UNITED STATES MONUMENTS

THE STATUE OF LIBERTY NEW YORK
THE WASHINGTON MONUMENT
THE ST LOUIS GATEWAY ARCH

BRIAN ROBERTS
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.
GUSTAVE EIFFEL
DESIGN.
A. BARTHOLDI.
Statue.
No. 11,023. Patented Feb. 18, 1879.

LIBERTY ENLIGHTENING THE WORLD.

By A. BARTHOLDI.

Carpenter.

[Signature]

[Signature]
<table>
<thead>
<tr>
<th>STATUE STATISTICS</th>
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### DIMENSIONS OF THE STATUE OF LIBERTY

Presented by France and Erected in 1886

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height from base to torch</td>
<td>151</td>
<td>1</td>
</tr>
<tr>
<td>Foundation of pedestal to torch</td>
<td>303</td>
<td>6</td>
</tr>
<tr>
<td>Head to top of hand</td>
<td>111</td>
<td>6</td>
</tr>
<tr>
<td>Length of hand</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Index Finger</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Circumference at second joint</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Size of finger nail</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Head from chin to cranium</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Head, thickness from ear to ear</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Distance across the eye</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Length of nose</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Right arm, length</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td>Right arm, greatest thickness</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Thickness of waist</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Width of mouth</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Tablet, length</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>&quot;width&quot;</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>&quot;thickness&quot;</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
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**DIMENSIONS OF PEDESTAL**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of pedestal</td>
<td>89</td>
<td>0</td>
</tr>
<tr>
<td>Square sides at base, each</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>&quot;top&quot;</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Grecian Columns, above base</td>
<td>72</td>
<td>8</td>
</tr>
</tbody>
</table>

**DIMENSIONS OF FOUNDATION.**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of foundation</td>
<td>63</td>
<td>0</td>
</tr>
<tr>
<td>Square sides at bottom</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>&quot;top&quot;</td>
<td>60</td>
<td>7</td>
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</table>

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
COLOUR LITHOGRAPH 1886

THE GREAT EARTHOLDI STATUE.
LIBERTY ENLIGHTENING THE WORLD.
THE GIFT OF FRANCE TO THE AMERICAN PEOPLE.
(REDICTED ON BEDRO'S ISLAND NEW YORK HARBOR UNVEILED OCT.28TH 1886)

This magnificent colossal Statue (the largest ever known in the World) is of copper mounted 154 feet in height and is mounted on a Stone Pedestal 175 feet high, making the extreme height from base of pedestal to the torch 329 feet. The height of the Statue from the base to the tip of the head is 108.5 feet. Length of base 18 feet. Fig from chin to crown 17 feet. Breadth from arm to arm 13 feet. Length of arm 68 feet. Length of right arm 42 feet. Circumference of arm 12 feet. Weight of Statue 250,000 pounds (125 tons) 46 tons. Woman 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 shines splendidly by night as by day an exceedingly great and inspiring appearance.
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.
THE STATUE OF LIBERTY
Gift from People of France to People of the United States
In Recognition of Friendship Established during American Revolution

Statue sculpted in France by Artist Frederic Auguste Bartholdi
Presented to America in America by Henri-Ferdinand Morier-Mayet
French Engineer Alexandre Gustave Eiffel
Constructed from iron & glass with pedestal which supported copper cladding of statue

Arrived in New York City
Blaine War
Syndicate assembled in 1875
Dedicated October 28, 1886

STATUE FACTS

HEAD FACTS

Torch Facts:

Symbol of Enlightenment
Current torch is 1886 Replacement of original, gold
Made of copper, iron & glass with copper cladding, gold leaf
Sunlight reflects off gold during daytime & illuminates torch at night

Tablet Facts:

Engraved with Roman numeral Roman
dated July 4, 1776, the
Declaration of Independence was
Adopted by the Continental Congress
UNVEILING OF THE STATUE 1886
THE STATUE AND PEDESTAL
THE INTERNAL STAIRCASE
<24>
CENTENNIAL RESTORATION 1986
CENTENNIAL RESTORATION 1986
A BROKEN ANKLE SHACKLE AND CHAIN COMMENORATES ABOLITION OF SLAVERY
REMOVING THE OLD TORCH 1986
REMOVING THE OLD TORCH 1986
THE TABLET INSCRIBED JULY 6 1776
THE DATE OF THE DECLARATION OF INDEPENDENCE
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!
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.
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THE FIRST DESIGN 1835

SKETCH OF

WASHINGTON

SOUTHERN

NAT'L: MONUM:

BY

ROB.: MILLS,

ARCH.
THE RESTART OF CONSTRUCTION 1880
CONSTRUCTION CONTINUES
THE SCAFFOLDED MONUMENT
TOP OF THE WASHINGTON MONUMENT.
CAPPING THE MONUMENT 1884
COMPLETING THE TOP
THE FIRST ELEVATOR
ORIGINAL OTIS STEAM ELEVATOR

MODERN UPGRADED LIFTSHAFT
NEW ELEVATOR ENTRANCE
RENOVATING THE MONUMENT
<44>

WORKERS AT THE SUMMITT
THE MONUMENT REFLECTING POOL

FIFTY FLAGS, ONE FOR EACH STATE
THE WASHINGTON MONUMENT
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.
ARCHITECT EERO SAARINEN 1910-1961
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
NEARING COMPLETION
JOINING THE TWO LEGS
WELDING THE FINAL JOINT
THE COMPLETED ARCH
THE ARCH AND ITS MUSEUM
A NATIONAL HISTORIC LANDMARK
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BRIAN ROBERTS, Budleigh Salterton, 2022