

When the Balloon Went Up

Observation Balloons of WWI

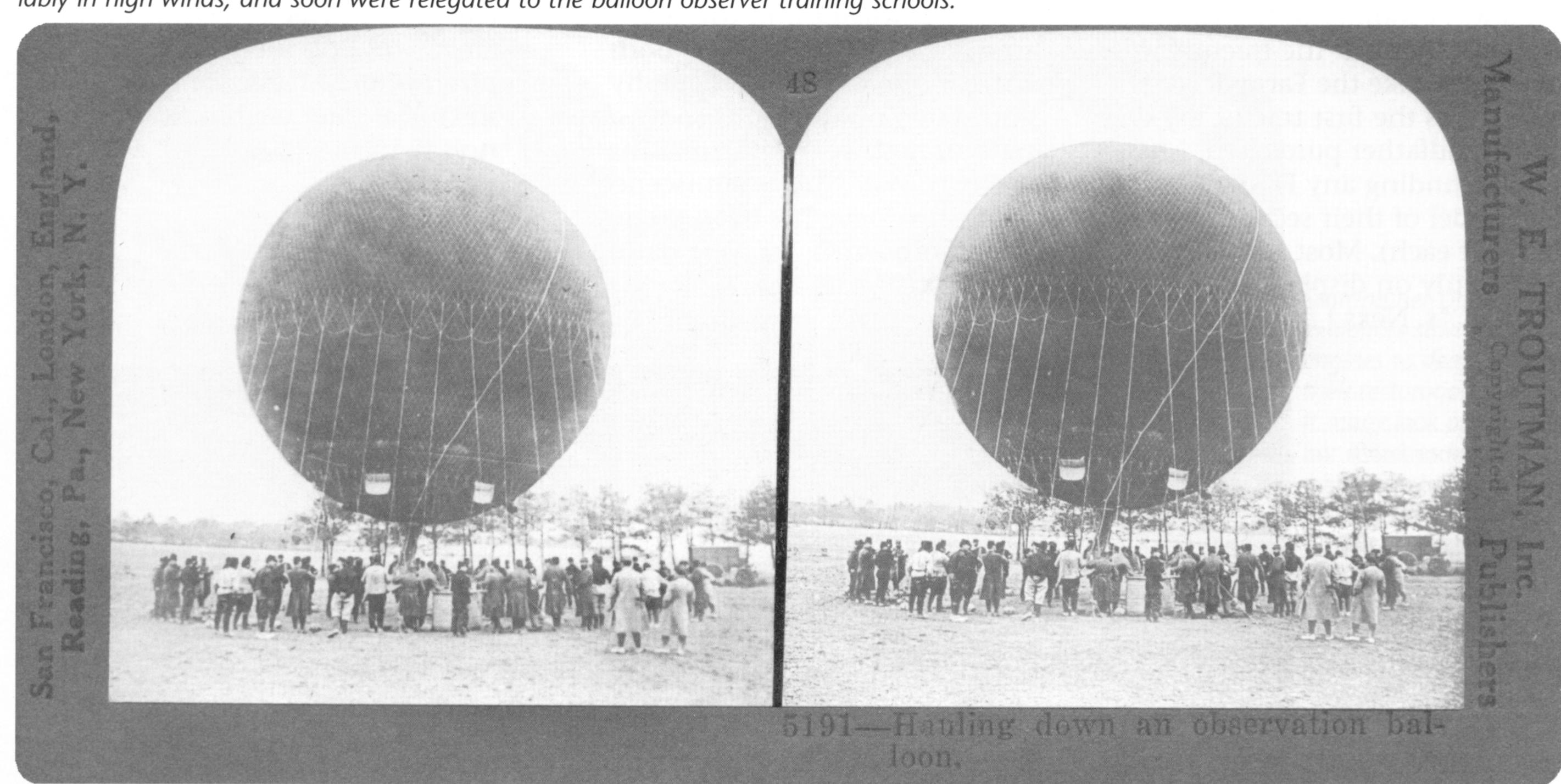
by Ralph Reiley

Tew images of the First World ─ War are as indelible as a hydrogen filled observation balloon falling to earth in a ball of flame, leaving a trail of oily black smoke. For the fighter pilots of that war, few targets were more difficult to attack and live to tell the tale than the gas filled "sausages". The French had pioneered aerial observation when the Committee for Public safety, a major arm of the Revolutionary government, created the first balloon company in April of 1794. The first use of a military balloon was two months later in June of 1794. The French were fighting the Austrians at

Troutman No. 5191, "Hauling down an observation balloon." This photo of a French spherical balloon, little changed from the late 18th Century original, was taken early in the war, or possibly it is a pre-war photo. The spherical balloons spun uncontrollably in high winds, and soon were relegated to the balloon observer training schools.

Maubeuge. A balloon was brought in, and all Austrian maneuvers were observed, giving the French the ability to counter every Austrian move. This soon demoralized the Austrians, and lead to a victory for the new French Revolutionary army. During the 19th Century and into the early 20th Century, military balloons were used in Europe, the United States, South Africa and China, usually during long sieges. By 1900, all the major military powers had established balloon companies.

In August of 1914, the Europeans mobilized their vast armies and marched out for battle. In the first few months of the war, the armies were moving rapidly, and balloons were not used extensively. After November of 1914, the war



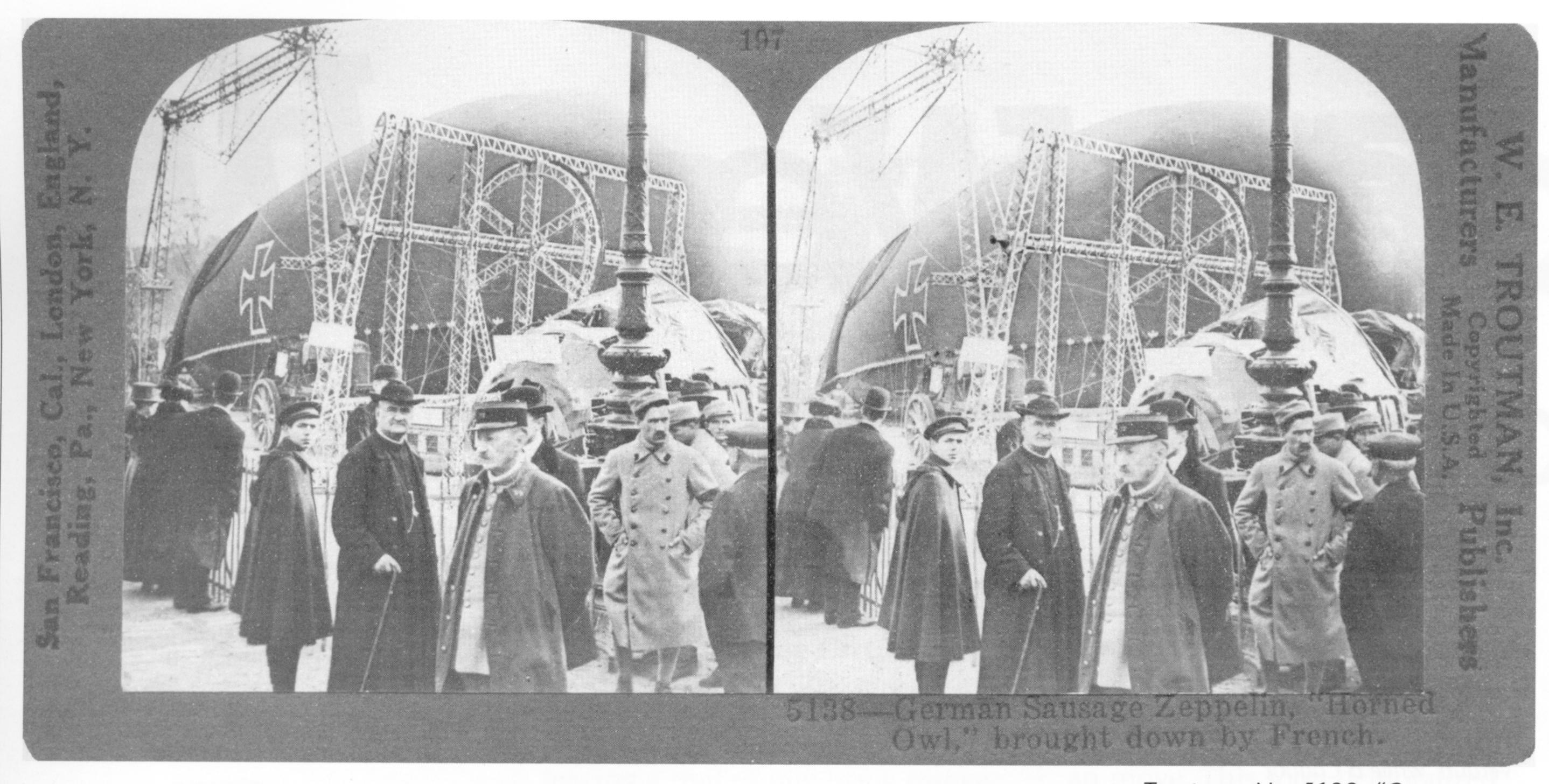
LSU glass view, "Suzanne La Releve." This shows troops marching toward Verdun, while a Caquot type balloon is being sent aloft. The French developed the Caquot balloon in 1915. The Germans copied the Caquot balloon, and named it the type Ae-800 Fesselballon. This design was very stable in high winds, and was used by the French, Germans, Americans, Austrians, Italians, Russians and British.





Troutman No. 5266, "Tubes of hydrogen for observation balloons." A supply of hydrogen cylinders used for inflating balloons. This was a dangerous way to store hydrogen, and soon balloon companies were equipped with hydrogen generating





of movement had ended, and both sides dug in for the winter. The front line stretched from the English Channel in Belgium across

France to the Swiss border.
The largest armies ever fielded were facing each other across the thin strip of No-Man's-Land.
Cavalry had always been the traditional and

"Balloons were very dangerous targets, although some pilots became specialists in 'roasting sausages'."

traditional, and preferred, scouting arm of the army. The machine gun had driven cavalry off the modern battlefield.

Aircraft were used, but they were few in number, and mechanically unreliable. The static nature of the First World War created the perfect

situation for observation balloons to come into their own and become a vital element in waging war. By 1916, on the Western Front, about 500 balloons were in use on each side

of No-Man's-Land.

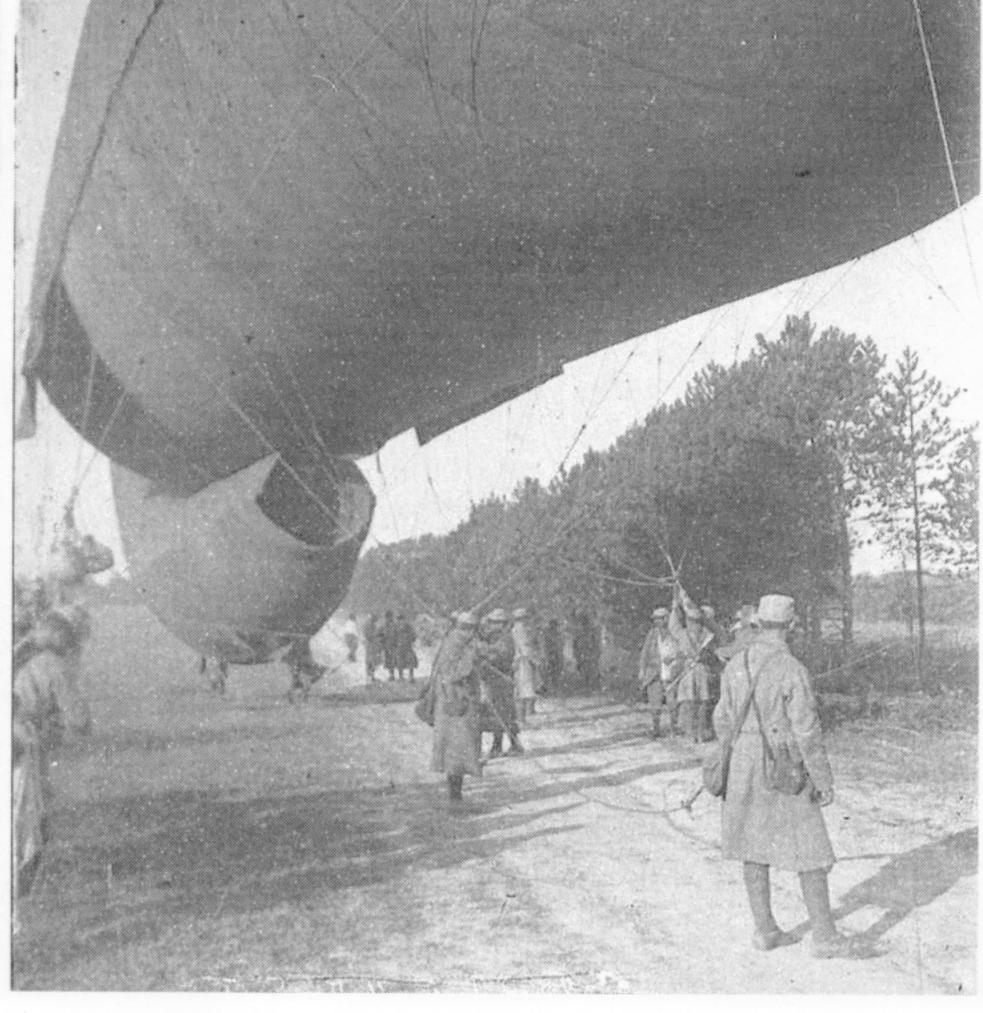
The pilots and aircraft of the First World War have been given

Troutman No. 5138, "German Sausage Zeppelin, 'Horned Owl', brought down by the French." Publishers often used a lot of imagination in writing captions to liven upless than exciting stereo views. In this photo, a captured German balloon, of the Caquot type, is on display along with wreckage from a downed Zeppelin. The large aluminum alloy framework with the wheel is one of the elevator fins located at the tail end of the Zeppelin.

most of what little glory and glamour there was in that war. The work done by the balloon observer was very important in the final outcome of the war. It was not glorious or glamorous to stand in a wicker basket for hours at time watching the enemy, miles behind the front lines with a telescope, but it was a vital job. Balloons were equipped with maps, telescopes, cameras, and most importantly, a telephone or wireless set. They were in direct contact with headquarters and artillery batteries. They could direct minute changes in artillery fire as well as report the smallest moves made by the enemy, as well as report on troop movement miles behind the enemy front lines. They operated at altitudes of 1000 to 4000 feet, and could observe enemy operations up to 40 miles away. In areas

Glass view by an unknown French publisher, No. 339, "Ascension d'une saucisse." This view was taken underneath a Parseval type balloon, developed by the Germans before the war. The tube at the rear is an air filled stabilizing fin that acted very much like a tail on a kite for keeping the balloon stable in a high wind.

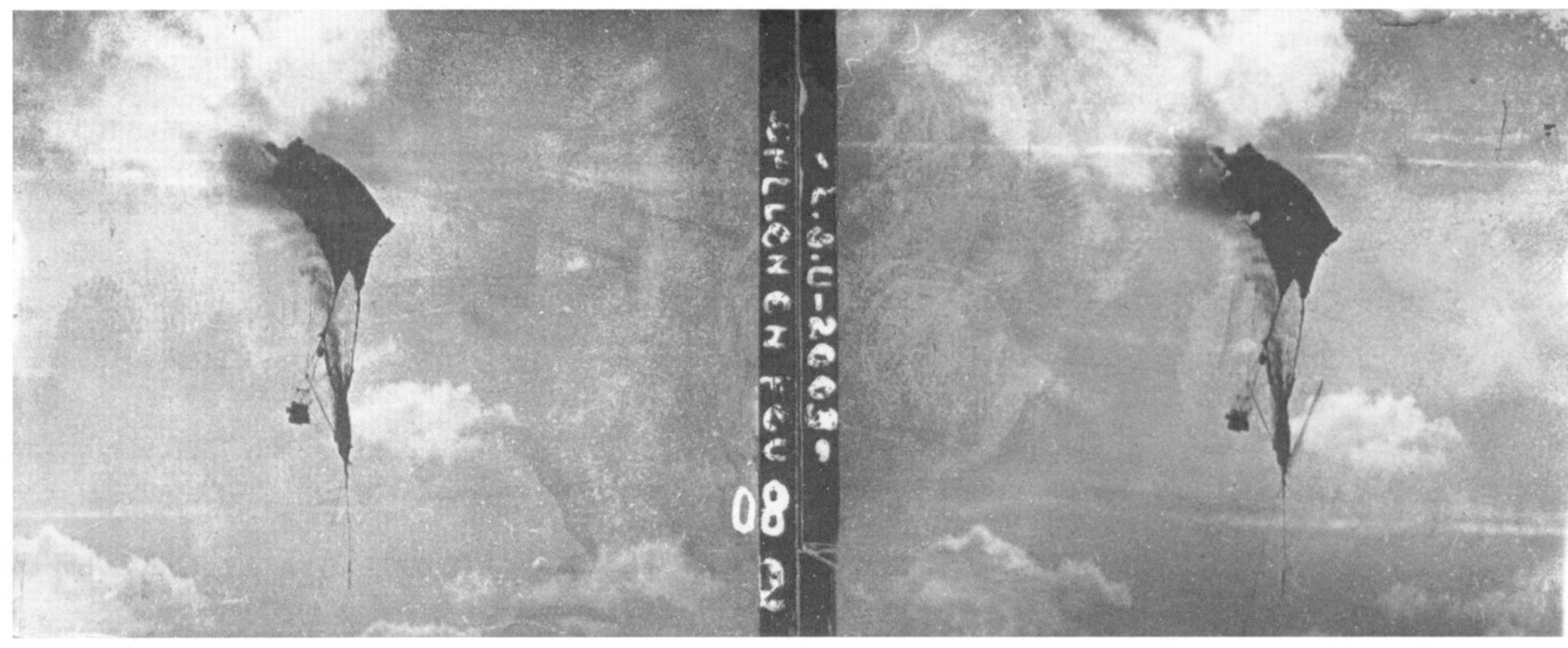




where there was heavy fighting, multiple balloons were used, so that nothing the enemy attempted to do could go undetected.

During WWI, the phrase, "The Balloon's going up!" was an expression of impending doom. Shortly after an enemy balloon went up, the enemy artillery barrage would begin, and quickly be zeroed in. The front line soldiers truly hated enemy balloon observers. They were miles behind the front line, safe from all the horrors and misery of trench warfare. They could call a devastating artillery barrage down on them at a moments notice should they see the slightest movement in the trenches. The soldiers would rejoice when one of their airmen succeeded in sending an enemy balloon down in flames.

In 1915, aircraft began attacking enemy balloons to prevent them from carrying out their important mission. Balloons were soon well



French glass view by STL, No. 809, "Ballonen feu" showing the fiery end of a balloon. As with any photos portraying downed aircraft of any type in WWI, it should not be taken at face value. This photo was probably a staged event. There are very few documented photos of actual air combat from WWI, although fakes and staged events are plentiful.

protected with machine guns as well as light and medium artillery. As time went on specially designed antiaircraft guns were in use to protect balloons, from modified machine guns to light and medium caliber antiaircraft artillery. In the last stages of the war, balloons often had fighters on continuous patrol, circling overhead to intercept any enemy aircraft that dared

to attack. A pilot was given the same credit for shooting down an enemy balloon or an airplane.

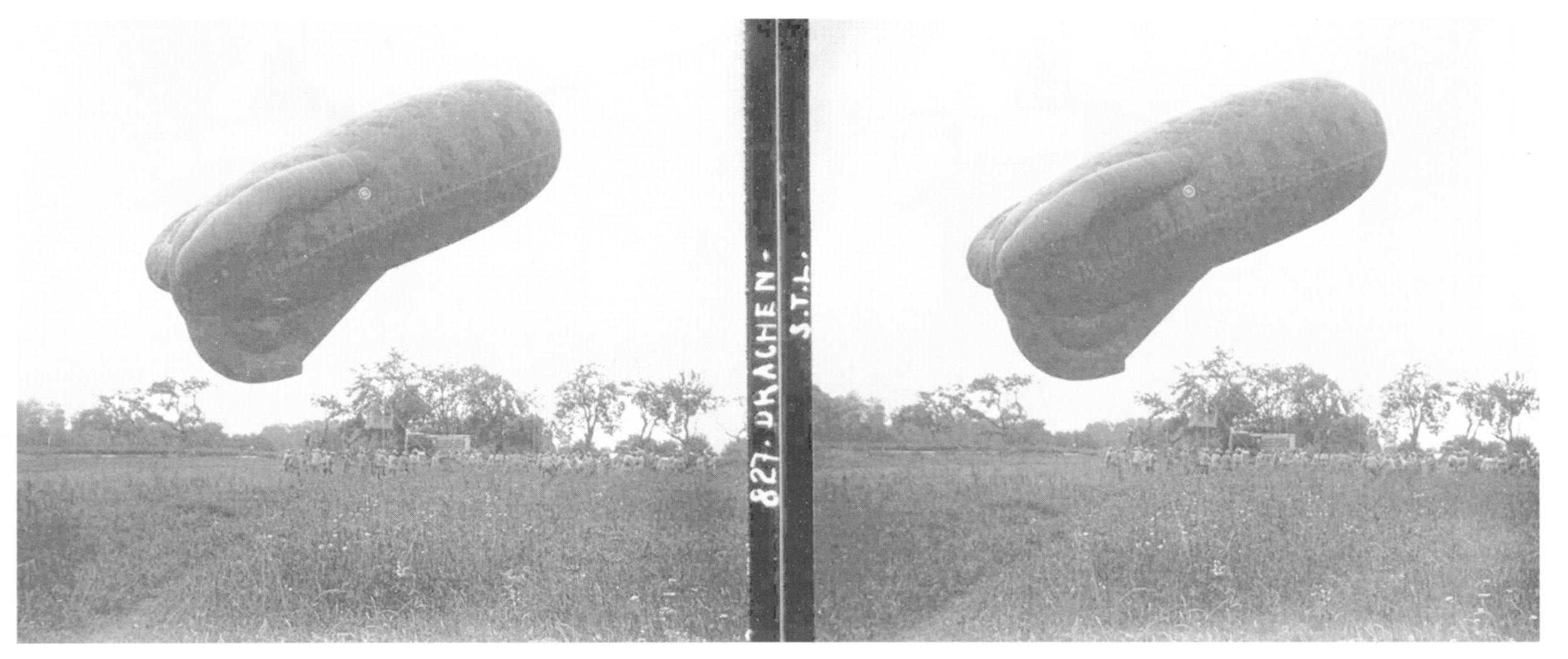
Balloons were very dangerous targets, although some pilots became specialists in "roasting sausages". These were the Balloon Busters, and their exploits are still celebrated, while the balloon observers have mostly been forgotten. These pilots were willing to fly

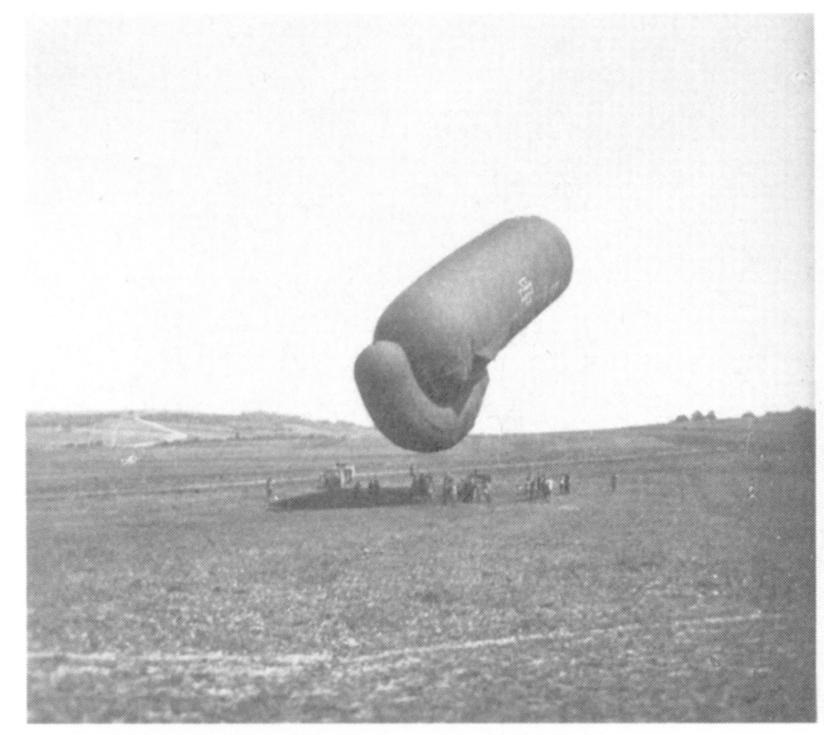
French glass view by STL, No. 818, "Locomobile pour manouevre d'un Drachen." A horse drawn balloon tender. The wagon has an electric generator on the back, and an electric winch at the front. Note how carefully the wagon is anchored to the ground to prevent the balloon from tipping it over in a high wind.

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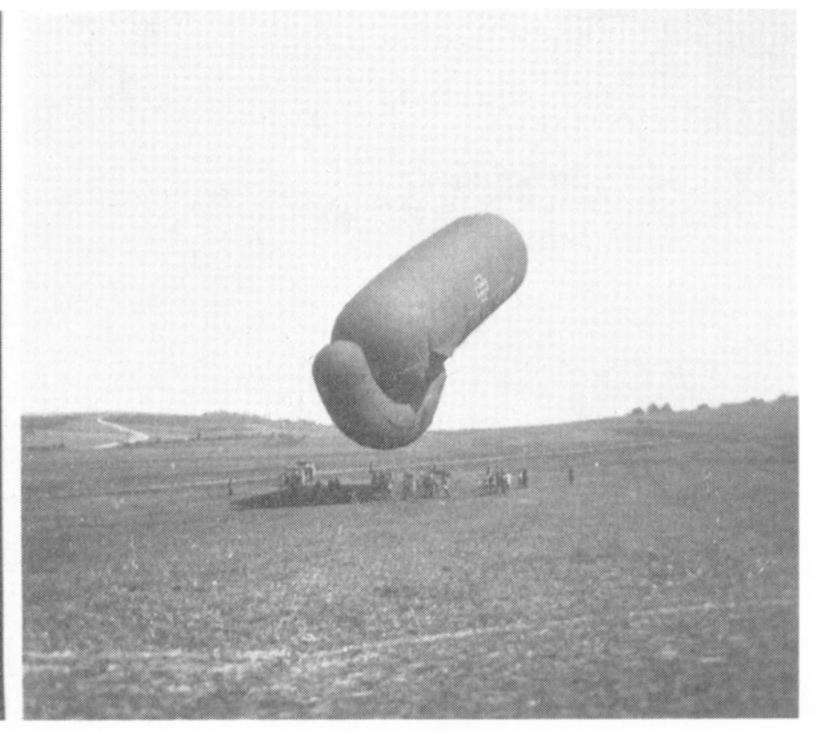


French glass view by STL, No. 827, "Drachen" a Caquot balloon being sent aloft by the ground crew.









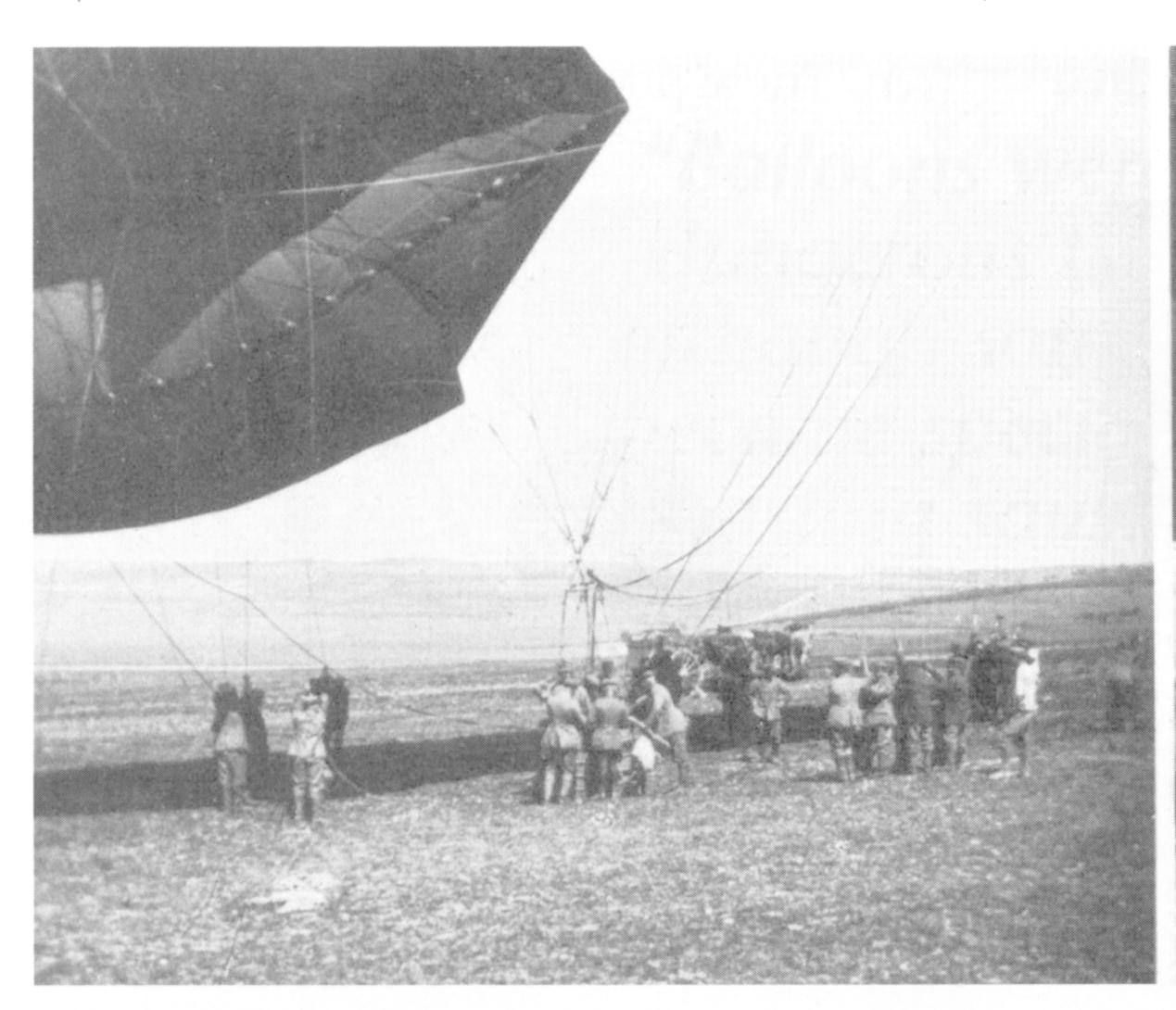
Feldstero-Verlag No. 1045, Series A, "Deutscher Fesselballon." A German ground crew prepares a Parseval type balloon for being sent aloft. Feldstereo-Verlag was a German publisher that produced several series of small format, $1^3/4 \times 4^1/4$ paper stereo views during the war. The photos came with a folding cardboard viewer with viewer and views packaged in a wood-grained cardboard sleeve.

deep into enemy territory and take on a target well protected by machine guns, artillery, and aircraft. After a successful attack, they had to get back to their own lines pursued by enemy aircraft, as well as taking ground fire from all enemy forces they flew over, sometimes with shreds of the balloon

entangled on the wings and in the bracing wires of their aircraft. Many pilots who succeeded in roasting a sausage were shot down in the process and killed or made prisoners of war. Some were caught in the blast of the burning hydrogen.

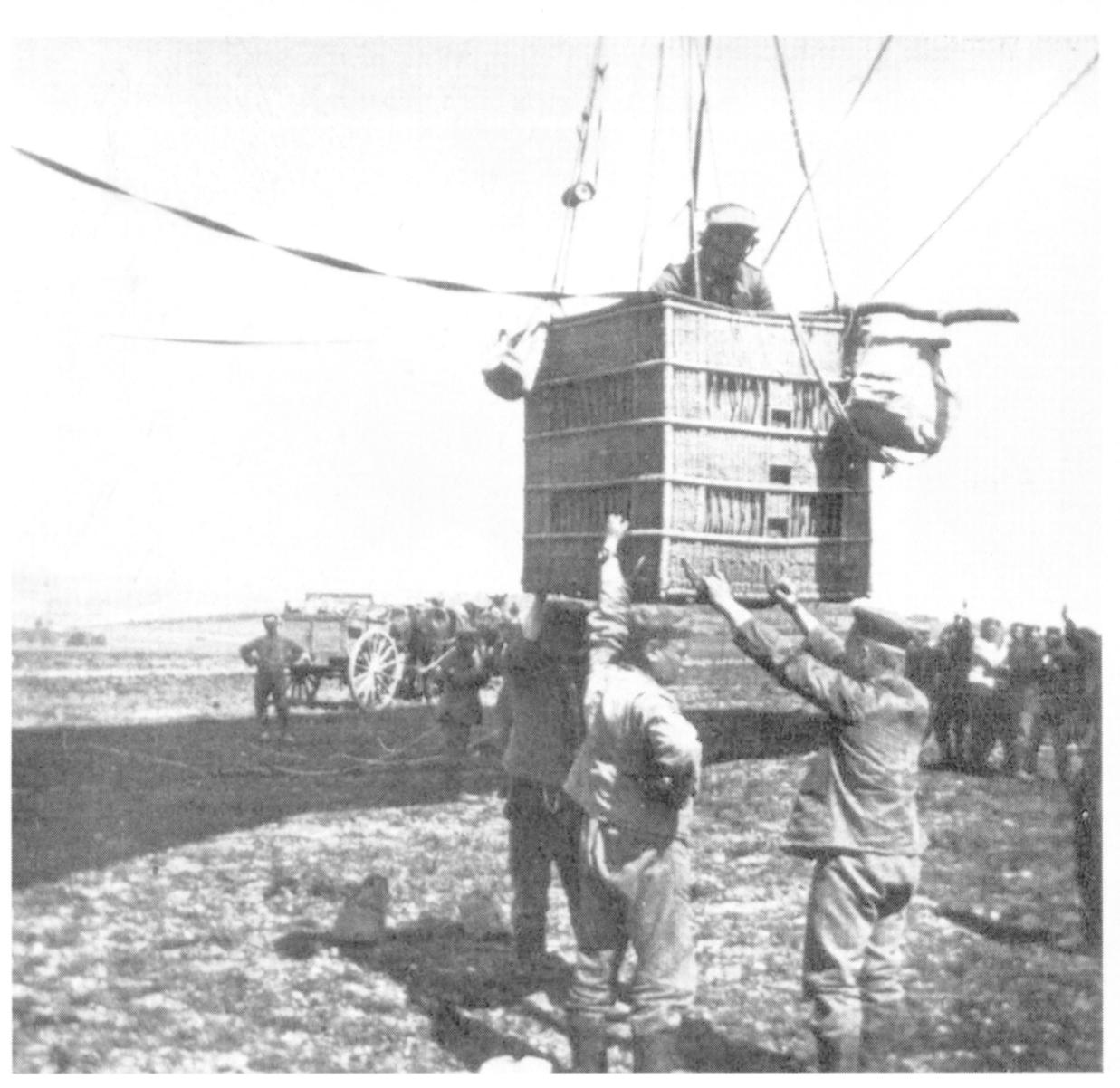
Willy Coppens of Belgium was the king balloon buster, with a score of 34 balloons, and three aircraft. Leon Bourjade of France shot down 24 Balloons, and eight aircraft. Fritz Roth of Germany shot down 20 balloons, and eight aircraft. Anthony W. Beauchamp-Proctor of England shot down 16 balloons out of a total score of 54. Frank Luke of the United States shot down 14 balloons and four aircraft. It was not unusual for a pilot to shoot down multiple balloons in a few short harrowing minutes, and a few got four or five in a single day. The Germans alone lost 241 balloons during the war.

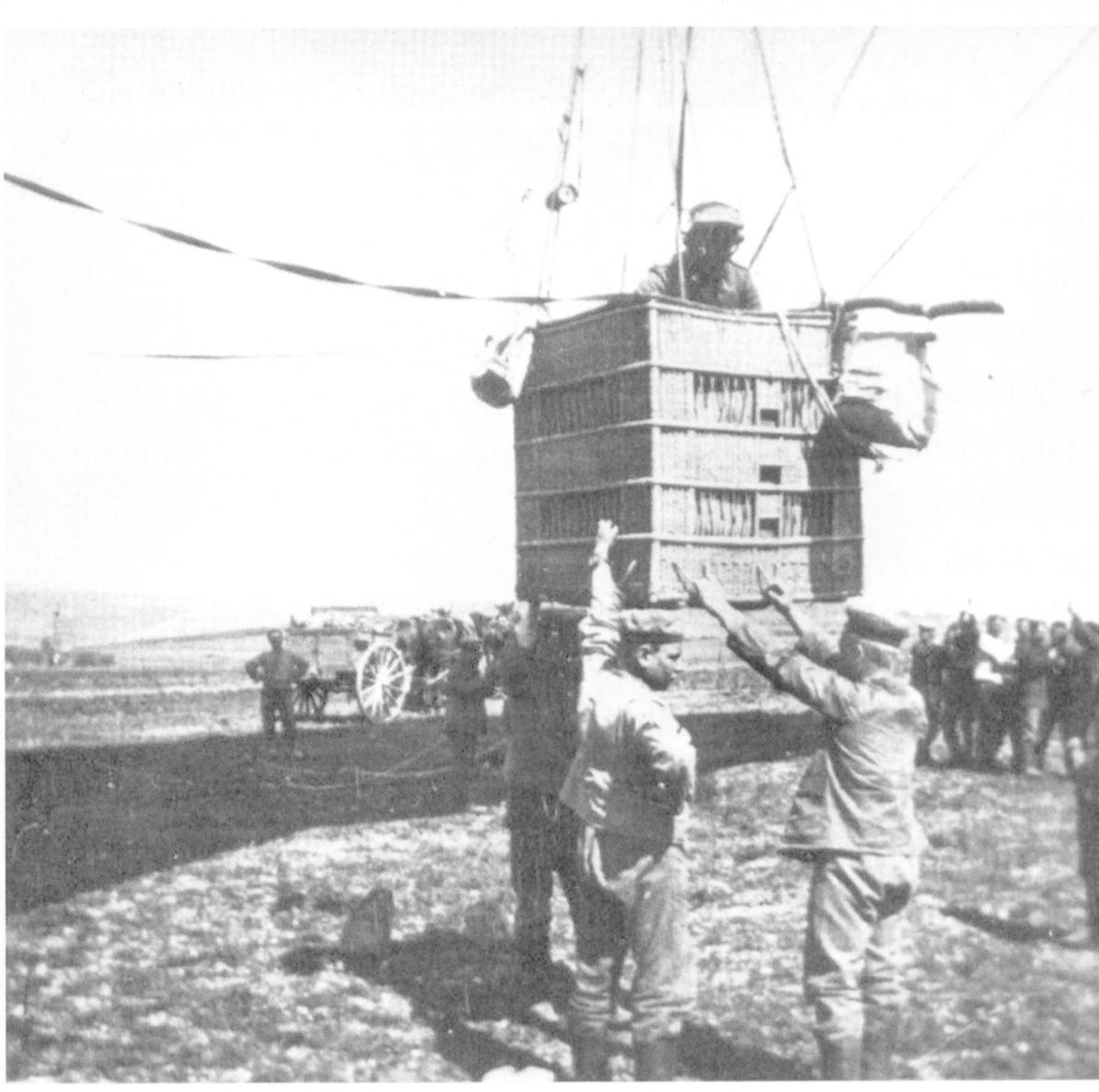
Various methods were used in shooting down balloons. In 1916, during the Verdun campaign, Captain Le Prieur of the French army developed a rocket. Four aluminum tubes were attached to



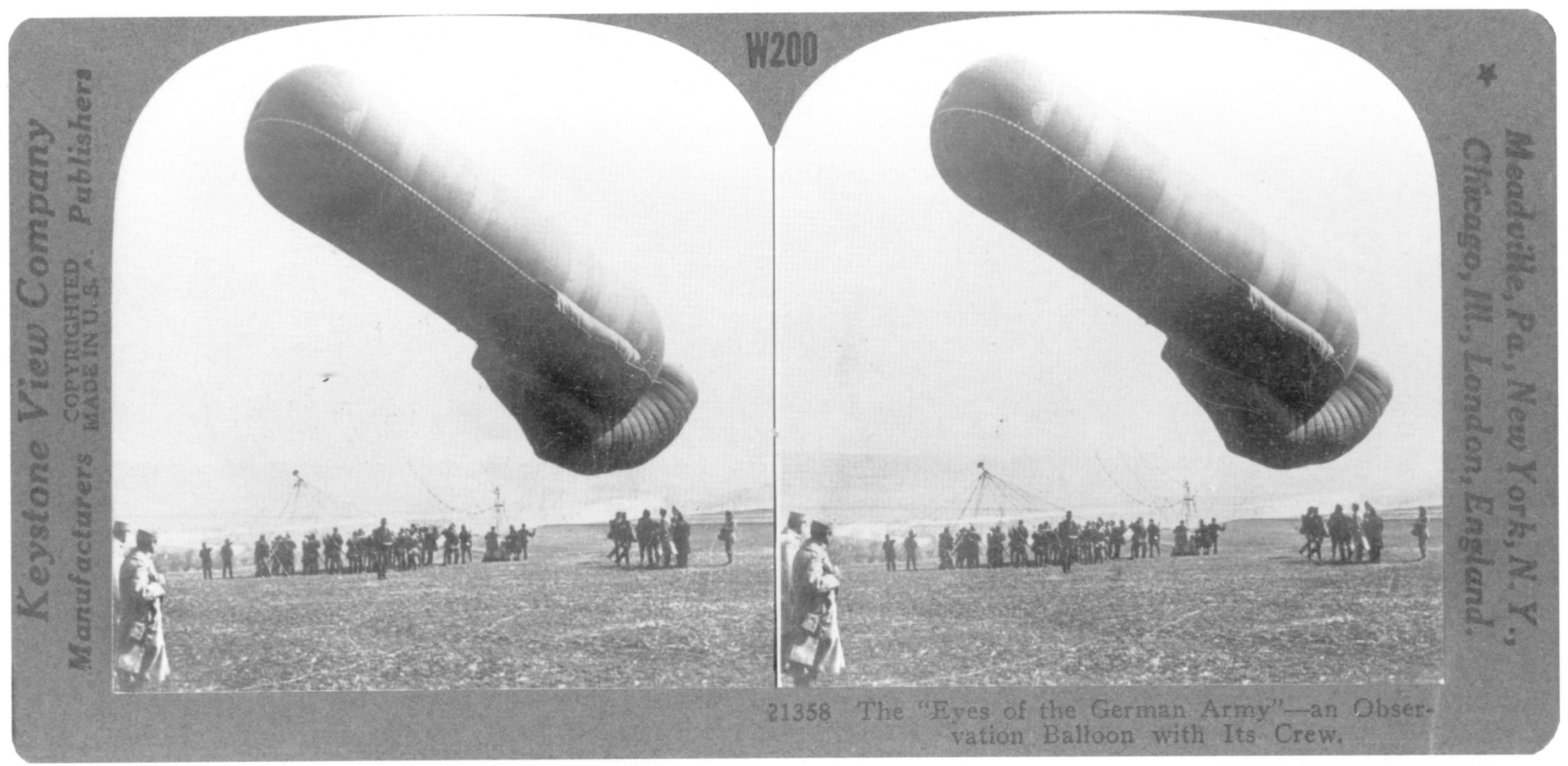


Feldstero-Verlag No. 1046, Series A, "Aufstieg eines deutschen Fellelballons." Another view of a parseval type Balloon being prepared by the ground crew.





Feldstero-Verlag No. 1047, Series A, "Aufstieg eines deutschen Fellelballons" shows the details of the wicker basket. Note the observer's parachute mounted on the side of the wicker gondola, and the observer with the telephone or wireless headset.



each wing strut, and the rockets, resembling oversized fireworks, were placed in the tubes. They were fired electrically in a volley with little result, as the rockets seemed to go in every direction except straight ahead. Some pilots tried dropping steel darts from above, or shot balloons full of holes with machine gun fire. Putting holes in a balloon would send it to the ground, but very slowly, and this sort of damage was easily repaired. In early 1917, a

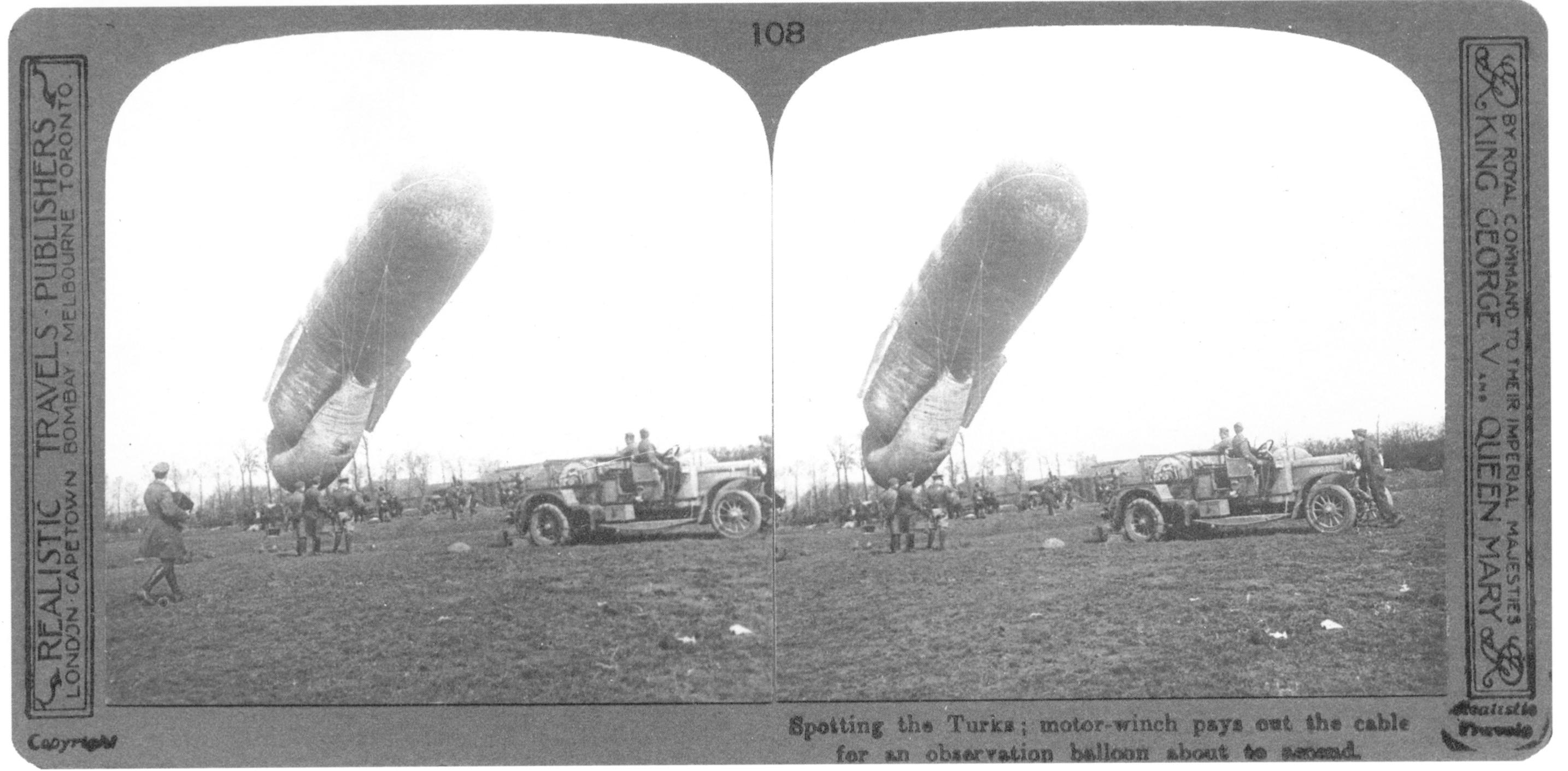
Keystone No. 21358, "The 'Eyes of the German Army'-an Observation Balloon with Its Crew." Austrian soldiers getting a Parseval type balloon ready.

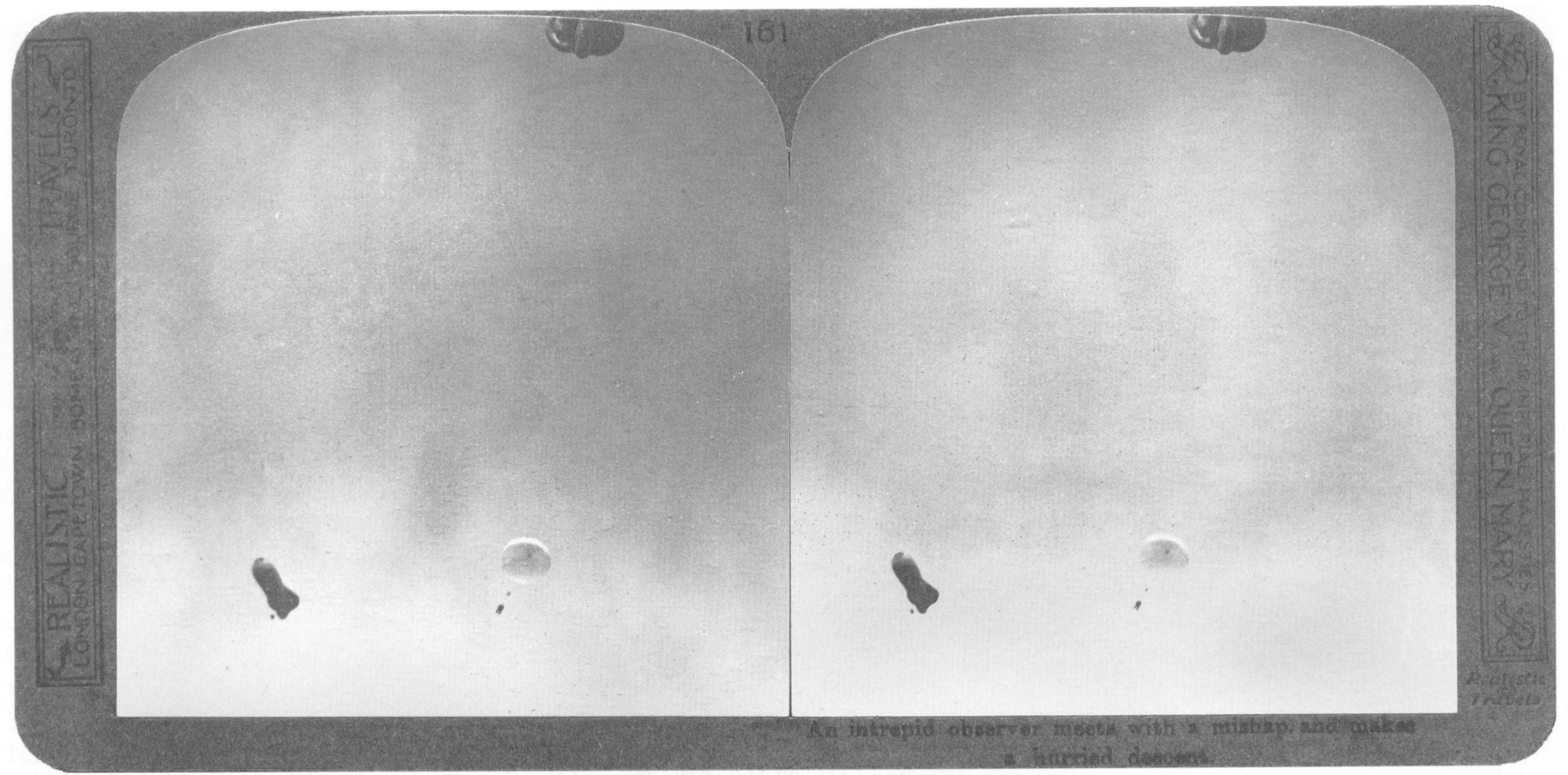
phosphorous filled bullet was developed, and these, combined with flat nosed bullets used to tear large holes in the balloons, worked very well in setting fire to the hydrogen gas bags if fired from close range. The tracer round became the preferred way for roasting sausages. Later on, the British company Vickers produced an 11mm machine gun, which

proved to be especially useful in setting fire to balloons.

At the beginning of the war, spherical balloons were still in use, but these were quickly taken out of service, as they were not stable in high winds. All armies began using the kite balloons that were designed to turn into the wind, and remain in a stable position. They were also referred to as captive balloons, as they were tethered to the ground. Observers were trained to pilot free balloons, as captive balloons did come loose

Realistic Travels No. 108, "Spotting the Turks: motor winch pays out the cable for an observation balloon about to ascend." A British Parseval type balloon with its Crossley balloon tender, somewhere in the Middle East.





from their moorings from time to time. There were two basic kite balloon designs in use by all armies during the First World War. The first type, developed in Germany before the war, was the Parseval-Siegsfeld balloon. It was cylindrical in shape, and had single air filled cylindrical fin, set low on the rear of the balloon. The British and French called them Sausages; the German soldiers called them Drachen, a word

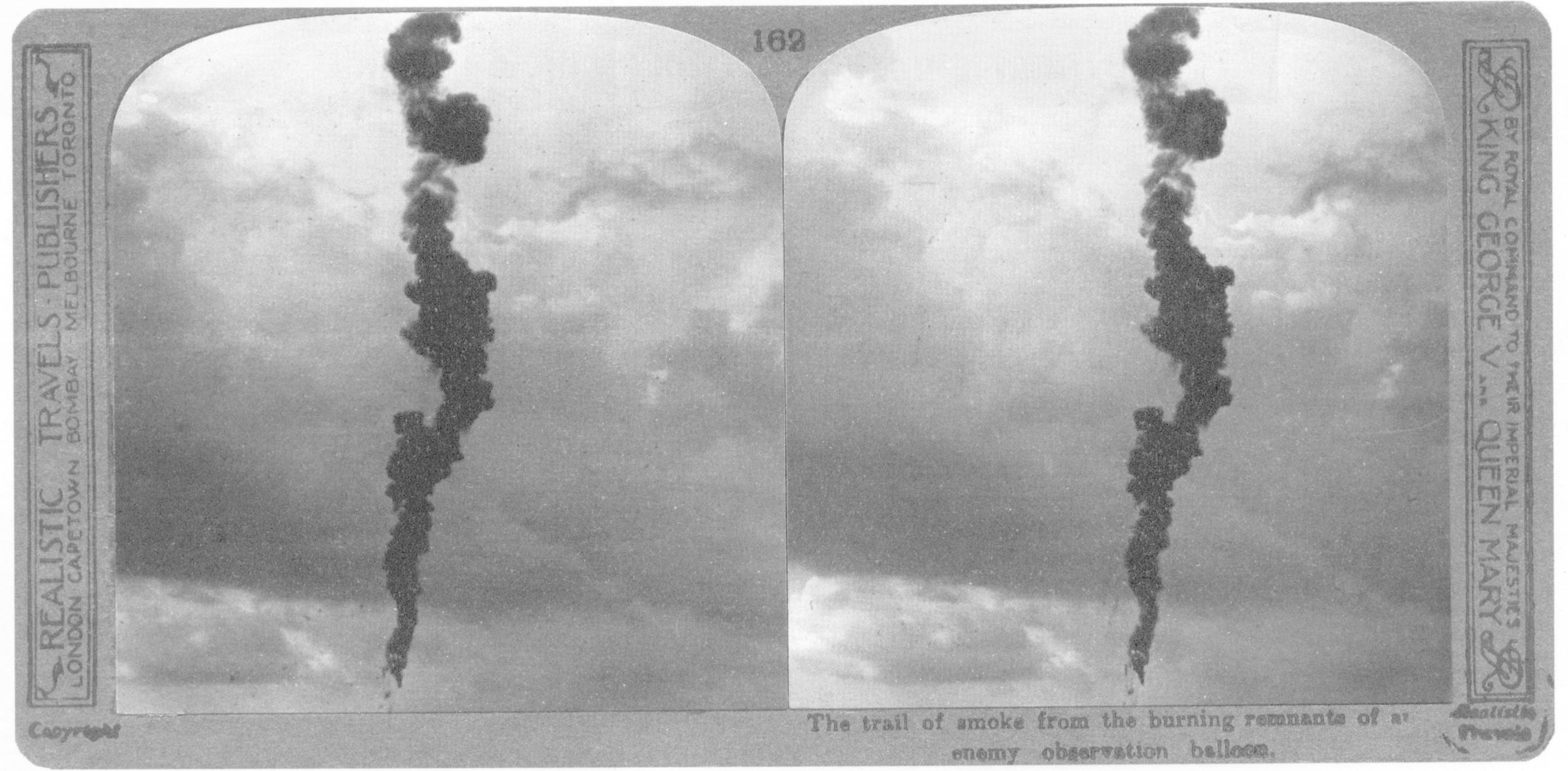
Realistic Travels No. 161, "An intrepid observer meets with a mishap and makes a hurried decent." A staged event where a balloon observer makes a quick getaway with his parachute from a balloon.

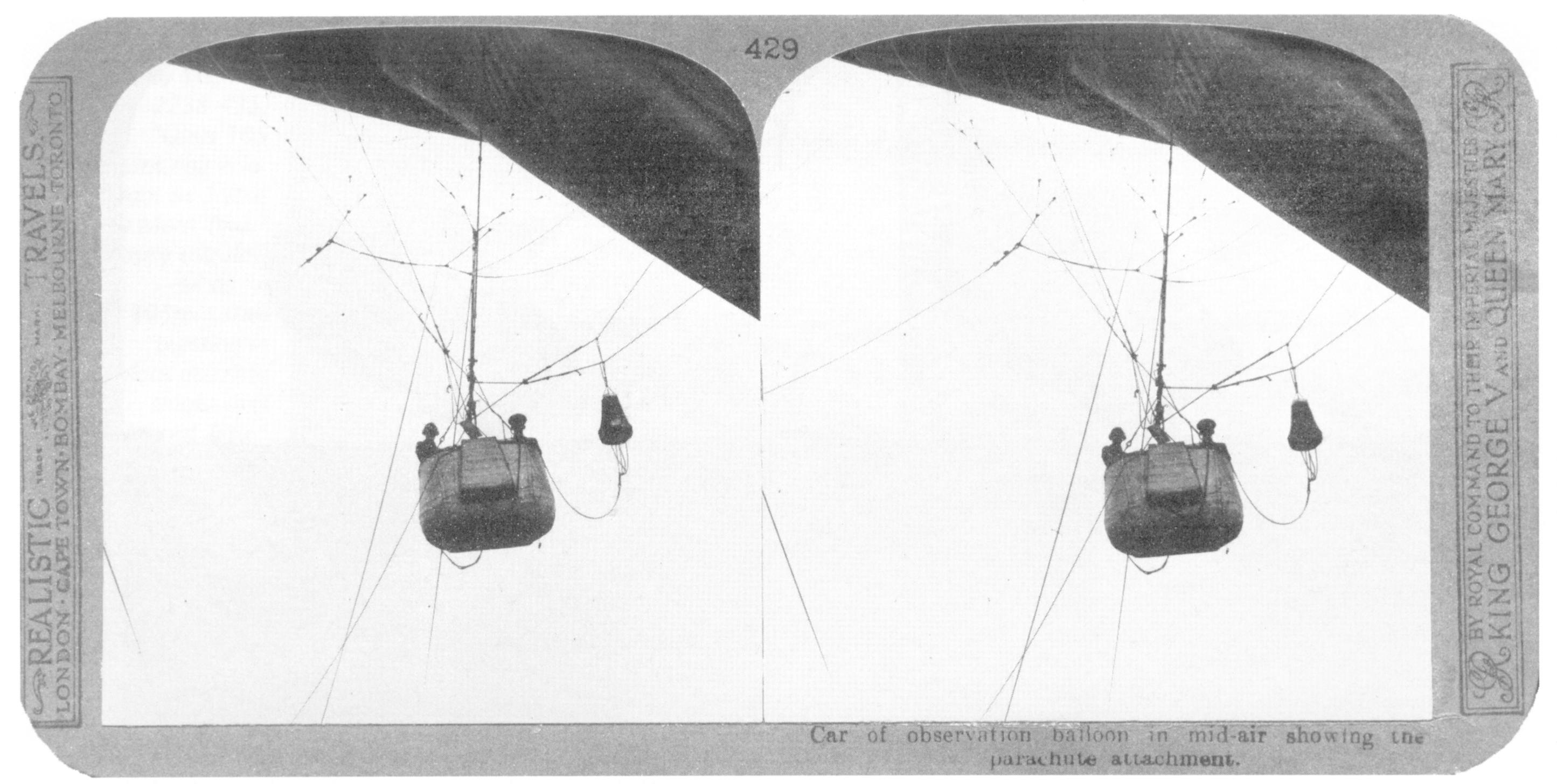
meaning dragon as well as kite. The Germans also had a rude term for them, Nulle, or testicle. Captain Albert Caquot of the French Army developed the other type in 1915. It was tear shaped, and had three fins at the rear, set at 120 degrees from each other. The Caquot type could fly higher and remain stable in stronger winds

that the Parseval type. The Germans produced their own copy of the Caquot balloon, the type Ae-800, as it held 800 cubic meters of hydrogen. Although the Caquot was the superior to the Parseval, both remained in use to the end of the war.

The balloon observer faced many risks and dangers, as did all soldiers of World War One. Balloon observers were equipped with parachutes, although the para-

Realistic Travels No. 162, "The trail of smoke from the burning remnantgs of an enemy observation balloon makes a hurried decent." A staged event showing a balloon going down in flames.





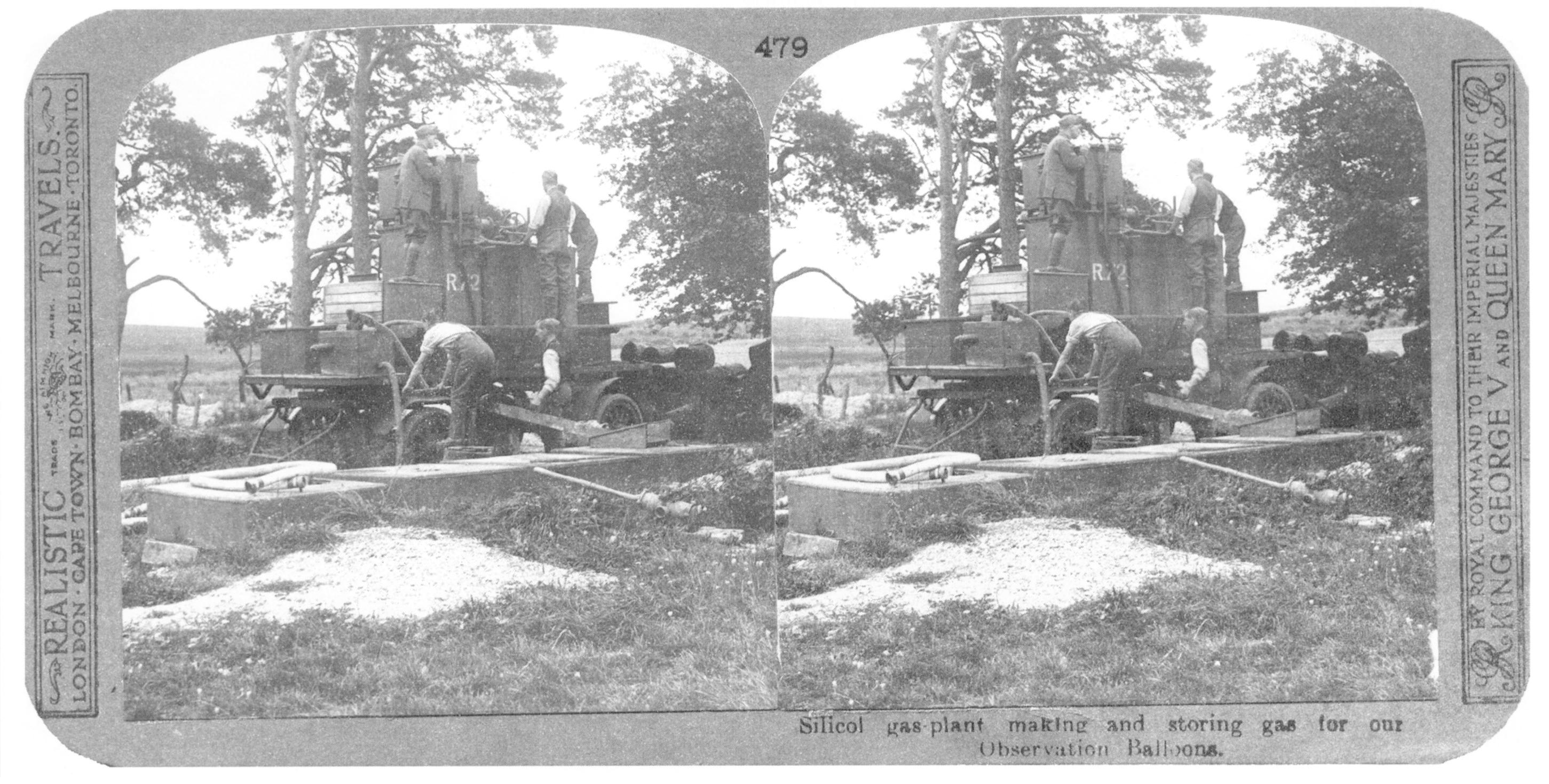
Realistic Travels No. 429, "Car of observation balloon in mid-air showing the parachute attachment." A close up view showing the details of a balloon gondola. Note the parachute in cone hanging adjacent to the gondola. One can only hope the other soldier's parachute is hidden from view. Also note that both soldiers are wearing headphones for either a telephone or wireless telegraph set.

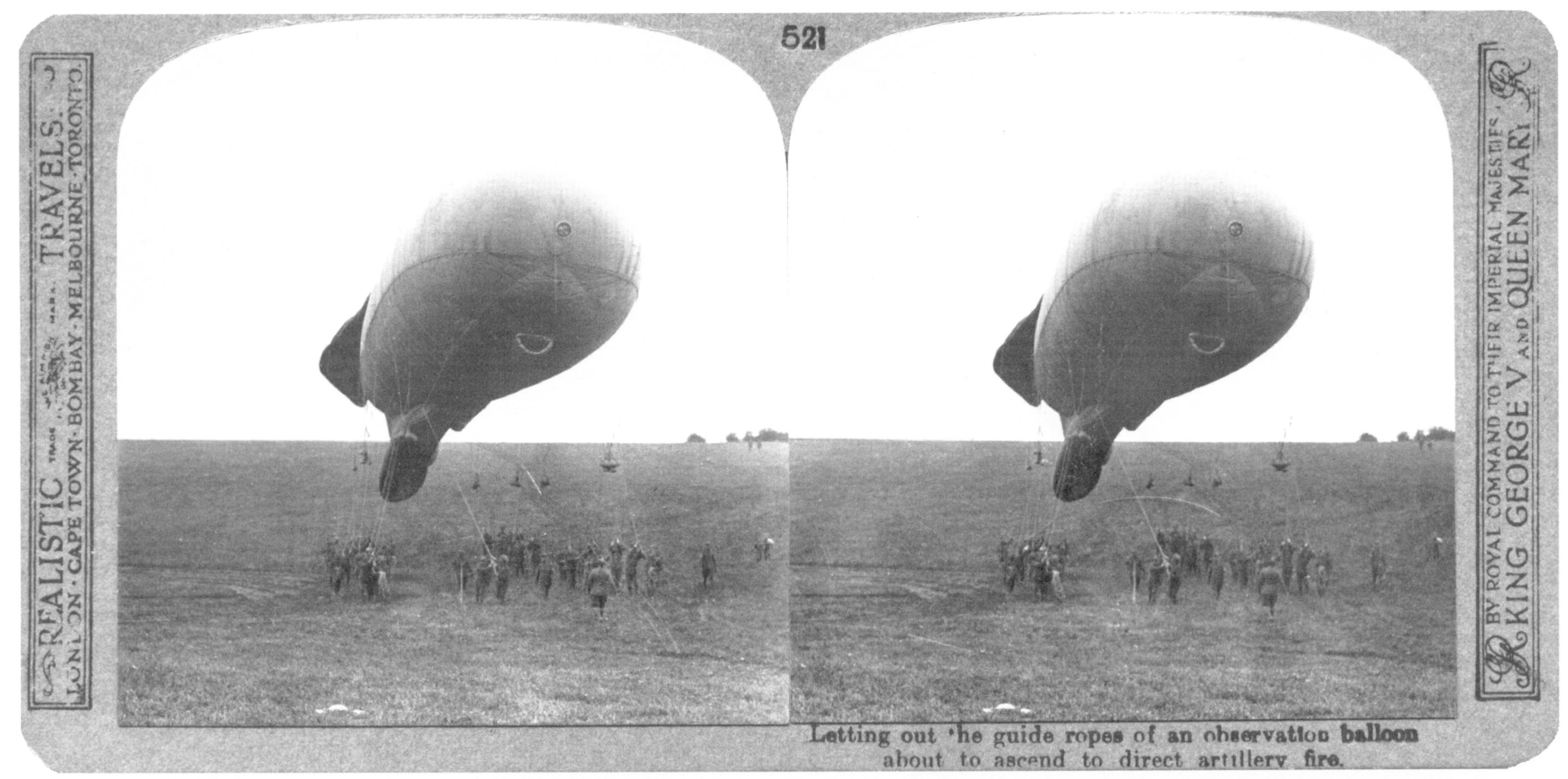
chutes of that time had a failure rate just high enough to ensure that observers jumped only in an emergency situation. The balloon observer was a highly trained and specialized officer, and some pilots aimed for them as well as the balloon. Many observers who had successfully bailed out of the balloon were killed when the burning

balloon overtook them on the way down to the ground. Willy Coppens was haunted to the end of his life by the memory of one of his victories. Coppens wrote that he had "just killed a brave man, and I killed him the worst way I could. The balloon observer didn't jump—he kept firing at me with a little handgun. The burning balloon just swallowed him up."

Other uses for balloons included home defense, where a series of barrage balloons were sent up over large cites such as London, with cables strung between them in the

Realistic Travels No. 479, "Silicol gas-plant making and storing gas for our Observation Balloons." After the war of movement ended and was replaced by trench warfare, all armies began using mobile hydrogen gas plants, taking the place of storing highly explosive gas canisters. Balloons leaked constantly, even when not full of bullet holes, creating the need for a constant supply of hydrogen gas.





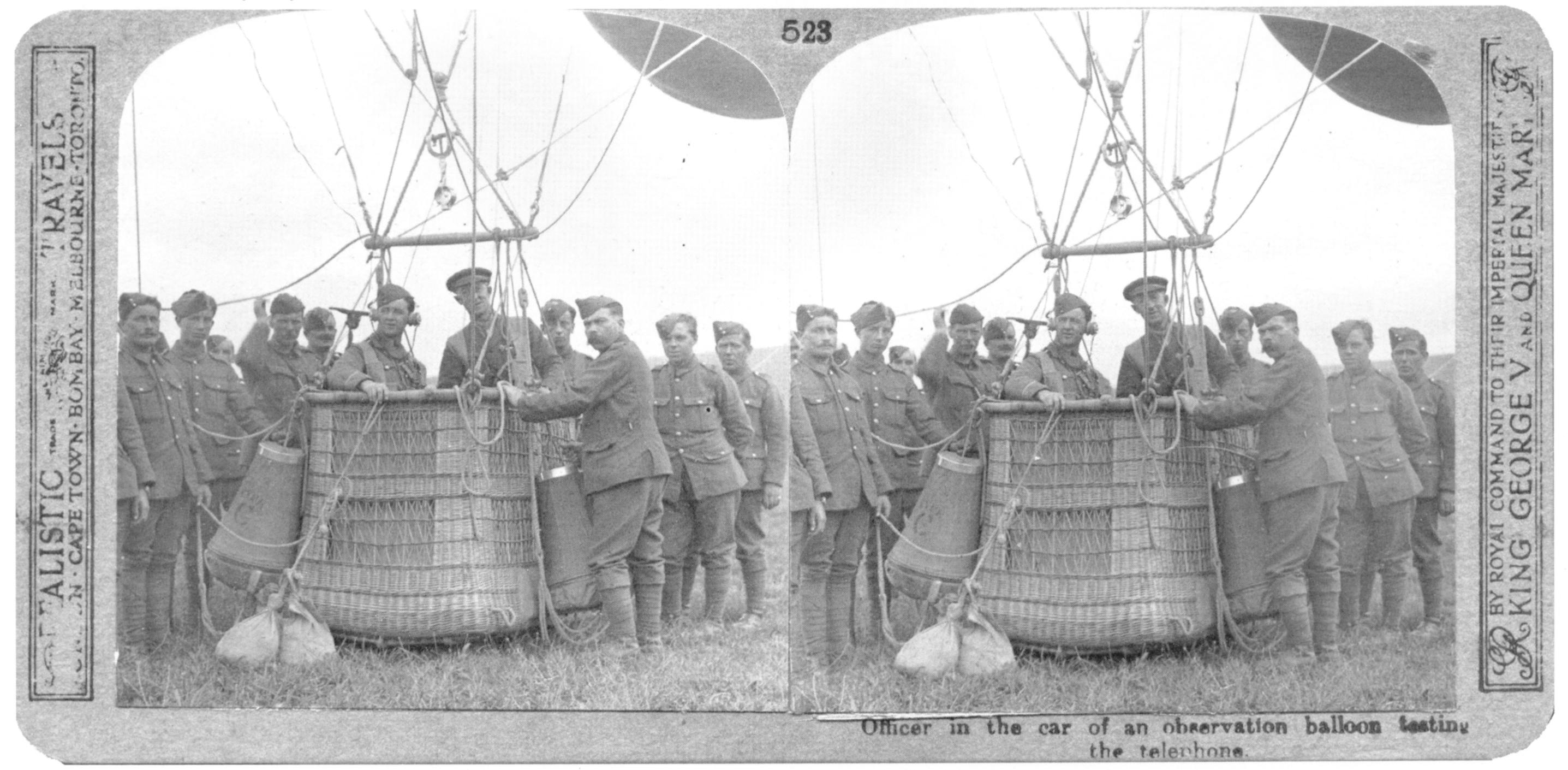
hopes of snaring enemy bombers. The British used them again in WWII. To evade the balloons the bombers had to fly at a higher altitude, and thus reduce the accuracy of their bombing raid. There are two recorded instances where a balloon, with the gondola packed with TNT, was used to trap would be balloon busters. One instance was by the British on the Macedonian Front, and the other by the Germans on the Western Front.

Realistic Travels No. 521, "Letting out the guide ropes of an observation balloon about to ascend to direct artillery fire." Interesting view of the ground crew of a British Caquot type balloon about to ascend.

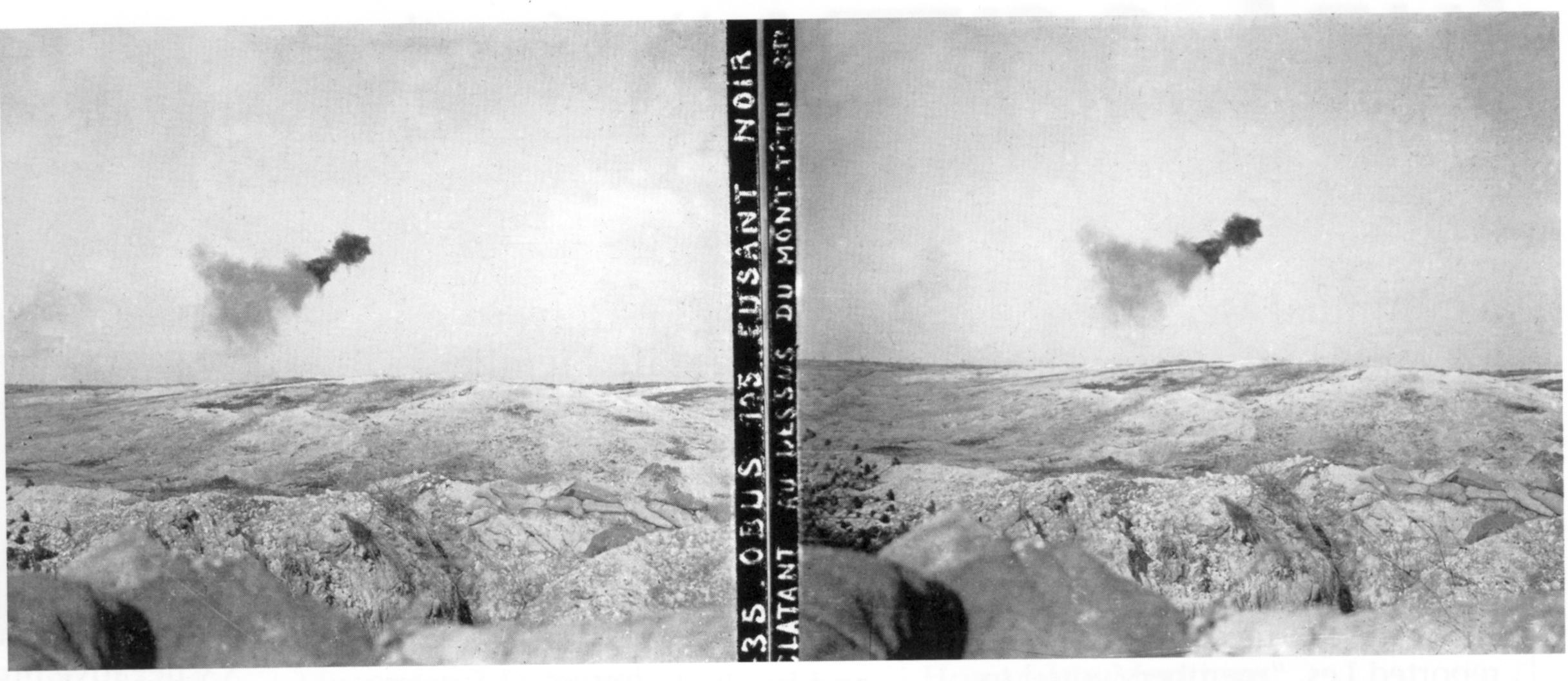
The British trap worked well in that the German pilot was killed, although the RAF pilots were not proud that they resorted to such an un-sportsman like trick. The German attempt backfired, when the intended victim, Willy Coppens, shot the rigged balloon down while it was being sent aloft. It fell to the ground in flames and

exploded on the ground. Balloons were carried on ships in convoys for spotting summaries, a job they performed very well in WWI, and again in WWII. There was some use of observation balloons by the Germans on the Eastern Front in WWII, but on a very small scale. The period of 1914-1918 was the heyday of military balloon operations. The balloon observer of World War One was a highly trained officer, with a strong devo-

Realistic Travels No. 523, "Officer in the car of an observation balloon testing the telephone." An excellent portrait of the balloon observers in the gondola showing both cone shaped parachute containers and the telephone headset.



French glass view by STL, No. 2238-435, "Obus 105 fusant noir eclatant as dessus du Mont Tetu." Loosely translated as "A 105mm shell bursting in black dazzling smoke over Mount Tetu." This is a view of No-Man's-Land near Verdun, with a 105 mm shell bursting in



the air. In WWI shrapnel shells were filled with lead or steel balls. They burst in the air over the heads of the enemy, sending down a rain of deadly shrapnel balls. Shells that burst on impact were called fragmentation shells, due to the steel splinters created when the shell burst apart by explosion. For some reason, we now call all fragments from exploding shells shrapnel.

tion to duty, and sense of bravery second to none.

I wish to thank Robert Boyd, who kindly provided most of the stereo views used in this article. He maintains a site on WWI stereo views, <u>GreatWar-Photos.org</u>, and he is the author of *The Great War Through Keystone Stereographs*, an excellent book on Keystone World War stereo views.

Ralph Reiley lives in Tucker, GA, where he is an architect and president of the Atlanta Stereographic Association. His previous articles for Stereo World are "The Great War and the First Tanks" (Vol. 34 No. 4) and

"The First Air War 1914-1918" (Vol. 34 No. 6).

Sources:

A History of French Military Aviation, by Charles Christienne, Smithsonian Institution Press

Jane's Fighting Aircraft of World War 1, by John W. Taylor, Military Press Military Observation Balloons, by Major C. Chandler, Signal Corps, U.S. Army, 1917

Military Observation Balloons (Captive and Free), by Emil J. Winder, D. Van Nostrand Co., 1917

The Balloon Observer, by Major T.W. Wrenn, (Field Artillery) Air Service Aeronautics, US. Army 1919

The Great War Through Keystone Stereographs, by Robert S. Boyd, Trafford Publishing

Balloon-Busting Aces of World War 1, by Jon Guttman, Osprey Publishing

Troutman No. 5195, "The tragic End of an Observation Balloon." This is the same view of the bursting shell as above, but spiced up with a catchy but misleading caption. All the stereo view publishers were guilty of being creative with falsified captions to liven up dull photos. Publishers also recycled old stock photos with new captions to make them fit current events.

