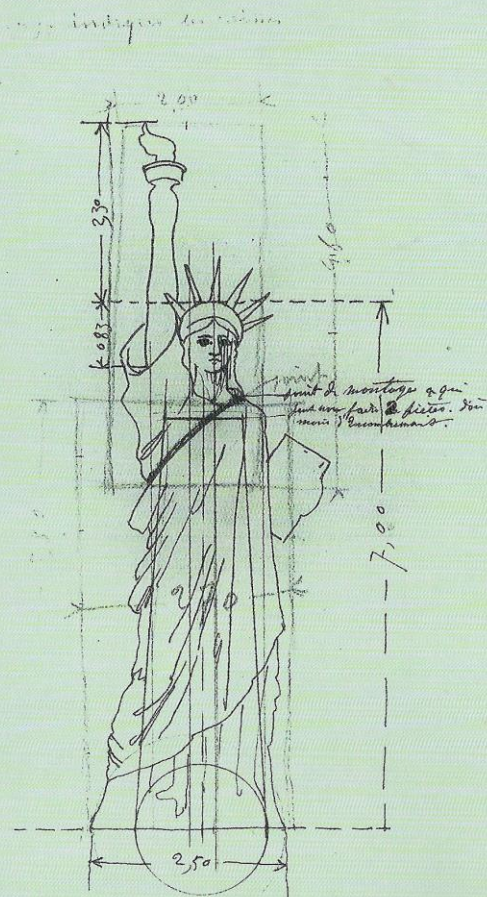
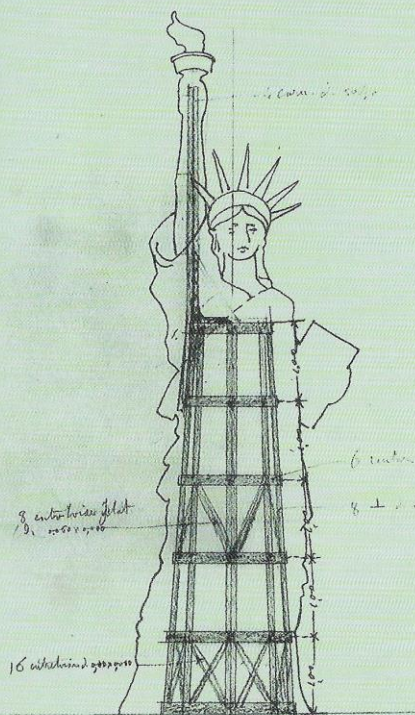
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LIBERTY ENLIGHTENING THE WORLD.

*C. C. Dick
J. B. Carpenter.*

*Auguste Bartholdi
By R. P. Rolfe
Arch.*

STATUE STATISTICS



DIMENSIONS OF THE STATUE OF LIBERTY

Presented by France and Erected in 1886
On Bedloe's Island, New York Harbor.

	Ft. in.
Height from base to torch.....	151 1
Foundation of pedestal to torch.....	305 6
Heel to top of hand.....	111 6
Length of hand.....	16 5
Index Finger.....	8 0
Circumference at second joint.....	7 6
Size of finger nail.....	13x10
Head from chin to cranium.....	17 3
Head, thickness from ear to ear.....	10 0
Distance across the eye.....	2 6
Length of nose.....	4 6
Right arm, length.....	42 0
Right arm, greatest thickness.....	12 0
Thickness of waist.....	35 0
Width of mouth.....	3 0
Tablet, length.....	23 7
" width.....	13 7
" thickness.....	2 0
DIMENSIONS OF PEDESTAL.	
Height of pedestal.....	89 0
Square sides at base, each.....	62 0
" " top, ".....	40 0
Grecian Columns, above base.....	72 8
DIMENSIONS OF FOUNDATION.	
Height of foundation.....	65 0
Square sides at bottom.....	91 0
" " top.....	66 7

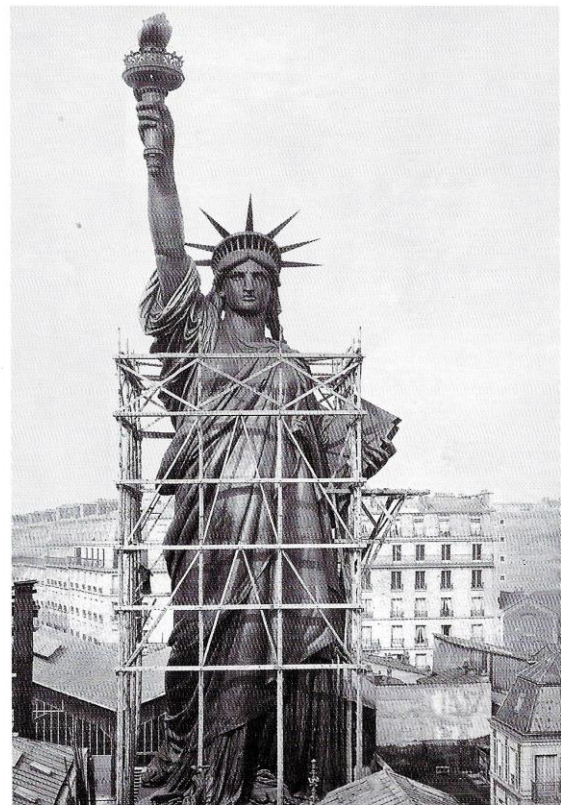
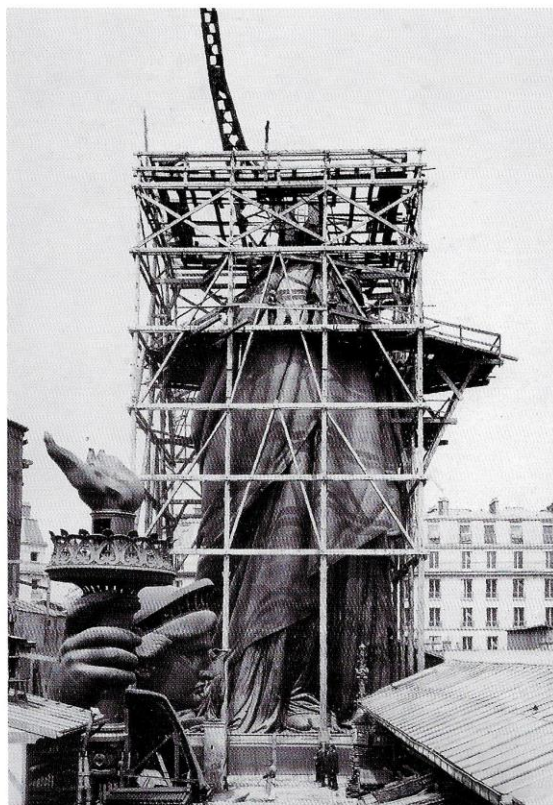
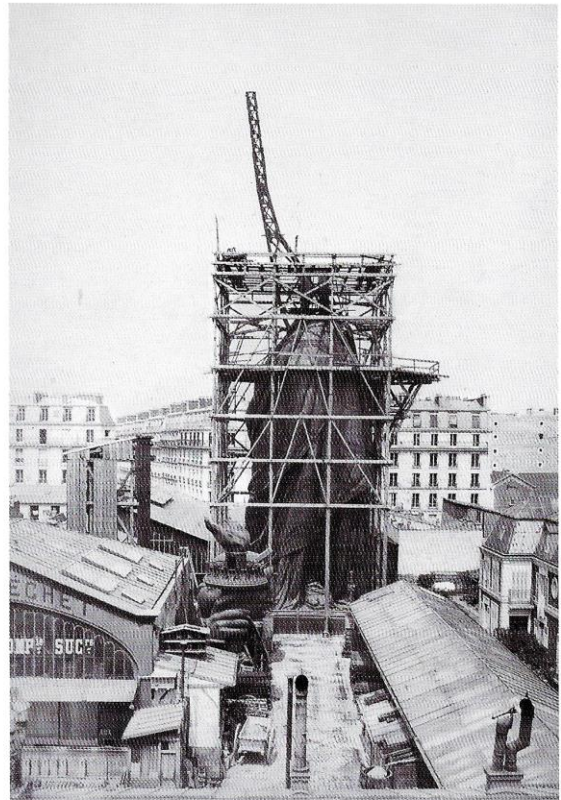
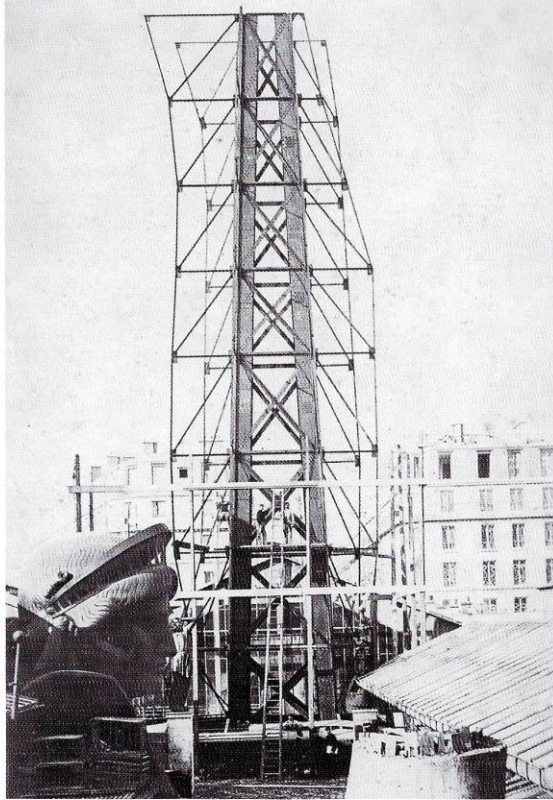
The statue weighs 450,000 pounds or 225 tons. The bronze alone weighs 200,000 pounds. Forty persons can stand comfortably in the head, and the torch will hold 12 people.

The number of steps in the statue from the pedestal to the head, is 154, and the ladder leading up through the extended right arm to the torch has 54 rounds.

CONSTRUCTING LIBERTY IN PARIS



CONSTRUCTING LIBERTY IN PARIS



DISPLAYING THE TORCH AND ARM



DISPLAYING THE HEAD OF LIBERTY



CONSTRUCTING THE STATUE NEW YORK



SCIENTIFIC AMERICAN 1886

SCIENTIFIC AMERICAN

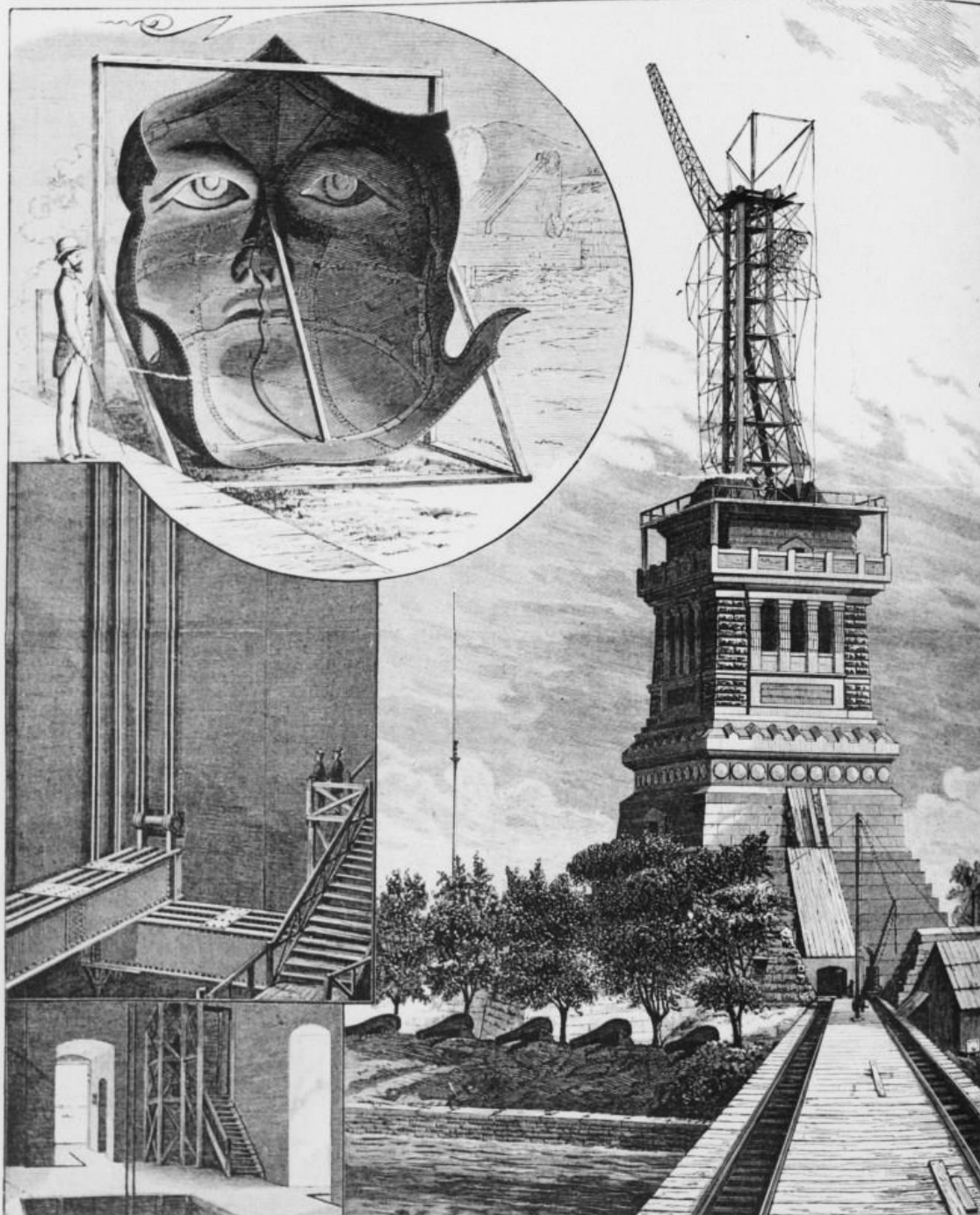
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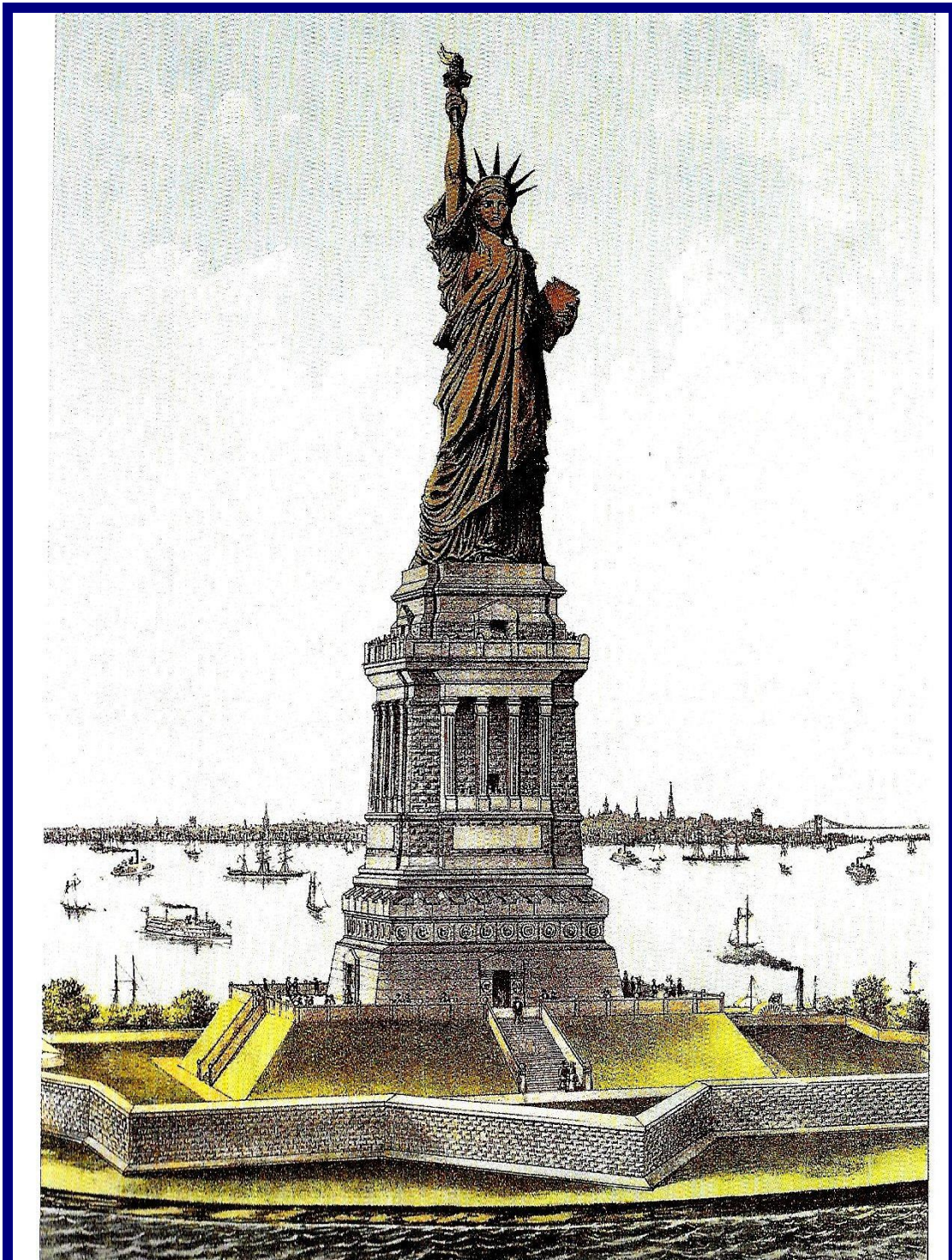
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NEW YORK, AUGUST 14, 1886.

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COLOUR LITHOGRAPH 1886

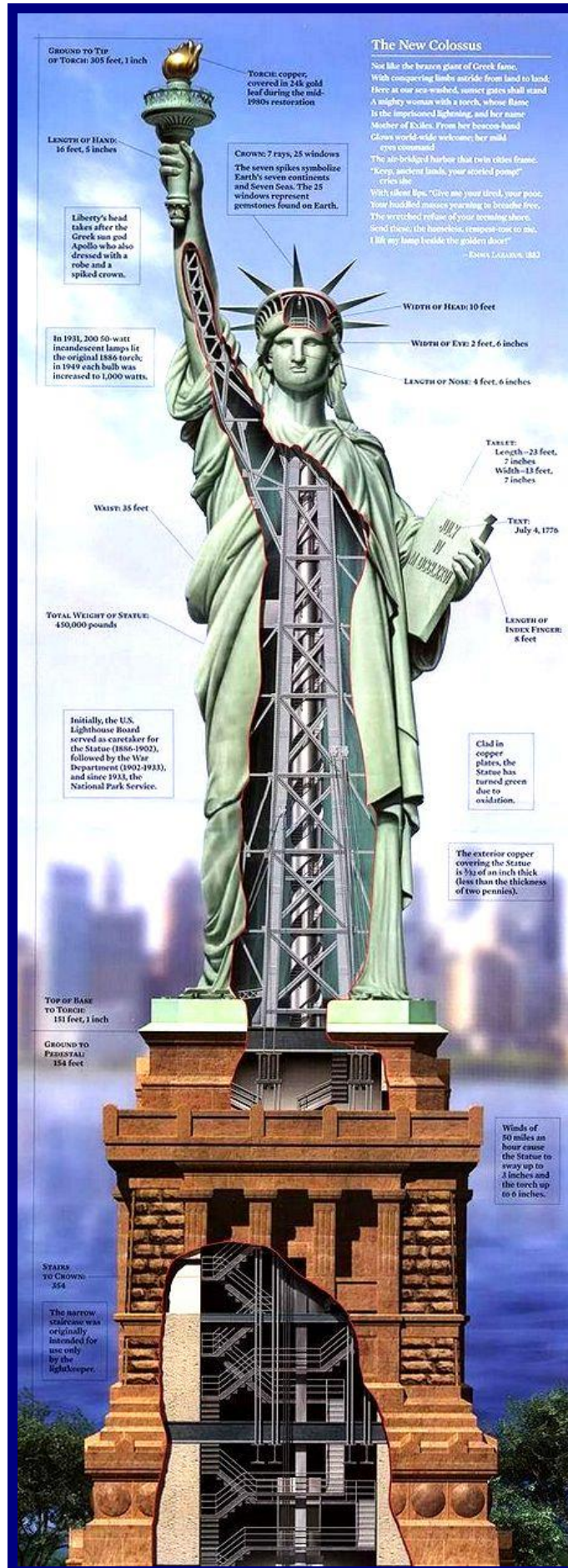


THE GREAT BARTHOLOMI STATUE.
LIBERTY ENLIGHTENING THE WORLD.
THE GIFT OF FRANCE TO THE AMERICAN PEOPLE.

ERECTED ON BEDLOE'S ISLAND NEW YORK HARBOR UNVEILED OCT. 28TH 1886

This magnificent colossal Statue (the largest ever known in the World) is of copper bronzed 151 feet in height and is mounted on a Stone Pedestal 154 feet high, making the extreme height from foundation of Pedestal to the torch 305 feet. The height of the Statue from the heel to the top of the head is 111 ft 6 in. Length of the hand 16 feet. Head from chin to crown 17 ft 3 in. Breadth from ear to ear 10 feet. Length of nose 4 ft 6 in. Length of right arm 42 feet. Circumference of arm 12 feet. Width of mouth 3 feet. Weight of Statue 450,000 pounds (225 tons) 40 persons can stand comfortably in the head and the torch will hold 12 people. The torch at night displays a powerful electric light and the great Statue thus presents by night as by day an exceedingly grand and imposing appearance.

CONSTRUCTION DETAILS



CONSTRUCTION DETAILS

The Statue of Liberty took form with unprecedented speed, despite financial and practical setbacks. Soon after the Franco-American Union's formation in 1875, Bartholdi was able to refine his concept in a series of ever-more precise models and begin the daunting process of designing its support and construction. The complex process of the making of this giant incorporated age-old techniques and nineteenth-century state-of-the-art engineering, from the gigantic structure to the smallest rivet.

The Statue's skin is composed of copper plates formed by an ancient metalwork process, repoussé, in which workers hammered the sheets of copper against wooden molds to shape their contours. These plates are affixed to an armature—sturdy metal columns with a connecting trellis of smaller iron bars. Holding the copper plates together are many rivets, nineteen inches long and spaced nearly one inch apart. These special metal pins, each with a flat head like a nail, join the sheets together. During the final assembly of the Statue on Bedloe's Island, each rivet was heated and inserted in a hole that had been drilled through the copper plates. On the other side of the copper sheet, a worker then hammered the headless end of the rivet, flattening the remaining shaft to form a second head and plug the hole. Thus the assemblage's stability was guaranteed. This technique was followed over every inch of the Statue.

POPULAR FACT SHEET

THE STATUE OF LIBERTY


GIFT FROM PEOPLE OF FRANCE TO PEOPLE OF THE UNITED STATES
IN RECOGNITION OF FREEDOM ESTABLISHED DURING AMERICAN REVOLUTION

STATUE SCULPTED IN FRANCE BY ARTIST FREDERIC AUGUSTE BARTHOLDI
FURNISH DESIGNED IN AMERICA BY ARCHITECT FREDERICK MONTESSANA

FRENCH ENGINEER ALPHONSE GUSTAVE EFFEL
CONSTRUCTED IRON PYLON & SKELETON, FRAMEWORK
WHICH SUPPORTS COPPER SKIN OF STATUE

ARRIVED IN NEW YORK CITY
IN JUNE 1884
SPACE TO ASSEMBLE
IN FOUR YEARS
DEDICATED OCTOBER 28, 1886

CONSTRUCTED IN FRANCE
IN 1877 FROM DISAPPOINTED
& SHIPPED TO THE UNITED STATES

STATUE FACTS:

GROUND TO TOP OF TORCH
305' 7 1/2" HIGH
TOP OF BASE TO TOP
339' 4 1/2" HIGH
GROUND TO HEAD OF
304' 4 1/2" HIGH
HEIGHT OF COPPER SKIN 28 1/2" FT
HEIGHT OF STEEL SKELTON 154 1/2" FT
HEIGHT OF CONCRETE FOUNDATION
23200 TONS 24484 1/2" FT

COPPER SKIN IS 3/32" THICK
(LESS THAN TWO PENNIES)

LIGHT GREEN COLOR
(PATINA) RESULT
OF COPPER WEATHERING

HEAD FACTS:

SEVEN SPIRES ON TOWER REPRESENT
SEVEN CONTINENTS & SEAS OF THE WORLD

DIA. TO CORNICES 17' 7" 5.20m
WIDTH OF HEAD 12' 2" 3.70m
WIDTH OF EYE 2' 4" .76m
LENGTH OF NOSE 4' 7" 1.40m


CONTAINS 24 WEIGHTS
274 POUNDS TO REACH CORNICES

TORCH FACTS:

SYMBOL OF ENLIGHTENMENT
CURRENT TORCH IS WINE REPLACEMENT
OF ORIGINAL, NOW IN LONDON

MADE OF COPPER & COVERED
WITH 24 CARAT GOLD LEAF

SUNSHINE REFLECTS OFF
GOLD DURING DAYTIME &
IN REFLECTS BLUE-GRAY
TONE AT NIGHT



TABLET FACTS:

23" HIG & 19" WIDE

WRITTEN WITH ROMAN NUMERALS (1776)
JUST 3 MONTHS AFTER A STATE OF
DECLARATION OF INDEPENDENCE WAS
ADOPTED BY THE CONGRESSIONAL CONGRESS

<19>

UNVEILING OF THE STATUE 1886



<20>

FRONT OF THE STATUE



<21>

BACK OF THE STATUE



<22>

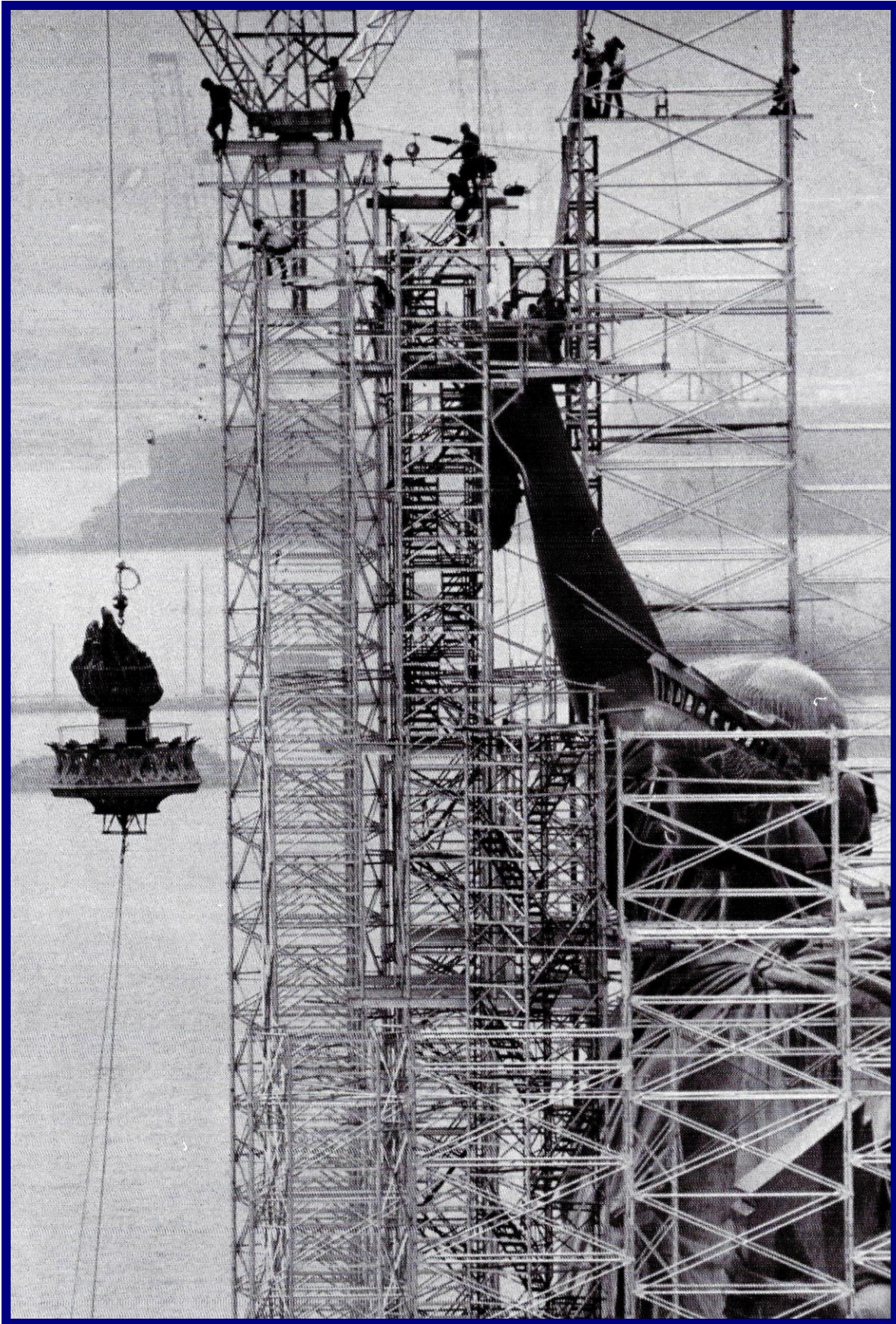
THE STATUE AND PEDESTAL



THE INTERNAL STAIRCASE



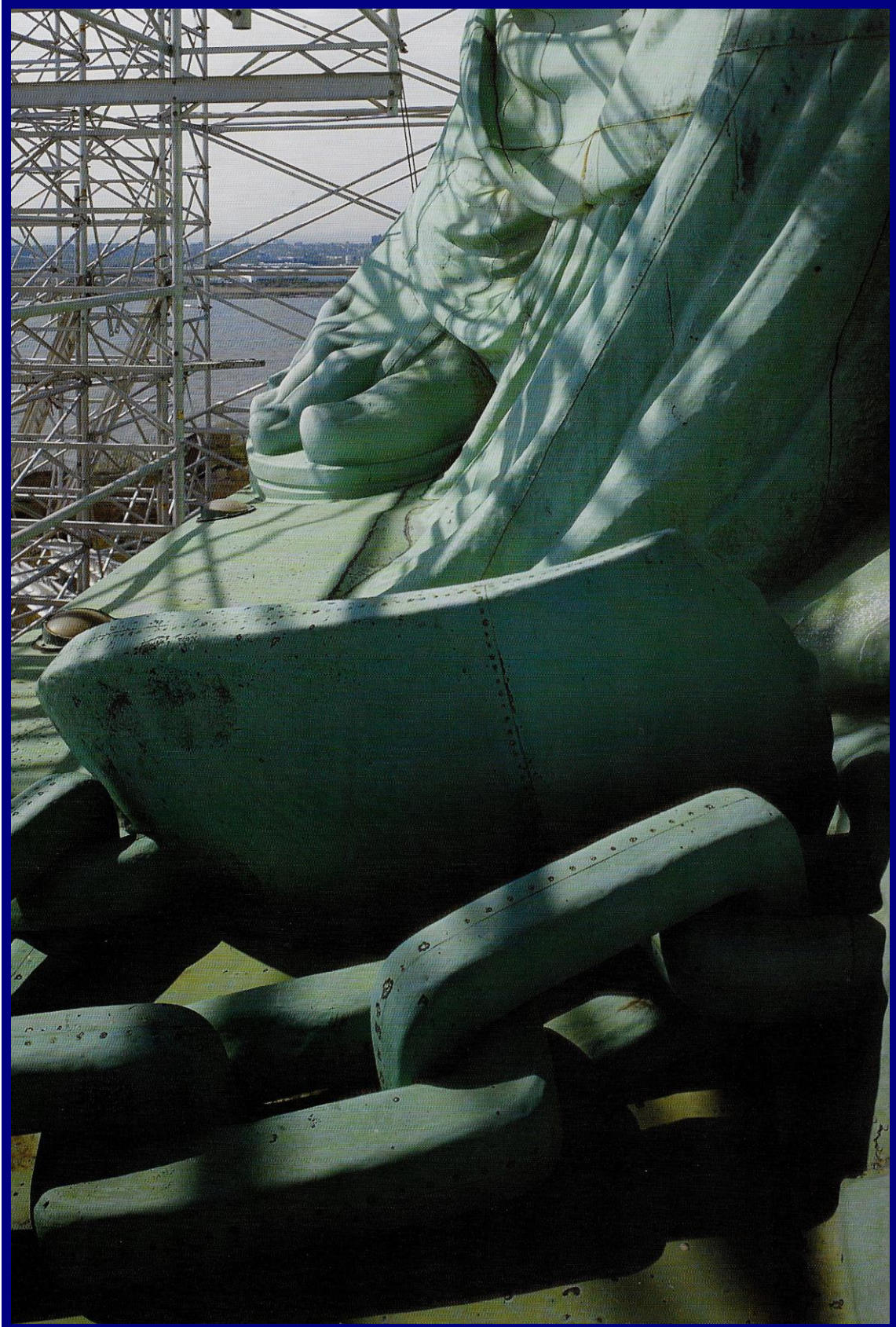
CENTENNIAL RESTORATION 1986



CENTENNIAL RESTORATION 1986



A BROKEN ANKLE SHACKLE AND CHAIN COMMEMORATES ABOLITION OF SLAVERY



<27>

REMOVING THE OLD TORCH 1986



REMOVING THE OLD TORCH 1986



**THE TABLET INSCRIBED JULY 6 1776
THE DATE OF THE DECLARATION OF INDEPENDENCE**



THE NEW COLUMBIAN 1883 *Emma Lazarus*

**Give me your tired, your poor,
your huddled masses yearning to
breathe free, the wretched refuse of
your teeming shore, Send these, the
homeless, tempest-tossed to me, I lift my
lamp beside the golden door!**



<31>

THE WASHINGTON MONUMENT



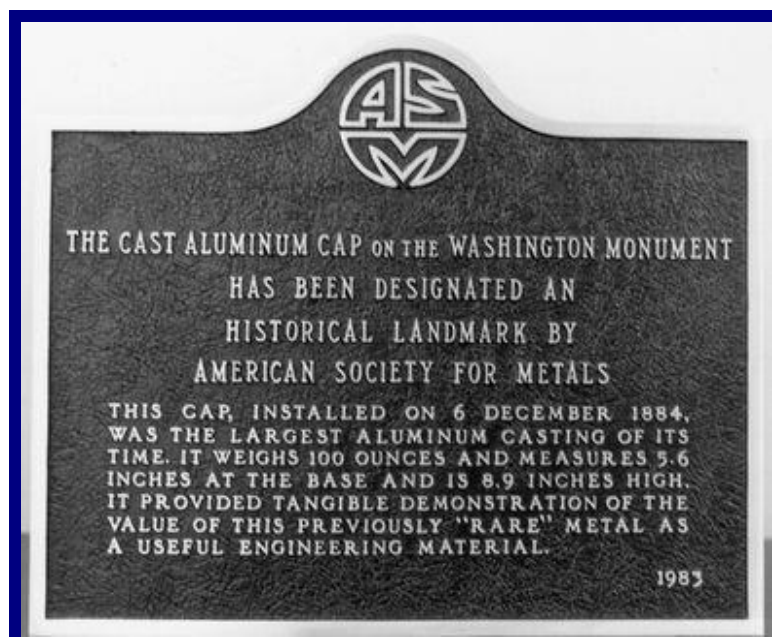
THE WASHINGTON MONUMENT

The Monument is an obelisk sited within the National Mall in Washington D.C., built to commemorate George Washington, He was Commander-in-Chief of the Continental Army (1775-84) in the American Revolutionary War and the first President of the United States (1789-97). Standing 555 ft tall, the Monument is the world's tallest obelisk, and is made of granite, marble and bluestone gneiss (rock with a layer of coloured bands). Nearby are the Reflecting Pool and the Lincoln Memorial.

Construction began in 1848 but was halted for the next 23 years due to a lack of funds. Although the stone structure was completed in 1884, the installation of ironwork and memorial stones took until 1888. A slight difference in the colour of the marble facing occurs around 150 ft where the halted construction was later resumed with marble from a different source. The cornerstone was laid in the 1848 foundation ceremony, the first stone laid atop the unfinished stump in 1880 and the triangular capstone was set in 1884. The completed monument was dedicated in 1885 and officially opened 9th October 1888.

"The Washington Monument is a hollow Egyptian stone obelisk with a 500-foot tall column surmounted by a 55-foot tall pyramidion Its walls are 15 ft thick at its base and 1.5 ft thick at their top. The marble pyramidion has thin walls only 7 inches thick supported by six arches.....the top with a small aluminium pyramidion at its apex...".

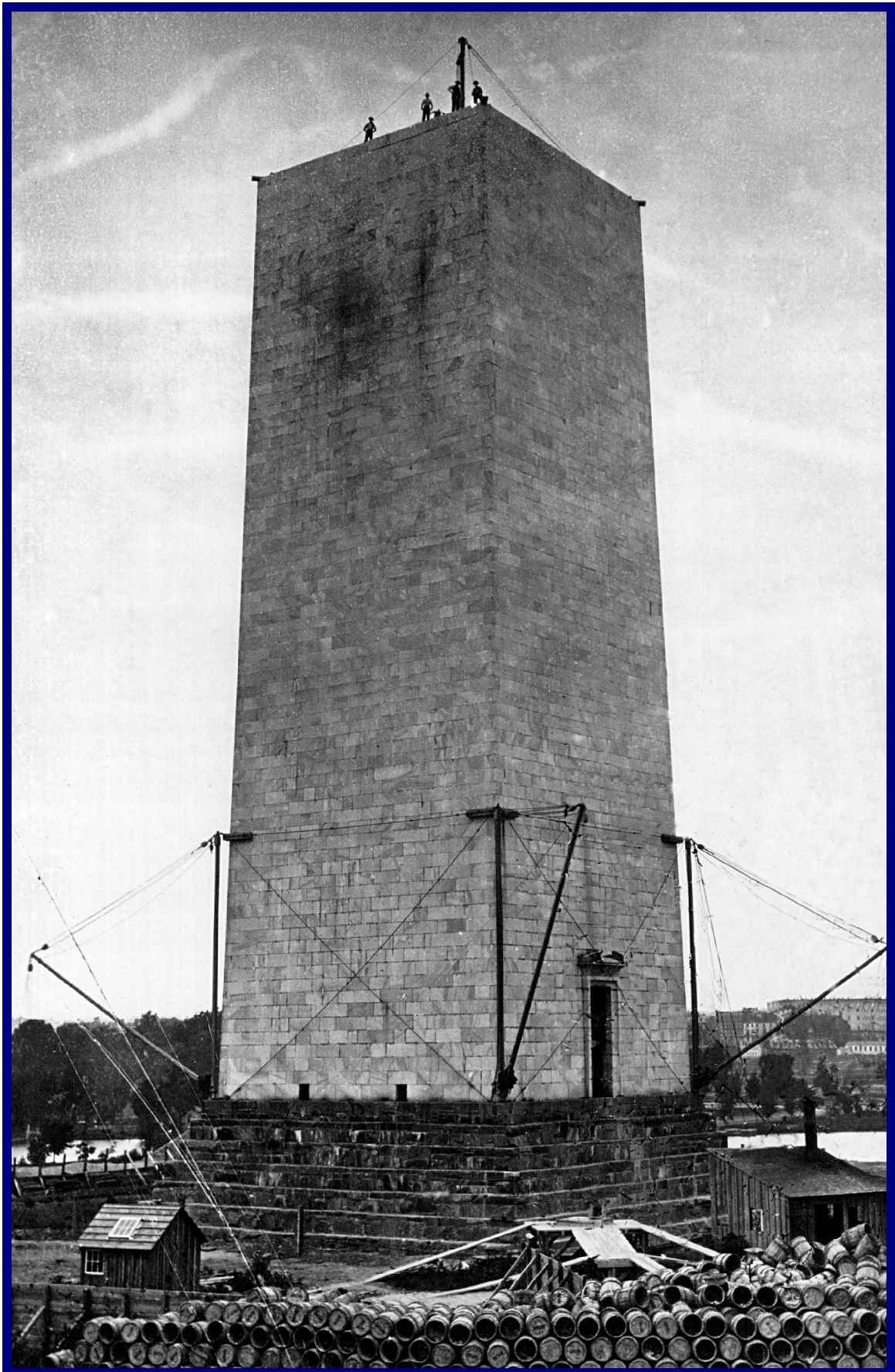
The Monument interior is occupied by iron stairs that spiral up the walls, with originally a Otis steam elevator going to the top, now replaced by a modern electric type. The stairs contain fifty sections with landings having many inscribed memorial stones. There are eight observation windows at the top, two on each side, together with aluminium lightning rods, connected via the elevator support columns to ground.



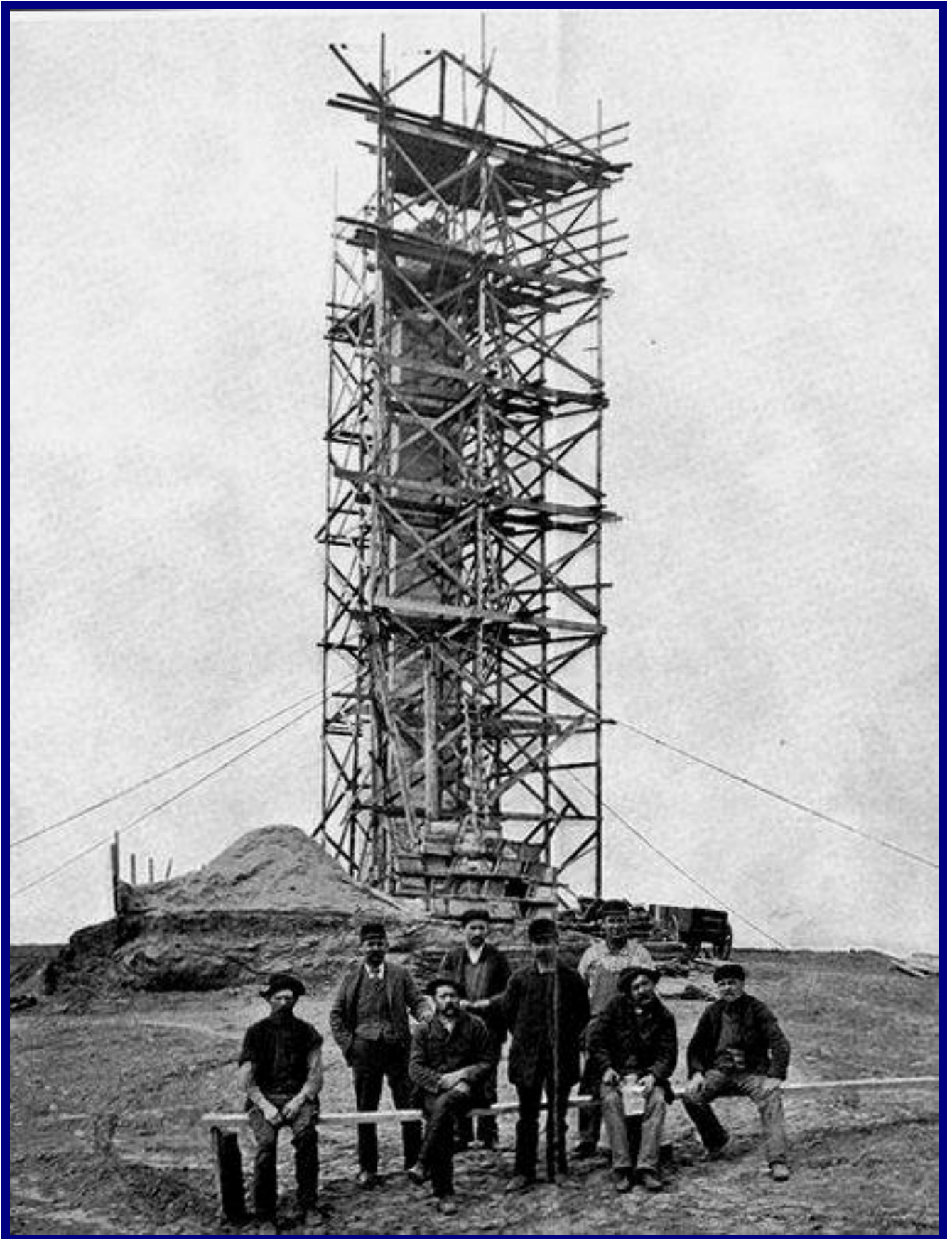
THE FIRST DESIGN 1835



THE RESTART OF CONSTRUCTION 1880

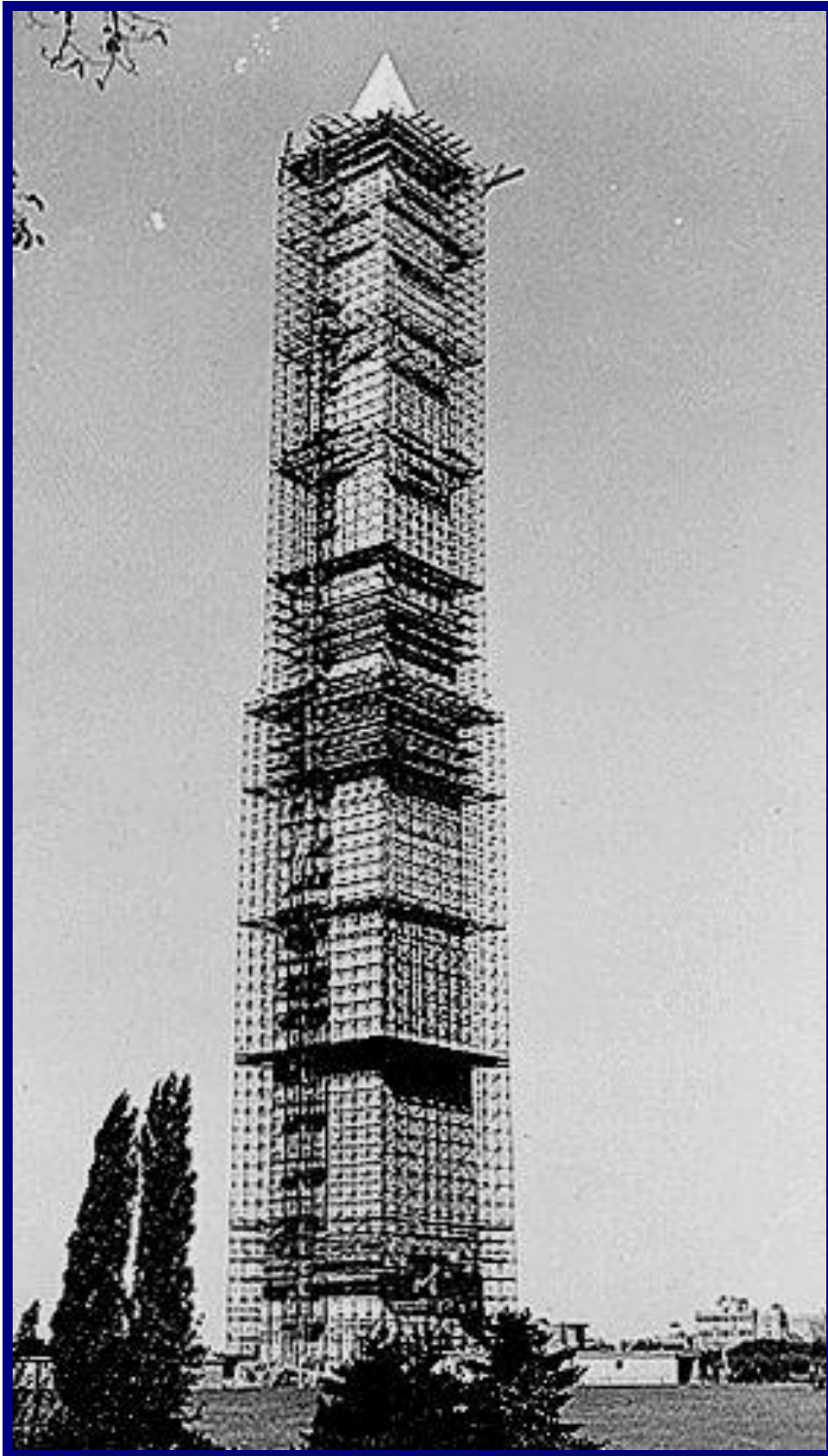


CONSTRUCTION CONTINUES

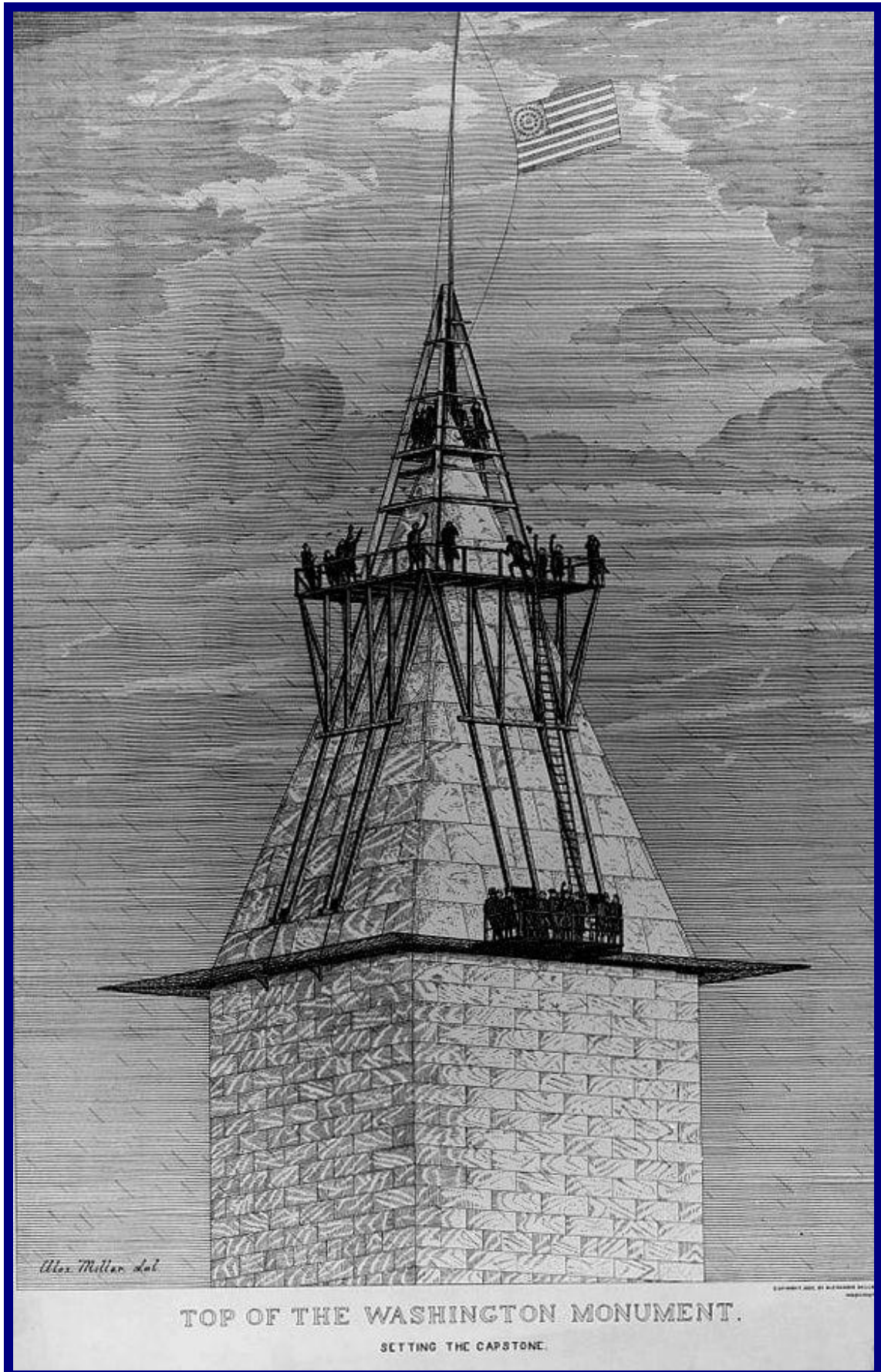


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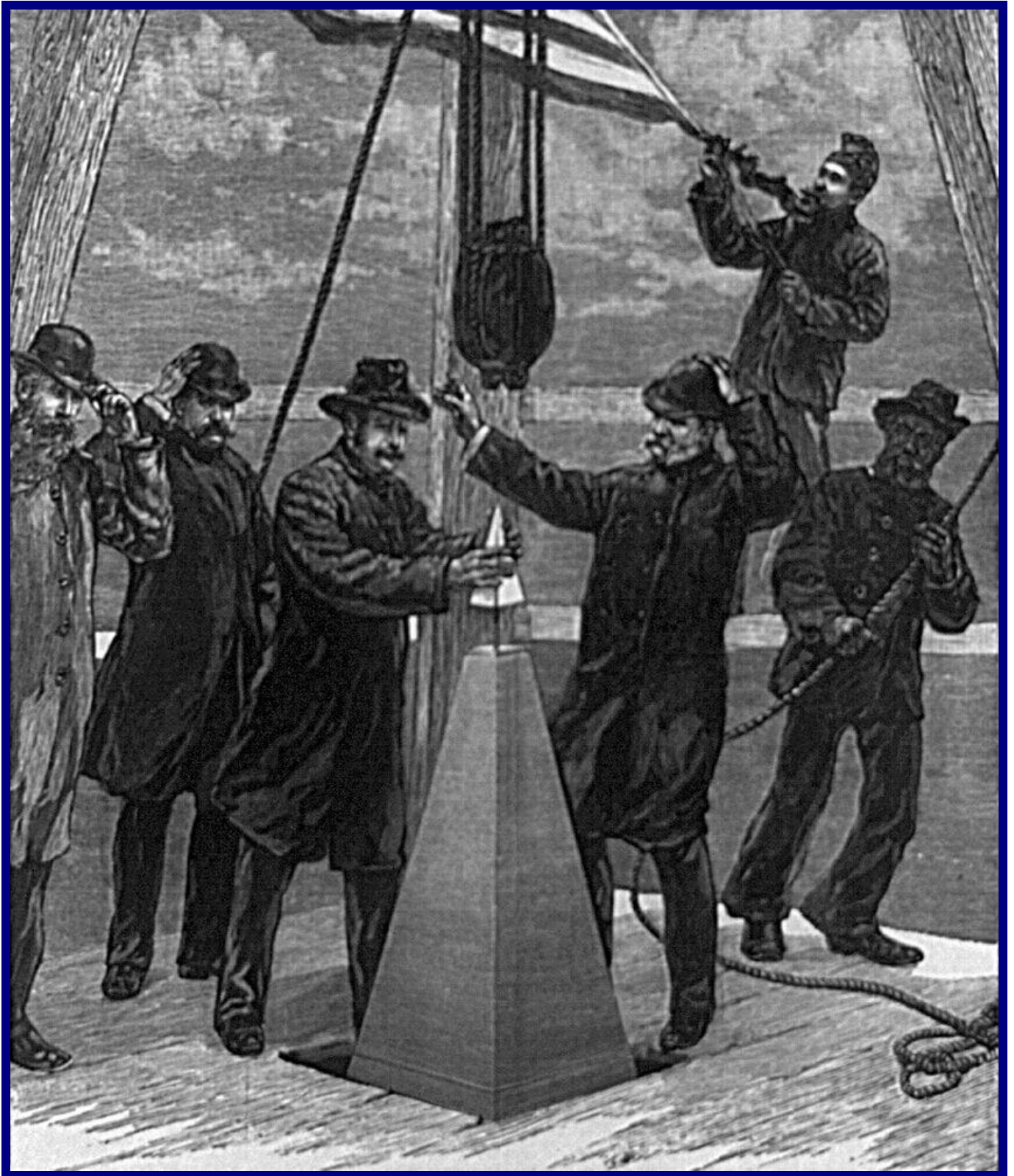
THE SCAFFOLDED MONUMENT



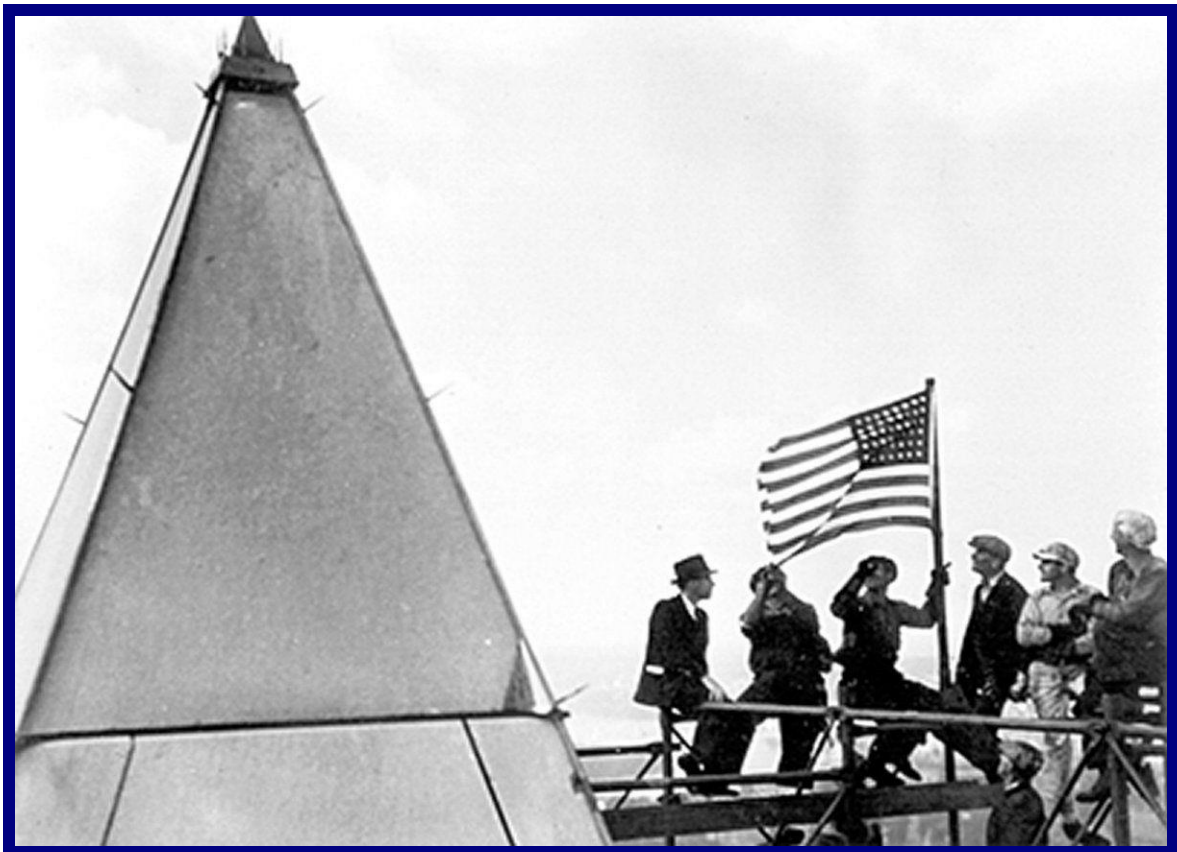
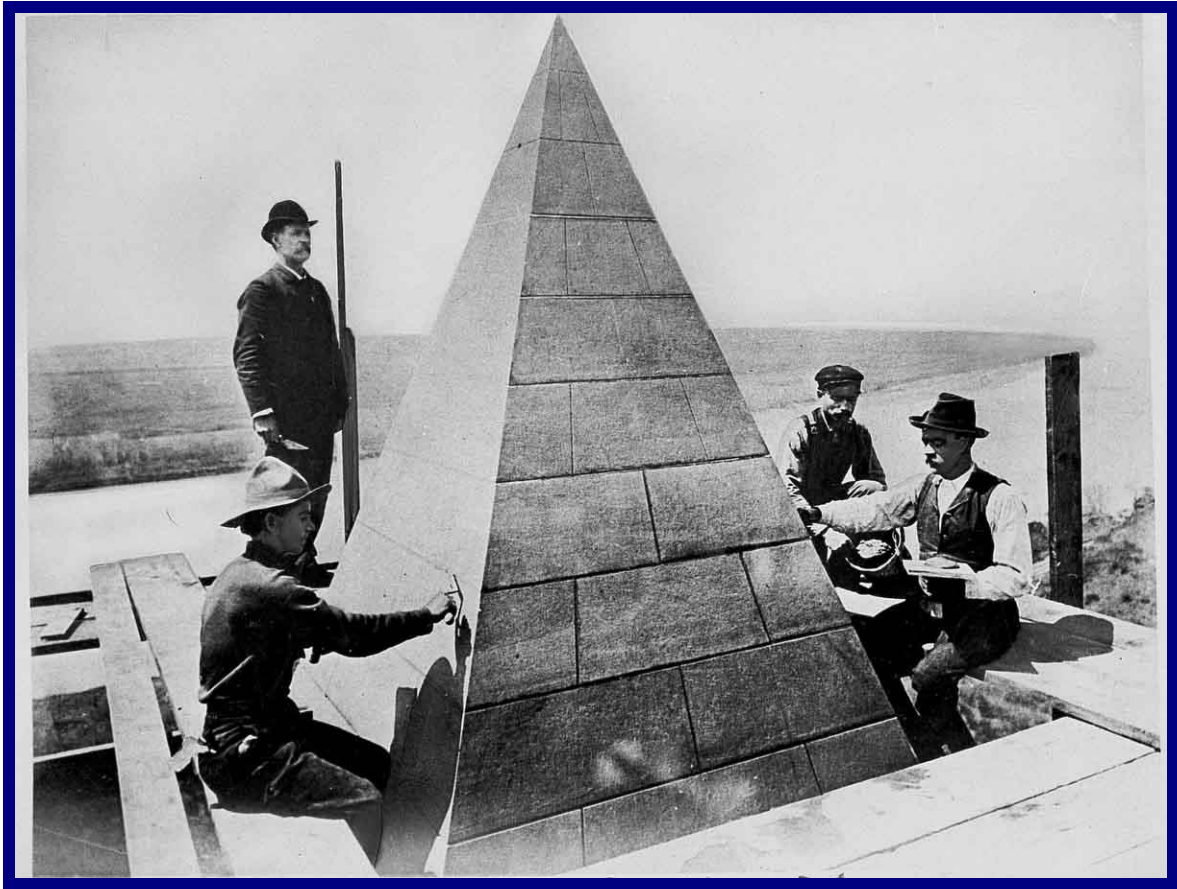
TOP OF THE MONUMENT



CAPPING THE MONUMENT 1884



COMPLETING THE TOP



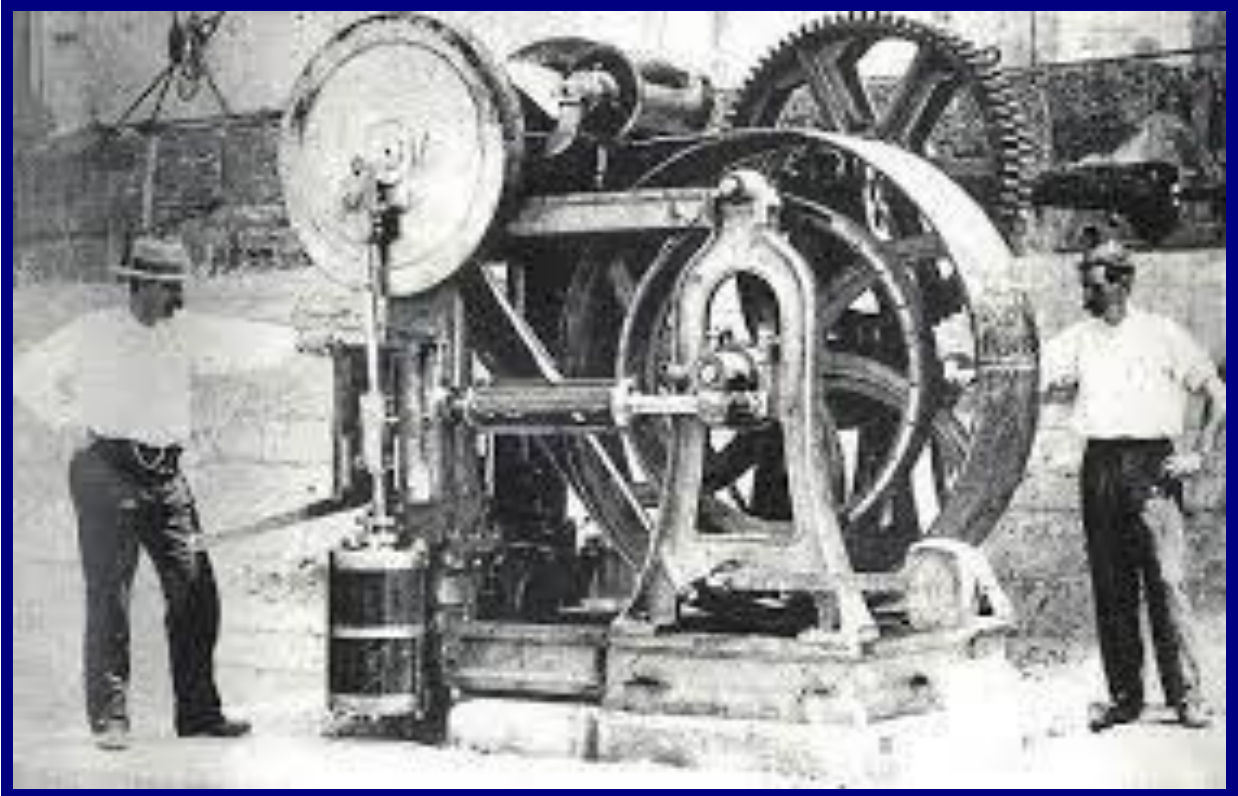
THE FIRST ELEVATOR



IN THE ELEVATOR.

<41>

ORIGINAL OTIS STEAM ELEVATOR

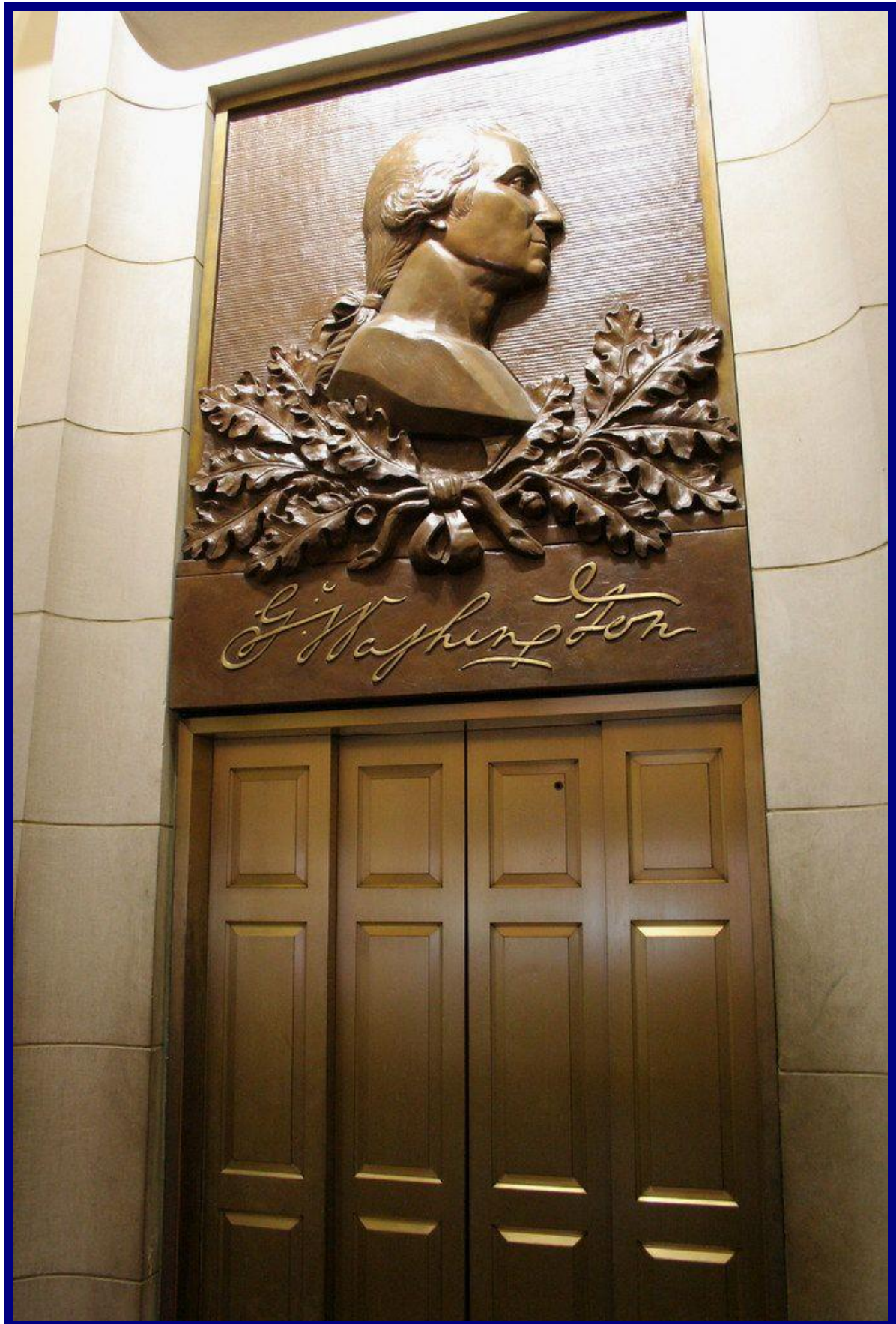


MODERN UPGRADED LIFTSHAFT



<42>

NEW ELEVATOR ENTRANCE



<43>

RENOVATING THE MONUMENT



WORKERS AT THE SUMMITT



<45>

THE MONUMENT REFLECTING POOL



FIFTY FLAGS, ONE FOR EACH STATE



<46>

THE WASHINGTON MONUMENT



<47>

ST LOUIS GATEWAY ARCH



ST LOUIS GATEWAY ARCH

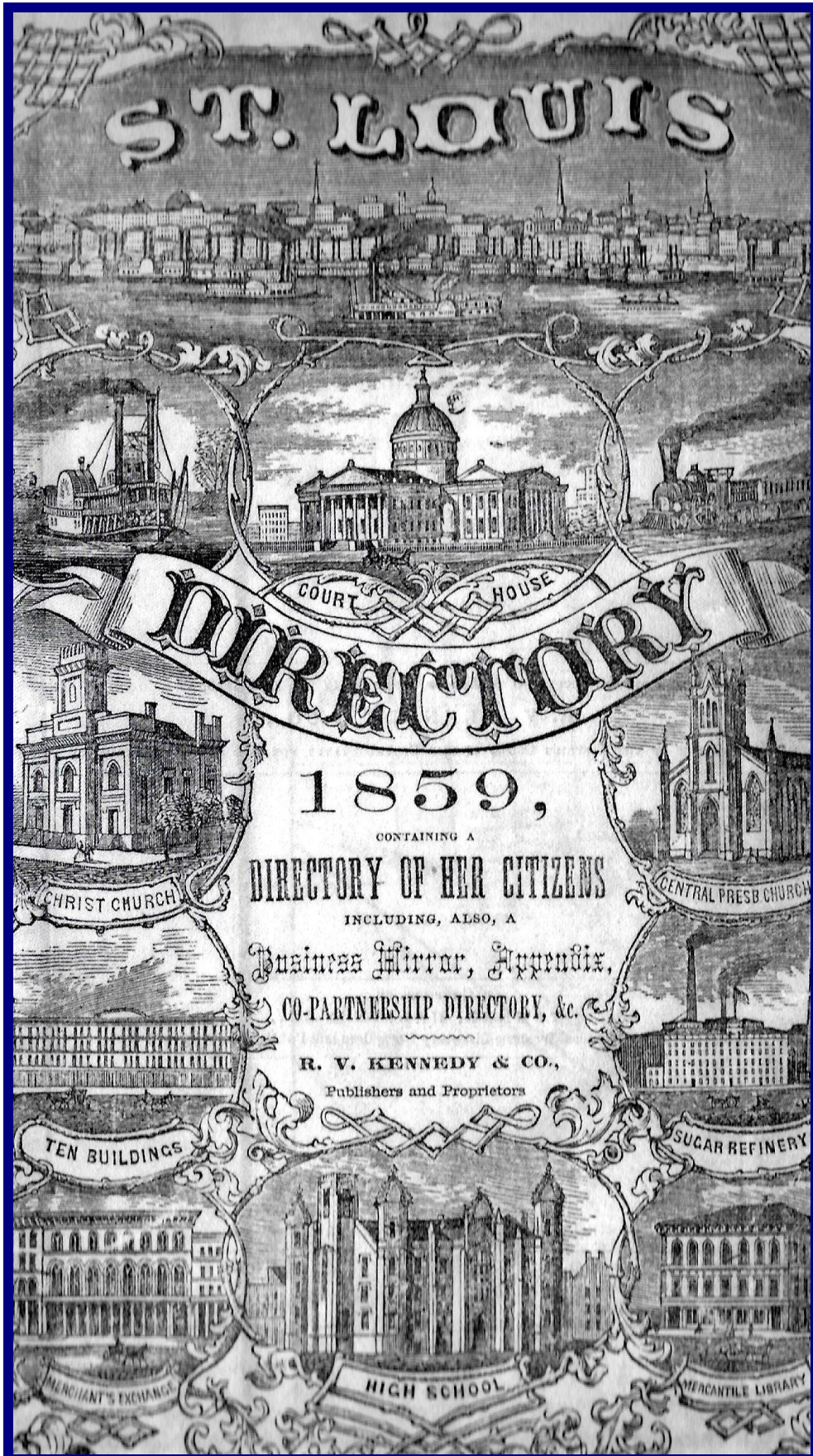
St. Louis on the banks of the River Mississippi was founded by French fur traders in 1764. In 1803 it was sold to the United States as part of the Louisiana Purchase and became known as "The Gateway to the West." In the 19th century, St. Louis became a major port on the Mississippi and until 1920 it was the fourth-largest city in the country,

In 1933, civic leaders proposed building a public memorial to the men who made possible the western territorial expansion of the United States. The suggested name was the Jefferson National Expansion Memorial and plans for funding and initial planning began, but it was not until 1946 that it was decided to organise an architectural competition. This was won by the Finnish-American architect Eero Saarinen though it was not until 1963 that the funds became available and construction began. (Saarinen died in 1961).

Now known as the Gateway Arch, the shape of the memorial is a catenary curve, which is basically, structural sound. At 630 ft high, the Arch is the tallest National Monument in the United States, with its width/ span at the base also 630 ft. The total weight is 43,000 US tons. The stainless-steel skin weighs 900 tons. The depth of the foundations is 60 ft. The width of the Arch at the base is 54 ft, narrowing to 17 ft at the top. The Arch is constructed of 142 sections, the outer skin being 0.25 inches thick.

Access to the top of the Arch is provided by a combine tram-cable lift system, there being 2 transporters each with 5 capsules. Each capsule, with an internal diameter of 5 ft, can hold 5 seated passengers and travelling a distance of 548 ft at 3.9 mph reaches the top in 4 minutes.

ST LOUIS POSTER 1859



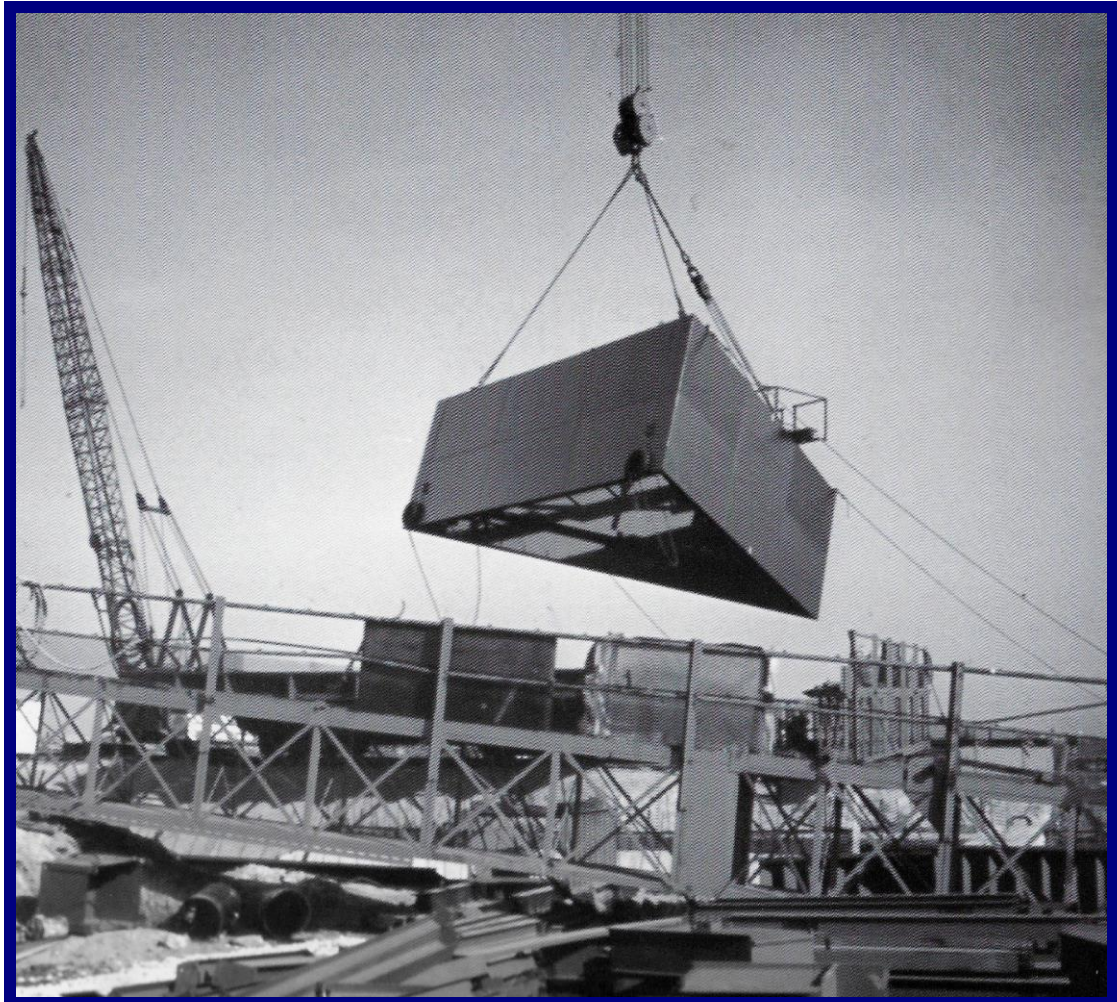
<50>

ARCHITECT EERO SAARINEN 1910-1961



<51>

THE BASE FOR THE LEGS



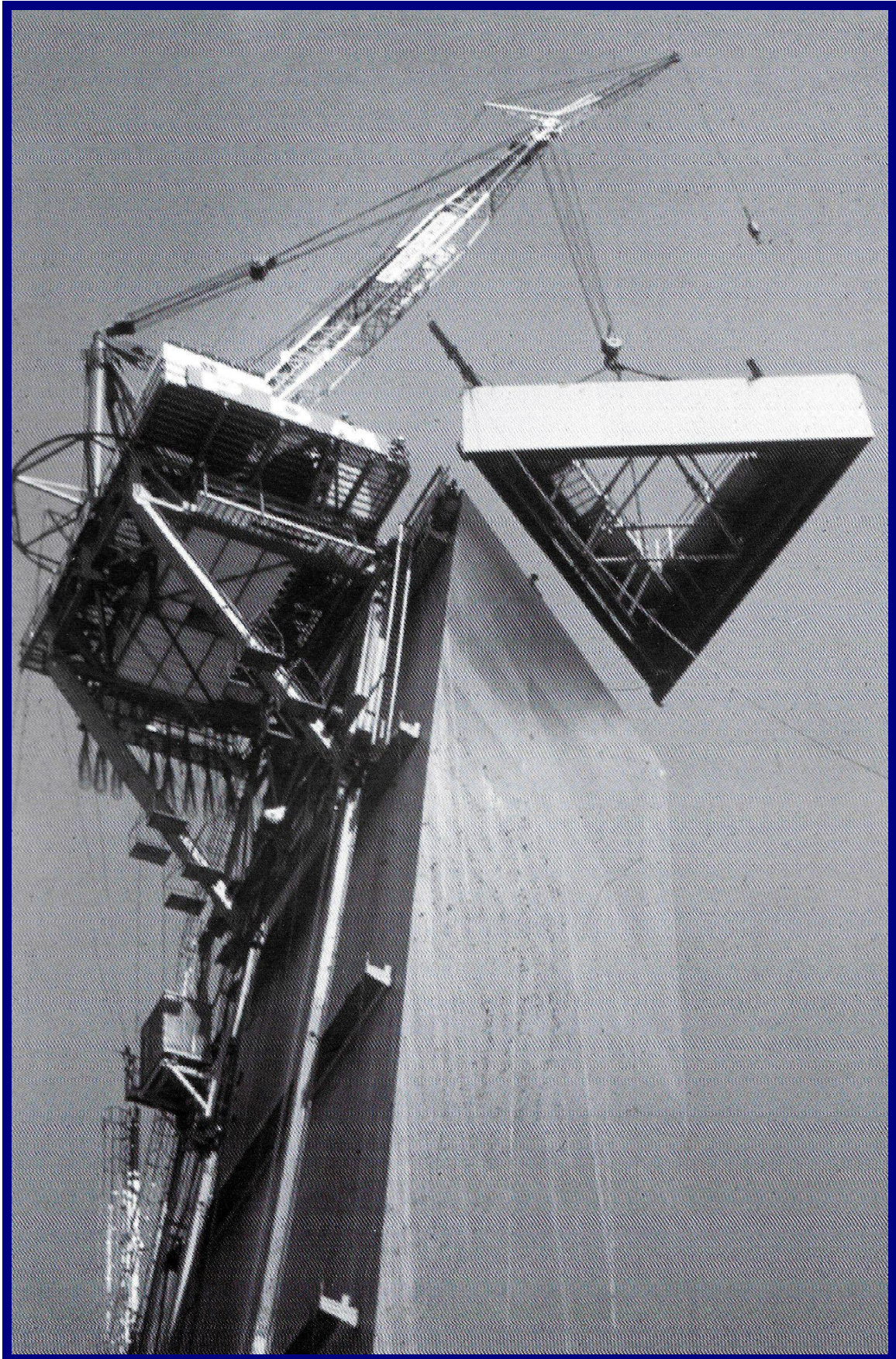
THE BOTTOM SECTION OF THE LEGS



THE CREEPER DERRICKS



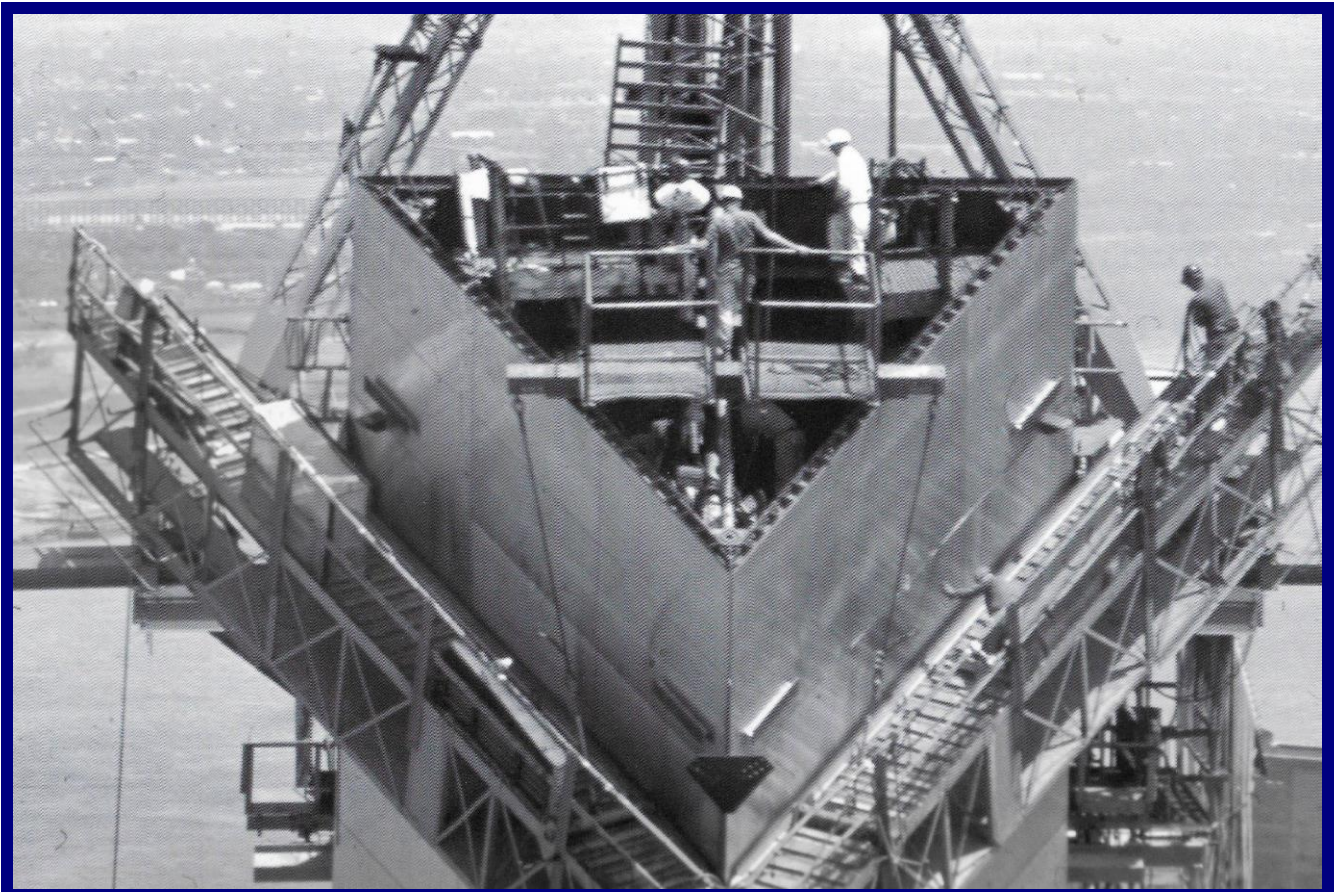
A DERRICK PLATFORM WITH WORK SHED



THE LEGS CURVE TOWARDS EACH OTHER



WORKMEN AT FIVE HUNDRED FEET

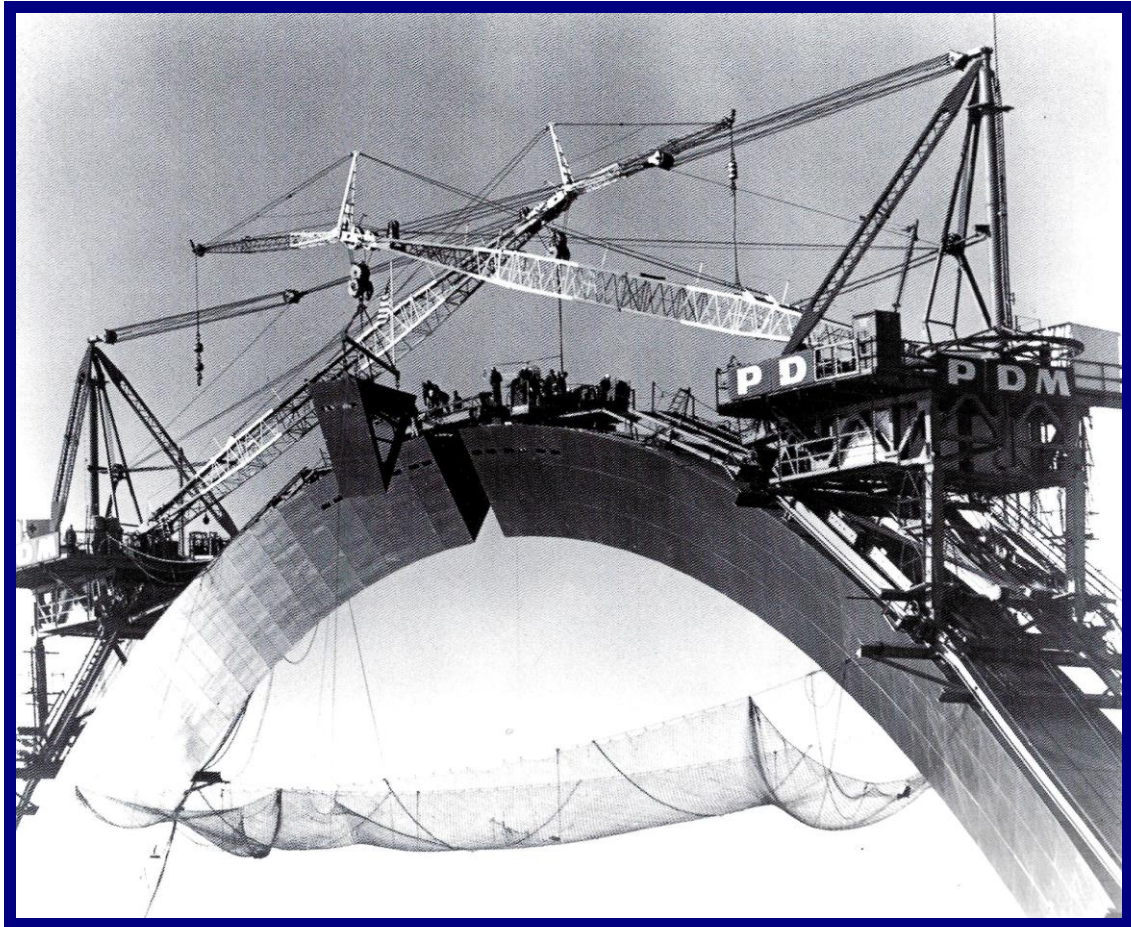


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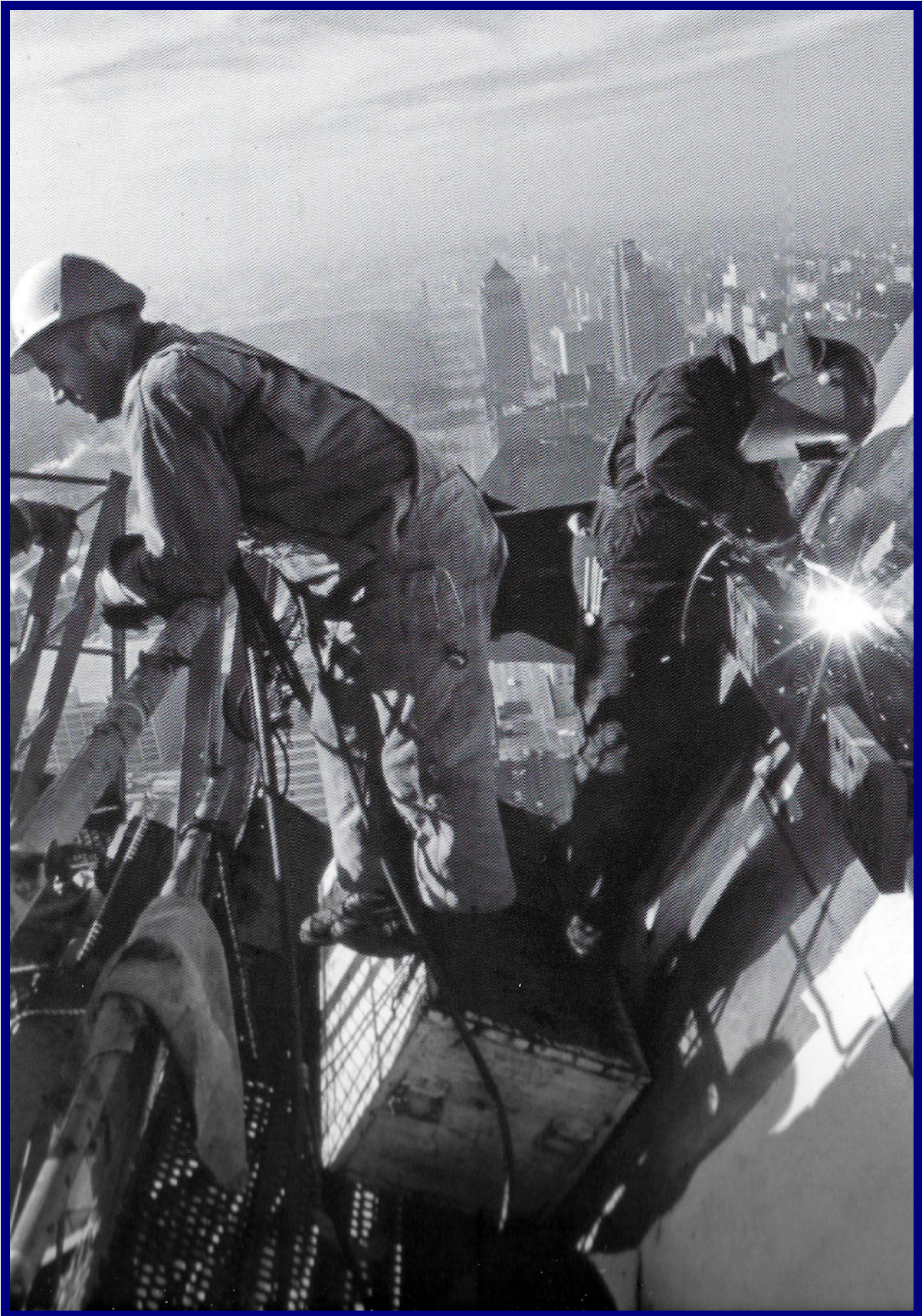
NEARING COMPLETION



JOINING THE TWO LEGS



WELDING THE FINAL JOINT



<60>

THE COMPLETED ARCH



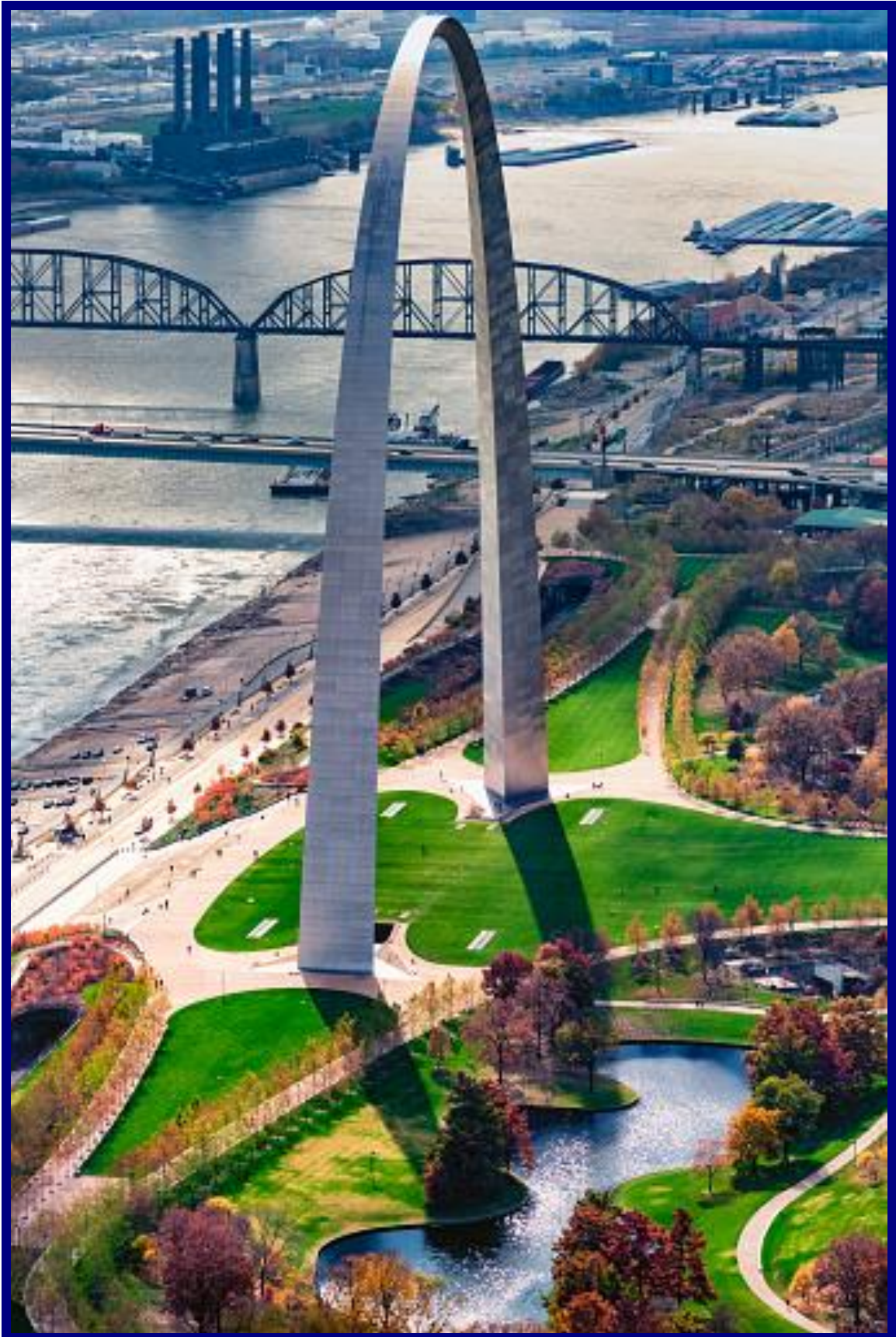
<61>

THE ARCH AND ITS MUSEUM



<62>

A NATIONAL HISTORIC LANDMARK



UNITED STATES MONUMENTS



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