Thaddeus Sobieski Constantine Lowe was an American Civil War aeronaut, scientist and inventor, mostly self-educated in the fields of chemistry, meteorology, and aeronautics, and the father of military aerial reconnaissance in the United States. By the late 1850s he was well known for his advanced theories in the meteorological sciences as well as his balloon building. Among his aspirations were plans for a transatlantic flight.

Lowe’s scientific endeavors were cut short by the onset of the American Civil War. He recognized his patriotic duty in offering his services as an aeronaut for the purposes of performing aerial reconnaissance on the Confederate troops on behalf of the Union Army.
Thaddeus Lowe, one of the first and best known aeronauts for the Union army, rises from the ground in *Intrepid*, the largest balloon in the Federal inventory. This photograph, taken on May 31, 1862, near Fair Oaks, Virginia, shows Lowe standing in the basket beneath his inflated balloon. Union soldiers below are holding onto the tethers that keep Lowe's balloon from drifting away.

Thaddeus Lowe was reportedly quite the self-promoter. He regularly invited photographers and journalists to visit his camp and to see his balloons in action. It didn't hurt that Lowe ensured that his camp was stocked with the best food and ample forage for visiting horses.

Nevertheless, information gathered from Union balloons during the Seven Days campaign was sought after by Army of the Potomac generals. Reaching altitudes of 1,000 feet, aeronauts in balloons like the Intrepid could see all the way into Richmond itself, more than seven miles from this position.

The capabilities of a tethered observation balloon to help the Union Army make maps, artillery spotting, and observe the location and activities of Confederates up to about 15 miles away were demonstrated at the outbreak of the Civil War in the Washington DC area by a number of accomplished aeronauts and by John LaMountain at Fortress Monroe.

The US government first gave John Wise the title of "Chief Aeronaut" in mid-July 1861 but he soon abandoned that role after the mismanagement of the balloon he had constructed for the US Government during the battle of First Bull Run was accidentally destroyed.
In July 1861 Lowe was appointed Chief Aeronaut of the Union Army Balloon Corps by President Abraham Lincoln. Lowe used his position to obtain funding and the Government's permission to build seven balloons, 12 field gas generators, and a flat-topped balloon barge. The balloon barge was a specially made flat-topped “aircraft carrier” created by removing the superstructure and engines of the old steamer George Washington Park Custis. Though his work was generally successful, it was not fully appreciated by all members of the military, and disputes over his operations and pay scale forced him to resign in 1863.
Lowe returned to the private sector and continued his scientific exploration of hydrogen gas manufacturing. He invented the water gas process by which large amounts of hydrogen gas could be produced from steam and charcoal. His inventions and patents on this process and ice making machines made him a millionaire.

In 1887 he moved to Los Angeles, California, and eventually built a 24,000 sq. ft. (2,230 m²) home in Pasadena. He opened several ice making plants and founded Citizen's Bank of Los Angeles.

Lowe was introduced to David J. Macpherson, a civil engineer, who had drawn up plans for a scenic mountain railroad. In 1891 they incorporated the Pasadena & Mount Wilson Railroad Co. and began the construction of what would become the Mount Lowe Railway into the hills above Altadena. The railway opened on July 4, 1893 and was met with quick interest and success. Lowe continued construction toward Oak Mountain, renamed Mount Lowe, at an exhausting rate, both physically and financially. By 1899 Lowe had gone into receivership and eventually lost the railway to Jared S. Torrance. Lowe's fortunes had been all but lost, and he lived out his remaining days at his daughter's home in Pasadena where he died at age 80.