



# CONNECTIONS *news*

[www.telcomhistory.org](http://www.telcomhistory.org)  
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Dave Felice, editor

## A Message from Our Director

Sleigh Bells are ringing. Winter is almost here. In Denver we have had to suspend tours for a while due to construction in the “Bell Palace”. In the archive we are very busy with reorganizing collections.

The Seattle Museum is growing with new switches and artifacts. It was wonderful to see it all in September.

I have included pictures of items found that need identification. We hope you can help us what these items are and how they were used.

We want to thank you all for your continued support. We hope you had a wonderful Thanksgiving and will have a splendid holiday season.

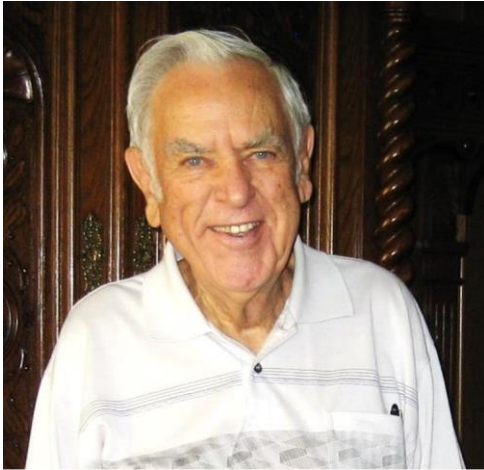
Renee Lang, Managing Director



Any ideas what these are?

## In Memory

Charter THG Board member and noted attorney Laurence (Larry) W. DeMuth, Jr. died on October 5, 2023, at age 94.



Larry was instrumental in the formation of the Telecommunications History Group and remained a member of the board from the organization's beginning in 1992 until he retired in 2020. Larry acted as our legal counsel and was a constant cheerleader for THG.

DeMuth was in-house counsel for Mountain States Telephone and Telegraph company from 1968 to 1984, when he became General Counsel and Secretary for U S WEST.

DeMuth was born in Boulder. He graduated from University of Colorado (CU) Law School in 1953. After serving in the Air Force Judge Advocate General Corps, he became a partner in private practice in Denver, and later joined Mountain Bell. Larry was actively involved in improving Colorado's judicial system. He was a member of the Colorado Commission on Uniform State Laws, the Board of the Colorado Judicial Institute, and the Colorado Supreme Court's Judicial Advisory Committee. He also served on the boards of the Emily Griffith Center and the CU Foundation.

Larry DeMuth was generous with his time, treasure, and wise advice. We miss him.

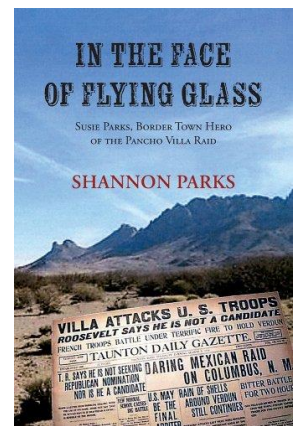
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## Book Review: In the Face of Flying Glass

On March 9, 1916, Susie Parks, age twenty, found herself in the center of a battle on the night Pancho Villa's rebel army invaded the border town of Columbus, New Mexico.

Her granddaughter, Shannon Parks, writes about that night and about Susie's life before and after that infamous raid in this novelized biography. The author performed meticulous research, including at the THG Archives, to tell a well-imagined story.

At the switchboard with her baby in her arms, Susie made the call that alerted the outside world of the attack. Celebrated as an American hero, her broader story reveals a tenacity and grit that surpasses the events of that day. We first meet Susie at eleven growing up in the Northwest when a family tragedy prompts the family to move to New Mexico. She grows up, free to hunt and roam the desert. At eighteen, she meets Garnet Parks, an intellectual cavalry soldier with dreams of owning a newspaper. They fall in love and together traverse the Great War, the flu pandemic, and a devastating fire. Babies come, businesses falter, and illness strikes. Susie must run the paper, care for her family and nurse her dying husband.



*Susie's switchboard, complete with bullet holes, is displayed at the Telephone Museum of New Mexico in Albuquerque. Phone: 505-842-2937*

## THG goes to the movies

The Telecommunications History Group has a supporting role in the new Martin Scorsese movie *Killers of the Flower Moon*.

THG Archivist Jody Georgeson and other volunteers provided technical advisor Doug Schema with supplemental information on constructing an authentic open wire line in the downtown of a rural Oklahoma community of the 1920s.

Commenting exclusively for *Connections News*, Schema says Apple Pictures/Paramount wanted the line to be as technically accurate as possible: "To build such a dated line, we had to resort to old fashioned techniques. Constructing tools to do this was necessary. Open wire lines are no longer being built. There are few or no tools available to build them (open aerial copper lines). By simple necessity we were forced to re-create the old tools and follow old instructions."



*Present day aerial electrical wiring in Pawhuska before filming started*

The material provided by THG helps to accurately show how line installers did their work.

The downtown area of the Osage county seat of Pawhuska was transformed to simulate Fairfax, Oklahoma. While Schema was busy designing an open wire line, the movie construction crew removed existing overhead electrical wires and installed or arranged poles for the phone line.

Schema turned to an acquaintance, Butch Bouvier, "a fantastically talented carpenter and metal worker", to reconstruct copper wire handling equipment that hadn't been built since the 1940s.

"Hanging one strand of 104-gauge (new copper wire) twenty times would have been a tangled mess. With the stringing device (built by Bouvier), we could efficiently run four conductors at the same time, set proper tension, and correctly tie to the insulators mounted on the cross-arms, over two dozen 80-foot wire spans."



*Spooling wire on a re-created device to efficiently hang four lines*

A two-story false building front made to look like a hotel disguised a large workshop. The city had closed the street, and the movie crew had covered the street with dirt. Schema says the closed set had a multiplicity of people vigorously working. "Carpenters, bricklayers, awning installers, sign painters, electricians, and so on meant we were installing our part of the set amidst all the other confusion. We had one and a half weeks to get the line done before filming commenced."



*Hanging wire four conductors simultaneously*

Street lighting appropriate for the period was installed after the phone lines were done.

While striving for the highest level of authenticity, Schema admits there were two parts of the installation which required compromises. The construction crew accidentally installed the horizontal cross-arms on the same side of the poles, instead of properly alternating from one side to the other for proper weight balance. Schema says he and Art Director Tony Ziegler decided that changing the arms would take too much time.

Drop wire of the early 1920s, known as bridal wire, is just not possible to obtain any longer, according to Schema. He says the movie construction crew devised an ingenious, and nearly identical, alternative by splitting modern drop wire and re-twisting the individual strands.

Schema says if someone were to ask if the poles and lines existed or had to be installed, he'd know he achieved authenticity. He's pleased some people have asked that question.

He documents his installation in a 20-minute internet program at:

<https://youtu.be/IbUcWLWHnmE?si=pgFI6HagV9zW32IV>.

All of the equipment, devices, and hardware used in the installation had to be dismantled and returned to storage in Western Colorado (Montrose), the Topeka area, or his base in Council Bluffs, Iowa.

Schema is Director and Curator of The Electric Orphanage of North America, Inc., (TEONA), a 501(c)(3) non-profit, dedicated to the history of open wire installations ([www.the-electric-orphanage.com](http://www.the-electric-orphanage.com)), 785-969-0205.



*Historic street lighting installed*

*THG newsletter contributor John Swartley talks about his experiences with open wire in the Winter 2020 edition of Connections News (<https://www.telcomhistory.org/wp-content/uploads/2021/11/Connections-News-Winter-2020.pdf>).*

## Movie accurately depicts history

The movie *Killers of the Flower Moon* tells the true story of the murders of Osage people in the early 1920s and the FBI investigation that followed. Based on a book of the same name by David Grann, the film looks at racism and violence against a prosperous Native American tribe. Unlike some other tribes, the Osage managed to retain ownership of their land in Northeastern Oklahoma. Discovery of oil on the land brought both wealth and conflict to the area, particularly when white opportunists moved in.

The town of Pawhuska is the seat of Osage County which shares its boundaries with the reservation. Pawhuska was set to resemble the smaller community of Fairfax, a "railroad town" 28 miles southeast. Some filming also took place in Bartlesville, in the eastern part of the county.

The authenticity of the film extends beyond re-creation of an open wire telephone line. The film makers took care to accurately recognize Osage culture, even to the point of reviving traditional methods of making clothing. The production team consulted tribal members on the depictions of ceremonies and costumes. Pendleton Woolen Mills made reproductions of 500 native blankets, including period-accurate labels. Because the Osage were fabulously wealthy, many artifacts survive from the time known as "The Reign of Terror."

Development of the film actually began in 2016. Director Martin Scorsese traveled to the area in 2019, to meet Principal Chief Geoffrey Standing Bear and discuss how the Osage Nation could be involved with the film's production. Scorsese later expressed appreciation to Osage consultants and cultural advisors: "We're excited to start working with our local cast and crew to bring this story to life on screen and immortalize a time in American history that should not be forgotten."

The film stars Leonardo DiCaprio, Robert DeNiro, and Lily Gladstone. In the film, DiCaprio plays Ernest Burkhart, the nephew of powerful rancher William Hale, played by Robert De Niro, who used cruelty and violence to control his territory. Gladstone plays Mollie Burkhart, an Osage woman romantically involved with Burkhart. This is DiCaprio's 10th collaboration with Scorsese. DiCaprio used a dental prosthetic to alter his appearance.

After being delayed by the COVID pandemic, filming ended in late 2021. The \$200 million budget is believed to be the most ever spent on a film in Oklahoma. Local news media reported that location filming attracted fans and tourists for months. The film premiered in New York in September 2023, but the actors did not attend because of the SAG-AFTRA strike at the time.

As the location where Conoco (Continental Oil Company) was founded in Bartlesville, the area retains its links to oil production. Famed ballet dancers Maria and Marjorie Tallchief are from Fairfax. Pawhuska is the home of TV's "Pioneer Woman" cooking program, and the headquarters of Drummond Cattle Company, one of the largest ranches in the country.



*Movie stories by Dave Felice with material from exclusive interview and multiple sources*

## Titanic linked to radio regulation

Beyond inspiring highly dangerous deep-sea exploration and a host of other stories, the sinking of the Titanic is an important part of telecommunications history.



*Titanic engraving by Willy Stöwer (Wikipedia)*

The recent implosion of the submersible vessel Titan, the deaths of five explorers, and the subsequent search operations captured the world's attention. In 1912, the focus was on stories about how the White Star Lines liner R.M.S. Titanic sank in the North Atlantic.

The Titanic, a ship once called unsinkable, went down just two years after Congress had passed the "Wireless Ship Act of 1910." Almost immediately after the Titanic tragedy, legislators amended the original requirements for the "Wireless Act of 1912" (Public Law 238). In 1936, the newly-formed Federal Communications Commission said that in the first year following of the amended safety legislation, four

ships with the required equipment and inspections were able to use radio to properly summon assistance.

Prior to enactment of the legislation, use of new and relatively crude radio equipment was something of a free-for-all. The "Radio (Wireless) Ship Act of 1910" was the first federal oversight of radio communication in the United States. Regulators and legislators began to realize that standards were imperative to protect the lives of sailors and ship passengers. Congress was debating several proposals when the Titanic disaster occurred.

Radio Pioneers & Core Technologies observes that Titanic was equipped with a state-of-the-art Marconi radio system which included a generator and 250-foot antenna. Transmission was guaranteed to go 250 miles, but could reach as far as 2,000 miles at night. "The two radio operators expected to spend all their time sending and receiving personal messages for wealthy passengers." In fact, from the time of sailing to striking the iceberg just past midnight five days later, operators sent over 200 such messages.

Captain Linwood Howeth, USN (Retired), in History of Communications in the U.S. Navy, writes: "The world was stunned at the tragic end of the newest, largest, most luxurious, 46,000 ton, \$12 million masterpiece of shipbuilding." Howeth says there were several ships within range of Titanic, but they did not know of the distress because they didn't have radio or an operator. The 20-year-old \$20 a month radio operator of the liner Californian, less than 20 miles away, tried to warn about icebergs. The Titanic operator replied, "Shut up, I am busy...working (talking to) Cape Race (Newfoundland relay station). You are jamming me."

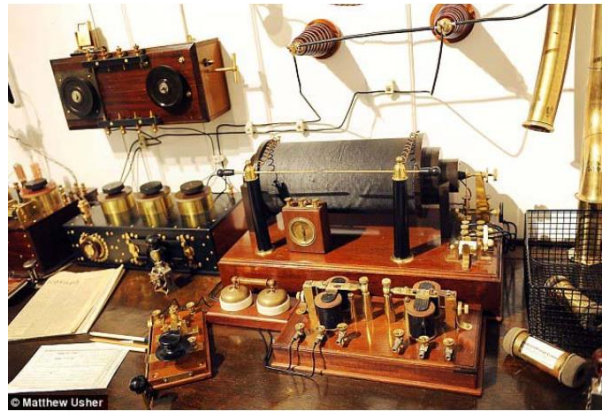
After a long shift, the Californian's operator shut off his equipment and went to bed. Had he stayed on duty, he could have heard the distress call from Titanic, and the California could have made its way to provide assistance. The radio operator of the SS Carpathia was also off-duty, but just happened to hear the distress radio call. The slow-moving Carpathia made its way to Titanic in time to rescue over 700 people from the sinking ship.

The radio operators on Titanic continued sending for a few hours, until the generators quit. The Titanic became the first ship to use the Morse Code letters "S-O-S" as a call for urgent help.

Titanic radio operator Jack Phillips initially sent "C-Q-D" which was still commonly used by British ships. Harold Bride, the junior radio operator, half-jokingly suggested "S-O-S" saying it might be his last chance to use the new code. Phillips then alternated between the two calls. Bride survived, while Phillips died in the sinking. Phillips and Bride were actually employees of the Marconi Company, which owned the equipment and leased it to White Star Line.

Other ships in the area were impeded by darkness and ice.

At the same time Congress was considering essential regulatory legislation, the sinking of the Titanic dramatically proved the value of radio communication.



*Titanic "Marconi Room" replica (Doug Kerr)*

The first wireless regulations were primarily aimed at point-to-point radio. The Department of Commerce, the regulatory body, did not foresee commercial news and entertainment broadcasting. By 1921, new Commerce Secretary Herbert Hoover faced the difficult task of bringing some order to the fast-changing competitive broadcasting environment.

Zenith Radio Corporation set up a high-powered station in Chicago in 1925 and challenged Hoover's authority under the 1912 act. The federal court pointed out deficiencies of the existing legislation by ruling the Commerce Department could not limit the number of frequencies.

Two years later, President Calvin Coolidge signed the new Radio Act of 1927, giving the government improved authority over broadcasting. Under the revised act, anyone operating a transmitter was required to be licensed by the Commerce Department. This licensing requirement was extended to cover operators of mobile telephones as they were introduced in the 1940s.

The Federal Communications Commission, set up in 1934, issued First and Second Class Radiotelephone Operator licenses for commercial, maritime, and aviation transmitter control. The Commission added a less technical Third Class in 1953 and a "Broadcast Endorsement" for limited power radio stations. In the early 1980s, the FCC began replacing the three classes of license by the General Radiotelephone Operator License (GROL). With deregulation, some commercial licensing technical standards remain, but transmitter control at broadcast stations no longer requires a license.

Other radio services have varying license provisions. In two-way business systems, the license is held by the operator of the base station. Citizens Band (radio) is operated under the FCC's "License by Rule", which says anyone who agrees to follow the rules is considered a licensee.

Technology and regulation have advanced to the point where today, instead of a huge room of radio equipment, people move around with an ever smaller and more powerful radio transmitter-receiver right in their pocket. Issuing a distress call is as easy as pushing a button; no license required.

*Original story by Dave Felice, with material from Internet sources*

*Stöwer engraving, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=9764>*

*An extensive article by former Bell Laboratories engineer Douglas A. Kerr on the Titanic radio operation is at [http://dougkerr.net/Pumpkin/articles/Titanic\\_wireless.pdf](http://dougkerr.net/Pumpkin/articles/Titanic_wireless.pdf)*

## Connections Museum adds unusual phone set

The Telstar is more than the world's first commercial communications satellite and a popular recording as described in the last edition of Connections News. The Telecommunications History Group's Seattle Connections Museum now has a recently-acquired rare Telstar phone set with rotary dial, in very good condition.



The Telstar, a cylindrical-shaped set with a lateral handset, is part of the Bell System's DesignLine telephone (DLT) series of the 1970s. DesignLine phones were a response to customer interest in foreign phones and something more distinctive than the standard 500/2500 models. Most of the first DLT models imitated older

European devices.

The Telstar DLT model was produced in the second phase of the program to first lease, then sell, the specialty phones. Because of its late inclusion, most Telstar phones had Touch-Tone dialing. Now, the rotary dial models in good condition are very scarce and only a limited number of tone dial phones survive. The tone dial models are unusual because they have black buttons with white lettering.

DesignLine telephones were produced by various manufacturers. Telstar was built entirely by Western Electric. The Telstar has a black base silvery face plate, a translucent lid which rolls to the rear, and a retractable handset cord. Of those phones which remain, many have scratches on the lid or broken connections where the modular cord attaches to the handset.

According to an AT&T document at the Connections Museum, the DesignLine phone program started in 1973 with phones focused primarily on the "French" style or sets tucked into attractive boxes. At first the phones were to be leased to customers. Some were sold as shells, and customers had to order the working parts along with the installation.

Later, when the Telstar set was offered around 1978, customers could buy the phones outright. Most Bell System exchanges of even modest size had a PhoneCenter Store which functioned as both a retail outlet and business office.

A 1979 newspaper photograph shows Dave Felice and





Jolien McKinney of Mountain Bell at the grand opening of a PhoneCenter Store in American Fork, Utah. McKinney, customer service manager, demonstrates a Cradle Phone model from American Telecommunication Corporation. The photo from the American Fork Citizen also shows a Sculptura (popularly known as "donut") and a Stowaway model, both from Western Electric.



The DesignLine series featured several models with the phones tucked in a box, some "candlestick" two-piece phones, the Celebrity European-style, and those with characters such as Mickey Mouse and Kermit the Frog holding the receiver. Some of the phones originally designed primarily with rotary dial later got Touch-Tone capability with round buttons fitted into the finger holes. One of the last models to be introduced with great promotion was the Country Junction, a wooden dial phone with faux exterior ringers. The DesignLine program also offered customers an opportunity to purchase older pay (public) telephones with three coin slots.

Splitting up the Bell System with court-ordered Divestiture in 1984 contributed to the end of DesignLine telephones. Customers also started buying cheaper sets imported from Asia. Telephone collector Paul Fassbender catalogs the DesignLine telephones at his web site: <http://www.paul-f.com/weDesignLine.html>.

### More Telstar information on line

In another Scottish connection, an astrophysicist from Southwest Scotland, posts a new program about the technical and social aspects of the Telstar satellite. In his September 2023 YouTube item, Scott Manley says "Telstar was so famous I would regularly have people tell me I was wrong, (that) Sputnik wasn't the first satellite, Telstar was." Manley, known for mixing video games and science, tells viewers the Bell System's Telstar was "highly experimental" and relied upon an "amazingly complex ground operation."



Manley's posting includes rare video of Telstar operations. The satellite, says the Scottish scientist, had sophisticated equipment for experiments on radiation in space. Radiation led to the expected end of operation after a few months. Telstar and successors were designed with limited life spans (<https://www.youtube.com/watch?v=8gfVF2yLUs&t=8s>).



British music producer Joe Meek continues to be lauded for his popular 1962 Telstar instrumental recording. Meek died in 1967. A plaque marks Telstar Man's London home. Biographers say Meek was one of the first producers to understand and fully use modern electronic recording equipment. A stage play and movie portray his life story. The American Songwriter website hails Meek as a "revolutionary producer and visionary." The ingenious Telstar recording became known as "space rock".

## New THG Artifact Acquisition



This photograph shows a pair of items that the THG Connections Museum in Denver recently acquired. The Lionel company made these educational kits in the early 1960s. Both kits, unopened and in original boxes, include all the components to build a working models of a Morse telegraph (#3104) and the first Bell telephone (#3105). THG volunteers found the kits while doing a random search of internet sales sites.

Lionel Corporation, started in 1900, is best known for model trains and train layout accessories. From 1961-68, Lionel joined the Tri-ang toy company of Europe to produce nine hands-on kits in a hands-on kits in a "Great Inventors" series.

**MORSE ... the Telegraph**

**MORSE: THE TELEGRAPH** Using principles of electromagnetism, Morse completed the first telegraph in 1837. A complete history of Morse and his invention can be found in the manual. Telegraph is battery operated and includes both sender and sounder. At the same time learn the Morse Code and spend many happy hours communicating with your friends. With the bust of Morse, and the knowledge of his life you can recreate a great moment in science. Size 9½" x 9½" x 7¾". No. 3104 \$5.95  
2 "D" Batteries required (Not included)

**BELL ... the Telephone**

**BELL: THE TELEPHONE** The Bell Telephone Set has complete instructions and equipment for making a replica of the telephone invented by Bell in 1876. Another feature is a bust of the great inventor which will help give greater meaning to his life as you read it in the manual. The set will provide hours of fun as it demonstrates the principles of sound powered voice transmission through actual two-way communication. Size 9½" x 9½" x 7¾". No. 3105 \$5.95

## FCC revisits essential broadband

In a process which could be long and controversial, the Federal Communications Commission is issuing a "Notice of Proposed Rulemaking" on the matter of open internet regulations.

Known commonly as "net neutrality," the highly complex rules promote the idea that fixed and mobile broadband customers should have unfettered access.

"Now is the time for our rules of the road for internet service providers to reflect the reality that internet access is a necessity for daily life," says FCC Chair Jessica Rosenworcel. "For everyone, everywhere, to enjoy the benefits...the internet needs to be open."

Under current rules, in effect since 2017, broadband providers can make their own decisions on controlling data traffic. The proposed rules would allow the FCC to reclassify broadband access similar to other utilities such as water or electricity. Restoring broadband to its status as an essential

telecommunications would prohibit providers from blocking or restricting traffic while allowing other content producers to pay for the privilege of faster travel.

The rules are controversial because they move the FCC from technical regulation to political and business considerations. USTelecom, the trade group representing big providers, has already criticized the FCC proposal. Those favoring open traffic contend that allowing business to control the data flow could stifle innovation. Large telecommunications companies argue for control of their own resources. Ms. Rosenworcel says she saw the importance of broadband oversight in the dependence on the internet during the coronavirus pandemic.

The Commission will soon begin formally taking comments on the proposal. Then the chair can decide on including comments in a final draft before voting on adoption. The rule could be adopted as early as 2024 but may take longer.



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*Your telephone story is important.*

*If you have a story you'd like to share, an idea for a story, or something you'd like to see, send an e-mail to [telcomhist@aol.com](mailto:telcomhist@aol.com).*

*Put the word Editor in the subject field.*

*Contact THG at [telcomhist.com](http://telcomhist.com) for an advance evaluation if you have documents or artifacts you think might be worth donating to the Telecommunications History Group.*



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