

Keith Tantlinger, Builder of Cargo Container, Dies at 92

Nearly six decades ago, Keith W. Tantlinger built a box — or, more accurately, the corners of a box. It was a seemingly small invention, but a vital one: it set in motion a chain of events that changed the way people buy and sell things, transformed the means by which nations do business and ultimately gave rise to the present-day global economy.



Pan-Atlantic Steamship/Maersk

Keith W. Tantlinger in 1958.



William E. Sauro/The New York Times

Shipping containers on the Baltimore in 1979. Mr. Tantlinger's improvements made shipping cheaper and more efficient.

Mr. Tantlinger's box, large, heavy and metal, is known as the shipping container. Though he did not invent it (such containers had been in use at least since the 19th century to haul heavy cargo like [coal](#)), he is widely credited with having created, in the 1950s, the first commercially viable modern one.

The crucial refinements he made — including a corner mechanism that locks containers together — allowed them to be hefted by crane, stacked high in ships and transferred from shipboard to trucks and trains far more easily, and cheaply, than ever before.

Thus, without ever intending to, Mr. Tantlinger, an engineer who died at 92 on Aug. 27 and who had long worked out of the limelight, helped bring about the vast web of international trade that is a fact of 21st-century life. More than any other innovation, the modern shipping container — by turns venerated and castigated — is now acknowledged to have been the spark that touched off globalization.

As Marc Levinson, the author of “The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger” (2006), said in a telephone interview on Monday, “The scale of modern container shipping would not have been possible without Tantlinger’s innovations.”

He explained: “Most consumer goods, by a wide margin, come in by ship. Containerization made it possible to ship goods very long distances at very low costs. Globalization in the way we know it today just would not be possible without the container.”

Mr. Tantlinger’s work is everywhere. Thanks to the stacking and locking mechanisms he devised, a ship can now carry thousands of containers at once. Tens of millions of shipping containers roam the world today, filled with lumber, coal and hay, not to mention computers and cars. Refrigerated containers carry seafood, meat and other perishables across previously unimaginable distances.

Until the mid-1950s, however, seaborne cargo transport had changed little since the day man first lashed together a raft, stocked it with trade goods and set out for distant shores. For centuries, on waterfronts worldwide, goods as diverse as flour, coffee, whiskey and mail were literally manhandled — loaded by longshoremen onto ships in sacks and crates and barrels and, at the other end, loaded off again.

The method was expensive and took time. In 1954, Mr. Levinson’s book reports, the cargo ship *Warrior* left Brooklyn for Germany carrying 194,582 separate items. These had arrived at the Brooklyn docks in 1,156 separate shipments.

Containerization unified the process, letting a single shipper move merchandise across land and sea. In 1958, *The New York Times* described the new technology this way:

“A trailer is loaded, for example, in Springfield, Mo. It travels by road to New York or San Francisco, sealed, virtually damage-proof and theft-proof. By ship it goes to France or to Japan, eliminating warehousing, stacking and sorting. Each ship takes on her cargo with a few hundred lifts, compared to 5,000 individual lifts by the old method.”

But designing a container 40 feet long and 8 or 9 feet tall that could be safely stacked six high on a rolling ship was no simple task. That was where Mr. Tantlinger came in.

The son of a citrus grower, Keith Walton Tantlinger was born in Orange, Calif., on March 22, 1919. (The family name is pronounced TANT-lin-gurr, with a hard “g.”)

Mr. Tantlinger earned a bachelor’s degree in mechanical engineering from the University of California, Berkeley. During World War II he worked for the Douglas Aircraft Company, a precursor of McDonnell Douglas, where he designed tools used to produce the B-17 bomber.

In the mid-1950s, Mr. Tantlinger — then vice president of engineering at Brown Industries, a maker of truck trailers in Spokane, Wash. — took a call from the Pan-Atlantic Steamship Corporation. The company’s owner, Malcolm P. McLean, wanted to devise a way to stack loaded trailers, minus the trucks, directly on ships.

Mr. McLean, who died in 2001 and is sometimes called the father of containerization, had been a trucking magnate. After buying Pan-Atlantic in 1955, he sought to make possible the seamless integration of land and sea transport for a wide range of cargo.

Intrigued by the challenge of making Mr. McLean’s pipe dream a mechanical reality, Mr. Tantlinger joined Pan-Atlantic, later renamed Sea-Land Service. Among the foremost problems he would have to solve was devising a safe means of stacking shipping containers many layers high.

He designed a set of steel fittings, which were welded to each corner of a container. Each fitting contained a hole into which a lock he designed, called a twist-lock, could be dropped. A second container could then be stacked atop the first, a handle turned, and the two locked together. The process could be repeated, building a tall stack.

Cranes could latch directly onto Mr. Tantlinger’s corner fittings, neatly lifting containers on and off ships. His twist-lock could also be used to secure a container to a truck chassis or a railroad car.

In the early 1960s, Mr. Tantlinger prevailed on Mr. McLean to relinquish the patents to the corner fittings and twist-lock, permitting them be used industrywide.

In later years, Mr. Tantlinger held executive positions with the Fruehauf Trailer Company and the Rohr Corporation, an aerospace manufacturer, before starting his own consulting concern.

Mr. Tantlinger died at his home in Escondido, Calif., his family said. His first marriage, to Marjorie Cunningham, ended in divorce. He is survived by his second wife, the former Wanda Gunnell Delinger, whom he married in 1981; a daughter from his first marriage, Susan Tantlinger; a stepson, Daniel Delinger; and two grandchildren.

In 2009, he was awarded the Gibbs Brothers Medal, presented by the National Academy of Sciences for outstanding contributions in naval architecture and marine engineering.

Like many innovations, containerization has had its detractors. Longshoremen's unions worldwide vehemently opposed it at first, staging a series of bitter strikes. In the wake of the Sept. 11 attacks, United States officials have voiced concerns that terrorists, or the instruments of terror, might reach American shores inside shipping containers.

There is also a direct link between containerization and the decline of American manufacturing. "Manhattan used to be one of the great garment centers in the world," Mr. Levinson said. "That went away because of the container. It was cheaper to have apparel made in Asia and ship it to Macy's in Herald Square than to have apparel made in the Garment District."

On the other hand, Mr. Levinson said, containerization has made a profusion of low-cost goods available to consumers.

"Right now, shipping costs for most of the goods we import and export by sea are just an afterthought," he said. "They're not really a big part of the cost of your shoes, or your bottle of Australian wine, or that nice blouse you just got from China."

And all this sprang — improbably, unimaginably and indisputably — from a set of steel corners and a lock, conceived by a man who built a better box.