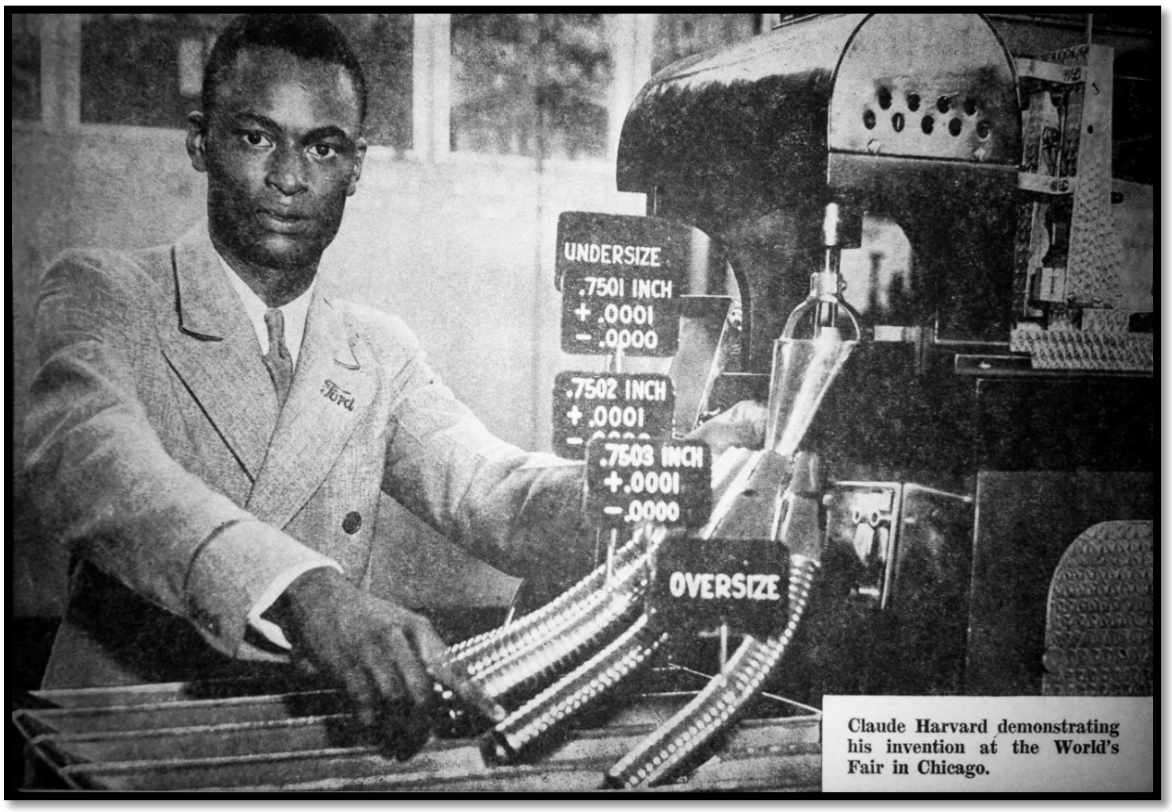
THE FORD MOTOR COMPANY:

A LEGACY OF GOING FURTHER TO FOSTER INGENUITY



PHOTOGRAPHY: SNOW F. GRIGSBY

Claude Harvard was 23 years old when he demonstrated two of his inventions to the whole world on behalf of the Ford Motor Company at the 1934 World's Fair in Chicago, Illinois. Along with his co-designer, Horace A. Chubbuck, Mr. Harvard built and oversaw the implementation of the machines into Ford's industry-changing assembly line. The devices were considered to be the state-of-the-art in automotive engineering and a model of the revolutionary automation that would transform the American economy forever.

Claude Harvard's "automatic piston pin inspection machine" inspected and sorted 70 piston pins per minute while verifying each for specified length, roundness, groove depth, surface smoothness, and diameter to within 25 millionths of an inch (that's about one-sixtieth the thickness of a human hair). Pieces that were not an exact match to specifications were automatically separated and discarded. The speed and accuracy of the machine enabled Ford to produce 10,000 V8 engines every 24 hours.

Mr. Harvard's other design on display that day was an "exhaust-valve seat inspection machine," which was able to check and sort out damaged, oversized, and undersized valve seats. As the pieces (metal rings about 1 ½ inches in diameter) exited the machine, each one would hit a hard metal plate and either bounce into the acceptable container or hit the partition and be rejected. These two ingenious mechanisms along with several others that Harvard and Chubbuck engineered in their lab, helped Ford Motor Company hone the automation process and produce high quality automobiles at a low cost to customers.

Nine years before that noteworthy day in Chicago, Claude Harvard was a young black teenager in Detroit, Michigan with a desire to enhance his life. One day at school, a teacher told his class about the Henry Ford Trade School and the great things it offered for underprivileged boys without one or both of their parents. Harvard (who had not seen his father in over 10 years) immediately applied for admission and was accepted. The next six years at the school were a living dream for his gifted and inquisitive mind.

With a particular interest and knack for radio technology, he became president of the school's Radio Club and acquired a radio operator's license as well. When it came time for the club to begin broadcasting, it did so under Harvard's license. In fact, his work to get the school on the radio got the attention of both the public and Henry Ford himself – who made a special trip to the school to meet the exceptional young man. Not long after their meeting, Harvard was offered a position in Ford Motor Company's Radio Department. There, he and his supervisor and future co-creator, H.A. Chubbuck, were given a free hand by Henry Ford himself to develop new technologies and improve upon existing ones.

Henry Ford's vision to start the tuition-free Henry Ford Trade School in 1916 was a groundbreaking move turned invaluable investment. Founded on a mission to give poor and orphan boys an opportunity to learn highly marketable skills in a state-of-the-art environment while earning money, the school provided each student with a cash scholarship for working on the shop floor. Ford's foresight supported thousands of Michigan families while training a large portion of the technicians and engineers whose work would propel the Ford Motor Company into one of the most innovative eras in its 112 year history.

Claude Harvard's legacy of ingenuity, integrity, and precision includes a role in the creation of modern standards in automotive engineering on behalf of the Ford Motor Company. Today, that storied tradition of innovation lives on in Ford's award-winning lineup of cars, trucks, hybrids, SUVs, and EVs. Recognizing that its continued success depends on its own continued cultivation of a skilled and far-sighted workforce, Ford's longstanding commitment to educate intellectually curious young people remains an indispensable part of its business. With several forward-leaning investments in STEM education, the Ford Motor Company is preparing the next generation of scientists and engineers to lead American industry even further into the future.

At the 30th anniversary celebration of The Ford High School Science & Technology Program on October 11, 2014, the company launched the Ford Blue Oval STEM Scholarship Program which provides $500,000 over four years to 50 students pursuing degrees in STEM fields. Making the announcement, Felicia Fields, Ford's Group Vice President of Human Resources and Corporate Services said, "For 30 years, long before anyone even talked about STEM fields, Ford was a leading force in promoting science, math, and technology. This scholarship takes our commitment to these disciplines even further."

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By Omar L. Douglass