



Bulletin of the Kenton County Historical Society

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January/February

2020



The Kelley-Koett X-Ray Manufacturing Company of Covington, Kentucky: Its Pioneer Years

“Charter Members of the Kelley-Koett X-Ray Benevolent Association” (1914):

Back row left to right: George Stone, Herman Schroer, (unknown), Lawrence Herman,
John Tomy, Herman Anthe, Frank Walsh, Frank Sonderman.

Front row left to right: Harry Ungrue, Henry Huesman, Albert Koett, Oscar O’Connor, Charles Moore,
George E. Geise, Otto Vogel, Larkin O’Connor, (unknown) Ed Ross, Al Wendell and Alec Fischer

The Kelley-Koett X-Ray Manufacturing Company of Covington, Kentucky: Its Pioneer Years

John Boh¹

The Kelley-Koett Manufacturing Company of Covington, Kentucky employed between 600 and 650 persons in manufacturing, and total sales reached \$50 million. These big numbers were reported in May 1948.²

Kelley-Koett had suffered greatly from the Great Depression. President and long-time engineer Wilbur S. Werner died in 1937, still very young in his early 40s. In the very late 1930s, investors centered at First National Bank in Covington took control of majority stock. At the start of World War II, a wealthy Cincinnati dress maker, Phillip Meyers, then acquired controlling interest.

Legendary Kelley-Koett did get much wartime business but both prewar and the new leadership lacked enough finesse with experienced personnel to avoid losing significant wartime opportunities.³ Meyers and associates nevertheless were always aggressive and soon looked to branch out. The Kelley-Koett Manufacturing Company by 1948 was no longer concentrating only on quality X-ray equipment. It was starting new divisions, but they failed.

The Special Products Division was said to lack Underwriters Laboratory (UL) approval for therapeutic and comfort electric heat blankets and similar items. A lot of time and effort was wasted. Post-war drug stores were filled with similar products from experienced makers. Another startup, the American Electric Company, produced a cheaper line of X-ray equipment that probably appealed to veterinarians and chiropractors, but not to hospitals and doctors looking for quality, up-to-date technology.⁴

The Instruments Division (the third attempt at expansion) looked to be the most promising by far. Unlike the others, according to sales executive Frank Temmen, it appealed to the brilliant engineer and

production development manager David Sussin. The Instrument Division in 1948 was around six months old and had the guidance of former associates of the Manhattan Project, Dr. O. G. Landsverk, Leonard E. Rasmussen, Wendell H. Bradley, and Harry Bryant.⁵

The *Cincinnati Post* on October 26, 1950 said that the Instrument Division was working under orders from the Atomic Energy Commission, producing radiation measuring instruments for civilian defense centers. In the future, the division might also be selling to hospitals and elsewhere where radiation contamination might occur. This division also failed, however, possibly losing millions. It was moved from East Sixth Street in Covington to York Street in Cincinnati, where a radium capsule explosion in 1951 caused radiation exposure and legal action that saw its end.⁶ Keleket did manufacture some radiation measuring instruments, many after relocation to the Boston area, like a Keleket Model K-112 Landsverk Pocket Dosimeter.⁷

In 1951, Kelley-Koett (Keleket) was sold to Tracer Lab outside of Boston:⁸ a large nuclear firm on the East Coast.⁹ In 1956, Kelley-Koett discontinued operations in Covington. Some employees had already relocated to the Boston area. The few who went included John Klumpe, Bob Thelen and Gordon Templar, and engineers Spanton Ware and Fred Gripshover. Klumpe soon returned to Covington, working for the Precision Truing, Tool and Manufacturing Company.¹⁰

Fifty Years Ago

For half a century, Kelley-Koett had been a major corporation in Covington, Kentucky. Success had been extraordinary since incorporation in 1905, even with the early deaths of Kelley (1931) and his youthful protégé, Wilbur S. Werner (1937), and with financial hardships from the Great Depression.

Recollections and newspaper reports indicate the general size of the company over the years. A retired worker, William L. O'Connor of Elm Street, Covington, in 1950 recalled that the fledgling company employed only about twelve around 1905, above the Anthe Machine Tool workshop at 407 Madison Avenue (current address).¹¹

Kelley-Koett was manufacturing out of its own new factory building on West Fourth Street by 1915 when it was announced the doubling of floor space and of its work force of fifty.¹² Years later, in 1935, the *Times Star* stated that hundreds of people are employed by the company and a sales force covers the United States.¹³ In 1940 the *Enquirer* claimed that 265 worked at the Covington plant.¹⁴

Edward Ficke, factory production coordinator and production expediter during World War II, gave these numbers in an interview: "In 1936, 125-150 in the Covington factory and office." During the War, and after a backlog of domestic business had to be caught up, two factory shifts and office workers totaled 550. In the years up to 1950, the company had returned to one shift with 325 working in the factory and 75 in the office, and in sales.¹⁵

Industry Overview

Kelley-Koett was a Midwestern company across from Cincinnati. Its main competitors tended to be located at the major northern and eastern cities, such as Milwaukee, Cleveland, New York, Schenectady, and Baltimore. General Electric and Westinghouse were huge corporations with manufacturing divisions making various everyday products. Kelley-Koett and the Picker X-Ray Corporation could claim to be devoted more to X-ray manufacturing, and they had nation-wide marketing networks making them two of the "Big Four."

According to X-ray historian E. R. N. Gregg, Edison's fluoroscopy unit in 1896 made General Electric the oldest X-ray manufacturer. But, Edison very soon discontinued X-ray work when dangers from radiation were realized. Later than Edison, the Waite and Bartlett Company started making X-ray

equipment in New York. The Picker X-ray Manufacturing Company purchased Waite and Bartlett in 1929, making it the Waite Division. Relocated to Cleveland, Picker in 1965 might claim to be the oldest "continuous" X-ray manufacturer.¹⁶

Like the recent digital revolution, ambitious people were attracted to the new X-ray technology: entrepreneurs, experimenters, scientists, persons who chose electrical or other engineering specialties for a career, and doctors who chose radiology as their specialty. Companies were started, many merged, were bought out, or disbanded. Very many sales offices and independent medical suppliers provided even more jobs.

Kelley-Koett was started about a decade after the German, Wilhelm Roentgen discovered the X-ray in November 1895.¹⁷ The new discovery immediately attracted the medical community. In Cincinnati, physicians by March 1896 already were reading about the X-ray in a weekly journal, the *Cincinnati Lancet Clinic*.¹⁸

J. Robert Kelley started the company, aided by a well-schooled German immigrant craftsman, Albert B. Koett. Kelley himself was a self-taught student and experimenter, and a talented and relentless salesman. There would always be plenty of loyal customers.

In its fifty years in Covington, from 1903¹⁹ to 1956, the company eventually claimed a nation-wide network of sales offices and independent medical supply companies for selling and servicing Kelley-Koett X-ray units, and providing medical supplies. Doctors, hospitals, clinics, research labs and medical institutes were among its customers.²⁰

In 1913, the invention of the Coolidge hot cathode tube made possible the continuous emissions of X-rays. Fluoroscopy is x-raying moving parts in real-time for the diagnostician. There is also the familiar x-raying of still images. X-ray therapy for tumors and other conditions very soon was tried over and over.²¹ The X-ray had seemingly unlimited potential for diagnoses and treatment. Widespread street and household electrical supply from municipal power grids was then a few decades old. Medi-

cine was evolving in the expanding world of scientific research and application. Factory manufacturing and field installations were state-of-the-art, laid out and configured according to the doctor's or hospital's floorplan and medical specialty. Kelley-Koett by no means manufactured all the major components, certainly not tubes, the source of X-ray emissions.

The first dental X-ray plate was exposed in April or May 1896, by Charles Edmund Kells, Jr. (1856-1928), a dentist from New Orleans.²² The earliest x-raying involved some primitive hand-held devices and glass plates. Soon came pioneer X-ray tables to lie on or vertical wall screens to stand against, and later, film replacing plates.

As in other X-ray companies, Kelley-Koett mechanical engineers worked on tables for lifting, sliding, rolling, rotating the patient, and to make the doctor's office or hospital space more efficiently utilized. Tube holders might be mounted on a movable tube stand along side the table, overhead from the table, or affixed to the floor, wall, or ceiling.

Engineers worked on improving the mounting of the glass tube for stability and focus from different angles. Controls and intermittent devices like the Bucky diaphragm aimed to filter the X-rays or maximize focus on the target. Modern digital technology now completely streamlines the emission of X-rays and the processing of the image received. Electrical engineers worked on control panels, rectifiers, transformers, safety devices, and increasing the kilowatts for better focus, or for more effective deep therapy involving hundreds of thousands of watts. Electrical and mechanical improvements were intertwined. A claim to an innovation might on occasion be challenged by some known or unknown patent holder.

Grosse Flamme

In 1904, Kelley was a salesman for W. Scheibel and Co., a vendor of medical supplies. Like so many of America's early X-ray pioneers, Wilhelm Scheidel was born in Germany. After Roentgen's announcement, he began to construct X-ray coils before immigrating to America, locating in Chicago in 1890.

Courtesy Barbara Melosh, Ph. D., Curator, National Museum of American History, June 30, 1988



Grosse Flamme, arranged for compact museum exhibit; includes an induction coil, x-ray tube and tube stand

He went into the X-Ray business around 1896. In 1907, Scheidel merged with C. W. Howe's Western X-ray Coil Co. of Chicago. Scheidel merged with other companies in Chicago and Boston before becoming part of General Electric.²³

By 1904 Kelley had found Albert B. Koett, then employed by the Wurlitzer Musical Instruments Company. Kelley and Koett started by building simple accessories, such as a motor driven device for shaking the solution which developed the images on glass plates (before film was introduced); a greatly improved wood tube holder which sold for \$10; and a modified version of an Albers-Schoenberg X-ray compression diaphragm to be used with an adjustable wood table. The partners added electrical appliances to their inventory and then developed Grosse Flame.

In 1904 Albert Koett built the X-ray machine "Grosse Flamme," wrote Dr. Barbara Melosh, Ph. D.,

Curator, Medical Sciences Division National Museum of American History (Smithsonian), who mailed a photo. It "...gave a twelve-inch spark, the largest usable one at that time. The machine includes an induction coil, an X-ray tube and tube stand. Its capacity was 140,000 volts. It was first introduced at the American Roentgen Ray Society meeting at Niagara Falls, New York."

Her letter in 1988 said that it was "...on exhibit in the Medical Sciences Hall, at the National Museum of American History, in a case of early X-ray instruments." A dentist, Dr. C. Edmund Kells (see above) used this Grosse Flamme. He previously had an older X-ray instrument in his office before 1900. Ignorance of the dangers of radiation led to his death.²⁴

The first issue of the *American Quarterly of Roentgenology*, October 1906, carried its claim of "such perfect control that Grosse Flamme may be used for the lightest exposures and for prolonged therapeutic treatments."²⁵ X-ray historian E.R. N. Gregg rated Grosse Flamme as the first of four industry-significant innovations by Kelley Koett. The second one was the company's first constant potential X-ray transformer, dated 1918.²⁶

Permanent Office/Factory

In 1905, stockholders Albert Koett, J. Robert Kelley, pharmacist E. L. Pieck, and banker B. Bramlage, filed articles of incorporation in Covington for the Kelley-Koett Manufacturing Company. The capital stock was placed at \$25,000, and the purpose was described then as to "engage in the manufacture of laboratory supplies."²⁷

Kelley and Koett soon moved to a second-floor building at 407 Madison Avenue, then to its own new factory building on West Fourth Street. Its first substantial office/factory in the 400 block of Madison Avenue was in a building recently built, and apparently still occupied, by the Anthe Machine Tool Company. It had an elevator to the second-floor space where Kelley-Koett became a tenant.

J. Robert Kelly was never short of pamphlets or words. Very early, "Bulletin No. 16, Apparatus for Correct Radiology," contained a summary of company strategy: quality products, based on good materials,

workmanship, and thorough testing; low prices through timely purchases of raw materials, parts, accessories and concessions (lower taxes?) from the city; and convenience just across the river from Cincinnati. Kelley bragged: "electric power exclusively; our coil winding machines are all specially designed and manufactured exclusively for us; skilled electricians from abroad; as well as competent American workmen."²⁸

At the recent site of the US Internal Revenue Service complex, Kelley-Koett in 1911 purchased lots with fifty-five-feet of frontage on the north side of West Fourth Street, between Russell and Johnston streets, for \$12,000 and other considerations. In 1914, Kelley-Koett made additional purchases of adjoining lots, giving the company about 160-feet of frontage fitting between two north-south alleys, and 250-feet extending northward from West Fourth to an east-west alley in the rear.²⁹ The company had to expand and double its current workforce of fifty.³⁰ Before the U. S. entered World War I, the *Kentucky Post* claimed that the company was shipping "large consignments nationwide and to England, Germany, and the Bermudas."

The newspaper described the office/factory: *After entering the modern one-story light filled plant with the beautiful closely cut grass lawn in the front, you are confronted by the up-to-date office. Going through you will find the testing and demonstrating room where perspective purchasers, as well as curiosity seekers, inquisitive persons and students are shown the merits of the Covington-made X-ray machine, which is used exclusively by such institutions as the great Mayo Clinic, Rochester, Minn., where 35 rooms are devoted to X-ray work and nothing but K-K goods go.*³¹

Another expansion was announced on November 15, 1916. Due to increasing demand, the company had hired architect B. T. Wisenall of Covington, to draw plans for adding a second story and for constructing several individual buildings.³²

Kelley and Koett

J. Robert Kelley (1871-1931) was born in Thessalia, Giles County, Virginia, the son of a Confederate veteran, and the grandson of a slave-owner.

This family of well-to-do Scots-Irish business and farm people were local pioneers. Known as “Bob,” “Doc,” or “Colonel,” he would die most probably from X-ray exposure. Kelley discounted the “Doc” title, citing a lack of formal training. Yet, he always talked about technical details at meetings and conventions. According to electrical engineer, D. J. Reynolds, he “knew what he was talking about.”³⁴ Koett was the schooled craftsman; Kelley the aggressive tinkerer, developer and promoter who involved his body in product development.

A pamphlet “Developments of the X-ray” dated 1924 bragged of the child’s precocity that foretold leadership: As a boy he studied electricity in schools he attended. He studied telegraphy and soon had many miles of wire strung... with more than a dozen amateur telegraph offices, watched over by playmates.

The ever-on-the-go Kelley seems to have started his career in the retail shoe business and owned a store in Huntington, West Virginia. Always seemingly rootless, he managed a shoe store in Butte, Montana, and managed a Boston shoe factory about

1889. In Boston, the new X-ray discovery got his attention. He represented a medical supplier in New York, and the Scheidel company in Cincinnati. Dreaming to out-do Scheidel, he luckily found Albert Koett.³³

In 1914, Kelley, the great booster, participated in Covington’s Centennial anniversary celebration. He was chairman of the Automobile Parade Committee, and was already a leading spokesman for civic interests. He supported the World War I mobilization and subsequent military draft, and the recruiting and fundraising. Despite his partnership with Koett and reliance on German workers, he, ironically, was a charter member in the Citizens Patriotic League, which persecuted local Germans for an alleged lack of commitment to the War.³⁵

Albert B. Koett (1863-1951) was born in Saachen Weimar, the son of a professor of music. He would die in Herlong, California, at the home of his daughter, at the age of 88. *Developments of the X-Ray* (1924) glanced at his preparatory education. It was “a very thorough technical training.”



Courtesy the author

Using electrical devices that he assembled by himself, he played pranks by shocking fellow students. He apprenticed with craftsmen while furthering his training in night school. He spent a year traveling, working in France, Spain and Italy.

Arriving in America at the age of 21, Koett worked on churches, cathedrals, and public auditoriums. Koett came to Cincinnati about 1884, where he ended up with the Wurlitzer Musical Instrument Company. He was often called a cabinet maker, but with skills as a sculptor, engraver, and wood carver, and of course an electrical technician.³⁶

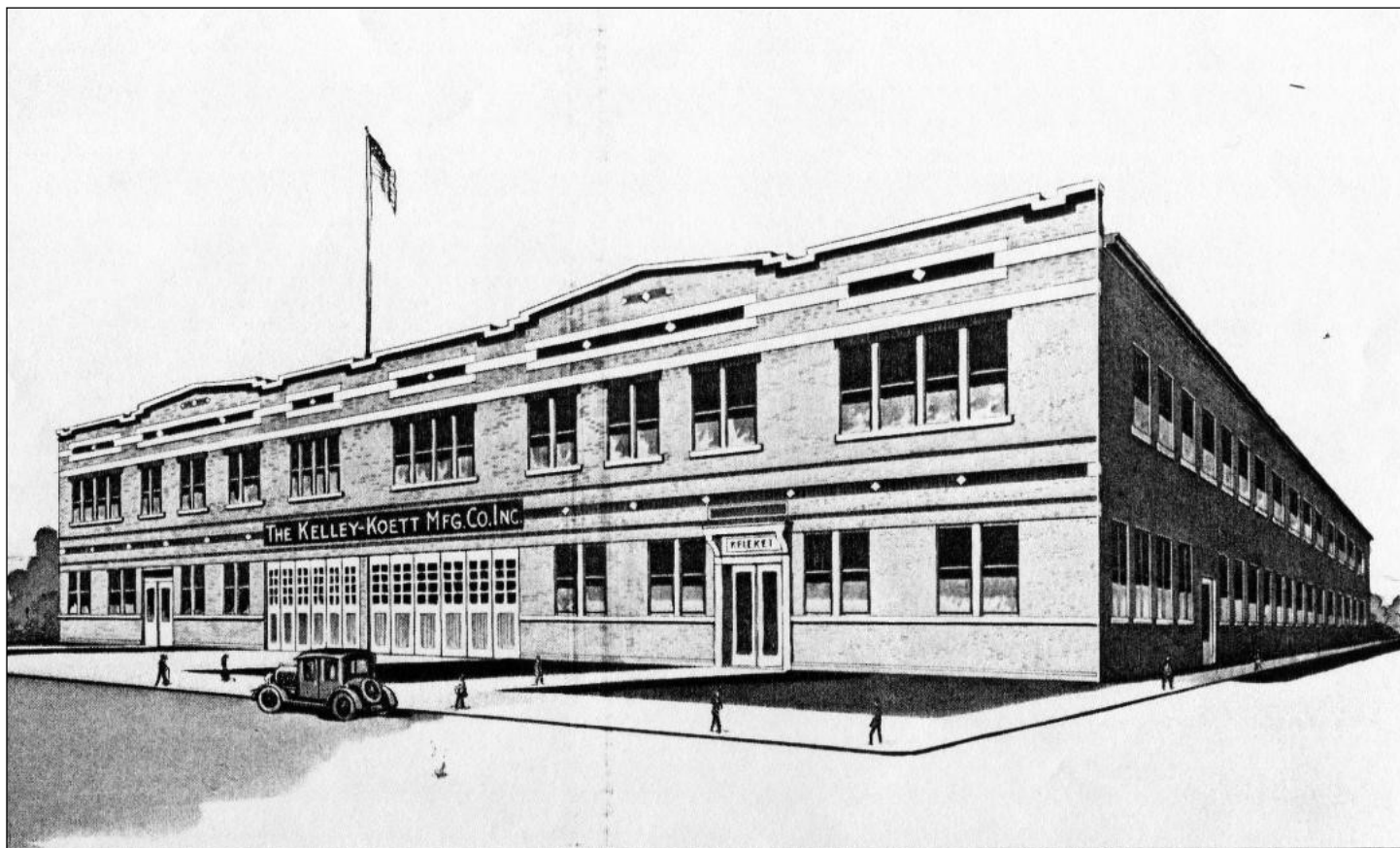
Technology and Products

Kelley-Koett pamphlets, bulletins, and catalogues indicate that an X-ray setup in an office or hospital had very, very many parts, with many optional items for the customer to choose from. Like early

computers, early X-ray equipment was cumbersome. Tube holders, plate and film cassettes, and table mechanics were being improved by Kelley-Koett and competitors.

Boasts about “firsts” did not preclude borrowing and building from the ideas of competitors. An innovation occasionally would constitute a big step for the industry like Bucky’s anti-scatter diaphragm or the oil immersion of transformers. As the industry moved from the pioneer era, the biggest innovation of all, the Coolidge hot cathode tube, came from a most prominent source, the General Electric Laboratory.

Some 75 items were listed in a 39-page Kelley-Koett catalogue price list dated November 1916. One page listed both general and technical “don'ts” in clinic-like wording (like contemporary disclaimers inserted in packages containing new purchases). For these potentially lethal electrical units, lengthy-written in-



General Offices and Factory

THE KELLEY-KOETT MANUFACTURING COMPANY, INC.
COVINGTON, KENTUCKY

structions for every step of setting up and operation were included, accompanied by elaborate wiring diagrams and pictures of all the products.

The prices for eight interrupter-less transformers, which were all oil immersed for safety, ranged from \$750 to \$1,650, and from four to fifteen kilowatts. Four models were for alternating and four for direct current. Listed were tube stands, treatment cones, tube holders, plate changers, a horizontal automatic plate changing table, a vertical plate change table, a combination table, metal cassettes, and many accessories like the self-locking revolving stand for rotating the patient while standing in front of a fluoroscopic screen. The catalogue presented options for static X-rays, as well as in-real-time fluoroscopy and therapy.³⁷

World War I Expansion

Kelley became a promoter of his company, the city of Covington and Northern Kentucky, and of state tourism. On April 16, 1916, the *Kentucky Post* reported that Kelley had hosted a dinner for Dr. R. D. Carman from the famous Mayo Clinic at the Covington Industrial Club, northwest corner of Eighth and Madison. Kelley had established an early relationship with Mayo which benefitted Kelley-Koett greatly, from the pioneer period in radiology until long past Kelley's death.³⁸

Engineer Walter Haupt recalled that the two parties seemed to have an understanding: Kelley-Koett would sell at cost to Mayo, machines made from Mayo's specifications. Then, the company could market the innovation without paying new building royalties.³⁹ The *Kentucky Post* in January 1915 boasted that Kelley-Koett had donated \$1,000 worth of equipment to St. Elizabeth Hospital, which had just dedicated its great new facility on East Twenty-first Street.⁴⁰

Richard Perkins Kinchloe, a Covington native and U.C. engineering graduate (1907), started with Kelley-Koett in 1914. Encouraged by Kelley, he very soon developed a generator with auto transformer

control especially for the Coolidge Hot Cathode Tube.⁴¹ Kelley-Koett would now use Coolidge tubes, not pioneer-era gas types.⁴² Kelley's and Kinchloe's joint efforts seemed to lead neatly into 1917, when the United States was mobilizing for war.

Germany invaded France through Belgium in August 1914. European nations were at war. The U. S. policy was one of neutrality, even tolerating constant German provocations, including the sinking the British liner *Lusitania* in May 1915 that killed hundreds of civilians, including over 100 American citizens.

The U. S finally declared war on Germany in April, 1917, embarking on a huge and swift mobilization. Only 14,000 U. S. soldiers had reached France by June 1917, one million by May 1918. National mobilization was to involve all citizens on the home front, churches, schools, many civic organizations, banks, businesses, and medical services.⁴³

A local newspaper in May reported that a commission of experts was coming to Covington. Dr. Lewis Cole, a pioneer radiologist and President of the American Roentgen Ray Society; Dr. George C. Johnston, medical advisor for the army; and Professor J. S. Shearer, Department of Physics, Cornell University, were to stay in town for a couple of days. Shearer would return from time-to-time for further consultation.

The Army wanted improved X-ray equipment for ambulance service in France and Belgium, and for base hospitals. According to *Radiology in World War II* (Department of the Army, 1966), Shearer, Johnston, and Kelley-Koett envisioned a fluoroscopic table which could view a wound, then fold up within three minutes to reach the next casualty.⁴⁴

William David Coolidge, at the G. E. laboratory, developed the seminal Coolidge tube in 1913. Patented in 1916 for Coolidge and General Electric, it was a central element in X-ray advancement.⁴⁵ For the military, he altered a Delco engine for use as a portable generator. He refined a compact, air-cooled

tube. The Army issue included generator, transformer, Coolidge control, and Coolidge tube. The mobile unit would be loaded onto an ambulance truck.

Dr. James A. Ryan, a Covington surgeon who had done X-ray work at St. Elizabeth Hospital, announced that the Cincinnati-based hospital to which he belonged had ordered \$7,000 worth of equipment from Kelley-Koett for complete outfitting, and that his unit expected to be called shortly to active service.⁴⁷

Wilfred Geisen of Covington remembered when he worked briefly for Kelley-Koett during the war period. He started out at about \$9.00 per week, but negotiated up to \$16.00 (\$18, 00 for overtime). However, being newly married and convinced that he was underpaid, he soon left. While there, he worked eight-hour shifts plus one-half a day on Saturday in a

big room with 25 other men gathered around work tables. His assignment was to line oak boxes with lead sheets.⁴⁸

The Army needed X-ray units for induction camps, hospitals, and battlefield medical rescue. The company's 1924 special profile "Developments of the X-ray," noted that besides the Standard United States Army Table, the government also purchased "No. 6 Radiographic Tube Stands, transformers, plate changers, cassettes, cones, etc., and all were purchased in great quantities."⁴⁹

Another company, however, apparently surpassed Kelley-Koett in supplying the U. S. military. Waite and Bartlett Co. of New York, had started manufacturing the first "stock" X-ray equipment with Coolidge hot cathode tubes. In World War II, of all the Big Four, the "Waite Division" of the Picker X-ray Corporation would also be the major supplier.⁵⁰ Engineer D. J. Reynolds recalled seeing little of Kelley-Koett in World War I surplus offerings.⁵¹

The army did buy units and accessories. However, it never did make "the one big order." With no promises or contracts, patriotic Kelley nevertheless ordered war production to continue. It was claimed that eighty-three percent of production had been for the war effort. This did not mean just the standard table, as the company was also a supplier of X-ray accessories for the world-wide war. Kelley claimed that his company paid \$93,000 in World War I excess profits taxes. The company had little trouble selling the left-over tables from war production in the civilian market.⁵³

KELEKET Quality

Plate No. A-366

Type "I" Table Complete

Consisting of the following units:

No. 366—Type "I" Standard Base Table.....	\$170.00
No. 367—Stereoscopic Plate Changing Slide.....	15.00
No. 368—Opaque Tube Box with Diaphragm and High-Tension Terminals.....	170.00
No. 369—Counter-Weighted Tube Stand with end brackets and supporting rails in ball-bearing combination.....	300.00
No. 370—Adjustable Vertical Plate Holder for chest and stomach work.....	30.00
No. 371—Swivel Head Rest with tunnel and plate slides.....	30.00
No. 367—Hickey Universal Cone.....	18.00
No. 312—No. 2 Nozzle and Semisphere.....	14.75
No. 339—Two 17x17 Kassettes.....	32.00

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Endnotes

1. Research originally done circa 1988-99
2. Dick Marshall, "Covington Firm One of World's Big Four In Manufacture of Medical Equipment," C. E., May 22, 1948
3. Walter Haupt, Mechanical Engineer, a written recollection of his employment starting in 1936 (about 66 pp. with illustrations)
4. Marshall, cited above; interview, Walter Haupt and Edward Ficke, 1989, by John Boh
5. Interview, Frank Temmen, by John Boh, 1989
6. C. P., Oct. 26, 1950; "Radium Capsule Pops!" C. E., July 25, 1951
7. A device for measuring an absorbed dose of ionizing radiation; Marshall, cited above; <https://www.orau.org/ptp/collection/dosimeters/landverk4951.htm>
8. Interview, Nancy Knight, American College of Radiology, 1989 by John Boh
9. "The largest nuclear firm" to quote E. R.N. Grigg, M. D., *The Trail of the Invisible Light, From X-Strahlen to Radio(bio)logy*, Springfield, Illinois, 1965 (974 pages)

Kentucky Trivia

A new, ongoing feature from Michael Crisp's

"The Best Kentucky Trivia Book Ever," available at
bookstores or at michaelcrisponline.com

This issue features

Higher Learning – Public Universities

Questions

1. What Kentucky university is the oldest west of the Allegheny Mountains?
2. What Kentucky college was the first integrated in the South?
3. What campus features the Hummel Planetarium?
4. What was originally called the Normal School For Colored Persons when it was chartered in 1886?
5. What television game show host is an alumnus of Morehead State University?
6. What team's mascot name is the "Racers?"
7. What university features the Salmon P. Chase College of Law?
8. "Stand Up and Cheer" is the fight song for what Kentucky university?
9. What university features Blazer Hall, William T. Young Library, and the Singletary Center for the Arts?
10. What Kentucky university's college of medicine was instrumental in the first self-contained heart transplant surgery?

Answers

1. Transylvania University, founded in 1780
2. Berea College, which accepted both black and white students since its inception in 1855
3. Eastern Kentucky University, Richmond
4. Kentucky State University, Frankfort
5. Chuck Woolery
6. Murray University (Their baseball team is the Thoroughbreds)
7. Northern Kentucky University
8. Western University, Bowling Green
9. The University of Kentucky
10. The University of Louisville

10. Interview, Ray Bergelt, by John Boh, 1989
11. Richard L. Gordon, "Old 'X'-Ray Machine on Display Here," 1950 (complete citation not found)
12. "Where Electricity is King, Covington's Unusual Plant," K. P., Jan. 4, 1915, p. 3
13. C. T. S., May 3, 1935
14. C. E., April 20, 1940
15. A couple years after the war the AFL-CIO Steel Workers Union affiliate replaced the company union. Then later the office was unionized. - Interview, Edward M. Ficke, by John Boh, 1989
16. E. R. N., Grigg, cited above
17. Wilhelm Roentgen won the first Nobel Prize in physics in 1901 - Wikipedia: "Wilhelm Roentgen"
18. Stanley Lucas, M. D., "Cincinnati Radiological Heritage....," *Ohio State Medical Journal*, October, 1967
19. "Developments of the X-ray," a company printed profile, 1924, author unknown, (74 pp.)
20. Obituaries of Kelley and Koett; "Developments of the X-ray," cited above
21. Wikipedia: "X-ray"
22. Grigg, cited above
23. Grigg, cited above
24. Letter accompanied by a photo from Barbara Melosh, Ph. D., Curator, 25. Medical Sciences Division, National Museum of American History (Smithsonian), June 30, 1988
25. Lucas, cited above
26. E. R.N. Gregg, cited above
27. "New Company Incorporated," K. P., June 13, 1905, p. 2
28. "Bulletin No. 16, Apparatus for Correct Radiology," undated; Developments of the X-Ray, cited above
29. Deed book 141, Kenton County Courthouse, p. 38; deed book 152, p. 592
30. "Will Enlarge Plant," K. P., March 14, 1914
31. "Where Electricity in King, Covington's Unusual Plant," cited above
32. "X-Ray Shop to Enlarge," K. P., Nov, 15, 1916
33. Interview, D. J. Reynolds, by John Boh, 1989
34. Cincinnati Street Directory, 1902, 1904
35. "Pioneer X-Ray Builder Dies; J. Robert Kelley is Victim of Cancer From Old Burns," C. E., Kentucky edition, April 24, 1931, pp. 1, 2; "Final Gavel Descends For 'Bob Kelley,' Was Widely Known Civic and Business Leader, Famed in X-Ray Field, Death Ends Long and Anxious Waiting," C. E., Kentucky Edition, April 24, 1931, pp. 1, 10; "Governor, Heads State Notables To Attend Funeral Services for J. Robert Kelley, Telegrams from Far and Wide Tell of Friends' Grief At Passing of Manufacturer," C. E., Kentucky Edition, April 25, 1931, p.1; Developments of the X-ray, cited above
36. William E. Connelly and E. M. Coulter, *History of Kentucky* vol. IV, Chicago, The American Historical Society, 1922
37. "Catalogue No. 24, Keleket X-ray Apparatus," Nov. 1916
38. K.P., April 16, 1916; Grigg, cited above
39. Walter H. Haupt, interview by John Boh, June 1, 1989
40. K.P., Jan. 4, 1915
41. E. R. N. Grigg, cited above
42. According to Richard Kincheloe, Jr., his father was granted a patent, phone call, 1989
43. John Boh, "WWI, the 'Great War' In Covington and Vicinity," Bulletin of the Kenton County Historical Society, November/December, 2017
44. K. P., May 12, 1917; *Radiology in World War II* (Department of the Army, 1966)
45. Wikipedia: "William D. Coolidge"
46. Alvin Poweleit, M. D., *Bicentennial Physicians*, 1977
47. K. P., June 2, 1917
48. Wilfred Geisen, interview by John Boh, 1988
49. "Developments of the X-ray," cited above
50. Grigg, cited above
51. Interview, D. J. Reynolds, cited above
52. Grigg, cited above
53. J. Robert Kelley obituaries and Grigg both cited above

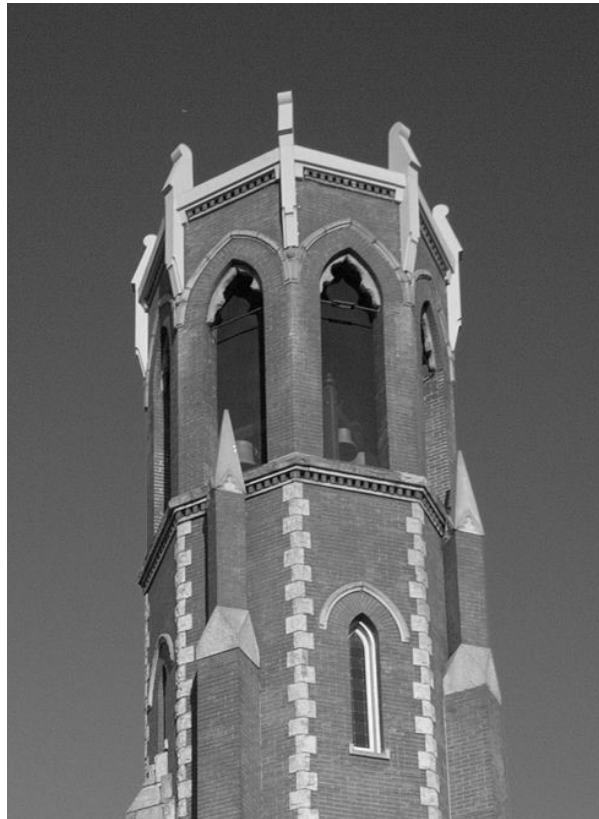
Then and Now



Left: Turfway Park racetrack in Florence, KY.
Right: Proposed new construction for 2020 after the purchase of the property by Churchill Downs.
Left image courtesy Turfway Park, right image courtesy Churchill Downs, Inc.

Mystery Photo

Can you identify the Mystery Photo? The answer is found below.



Answer:

Bell tower of Trinity Episcopal Church, Madison Avenue, Covington.

Kenton County Historical Society

January/February 2020

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Published bi-monthly by

The Kenton County Historical Society
Yearly membership, including the Bulletin, \$20.00

President..... Robert Webster
Vice-President..... Karl Lietzenmayer
Treasurer..... W. Terry Averbeck
Secretary..... John H. Boh

Board Members: Travis Brown, Elaine Kuhn, Robert Rich, Eric Robinson, Arnold Taylor, and Joe Weber

Dennis Harrell and Jeanine Lange
Ex-officio

I Bet You Didn't Know

*Tidbits from Kentucky's heritage
for every day of the calendar year*

January 8, 1815: Gen. Andrew Jackson and 5,500 Kentuckians defeated the British in the Battle of New Orleans.

January 19, 1786: Act was passed by Virginia favoring separation of Kentucky as an independent state.

January 22, 1813: More than 400 Kentucky volunteers were killed by British and Indians at the battle of River Raisin.

January 28, 1963: The coldest temperature ever recorded in Kentucky was 34 degrees below zero at Cynthiana.

December 31, 1900: William Goebel was sworn in as governor on his deathbed. He lived only five days after taking the oath of office.

From: *On This Day In Kentucky*, by Robert Powell

Programs and Notices

Kenton County Historical Society

February 1, 2020 -- Stan Bowman Documentary: A movie documentary on race-car driver Stan Bowman will be presented by John M. Lucas on February 1, 2020, at 1:00 p.m., in the meeting room of the Covington Branch of the Kenton County Public Library. Lucas has been a member of the Indianapolis Motor Speedway Safety Organization and has worked the Indianapolis 500 and the Brickyard 400 races.

Auto racer Stan Bowman was a native of Covington, Kentucky, and his career looked quite promising until, while warming up in 1962, the front axel of his car broke, causing his front end to dig into the dirt track. His car began to flip violently end-over-end into and over the guardrail, landing outside the track in a fence.

While today's drivers are secured by all kinds of safety devices and drive in a cocoon of protection, Bowman and his counterparts risked their lives every race due to minimal safety protection. Bowman won local races and advanced to Sprint Car, where he raced against fellow drivers who, like himself, might qualify for the Indianapolis 500. An eight-page article titled "The Bravest of the All: The Legend of Stan Bowman" was featured in *Northern Kentucky Heritage* magazine in the Spring/Summer, 2010 issue.

March 14, 2020 -- 27th annual Northern Kentucky Regional History Day: will be held at the Erlanger Branch of the Kenton County Public Library, from 8:00 a.m. to 2:00 p.m. The day will include an opening speaker, nine workshops, and local history/heritage organizations displaying their publications and activities. More information and full schedule will following in our next issue. Tickets may be purchased at our website, shown on the front page.

Fourth Tuesday of Each Month — KCHS Board: meets the fourth Tuesday of each month (skipping December). Members are invited to attend. The board discusses finances; social media and website publicity; events; special projects, such as historical highway markers and G.I.S. mapping; books and maps; and more.

Behringer-Crawford Museum

Holiday Toy Trains: This has been the **28th year for BCM's Holiday Toy Trains** display with its 250 feet of track and more than 30 guest-activated displays. Guests also enjoy the Dickens' Village and *Wahoo's Winter Wonderland*, a kid-size, animated exhibit based on the children's book by Kenton Hills author Diana Grady, "The Holiday Adventures of Wiley Wahoo & Me.

Holiday Traditions @ BCM, which is sponsored by Central Bank, will be on display **until Sunday, January 5, 2020**. Behringer-Crawford Museum is located at 1600 Montague Road-Devou Park, Covington, KY 41011. The exhibits are free for museum members. For non-members, they are included with paid admission: \$9 for adults, \$8 for seniors 60+ and \$5 for children. Wednesdays are Grandparent's Days: one grandchild admitted free with each paying grandparent. Parking is free.

For more information, call 859-491-4003 or go to www.bcmuseum.org.