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## Tinkering with medical history



It was an ordinary enough night when Helen Collison-London '45 was thunderstruck by an idea.

She had been out to dinner with her sister's grandson and they were finishing the evening with a trip to the bookstore.

They browsed separately before he called her over to look at a photo of a car he wanted to buy. The book was a reflection of 100 years of the automobile.

Helen started to make agreeable noises when a name jumped out at her — Charles Kettering.

In a flash, she recalled how his inventions — including the electrical starter — changed history. He was from Dayton, Ohio. Just like the Wright brothers who invented the first airplane. Just like her father whose surgical engineering inventions made it possible to save lives.

She knew her father's story needed to be told. She, with assistance from her brother Gilbert and sister Jane, became his biographer.

“From that moment on, I did nothing but write this book,” she says.

Her father, John Collison, lost his mother at the age of 9 and was sent off to live with relatives. He only received a second-grade education, but that didn't stop him from quickly absorbing the mechanical skills at various jobs that later led to his engineering skills.

By the time Helen had graduated from Woman's College, her father had patented the fluid gasoline gauge (1917) and an auto instrument board (ie, dashboard) (1920). By the 1940s the family had moved from Ohio to Greensboro and Collison had moved from cars to lawn irrigation.

A business trip to Louisville, Ky., to talk about the irrigation needs of Churchill Downs led to the next step in his career — orthopaedic engineering.

He was introduced to Dr. Herbert Haynes, who wanted Collison to improve the “pins” that were used to set fractured bones. “Nobody stopped to ask why pins were being forced into live bone,” Helen says. “It caused the death of cells and the doctors would have to amputate anyway.”

Collison took Haynes' pins back to Greensboro and hand filed the first thread in each to a razor's edge.

“He wanted to cut cells, not crush them,” Helen says.

The pins held throughout the healing process.

“Although at this time he was entering the field of bone surgery and hip replacement surgery in its infancy, he soon became known as the surgical engineer who revolutionized the field,” Helen writes in the book.

Collison took a six-week anatomy course at Bowman Gray in Winston-Salem and later used that knowledge to create the trochanteric plate for bone surgery and finally the Collison trochanteric hip prosthesis plate and artificial femoral head. In other words, he made it possible to put in a human hip prosthesis that functioned correctly. No longer was a broken hip a virtual death sentence.

Helen was a first-hand witness to all these inventions because an accident the week after graduation left her with a damaged ankle. As a cellist, she could not perform because she was unable to stand.

Her father gave her a job answering the phone at his business. “The fickle finger of fate dropped me in the morass of orthopedic engineering,” she says. “That's when I realized my father was a genius.

“People all over the world are walking because of him,” she says with obvious pride. “Writing about him has been a thrill.”

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