

Charles & Tiny Broadwick

Born 1875 and 1893.

Inventors of the modern parachute.

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This life story was compiled in 2021, with acknowledgement and thanks, from internet sources.

1. Early Life of Charles Broadwick

This chapter, and chapters 2,3 and 7 were archived in 2021, with acknowledgement and thanks, from Wikipedia.

Charles Broadwick (born John Murray) was an American pioneering parachutist and inventor. Speaking about Broadwick, an executive director of the U.S. Parachute Association, Ed Scott, said "just about all modern parachute systems" use ideas Broadwick developed: "an integrated, form-fitting harness and container system nestled on the back." Broadwick also developed the static line, a line from a parachute to an aircraft that pulls the parachute from its pouch. Static lines are still used today, for instance by paratroopers and novice skydivers. U.S. Army Warrant Officer Jeremiah Jones commented, "[Broadwick] is like the grandfather of paratroopers." In addition, Broadwick demonstrated parachute jumps at fairs and taught and equipped famous female parachutist Tiny Broadwick.

Born in the 1870s as John Murray, Charles Broadwick grew up in Grand Rapids, Michigan in a poor family. He developed aeronautical interests early in life. At age 13, he had his first ride in a hot air balloon. When the balloon caught fire, Broadwick climbed up the balloon and extinguished the fire.

2. Balloon-based performances



Charles Broadwick in 1915, around the time of more demonstration jumps for the Army.

By the age of 16 Broadwick (now using the new name) was performing at fairs and exhibitions, parachuting from underneath a hot air balloon. Upon ascent, the parachute was suspended beneath the balloon. A trapeze hung beneath the parachute, and Broadwick held onto the trapeze. After the balloon ascended to a sufficient height, Broadwick would release the parachute. He fell for a distance, thrilling the crowd, until his parachute filled and he floated to earth.

In 1905, during a performance in Anderson, South Carolina Broadwick's performing partner, known as Maude Broadwick, fell to her death. She either was caught in ropes as the balloon rose and then fell or she committed suicide in front of a crowd of 1,000 people.

Hanging below a parachute during the balloon's ascent was often hazardous. For example, winds or turbulence could cause the aeronaut to be swung into nearby trees or buildings. To reduce the risks, by 1906 Broadwick had developed a new type of parachute. The parachute was folded into a pack which was strapped to his back. The parachute was opened by a static line attached to the balloon. During ascent Broadwick was directly below the balloon and less susceptible to being swung into obstacles. When Broadwick jumped from the balloon, the static line became taut, pulled the parachute from the pack, and then snapped. Similar approaches for carrying and deploying parachutes are employed today.

In 1908, after seeing Broadwick jump from a balloon at a fair in Raleigh, North Carolina, a 15-year-old single mother named Georgia "Tiny" Jacobs convinced him to allow her to join the performance. She later adopted the name Tiny Broadwick and was variously described as Charles Broadwick's daughter or wife. Tiny Broadwick later became famous for her many parachute jumps.



3. Promotion of parachute use

Advances in and greater use of airplanes created new opportunities for parachute use, including saving people in disabled aircraft. Charles and Tiny Broadwick moved to Southern California in 1911 to be near a nexus of aviation development.

Charles Broadwick's "coatpack" parachute caught the attention of businessman and aviation pioneer Glenn Martin. In 1912 Tiny Broadwick became the first woman to jump from an airplane, piloted by Martin. Charles Broadwick allowed Martin to claim credit for developing the coatpack. Martin even filed a patent. Broadwick later clearly stated the packed parachute was his invention and described Martin taking credit as "simply an advertising matter." Tiny Broadwick also confirmed that Charles Broadwick was the inventor.

With the start of World War I, Broadwick saw great potential for his coatpack parachute, or "life preserver of the air." In 1914 and 1915, the Broadwicks demonstrated the coatpack to Congressmen, the United States Army, and pilots. The Army purchased two packs for testing, but did not evaluate them during the war. Until very late in the war, the Allied military was reluctant to provide pilots with parachutes. While this was due to many reasons, one factor was that the parachute technology of the time was immature. For instance, using a static line connected to the plane to deploy the parachute, as was done with Charles Broadwick's coatpack, was not effective in some circumstances. Broadwick continued to work on new approaches for saving people. For example, in 1916 Broadwick experimented with people exiting planes through a trap seat.

Shortly after the war, there was an effort to combine the best aspects of then current parachute designs. The resulting parachute, the Airplane Parachute Type-A, incorporated Charles Broadwick's coatpack, a ripcord that allowed a pilot to manually deploy the parachute instead of depending on a static line connected to a plane, and a small pilot chute that pulled the parachute from its pack. The Airplane Parachute Type-A was widely used and saved a number of people, including a young Charles Lindbergh.

In 1920, Charles Broadwick suffered a tragedy when his wife Ethel Knutsen, a young aspiring actor, was testing one of Broadwick's new parachutes. The suspension lines of the parachute tangled and Knutsen fell 2,000 feet. She succumbed to her injuries hours later.

In the late 1920s Broadwick developed, patented, and tested a parachute system for airplanes, "planechutes." The intent was that a disabled plane or a plane lost in the fog could safely descend. However, the system was never fully successful. For instance, in a 1929 test one of the plane's two

parachutes became wrapped around the plane instead of deploying. The plane dropped rapidly while the pilot was trapped by the parachute. The pilot finally escaped, jumped, and deployed his personal parachute. He safely reached the ground after narrowly avoiding being struck by the plane that was falling after him.

As the U.S. Army prepared itself for World War II, staff realized that to effectively drop paratroopers from a low altitude required a parachute that was opened by a static line, which would automatically open the parachute upon exiting the plane. At the time, though, the Army did not have a parachute that opened that way. All of its standard parachutes used a ripcord that a parachutist had to pull. To quickly address the need, the Army turned to the World War I-era Broadwick parachutes it had acquired. The Army added a reserve chute and some other modifications to produce its first standard parachute for paratroopers. Static line parachutes are still used by paratroops today.

By 1940, Broadwick had retired. He died in 1943.



US Paratroops landing behind enemy lines ahead of the Second World War D-Day invasion of France in June 1944.

4. Charles Broadwick the Showman

The following chapter was archived in 2021, with acknowledgement and thanks, from the Air & Space website at www.airspacemag.com. It was written by Lisa Ritter, and was published in May 2010.

Parachute designs have been around since the 15th century, but in the 1880s, they were still a rare sight, so it's hard to say what inspired 10-year-old John Murray, a poor boy in Grand Rapids, Michigan, to design his own parachute. According to a later account in the San Francisco Examiner, the boy took "a piece of tissue paper, some twine, and an exceedingly disgruntled cat, undesired in the neighborhood" and fashioned a parachute, then dropped the surly aeronaut off a high bridge. As the tissue canopy filled with air and the parachute glided off for half a mile, the boy could see his future.

At 13, Murray made his first ascent with a hot-air balloon. He planned to ride the balloon down as the air cooled. But once in the sky, he found the balloon was ablaze, most likely due to a spark from the wood fire that supplied the hot air. The boy climbed up the balloon and used his coat and a sand bag to put the fire out. He landed unharmed, but the close call must have reinforced his respect for a dedicated method that would bring someone down safely from a great height.

By age 16, he had taken the stage name Charles Broadwick, and was performing in venues like fairs and resorts, and entertaining crowds with an act in which he would ascend with a balloon and float back down with a parachute.

The preparation was as much a part of the show as the ascent and drop. A crowd watched as the 90-foot-high balloon, filled with hot smoke, fought to rise. A dozen or more strong men held down its tethers. Meanwhile, Broadwick inspected his parachute rig, stretched on the ground. The apparatus was simple, and weighed about 40 to 45 pounds. The canopy was made of heavy muslin strips that were stitched together lengthwise to form a dome.

The rim of the dome was connected by suspension lines to a trapeze, which the parachutist would grasp. The limp canopy was suspended from the bottom of the balloon by a rope, which ran through a mechanism with a blade embedded in it. When the aeronaut was ready to cut the parachute free, he would tug on a long cord attached to the blade, severing the rope and releasing the parachute from the balloon. Once the parachute was inspected and the balloon filled, Broadwick would duck into his nearby tent and don his spangled tights. He would then ring a loud bell, dash out to the balloon-and-chute rig, grasp the trapeze bar, and shout, "Let go!" The men

released the ropes and the balloon shot up, with Broadwick running briefly until the balloon pulled the parachute and him aloft. Upon reaching a height sufficient to ensure the parachute would fill with air as it dropped, Broadwick would cut himself and his parachute free.

Relieved of its weight, the balloon would twist over, belching out black smoke, and fall to the ground. Briefly, Broadwick would plummet—eliciting gasps from the pompadoured ladies and bowler-hatted men. But as the chute filled with air, his speed would slow, and the canopy would waft him—usually gently—to the ground.



The famous pilot Glenn Martin (standing). By 1913 Martin was taking credit for Broadwick's invention, and the following year he patented it. Here, he and Tiny watch Charles Broadwick stitch up the canopy of a parachute.

Although aeronauts ballyhooed the risks, sometimes parachuting from a hot-air balloon really was “death-defying.” In fact, in 1905, Broadwick watched his beautiful companion, known as Maude Broadwick, fall to her death after getting caught up in the balloon’s tethers. Another common danger was ascending in a closed area. The aeronaut—suspended 30 or 40 feet beneath the balloon—could be slammed against nearby buildings or trees, and seriously injured or killed. In 1906, Broadwick demonstrated an ingenious solution he had devised to protect the parachutist from such dangers. He simply folded the canopy and its suspension lines into a pack, which he then strapped to his back. Broadwick ascended while tethered directly to the balloon—just 12 feet below it, rather than 40.

What deployed the parachute was a lightweight cord called a static line. One end of this line was attached to the balloon, and the other to the peak of the parachute canopy. As the jumper left the balloon, his weight would pull the static line taut, and yank the parachute from the pack. The line would then snap, and the canopy, filled with air, would float the aeronaut to earth.

5. Tiny Broadwick's Early Life



This chapter was archived in 2021, with acknowledgement and thanks, from the www.ladiesofskydiving.com website.

Tiny was born Georgia Ann Thompson on a farm in Granville County North Carolina to George and Emma Ross Thompson on April 8, 1893. The last of seven daughters, weighing only 3 pounds, she was given the nickname “Tiny” due to her small size; Tiny reached only 4’ 1” and weighed in at 80 pounds as an adult. Tiny’s early life was one of hardship; her parents raised pigs and chickens and Tiny worked the tobacco fields.

At the age of six, due to a drop in farm prices, the Thompsons were forced to give up their farm, taking work at the Harriet Cotton Mill in nearby

Henderson. Tiny married William Aulsie Jacobs when she was only twelve and a short time later was pregnant with her only child, Verla. Her husband soon abandoned her and Verla, forcing Tiny take a job working 12 to 14 hour shifts at the mill, earning forty cents per day. She would walk home twice a day to nurse her child and return to complete her shift.

Tiny's life of boredom and drudgery would soon come to an end though. In the spring of 1908, Tiny convinced a neighbor to take her to Raleigh to the Johnny J. Jones Exposition Shows to see "The Broadwicks and Their Famous French Aeronauts," which featured a stunt performer named Charles Broadwick (aka: John Murray) who dropped from a hot air balloon and descended using a parachute. Tiny convinced Broadwick that she could do a better job than him.

"When I seen this balloon go up, I knew that's all I wanted to do! I hung around until they came back to the lot where the balloon had left from and told them I wanted to join them. I was hell-bound and determined to get in that act!"

Talking up her small frame and assuring him that she could manage a light and easy descent to the ground without trouble. Tiny persuaded Broadwick to let her join his crew of aerial performers.

6. Tiny Broadwick's Intrepid Career



Tiny Broadwick.

The following chapter was archived in 2021, with acknowledgement and thanks, from the www.sps-aviation.com website.

The early Birds of Aviation is an exclusive American organisation that limits its membership to aviators who piloted a glider, gas balloon or aeroplane, during the first 13 years of aviation i.e. before December 17, 1916. Of the 598 names on the list, less than ten are women and Tiny Broadwick is the only one who features despite never having piloted an aircraft.

‘The First Lady of Parachuting’ was the first woman to descend from an aircraft by parachute, the first person to make a free-fall descent and the first woman to parachute into water. She made her first descent in 1908 at age 14 and during the next 14 years she jumped more than 1,000 times, all across the United States. She played a vital role in demonstrating the usefulness of parachutes as lifesavers during the perilous early years of flight.

Georgia Ann Thompson was born into a poor farm family on April 8, 1893, in Oxford, North Carolina. The youngest of seven daughters, she was married at 12 and gave birth to a daughter at 13. She was soon abandoned by her husband, then dropped out of school and took up a 14-hour job at a cotton mill to survive. Things began to improve in 1907 when she first

witnessed 'The Broadwicks and their Famous French Aeronauts' in action. The sight of the intrepid balloonists breaking free of the bonds of earth and making ascents in hot-air balloons, then calmly jumping out of the basket and floating back to earth did something to her.

Charles Broadwick instantly recognised her potential to attract the crowds by her youthfulness, spunk and good looks and agreed to hire her. Her diminutive size, just about 70 pounds in weight and under five feet in height was a big advantage. Georgia's baby was left in her mother's care and she promised to send back some money regularly to help. For reasons of propriety Broadwick obtained her parents' consent to legally adopt Tiny. And that is how she became Tiny Broadwick.

Tiny Broadwick made her first jump from a hot-air balloon in December 1908. Clad in a silk dress, ruffled bloomers and bonnet, with pink bows on her arms and ribbons in her curly hair she was billed as 'The Doll Girl.' Newspapers printed breathless accounts about "the most daring female aeronaut ever," as she performed at numerous fairs, carnivals and parks.

She was utterly fearless when she donned the 'life preserver' designed by her adopted father and performed the most dangerous feats with élan. She was specially admired for her 'cutaway act' in which she discarded one parachute after another during the descent only to open one more and make a safe landing. She suffered mishaps and close shaves aplenty like landing on top of a train and in swamps, getting entangled in a windmill and high tension cables. Once she alighted on the roof of a mill, was unable to grab hold of anything and fell two stories, fracturing her arm and sustaining other injuries. This was just one of many accidents in which she broke bones, dislocated her shoulder and sprained an ankle. Did these deter her? "I was never afraid. I'd go up any time, any place. The only thing I hated was getting back to earth so quickly," she said.



But balloons were on the way out and it was time to make her first jump from a plane. There's some doubt about whether it happened on June 21, 1913, or on January 9, 1914. Either way, the aircraft was built and piloted by the famed pilot Glen Martin, flying at 1,000 feet over Griffith Park in Los Angeles. Charles Broadwick made a parachute of silk, closely packed it, and attached it to a canvas jacket with harness straps. When Tiny jumped

out of the plane, a string attached to the fuselage pulled the cover free and the parachute filled with air.

In 1914, hearing of Tiny's exploits, the US Army requested a demonstration. They were losing many pilots in plane crashes and were looking for a practical way to exit a stricken aircraft. Tiny flawlessly executed three out of four planned jumps. However, on the final attempt the parachute's line became entangled in the airplane's tail assembly. She was unable to climb back into the aircraft.

Another person might have panicked, but Tiny simply cut the line and fell free of the aircraft; then pulled the remaining bit of line to open her parachute. Elated by the success of this technique, in future demonstrations she did not attach the cord to the aircraft, but jumped free of the plane and then manually deployed the parachute by pulling the line, later called the 'rip cord.' Thus the US Army was convinced that a pilot wearing a parachute could safely bale out of an aircraft and glide back to earth.



One of Tiny Broadwick's more than 1100 landings.

Given a choice, Tiny Broadwick would most likely have continued jumping for many years. However, her ankles could no longer take the shock of repeated landings and she made her last descent in 1922. At a felicitation dinner in 1964, National Air Museum Director Philip Hopkins said, "Measured in feet and inches, her nickname 'Tiny' is obviously

appropriate. Measured by her courage and by her accomplishments, she stands tall among her many colleagues – the pioneers of flight.”

In 1976, she was made an honorary member of the elite US 82nd Airborne Division and awarded a set of wings. When she died on August 25, 1978, her coffin was borne by members of the same Division. On International Women’s Day it is worth remembering that neither size nor gender is an accurate predictor of courage or skill. All that matters is the soaring human spirit and Tiny Broadwick had that in plenty.



Tiny Broadwick being carried aloft.

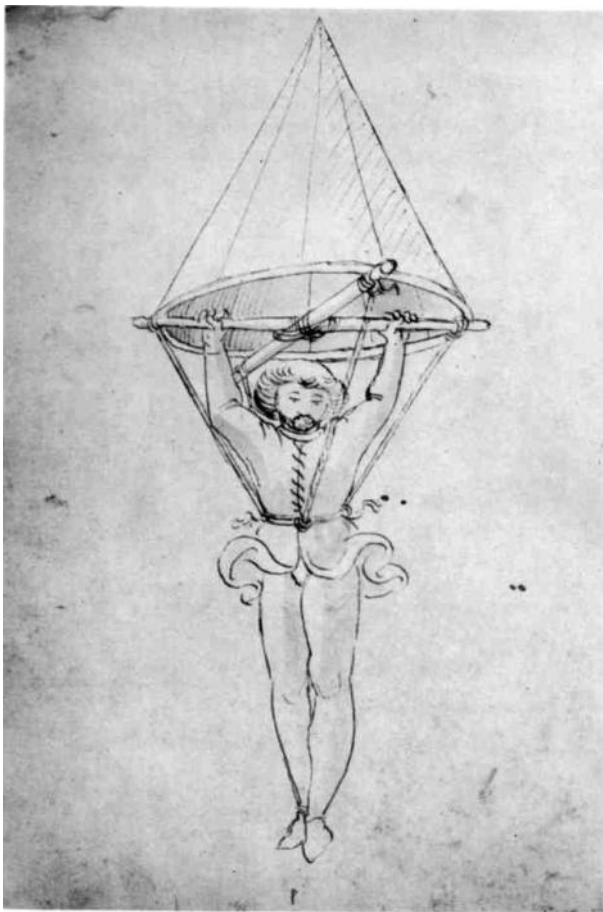
7. Before the Broadwicks

The following chapter on the early history of the parachute was archived in 2021, with acknowledgement and thanks, from Wikipedia.

Middle Ages

In 852, in Córdoba, Spain, the Moorish man Armen Firman attempted unsuccessfully to fly by jumping from a tower while wearing a large cloak. It was recorded that "there was enough air in the folds of his cloak to prevent great injury when he reached the ground."

Early Renaissance

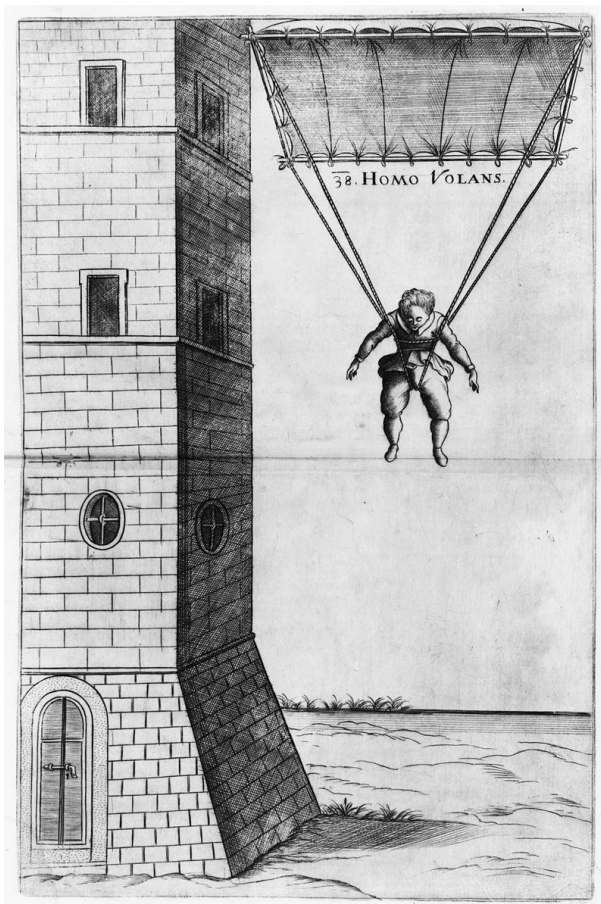


The oldest known depiction of a parachute, by an anonymous author (Italy, 1470s)

The earliest evidence for the true parachute dates back to the Renaissance period. The oldest parachute design appears in an anonymous manuscript from 1470s Renaissance Italy (British Library, Add MS 34113, fol. 200v), showing a free-hanging man clutching a crossbar frame attached to a conical canopy. As a safety measure, four straps ran from the ends of the rods to a waist belt. The design is a marked improvement over another folio (189v), which depicts a man trying to break the force of his fall using two long cloth streamers fastened to two bars, which he grips with his hands.

Although the surface area of the parachute design appears to be too small to offer effective air resistance and the wooden base-frame is superfluous and potentially harmful, the basic concept of a working parachute is apparent.

Shortly after, a more sophisticated parachute was sketched by the polymath Leonardo da Vinci in his *Codex Atlanticus* (fol. 381v) dated to ca. 1485. Here, the scale of the parachute is in a more favorable proportion to the weight of the jumper. Leonardo's canopy was held open by a square wooden frame, which alters the shape of the parachute from conical to pyramidal. It is not known whether the Italian inventor was influenced by the earlier design, but he may have learned about the idea through the intensive oral communication among artist-engineers of the time. The feasibility of Leonardo's pyramidal design was successfully tested in 2000 by Briton Adrian Nicholas and again in 2008 by the Swiss skydiver Olivier Vietti-Teppa. According to the historian of technology Lynn White, these conical and pyramidal designs, much more elaborate than early artistic jumps with rigid parasols in Asia, mark the origin of "the parachute as we know it."



Fausto Veranzio's parachute design, titled Homo Volans ("Flying Man"), from his Machinae Novae ("New Contraptions", published in 1615 or 1616)

The Venetian polymath and inventor Fausto Veranzio (1551–1617) examined da Vinci's parachute sketch and kept the square frame but

replaced the canopy with a bulging sail-like piece of cloth that he came to realize decelerates a fall more effectively. A now-famous depiction of a parachute that he dubbed Homo Volans (Flying Man), showing a man parachuting from a tower, presumably St Mark's Campanile in Venice, appeared in his book on mechanics, *Machinae Novae* ("New Machines", published in 1615 or 1616), alongside a number of other devices and technical concepts.

It was once widely believed that in 1617, Veranzio, then aged 65 and seriously ill, implemented his design and tested the parachute by jumping from St Mark's Campanile, from a bridge nearby, or from St Martin's Cathedral in Bratislava. In various publications it was incorrectly claimed the event was documented some thirty years later by John Wilkins, founder and secretary of the Royal Society in London, in his book *Mathematical Magick or, the Wonders that may be Performed by Mechanical Geometry*, published in London in 1648. However, Wilkins wrote about flying, not parachutes, and does not mention Veranzio, a parachute jump, or any event in 1617. Doubts about this test, which include a lack of written evidence, suggest it never occurred, and was instead a misreading of historical notes.

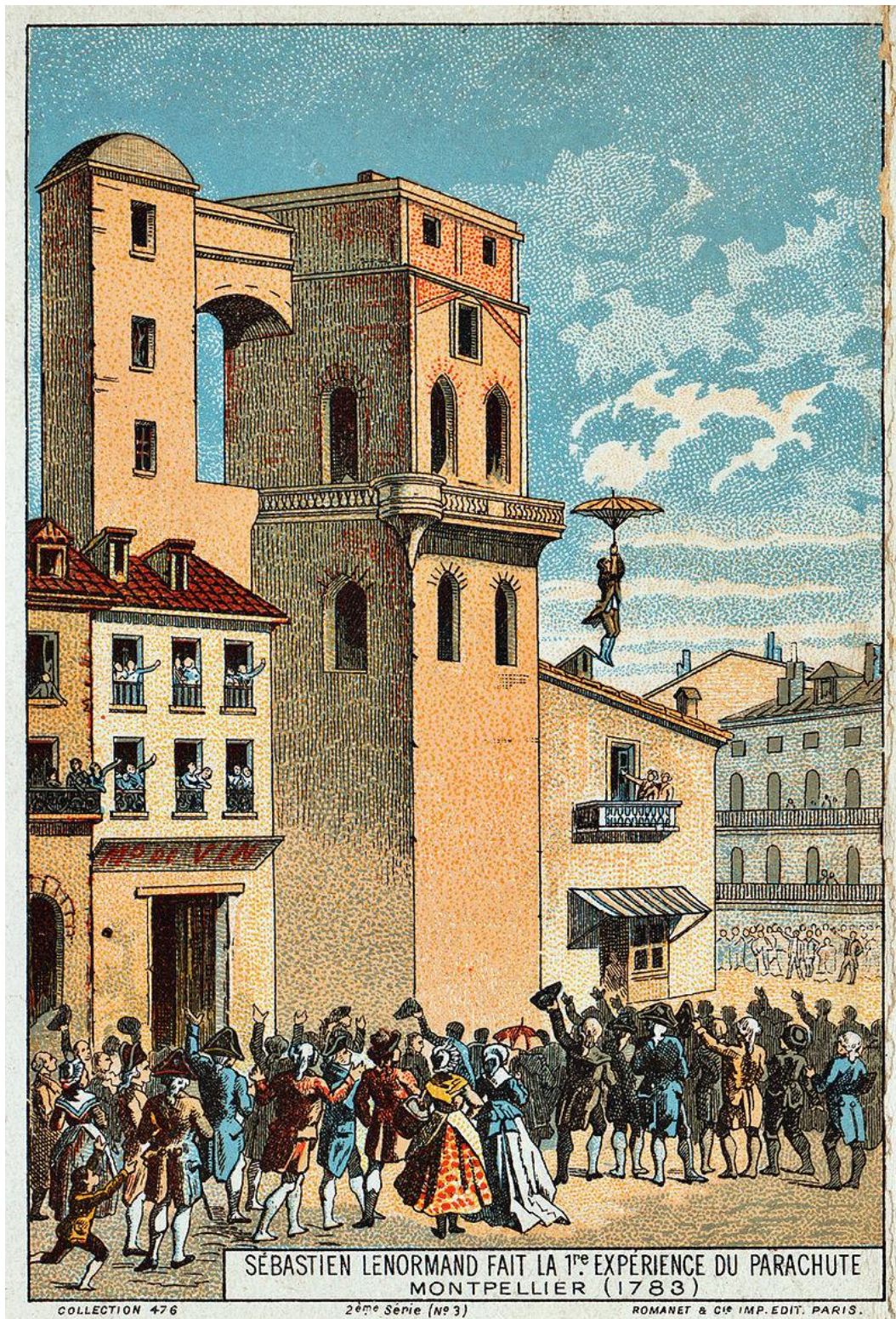
18th and 19th centuries

The precursor of the modern parachute was invented in the late 18th century by Louis-Sébastien Lenormand in France, who made the first recorded public jump in 1783. Lenormand also sketched his device beforehand.

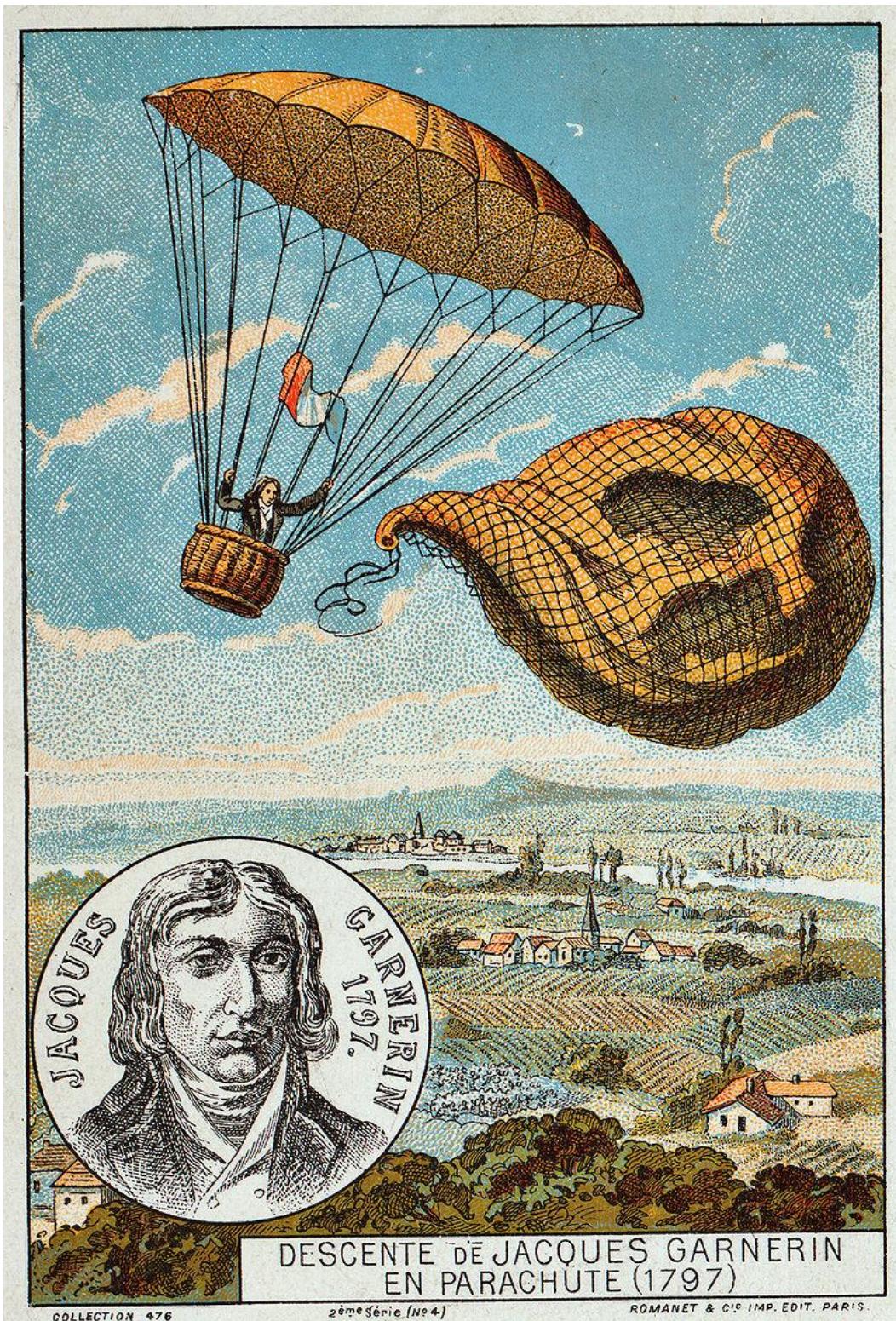
Two years later, in 1785, Lenormand coined the word "parachute" by hybridizing an Italian prefix *para*, an imperative form of *parare* = to avert, defend, resist, guard, shield or shroud, from *paro* = to parry, and *chute*, the French word for fall, to describe the aeronautical device's real function.

Also in 1785, Jean-Pierre Blanchard demonstrated it as a means of safely disembarking from a hot-air balloon. While Blanchard's first parachute demonstrations were conducted with a dog as the passenger, he later claimed to have had the opportunity to try it himself in 1793 when his hot air balloon ruptured and he used a parachute to descend. (This event was not witnessed by others).

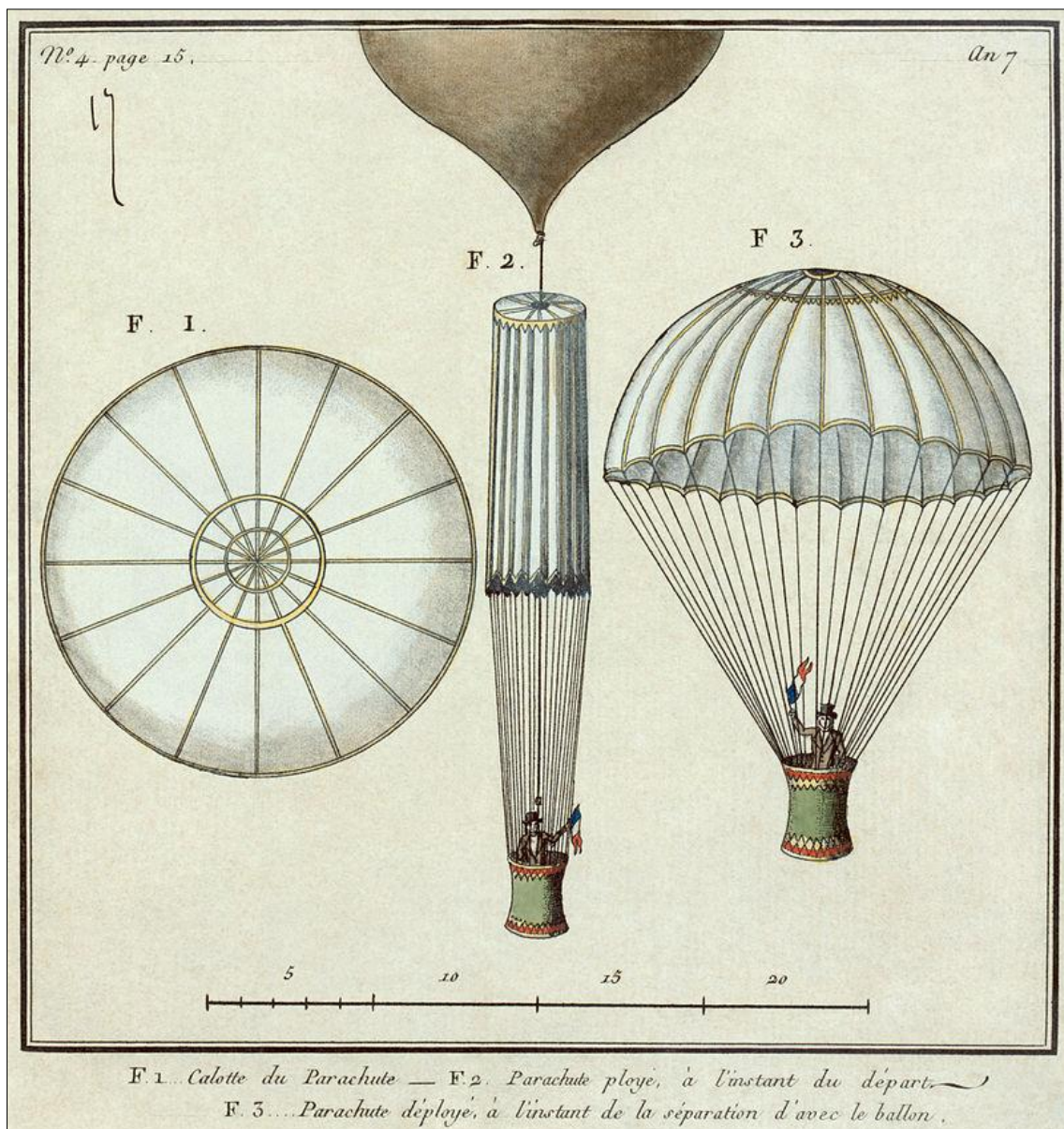
Subsequent development of the parachute focused on it becoming more compact. While the early parachutes were made of linen stretched over a wooden frame, in the late 1790s, Blanchard began making parachutes from folded silk, taking advantage of silk's strength and light weight. In 1797, André Garnerin made the first descent of a "frameless" parachute covered in silk. In 1804 Jérôme Lalande introduced a vent in the canopy to eliminate violent oscillations.



Louis-Sébastien Lenormand jumps from the tower of the Montpellier observatory, 1783. Illustration from the late 19th century.



The first use of a frameless parachute, by André Garnerin in 1797.



Schematic depiction of Garnerin's parachute, from an early nineteenth-century illustration.

Eve of World War I

In 1907 Charles Broadwick demonstrated two key advances in the parachute he used to jump from hot air balloons at fairs: he folded his parachute into a pack he wore on his back and the parachute was pulled from the pack by a static line attached to the balloon. When Broadwick jumped from the balloon, the static line became taut, pulled the parachute from the pack, and then snapped.

In 1911 a successful test took place with a dummy at the Eiffel tower in Paris. The puppet's weight was 75 kg (165 lb); the parachute's weight was 21 kg (46 lb). The cables between puppet and the parachute were 9 m (30 ft) long. On February 4, 1912, Franz Reichelt jumped to his death from the tower during initial testing of his wearable parachute.



Gleb Kotelnikov and his invention, the knapsack parachute.

Also in 1911, Grant Morton made the first parachute jump from an airplane, a Wright Model B piloted by Phil Parmalee, at Venice Beach, California. Morton's device was of the "throw-out" type where he held the parachute in his arms as he left the aircraft. In the same year, Russian Gleb Kotelnikov invented the first knapsack parachute, although Hermann Lattemann and his wife Käthe Paulus had been jumping with bagged parachutes in the last decade of the 19th century.

In 1912, on a road near Tsarskoye Selo, years before it became part of St. Petersburg, Kotelnikov successfully demonstrated the braking effects of a parachute by accelerating a Russo-Balt automobile to its top speed and then opening a parachute attached to the back seat, thus also inventing the drogue parachute.

On March 1, 1912, U.S. Army Captain Albert Berry made the first (attached-type) parachute jump in the United States from a fixed-wing aircraft, a Benoist pusher, while flying above Jefferson Barracks, St. Louis,

Missouri. The jump utilized a knapsack style parachute stored or housed in a casing on the jumper's body.

Štefan Banič, an immigrant in the United States, from Slovakia patented an umbrella-like design in 1914 and sold (or donated) the patent to the United States military which later on modified his design, resulting in the first military parachute. Banič had been the first person to patent the parachute and his design was the first to properly function in the 20th century. On June 21, 1913, Georgia (Tiny) Broadwick became the first woman to parachute-jump from a moving aircraft, doing so over Los Angeles, California. In 1914, while doing demonstrations for the U.S. Army, Broadwick deployed her chute manually, thus becoming the first person to jump free-fall.

World War I



Kite balloon observers preparing to descend by parachute.

The first military use of the parachute was by artillery observers on tethered observation balloons in World War I. These were tempting targets for enemy fighter aircraft, though difficult to destroy, due to their heavy anti-aircraft defenses. Because it was difficult to escape from them, and

dangerous when on fire due to their hydrogen inflation, observers would abandon them and descend by parachute as soon as enemy aircraft were seen.

The ground crew would then attempt to retrieve and deflate the balloon as quickly as possible. The main part of the parachute was in a bag suspended from the balloon with the pilot wearing only a simple waist harness attached to the main parachute.

When the balloon crew jumped the main part of the parachute was pulled from the bag by the crew's waist harness, first the shroud lines, followed by the main canopy. This type of parachute was first adopted on a large scale for their observation balloon crews by the Germans, and then later by the British and French. While this type of unit worked well from balloons, it had mixed results when used on fixed-wing aircraft by the Germans, where the bag was stored in a compartment directly behind the pilot.

In many instances where it did not work the shroud lines became entangled with the spinning aircraft. Although a number of famous German fighter pilots were saved by this type of parachute, including Hermann Göring, no parachutes were issued to the crews of Allied "heavier-than-air" aircraft, since it was thought that if a pilot had a parachute he would jump from the plane when hit rather than trying to save the aircraft.

Airplane cockpits at that time also were not large enough to accommodate a pilot and a parachute, since a seat that would fit a pilot wearing a parachute would be too large for a pilot not wearing one. This is why the German type was stowed in the fuselage, rather than being of the "backpack" type. Weight was – at the very beginning – also a consideration since planes had limited load capacity. Carrying a parachute impeded performance and reduced the useful offensive and fuel load.

In the UK, Everard Calthrop, a railway engineer and breeder of Arab horses, invented and marketed through his Aerial Patents Company a "British Parachute" and the "Guardian Angel" parachute. Thomas Orde-Lees, known as the "Mad Major," demonstrated that parachutes could be used successfully from a low height (he jumped from Tower Bridge in London) which led to parachutes being used by the balloonists of the Royal Flying Corps, though they were not available for aircraft.
