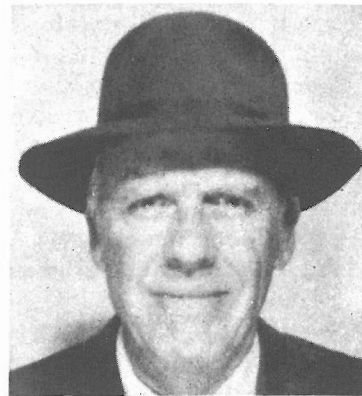


Edward F. Andrews 1893-1973



"His father thought he was odd wanting him instead to become a businessman like himself, until he started accomplishing meaningful things with his inventions..." – Sarainne Loewe Andrews, his widow.

"A quiet, unassuming man who walked around in canvas shoes and a baseball cap. His clothes and his demeanor belied his economic background, but the genius in the man always shone through...He was in and out of this museum incessantly with ideas here,

there and everywhere..." – Daniel Miller MacMaster, President of the Museum of Science & Industry.

"He had discussed ideas for heavy water with Theodore Theodorsen, a noted physicist, long before they started working on it at the University of Chicago..." – Sarainne Andrews.

"A friend of Einstein's, he was corresponding with him on scientific problems before Einstein gained world-wide fame for his atomic energy theories." – Malcolm McCaleb, Sr., partner in the patent law firm (McCaleb, Lucas & Brugman) which handled Mr. Andrews' patents.

The list of this self-effacing, gentle man's inventions and his improvements on existing ones are endless:

Because of him the blind can learn to read braille using his recording machine for slow speech. He later donated this to the Library of Congress.

Because of him hundreds of lives have been saved during open heart surgery with the use of his revolutionary heart pulsator. He spent thousands of dollars of his own perfecting it, and then gave it to the University of Chicago Medical School, never licensing it for his own financial benefit.

Because of his Decca navigator invention, an improvement to the early radar, England was able to stave off the onslaught of the German bombing raids during World War II. Before the use of this navigator device the German Air Force had been able to jam the early radar by throwing metallic foil in the air, thus disguising the number of planes and the altitudes at which they were flying.

Thousands of lives have been enriched because of this quiet, humble man's creative genius. And yet few people ever have heard of him.

Who was he? He was Edward F. Andrews, only child of William Edward Andrews, member of the Board of Trade and its President in 1913. He was born in 1893 to a wealthy Chicago family, and his name of Edward F. Andrews should have been a household word, but it is not. He gave away more than half of his patents to the U.S. Library of Congress. Publicity shy until the day he died, August 24, 1973, he was much too preoccupied to fill out the necessary forms to be included in "Who's Who."

The Chicago Community Trust knows of Edward F. Andrews because he left a legacy not only of creative genius, but of good will and generosity to the people and institutions of Chicago. Andrews, along with his wife Sarainne (who is notable in her own right having been the UAW's first woman lawyer and having played a prominent role in drafting up the contracts which settled the 1936-37 strike with General Motors, the format of which is still the basic agreement today), set up a charitable foundation primarily for medical and scientific research. The University of Chicago Medical Center was the major recipient of these funds with other worthy medical and scientific groups also receiving distributions.

Upon Mr. Andrews' death, Mrs. Andrews and the other directors of the Foundation decided to terminate it in order to create a fund in his memory at The Chicago Community Trust. "It was only fitting that

Edward F. Andrews be remembered best here," Mrs. Andrews explained, "because he gave so much to Chicago and its people."

Mr. Andrews' talent for invention emerged in early boyhood and his doting father gave him his own personal laboratory at the age of nine. When most boys are playing with their first chemistry sets, young Edward was experimenting in earnest. He could have been a spoiled and pampered child, but the inquisitiveness of his mind and his penchant for invention wouldn't have allowed that. He was just too busy dreaming up new ways of doing things and working them out.

Because he had bronchitis in his youth he did not finish college, but attended Stetson University in Florida and M.I.T. The laboratory he had been given in his boyhood was expanded to a block-long structure on Roosevelt Road, and it is there that he carried out much of his self-studies in mathematics, physics and aeronautics.

In addition to his scientific bent, Edward Andrews had a life-long love affair with aviation and was the first glider pilot in the United States, achieving that distinction before he was 20 years old. He had the first patent on the auto-gyro (the helicopter) of which the Smithsonian Institution has requested his original drawings, thought to be the first sketches of what we today call the helicopter. He invented the automobile disc wheel, the landing gear on the Boeing 707, the pesticide fogger, the signal seeking radio (an outgrowth of his radar detection device) and the Seeburg Selectomatic phonograph which could store up to 200 records, to name just a few of his inventions.

During the early 1920's he met another brilliant young man, Lawrence Hammond and together they headed up the Andrews-Hammond Radio Company in Chicago, manufacturing radios until they went bankrupt in the middle twenties. Still in collaboration, they organized the Hammond Electric Clock Co., which vied with Telechron (General Time) as the two big names in electric clocks in the late twenties. Unfortunately, Telechron came out with a mechanism that prevented the clock from losing time if the current was interrupted for a few minutes, which was revolutionary at the time because electricity was not all that reliable then.

Again the two went bankrupt. And once more they refused to call it quits, possessing just the right amount of moxie and determination to collaborate yet again, this time Mr. Andrews backing Lawrence Hammond's electric organ, an idea that evolved from their electric clock, and with which they struck it rich in the depths of the Depression. Mr. Andrews got out of active management in the company in the late thirties and devoted the next 35 years to inventing.

It was because of his friendship with Dr. Albert Einstein that the great physicist found a niche at the University of Chicago during the troubled, turbulent war years. Mr. McCaleb, patent attorney whose firm handled much of Mr. Andrews' patents, recalled this story.

Dr. Einstein fled Germany in the late 1930's with another physicist, a Mrs. Lisa Mitner, who it was revealed later, had the formula for heavy water hidden in her bra. This formula was to be responsible for the invention of the atomic bomb. They first fled to Switzerland, then New York, with Dr. Einstein finally coming to Chicago alone to see if he could get established here with the help of Mr. Andrews.

Mrs. Andrews met Dr. Einstein at the old LaSalle Street Station. She was told to look for a small, aging man. She was not prepared for the shabby, bent physicist she initially encountered. Einstein had fled with only the clothes on his back. Mr. Andrews wanted to introduce Dr. Einstein to some of the leading financiers of Chicago, and although he knew well the adage of never judging a book by its cover, he could not take the chance of being turned down for financial support of Einstein because of his tattered appearance. So Mrs. Andrews took the great Dr. Einstein shopping for some clothes at the exclusive Marshall Field's Men's Store.

Dr. Einstein was so appalled at the price tags, Mrs. Andrews later told Mr. McCaleb, the he wouldn't allow her to buy anything until she took him to the basement. Well, we'll never know how much credit can be given to Einstein's new suit and topcoat but several thousands of dollars were contributed to his support which eventually established him in his own laboratory in the East and at the University of Chicago in

collaboration with Enrico Fermi...and the rest is history.

One of Mr. MacMaster's favorite stories about Mr. Andrews involved the World War II years when he was working on a classified project which turned out to be a remote control compass for the Air Force. Mr. Andrews had set up a laboratory on Oakenwald Avenue on Chicago's south side in the apartment building in which he lived, and was working on the project there. It became imperative to transport his invention from the Chicago laboratory to Wright-Patterson Field under military security. It was thought that the best way to do this would be to encapsulate the compass in some kind of material that would protect it and hide it at the same time. Mr. Andrews developed a plastic-like material to enfold it and Mrs. Andrews spent two days baking it in her oven to ensure encapsulation.

"Ed Andrews was always thinking," Mr. MacMaster recalled. "He had a most fertile, agile brain, always dreaming up new ideas. I'd walk around with him time after time and he would suggest this and that and the other thing. From him came many, many good ideas. He was helpful to us not only as an inventor," he continued, "but as a skilled technician who was thoroughly familiar with the technical background of the subject matter here and with no end of ideas of how to present it. He was in complete accord with the Museum's philosophy of visitor involvement, and felt this kind of participation was vital in accomplishing an educational end. He is very much missed in this institution," he added.

Edward F. Andrews was a multi-talented man. Call him a scientist, an engineer, a mathematician, etc. They would all be right. Without men like him, the doctors wouldn't have many of the tools with which to work. And the comforts and conveniences of our day-to-day lives would be greatly diminished.

Although his inventive genius is gone now, his good works still live on in the moneys distributed through the Edward F. Andrews Fund at The Chicago Community Trust. Under the watchful eye of the Trust, funds are used primarily for medical and scientific research. We hope this would have made Edward F. Andrews proud.

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