

# AMICA

## TECHNICALITIES



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Compiled by Terry Smythe

## In Memorium



## MEL LUCHETTI

This issue of the AMICA Technicalities is dedicated to the memory of Mel Luchetti who, if he was still with us, would have been the one to once again assemble and publish this volume of reprints of technical articles appearing over the years in our AMICA News Bulletin.

A native of Stockton, CA., Mel graduated in 1956 from Santa Clara University with a degree in Electrical Engineering, served as a Captain in the US Army, then as an engineer with Sylvania Electronics Corp, before entering into his life long profession - Teaching.

Returning to San Jose State University, Mel earned a degree in biological and physical science, a secondary teaching certificate, and ultimately earned his Master's Degree from the University of San Francisco. For 23 years, he taught life science at the Santa Clara High School.

With his background in engineering, coupled with a life long love of music, it was inevitable that he should focus his attention on player pianos and reproducing pianos. These early interests and activities found many like-minded companions, and from their collective efforts, emerged the Automatic Musical Instrument Collectors Association.

Mel was a Founding Member, and from the beginning provided technical leadership to this Association and all its members, by a variety of methods such as technical articles in the Bulletin, technical video tapes, and not the least was this periodic assembly of past technical articles.

Mel passed away on July 9, 1986. He will be sorely missed, particularly by Founding Chapter members, with whom he played hard and worked hard. Hopefully, this modest tribute will help to keep alive the spirit of togetherness and sharing he worked so hard to nourish and sustain, for this is truly what binds us all together.



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# The AMPICO

## Some Thoughts on an Interview with Dr. C.N. Hickman

by Keith Bigger

I was saddened to read, in the June 1981 issue of the Bulletin about Dr. Hickman's passing away on May 7th.

Several of my friends and I had paid a visit to Dr. Hickman on May 30th of the previous year at his apartment in Jackson Heights, New York, at which time we had the pleasure of listening to some of his experiences with AMPICO and with Mr. Charles Stoddard.

In the first picture, Dr. Hickman is showing us his special clarinet. The story is that, as a result of an explosion during an experiment in 1918, he lost the ends of several of his fingers — which prevented him from reaching some of the keys. After visiting a musical instrument repair shop, he brought home a box full of various keys and levers. He worked for a period of time in his home machine shop until he was successful in his endeavor to extend the keys to accommodate his shorter fingers and thus enable him to continue to play his clarinet.

We spent several hours discussing his other achievements before we got to the AMPICO. Dr. Hickman showed us his many awards from various archery clubs across the country and England. Not only was he an expert at shooting with bow and arrows, but he was a noted expert on its history as well.

He worked at Bell Labs during the period of 1930 to 1950. One of his early projects was improving the fidelity of the wire recorder. Later, he thought of substituting a flat metal tape instead of wire, and he experimented with the endeavor to find an existing source to test his theory. Finally, he discovered that power looms use a metal tape pressed along the edge of the blade which presses against the weave each time the shuttle makes a pass. This, he found, came in rolls, and, thus, he was able to conduct his experiments. Then, he said, 3M came out with their mylar-backed oxide tapes; and the rest is history.

Except for failing eyesight, Dr. Hickman was still in fine health at the age of 91. He mentioned that only recently his dentist had commented that Dr. Hickman had the finest set of teeth he had ever seen.

His mind was still very active. He showed us a discovery he had made in the field of mathematics. He had memorized the squares of numbers from 1 to 30, and, over the years he had noticed a certain phenomenon for which he was able to develop a formula. In a subsequent phone conversation, he told me he had arrived at the



*Dr. Hickman in his Jackson Heights, New York, apartment. It was well-organized and tidy, even with failing eyesight of Dr. Hickman. All the clocks struck at the same time!*

mathematical proof for his formula and had sent it off to a mathematician. Dr. Hickman was then told he had indeed succeeded in finding a valid proof of a heretofore unrecognized phenomenon which might be used to simplify certain computer operations and that a paper might soon be published on his findings.

One of his unusual anecdotes has to do with the Fisher Model B AMPICO in Dr. Hickman's living room. The reproducing mechanism was missing!! It seems that the inventor and developer of the AMPICO B had gotten tired of returning home after a day at Bell Labs to hear his wife complain that the piano wasn't playing again. He then had to spend some time trying to refresh his memory in order to locate the trouble — so, one day he removed the entire reproducing mechanism and threw it away.

The last two pictures show the grand action which Dr. Hickman invented. After making the ideal reproducing mechanism, he had to contend with an imperfect piano action. Some of these actually found their way into production in the Model B. We know of a rebuilder who recently restored a Mason and Hamlin with this type of action. The best way I can describe its operation is to liken it to the trick of coming up behind a friend while he is standing and pushing his knees out from under him with your own except that, in this case, the floor becomes the back end of a key. The result is a frictionless let-off, since there are no jacks or knuckles.