

Dentist Inventor Scientist

By Ida D. Jeffries

FORTY years ago, he was hailed nationally as a hero—a pioneer in the field of X-ray dentistry and the developer of many devices which are now standard equipment in modern dental offices. Today, only a few persons living in New Orleans remember him, and C. Edmund Kells Jr. is almost forgotten, like a prophet without honor in his own city.

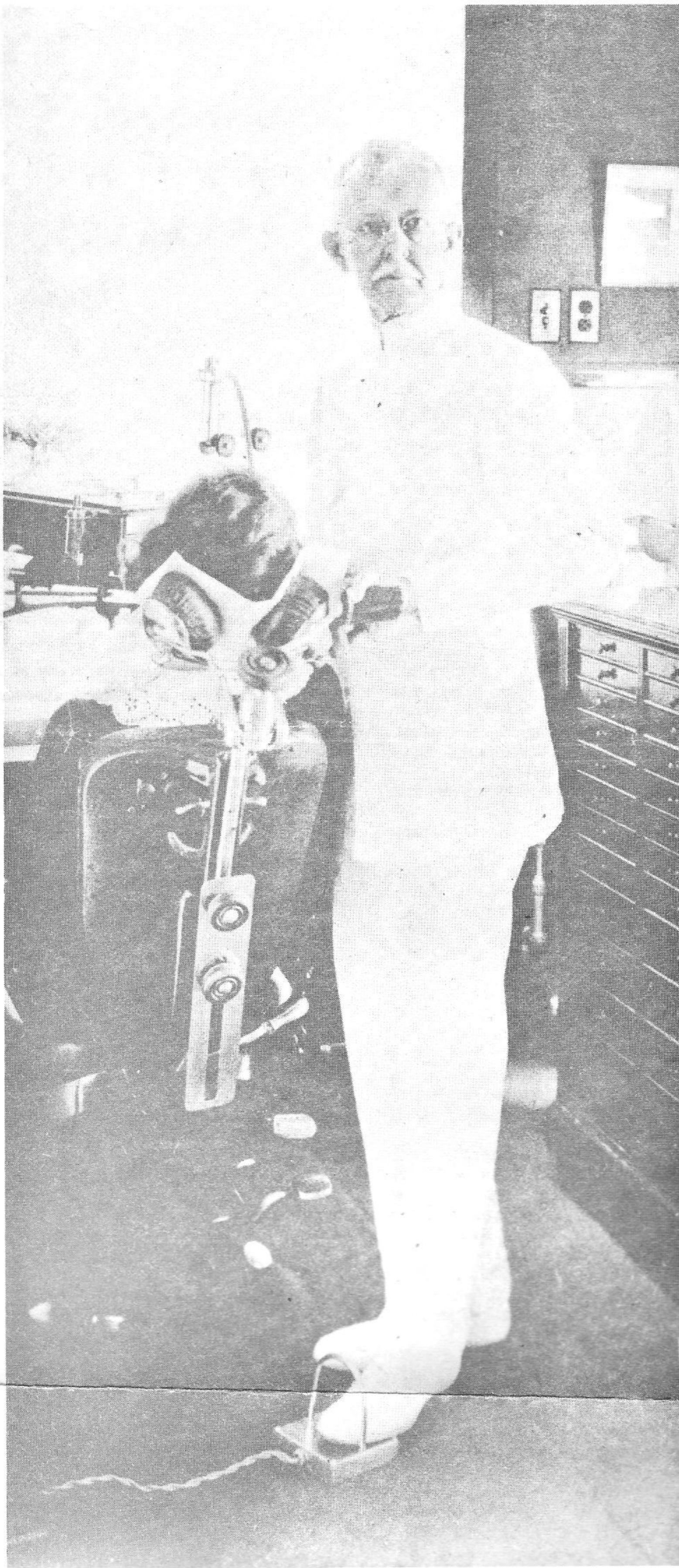
Kells was born in 1856 in a house on Canal Street near where the Boston Club now stands. He grew up tall, spindly. Even in manhood, his frail appearance would belie the fact that he was constantly at work—both mind and body energetically pursuing the wondrous scientific discoveries of his day.

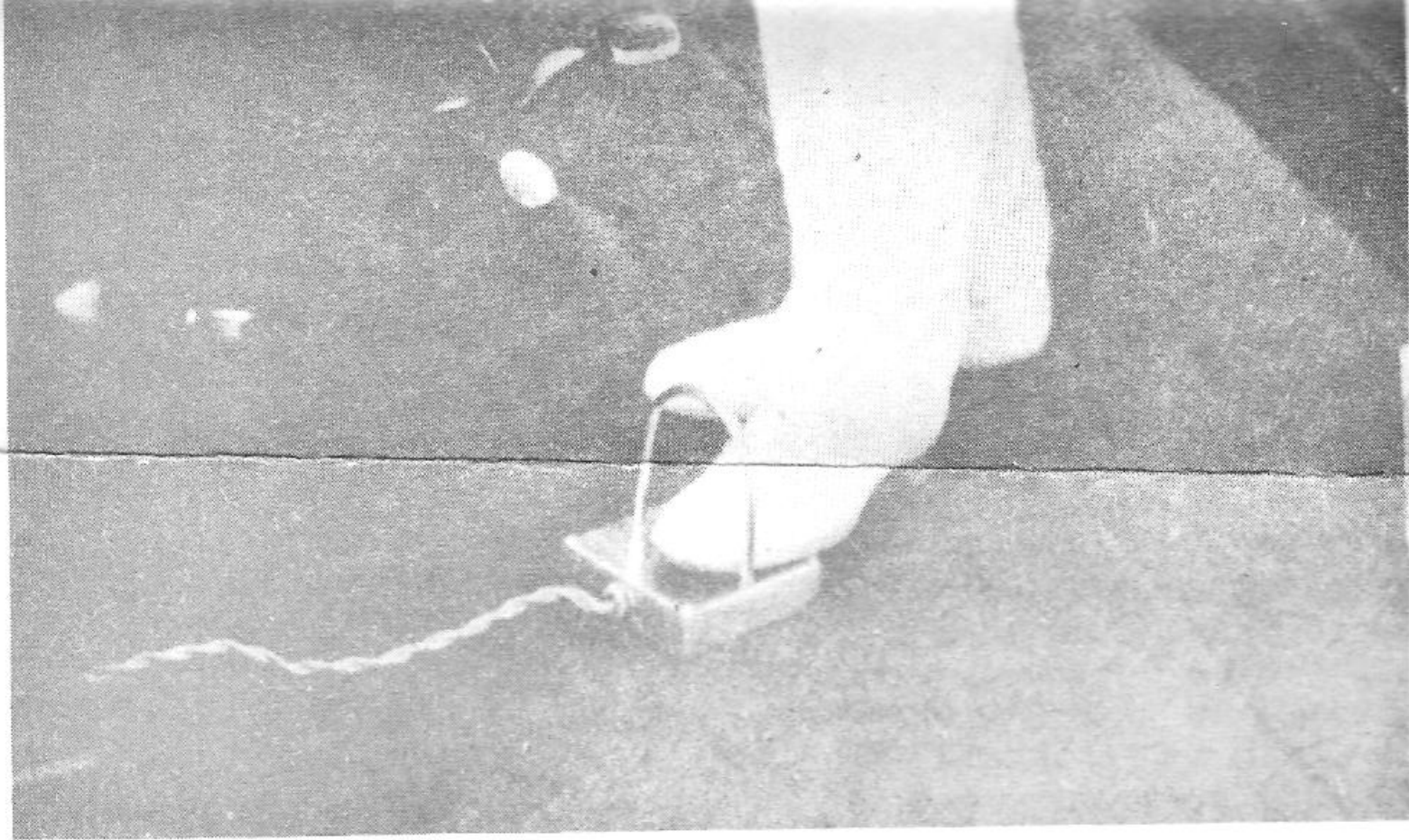
At 18, young Kells entered the office of his father, a practicing New Orleans dentist—perhaps to see what the profession was all about. Liking what he saw, Kells enrolled in the New Orleans Dental College, then attended New York College of Dentistry. When he returned home in 1878, however, it was with more than just a dental education. Frequent visits to the Edison laboratory in Menlo Park had fired an interest in the uses of electricity, so much so that by the turn of the century, the young dentist had patented dozens of inventions including an electric thermostat, fire extinguisher, burglar alarm and electromagnetic clock and engine.

Dr. M. B. Varnado, who began practicing with Kells in 1918, recalls visiting him at home and seeing his electromagnetic clock. "It would trigger the opening of the door downstairs, even the running of warm bath water at an appointed hour."

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Dr. C. Edmund Kells Jr., one of the outstanding pioneers in field of X-ray dentistry, is shown in his office in 1920s.

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A progressive thinker in business, too, Kells instituted a system of monthly settlements of all accounts, installed young women in his office for both secretarial and dental assistant chores—all innovations for Southern dental offices in the early 1890s.

Midway in his career, Kells' genius was especially inspired by an event in

Germany in 1895, the discovery of the Roentgen ray. Because dentistry was still in the age of feel and poke, Kells saw wondrous possibilities for exposing the roots of teeth with this X-ray. Immediately after a demonstration of the X-ray in New Orleans by Tulane's Professor Brown Ayres, he set up his own laboratory in the attic of his home. In a maze of wires, coils and tubes, he X-rayed one of his assistants.

Kells described the scene: "The patient was seated in a chair with the film holder in position. With the teeth held together and the mouth closed, she could swallow without causing any movement of the film. With the face leaning against a firmly fixed thin board in order to steady her, the tube was placed on the other side of the board. Thus, I unknowingly used a filter, which possibly prevented my patient from being burned during the long exposure."

By July, 1896, Kells felt experienced enough in the use of the X-ray to bring his equipment to the Southern Dental Association meeting in Asheville, N.C. The demonstration clinic he held, taking X-rays of the roots of teeth, is generally acknowledged the first of its kind in this country.

As extravagant claims were made for the X-ray, physicians around the country began using it as treatment for anything from mole to cancer removal. Before 1900, some of these men had become early martyrs of prolonged exposure to X-rays. During these early pioneer years in X-ray work, Kells had used his bare hands for setting the tube. By 1908, the cumulative effect of these short exposures were manifested in malignant growths on the dentist's fingers, hands. During the next 20 years, he suffered incredible pain and underwent a series of 35 operations and amputations for removal of cancerous growths.

All the while his disease progressed, Kells continued his practice. When an arm was amputated to the shoulder, Kells, outwardly unruffled, devised dental tools he could use effectively with one hand.

HE kept traveling, attending dental clinics and meetings, giving highly regarded speeches. He also found time to write. He authored three chapters in "Johnson's Textbook On Operative Dentistry," a standard dental text, two volumes of his own, "The Dentist's Own Book" and "Three Score Years and Nine," and contributed over 150 original articles for publication in leading dental journals.

No one argued the prolificacy of Kells' writing, but some contemporaries questioned the content. Kells' crusade for the use of X-ray by all dentists went unheeded for decades. Even though the X-ray's beneficial aids were well known by 1916, relatively few dentists used it in their daily work. It was not until the 1920s that the X-ray was thoroughly incorporated into the practice of dentistry, something Kells had been doing and ad-

Kells also saw to the preservation of natural teeth by using small fillings whenever possible. The standardized cavity preparation in the late 19th and early 20th Centuries called for sacrifice of good, solid tooth structure for the transformation of small cavities into larger holes that were easier to fill. Kells went about solving the problem of small cavity fillings by devising the proper tools and filling preparations for them. His procedures are described in his final book, "The Conservation of the Natural Teeth," written in late 1927 and early 1928—when the author spent more time in than out of hospitals.

Then, on Monday evening, May 7, 1928, the New Orleans Item's bold black headline screamed, "Dr. C. E. Kells Commits Suicide." In New York City, doctors had told the famed dentist no hope remained. His left arm gone, his right hand deteriorating, Kells ended his life at his dental office. Like other X-ray victims, he was held martyr to science.

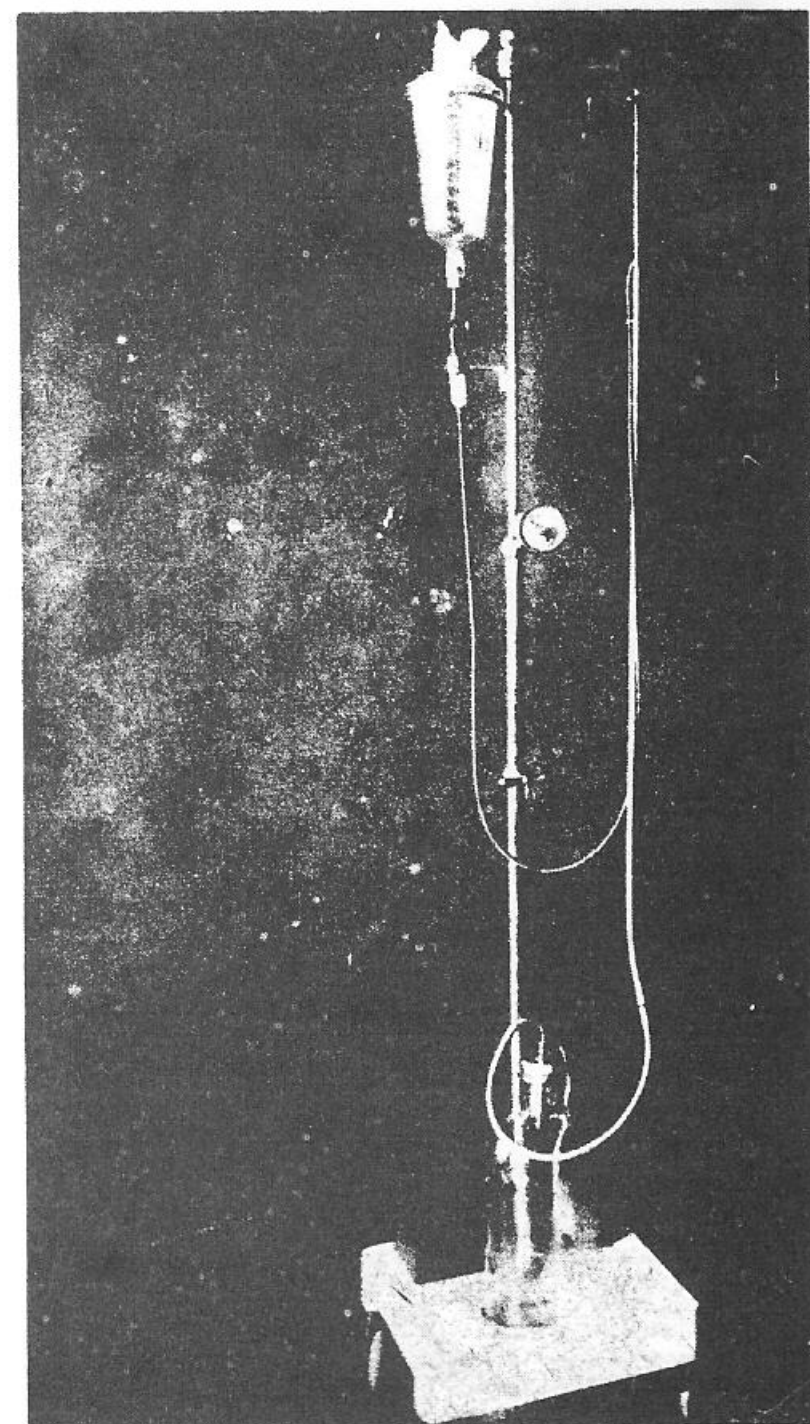
BEFORE his death, Kells earned the highest honors bestowed on anyone in his profession, the Jarvie Fellowship of the American Dental Association. Tulane honored him with a Doctor of Laws and founded in his honor the C. Edmund Kells Memorial Library and Museum. The nucleus of the library was the sandy-mustached dentist's private library, objects of mechanical interest, models of dental inventions and many of his early X-ray devices.

"I arranged to send much of that equipment to the Smithsonian Institution in the 1950s," says Varnado, explaining how he found it stashed away, neglected, in a storeroom under Tulane Stadium. Today, some of the Kells' collection, including pioneering dental X-ray tubes, are on public display in the northwest wing on the first floor of the Museum of History and Technology, Smithsonian, in Washington, D.C. The purpose of the display in which the Kells' items appear is "to explain through instrumentation and artifacts some phases of man's ingenuity and professional efficiency in tackling health problems," writes Sami Hamarneh, curator, Division of Medical Sciences.

But, for the man who proclaimed "the progressive dentist must be constantly imbued with a spirit of constructive discontent," the most pleasing memorial is a local, monthly dental study group proudly bearing his name.

"We named it the C. Edmund Kells Study Group," says L. C. Sansovich, D.D.S., a member, "because of his high ideals in dentistry."

Dr. Sansovich explained the group's composed of 14 active New Orleans members and one out-of-town associate member. "Often, we invite a guest clinician from whom we feel we may learn something," he says, "and twice a year we sponsor out-of-state clinicians to give a two-day seminar." All members of the C. Edmund Kells Study Group also belong to the Academy of General Dentistry which requires its members to com-



Aspirating machine invented by Kells was first used at Touro; hailed nationally as a boon to dentistry, all medical sciences.

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Kells also went against the majority of his colleagues by calling for "the preservation of every tooth, whether vital or pulpless, just as long as it can be made to function properly and is not a menace to the patient's health." While dentists across the country (even at the famed Mayo Clinic) were dealing in the wholesale pulling of good pulpless teeth, Kells advocated the treatment of abscesses and root canals. He utilized to its fullest extent the X-ray in checking up on these treatments.

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