

Excerpt from *A History of 100 Years of Valve Manufacturing - The Story of the Walworth Company, Inc. Oldest Manufacturer of Valve and Fittings in the United States*. N.p.: Walworth Company, Inc. 1945. Pages 39-43.

(Chapter 6)

THE STILLSON WRENCH

In 1869 there occurred one of the most important events in Walworth history - the birth of the Stillson wrench. Though the invention of this product began inconspicuously, it was destined to play a big role in Walworth's business. It turned out to be one of the company's most successful ventures.

An odd chain of circumstances brought this valuable invention to the company. Among the Walworth immortals is Colonel Levi R. Greene, long its chief engineer. In 1865, Colonel Greene was an experimental metallurgist in the United States Navy Department. The Walworth brothers induced him to give up his Navy job and to join them. Before that Colonel Greene was in the Civil War. He served as an engineer on a gunboat, operating in the Gulf of Mexico. One of the firemen on the boat was Daniel C. Stillson. The Colonel soon acquired a great respect for Stillson's mechanical ability.

One day Dan Stillson presented himself at the Walworth plant and asked his old boss for a job. He was set to work as a mechanic in the Cambridgeport plant. A year or two later, 1869 to be exact, Stillson whittled out of wood a pattern of what was to become his famous Stillson wrench. He showed it to Colonel Greene. The Colonel said that such a pipe wrench was badly needed, and told Dan to have one made of steel.

"TWIST OFF THE PIPE OR BREAK THE WRENCH"

The steel wrench was shown to C. C. Walworth. According to the story which Colonel Greene often told many present employees of the company, Stillson was instructed to try the wrench on a piece of one and one-quarter inch pipe. The Colonel's instructions were: "either to twist off the pipe or break the wrench. Put enough strength on the wrench to do one thing or the other."

To quote verbatim from Colonel Greene's story: "Dan looked at me with some strong language in his eyes. He was competent to use language, chiefly profane, and he exercised this accomplishment on frequent occasions. C. C. chuckled as Dan turned on his heel and walked out of the office. Half an hour later, Dan came back with a piece of pipe which had been twisted off. His wrench was intact."

STILLSON WRENCH A SENSATIONAL PRODUCT

C. C. quickly saw that the wrench was a sensational product. Up to that time there was no satisfactory method of wrenching pipes. The use of pipe tongs was about the best method that had been discovered. Alligator wrenches were also used for this purpose, but they were awkward and not really suited for this work. The big improvement the Stillson wrench offered was that it was adjustable and had a semiratchet action. It could be released instantly for a new "bite." With it the user could get powerful leverage.

C. C. decided on the sizes, lengths of handles, etc., to be used in the proposed wrench, and ordered a small quantity put in production. Dan was told to get a patent on his invention.

After he had his patent, Stillson offered to sell his wrench for \$2,500. The Walworth executives advised him to market it on a royalty basis. He countered by cutting his price to \$1,500. Fortunately for Dan, C. C. Walworth and Colonel Greene insisted that he accept a royalty arrangement and that Walworth be given the exclusive manufacturing rights.

Dan capitulated, but demanded a royalty so steep that the wrench had to be priced so high that it was doubted if it would sell. Salesmen were sent out with samples, but no go - the price was prohibitive. Stillson then compromised on his royalty demands, the wrench was priced at a reasonable figure, and immediately one of the most famous hand tools the United States has produced began to go to town. During the life of the patent, Dan Stillson received between \$80,000 and \$100,000 in royalties, or more than thirty times the amount he was ready to sell his wrench for originally.

STILLSON WRENCH GAINS WORLD-WIDE ACCLAIM

Aside from the revenue in sales that it brought, the Stillson wrench exerted a stimulating effect on the Walworth business in another way. It became a spearhead for the entry of Walworth into foreign markets. American-made mechanists' and mechanics' hand tools have long been popular in other lands. When international economic conditions are fairly stabilized, many of our hand-tool manufacturers sell a surprisingly large proportion of their production in foreign markets. The Stillson wrench was a pioneer in this penetration of foreign fields. It spread the name of Walworth all over the world, and paved the way in many countries for the introduction of Walworth valves and fittings.

In some ways, the sales of Stillson wrenches have been a sort of economic barometer. The sales of the Stillson are highly sensitive to changes in economic

conditions. Whenever a panic hit, the sales of the wrench dropped off instantly. But the drop was never anything like the curtailment that took place in general industrial sales. Furthermore, the recovery of the sales of Stillson wrenches was rapid, often only a few months, whereas it usually took industry two or three years to come back to normal.

BECOMES ECONOMIC BAROMETER

The main reason for this, of course, is that depressions seldom involve the whole world. Usually a few countries remain reasonably prosperous, and the sales of the wrench to these countries offset the loss in the depression-ridden lands. Consumer products react this way more decisively than do industrial products. And hand tools are at least semi-consumer products. Because of this, the Stillson has always had a stabilizing influence on Walworth's business - whether the times be good or bad.

There has been no fundamental change in the Stillson wrench since Dan added the back spring feature to his product in 1872. However, there have been changes in details, mostly to take advantage of metallurgical developments. These improvements have given the wrench even greater strength, toughness and durability than it had originally.

And no one could complain about the durability of any of the Walworth Genuine Stillson Wrenches. There are records of these wrenches being in regular use for more than fifty years. When the Walworth Company organized the Walworth Genuine Stillson Wrench Quarter-Century Club, it brought to light thousands of Stillsons that had been in use for twenty-five years or more. Any Stillson owner could join this club by showing that his wrench's serial number was at least twenty-five years old.

STILLSON'S OWN WRENCH IN POSSESSION OF WALWORTH

Dan's own Stillson is in the possession of the Walworth Company. It was one of the first of these wrenches produced. On the death of Mr. Stillson the wrench was left to his daughter, Mrs. Oliver B. Winn. She gave it to the company. It shows hard usage but is still in excellent condition.

The Genuine Stillson Wrench has been manufactured continuously by the Walworth Company since 1869. While the wrench has been metallurgically modernized, its parts as made today still interchange with those made many years ago.