

Zinc, Hegeler & Mattiesen
an Oral History

Alwin Carus, Interviewee
Of LaSalle, Illinois

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Interviewer's Name: MARGARETH GIBBS
For: STARVED ROCK LIBRARY SYSTEM ORAL HISTORY PROJECT

Q: This is an oral history tape for the Starved Rock Library System with Mr. Alwin Carus of LaSalle, Illinois. The interviewer is Margareth Gibbs, librarian from Starved Rock Library System, and today is March 27, 1976. Mr. Carus, we have a lot of interest locally in the Matthiessen and Hegeler Zinc Company. It's been an important part of our community and I'd like to ask you some questions about it. And perhaps my first question is something that comes from one of the LaSalle County Histories and it says, "F. W. Matthiessen and Edward C. Hegeler, two young Germans, came to the United States with a well-defined and fixed determination. . .the manufacture of zinc". Now, we're going to talk about your grandfather. Did he really come here just to manufacture zinc?

A: Well, he wanted to manufacture something and the main interest -- one of the main ones was zinc. He'd gone to the school in Freiberg, Saxony.

Q: That was the school of mines?

A: School of mines.

Q: And that was where he met Mr. Matthiessen?

A: Yes.

Q: Now, Mr. Matthiessen was from Denmark I understand?

A: Well from Schleswig-Holstein, that's kind of half-way, equal between.

Q: And your grandfather was from where?

A: From Bremen.

Q: Bremen, on the coast. They came here, I understand, and first came into Pennsylvania where there was already an attempt to work zinc. Can

Q: you tell me about that?

A: Some, my brother could tell you a lot more. They worked there with what later I think became New Jersey Zinc Company. PAUSE They didn't work out there, they were only there about a year.

Q: And then where did they go?

A: It didn't work out well, but my brother would know more about that. I think they went to St. Louis.

Q: Where did they find their zinc?

A: It was in Wisconsin.

Q: The town was Mineral Point?

A: Mineral Point was the name of the place and there were a number of others.

Q: Had been primarily lead at first, and the zinc they threw away?

A: Well, you see, when they were firing the ore, the zinc went up in smoke, it was oxide.

Q: All right. The zinc ore is in Wisconsin. Why was the M & H put here in LaSalle?

A: We got the coal, that's the primary reason.

Q: Our coal mines. Did they buy the coal?

A: _____ they were the closest to the Wisconsin zinc mine.

Q: Did they buy the coal or mine it?

A: Originally. There was a mine right across the Illinois Central tracks. That was a mine at that time.

Q: That's the one we talked about that if you go out O'Conor Avenue you will eventually reach it?

A: No--you have to go east.

Q: When?

A: It's right near the factory. Just across the IC [Illinois Central] tracks from the factory.

Q: There are. . .

A: I imagine you still -- the dump is still there.

Q: The mine is sealed?

A: Oh, yes, I think it's pretty well filled up by now. It was sealed back in 1900 or before.

Q: There are several zinc minerals. Do you know which kind came from Mineral Point?

A: The sulfide.

Q: Zinc sulfide. And then later they started to import ore from Missouri, Joplin, and that was the same kind of ore?

A: Pretty much the same.

PAUSE

Q: Mr. Carus, at the time your grandfather and his partner came here, the United States was importing all of their zinc. Why was it important that we have a native supply of zinc? What was it used for?

A: I don't know too much about that. I know they used it in the war, but at first when the Civil War started, they shut down for a while because of the war conditions.

Q: Was that lack of men?

A: No. No, they could get exemptions. They did it by hiring somebody else in your place. (SOUND OF SOMETHING BEING DROPPED) Whoops!

Q: Except LaSalle County had a very high volunteer rate in the beginning. Even more so than they could handle and take in. But they did close down during the war, at the beginning?

A: At the beginning. But then. . .

Q: And then they opened up?

A: They got very busy for war, business of war, but I don't know too much about it. They did -- they were down for a year or so and later they became very busy but really didn't prosper until about 1970.

Q: 1870?

A: 1870.

Q: Was that perhaps due somewhat to the furnaces developed by your grandfather?

A: They had to develop them, yes.

Q: How was the zinc let's say smelted, if that's the word, in the beginning?

A: Well, this principle here was always the same until they went to electricity, now we use electrolytic methods.

Q: Well, how did they start? They had these. . .

A: Well, originally they'd take the ore and grind it up of course, fine, and then heat it to drive off the sulfur dioxide which would turn it into ZnO.

Q: That's the chemical formula?

A: Zinc oxide, yes. And that has to be heated fairly hot to do. . .

Q: Zinc melts at what, about 900⁰⁰ Fahrenheit? Is that. . .

A: Yes, about that.

Q: So it had to be a little hotter, much hotter than that?

A: Well, I don't know just what the temperature is but I know it's kind of red hot. They were put in a kiln. (coughs) They developed new kilns for that, too. In the first years they just let the oxide, zinc -- sulfur dioxide go off in the air.

Q: Later they started collecting. . .

A: Later they made acid.

Q: And that's a commercial by-product that they produced?

A: Yes, that was done by changing SO_2 to SO_3 by a catalyst and then solvent in water. But for the first, I don't know, about twenty years I think they just let it go off in the air, they had very high chimneys and so it would spread it out.

Q: A little joy to the environment.

A: Yes.

Q: Now, when the zinc oxide was heated and collected it was put out in sort of slabs they called spelters. . .

A: Well, that wasn't -- we aren't that far along yet.

Q: We're not? We just have the zinc oxide?

A: Zinc oxide, that's similar to the ore, that hasn't changed very much except that it's browner as I remember.

Q: Then what happened to it?

A: Then we'd mix it with hard coal or coke which is also ground.

Q: Where did the hard coal come from?

A: Pennsylvania.

Q: That was anthracite they brought in?

A: Yes.

Q: But we were heating it with the bitumous coal that's around LaSalle?

A: Yes. Then you take the mixture and you put it in a retort.

Q: That's that clay pot you're talking about, where you heat it again, it's part of the furnace, the retort?

A: Yes, the retort was horizontal in our plant, horizontal. And it was about a foot in diameter and about six feet long. Then they'd fill that full, pretty full of the mixture. They'd shovel it in.

Q: Now in the book that's called a charge.

A: Yes.

Q: Shovel that? That's shoveled in?

A: And it's heating to quite a high temperature, I don't know just what it is, you can look it up. Then the vapor, the zinc vapor comes off when the oxide is used up, that's what the coal is there for -- so you get CO. CO, I think is mainly what comes off, and the zinc vapor and it comes out of a small piece on the end of the retort, that's called a condensor and it collects in there, it's about a foot long, but maybe a little bit. . .

Q: They draw it off from the condensor?

A: And after about six hours, they draw it off.

Q: It's still molten?

A: Yes. Then they close up the end again and do it two or three times, three times usually.

Q: Three times before the charge is completely. . .

A: That's about a day. Sometimes they've done it longer. Then they'd charge it again.

Q: And then the molten zinc, is that when it's put into slabs?

A: Slabs.

Q: And that's what they called the spelter?

A: That's what they called spelter.

Q: Now I understand that the M & H was the first mill, if you'd call it that, in the country to roll zinc?

A: Yes, I believe so.

Q: And who developed that process?

A: My grandfather. The rolling wasn't -- that was pretty well known in Europe.

Q: Not that it was PHONE RINGS I didn't mean that your grandfather had invented it but he was the one who instituted the process here.

A: Yes.

Q: And that was an advance for the manufacturing?

A: Yes, but I don't know much about that CLOCK STRIKES my brother may know more.

Q: One time when we were talking you were mentioning to me the people that the M & H brought from Europe to work on the zinc. Now originally the workers were from here, but when they got into some of the specialized fields they went to areas of Europe where there was skilled help. The first one was Belgium?

A: The first was Belgium, yes.

Q: And Belgium is still actually one of the large zinc manufacturers?

A: Yes.

Q: Then later they went to Poland and Czechoslovakia?

A: Yes, Silesia.

Q: Why was that, they were zinc producers?

A: Well, they were people who worked in the plant.

Q: Who had experience?

A: Yes. Then my father grandfather developed a different type furnace. The original furnaces would have just a fire right underneath the retorts and he developed one where they had what they called a producer where they put the coal and kind of, not really burn it very much, then the gasses would go to the retorts which was quite a large furnace, much larger than the early one.

Q: Do you know what their capacity was?

A: No, I don't.

Q: Some of the by-products that came out of it, you said the sulfuric acid, did they develop other by-products later?

A: No, I don't think we ever did.

Q: You weren't involved in any that went into paint, anything like that?

A: No, the New Jersey was the main producer of that. And that was produced in DePue.

Q: In DePue?

A: Yes, the New Jersey Zinc Company had a plant, I guess it just closed down recently, and originally they produced a lot of paint, zinc oxide for paint.

Q: We did have a number of zinc plants around here, but I think the M & H was the biggest in the country for a long time, wasn't it?

A: Yes. Well, then there was the one in DePue and I guess earlier than that, the one in Peru, that was quite a large plant.

Q: That was Illinois Zinc wasn't it?

A: Illinois Zinc, yes.

Q: About approximately how many people were employed at the M & H?

A: I think around fourteen hundred, but that included the mine and then they had their own machine shop, even a gas works.

Q: And it was your grandfather who developed, was it not, a gas furnace even later?

A: No, I think it was just the one time. But he also developed a kiln.

Q: I'm curious about one thing, usually when you have a partnership it's a complimentary thing, each person brings to it skills and talents that compliments the other's, do you know of how the skills and talents of your grandfather meshed with Mr. Matthiessen's?

A: Well, not too well. My grandfather did more in the plant, I think

A: Mr. Matthiessen was more in the office. And of course Mr. Matthiessen became interested in the clock company.

Q: Did you know your grandfather?

A: Oh yes, I was ~~about ten~~ when he died, nine.

Q: Another thing that I'm curious about, at the old cemetery with the headstones for the little girls who were your aunts, it says that Helene was born in St. Louis, I think it was 1862, and Meta Rosalie was born in a town that looks as though it were Germany. Did your grandparents travel a lot?

A: They did travel back. Do you want. . .

Q: Well, they traveled a lot.

A: Yes.

Q: In fact I think you mentioned your grandfather went back to Germany to marry his bride and bring her here?

A: Yes.

Q: And their other children were your mother. . .

A: Yes.

Q: Her name was Mary Louise?

A: No, just Mary, she had some more names but we never used them.

Q: Where they any sons?

A: Yes.

Q: Where did they go?

A: Julius and Herman, they went to Danville and started a zinc plant there.

Q: Danville?

A: Yes, Danville, Illinois.

Q: Did that one prosper too?

A: For quite a while.

Q: But they've never come back to this area?

A: No.

Q: The family that stayed here was your mother who married Dr. Carus?

A: Yes.

Q: I've always had the impression that your mother was active in the business?

A: Yes, she was.

Q: Could you tell me about that?

A: Well, she was the oldest in the family and then the brothers went away, they were active up I think until they left about 1900. So she was really the only one here to take over.

Q: And she did?

A: Yes.

Q: I know that she knew my grandfather, because he was a paper chemist and I think he bought the sulfuric acid that they used from her and I think she used to come and stay at the Congress Hotel in Chicago.

A: Yes, we did stay in that some. Then we had -- Open Court had an office in Chicago, so we'd go up quite often.

Q: At this time -- by then -- it started as a partnership and by then it was a corporation, wasn't it?

A: Oh yes, but I don't know the date of the corporation.

Q: I understand that there was a tremendous spurt of zinc production required for the first World War.

A: Yes.

Q: In that case actually it was the ammunition cases that they needed it for, right?

A: Yes.

Q: Do you know about that?

A: Well I know we ran steady for all during the war, Sundays and all.

Q: Around the clock?

A: Yes.

Q: That was regular war production. What was the effect of the 1929 Depression on the M & H?

A: Well, it was rather disastrous because the zinc had been in bad condition even before.

Q: The market was decreasing for zinc?

A: Well, in the war they over-expanded, I think that's the main _____
A great many plants were built and then after the war, even in the 1920's. Of course in 1920 we were down for about six months during a depression. Most people don't know much about that.

Q: Oh, there was a little post-war depression?

A: Oh, it was quite severe for about a year, but it didn't last so long. But while it lasted it was very severe.

Q: But then it perked up?

A: Yes.

Q: Well, the M & H recovered from the depression of 1920, but not fully was the problem?

A: Well, the business wasn't very good all during the 1920's.

Q: And then came the crash of 1929?

A: The Depression, we weren't ready.

Q: I don't know many people that were, a lot of businesses were hurt with that. What happened then?

A: We reorganized. But of course in the 1920's we bought out -- that was another reason -- the Matthiessen's sold, so we had to finance that.

Q: So all of the holdings were in the Carus family?

A: Well, yes.

Q: You say it was reorganized, do you mean that a bond issue was renegotiated?

A: Yes.

Q: Similar to what they're talking about now in New York where the original terms had to be changed?

A: Well, maybe. I just don't really know just how it was all done.

Q: But the control of the M & H stayed with your family?

A: Yes.

Q: Then you feel that your brother is the one to explain this more carefully?

A: Yes.

Q: But it is still producing?

A: Yes, but just rolling now.

Q: We're not smelting anymore?

A: No.

Q: Where does the zinc come that's rolled?

A: There is still a number of plants producing zinc.

Q: Around here?

A: Not right around, no.

Q: Is this why -- isn't the M & H Company that started the LaSalle & Bureau County Railroad?

A: Yes.

Q: And that's still going, isn't it?

A: Yes.

Q: And this is what they use it for, to bring their zinc in?

A: Yes, more comes in to the chemical company now.

Q: And that was another brother of yours that started that?

A: No, my grandfather.

Q: Started the chemical company?

A: No, the zinc, the railroad. Oh, my brother started the chemical company.

Q: But that was an entirely separate operation?

A: Yes.

Q: Going back to the mine that's up on the Vermilion, it was quite an extensive mine wasn't it?

A: I don't think it was a very big mine.

Q: But if they had a shaft that ran under the river?

A: Well, that wasn't the one. Our mine was the one that went under the river.

Q: Your mine, where?

A: The zinc company. . .

Q: The zinc company.

A: They started their own mine quite early.

Q: Where was that located?

A: Right in the plant.

Q: In the -- right over there?

A: Yes.

Q: And it goes down and under the river?

A: Yes, it did.

Q: It did?

A: But it's filled up now.

Q: Did it come upon the other side?

A: Yes, they had an escape shaft across the river near the old Shippingsport Bridge.

Q: But the ore, or the coal was all brought back over here?

A: It was just an escape.

Q: Did they ever have an accident?

A: Not serious, we had a few minor accidents.

Q: And that mine is now closed down too?

A: Yes, that closed down in the 1930's.

Q: Were they following just one coal vein, was that it. . .

A: Yes.

Q: . . .got down and then it just ran across and they followed it right through?

A: Yes, that was what we called the second vein. Most of the mines around here mined the third vein which is deeper.

Q: How deep was this?

A: Around 300 feet.

Q: But if you go to the third vein then how deep are you?

A: About 400 feet.

Q: And the first vein, there must be a first one because there's a second and third. . .

A: Yes, that vein is rather thin and wasn't mined very extensively.

Q: Is that what sort of crops up here, you can do some stripping on it, is that basically the first one?

A: Not necessarily, but we did mine the first vein at the zinc company,

A: but mainly for clay that was I believe above the coal.

Q: Clay?

A: Yes.

Q: What did they do with the clay?

A: They used it in the furnaces with the retorts, condensers.

Q: They were made of clay?

A: Yes. Later on they improved the clay so that they could load the furnaces heavier, they put _____ if I remember right, then they could load a charge more_____.

Q: Did they made the furnaces longer?

A: No.

Q: Still about the six feet?

A: No, that's the width of the furnace. The length of the furnace was not determined by the retort at all, only the width.

Q: And the length then was determined by the number of retorts you wanted to line up in a row going along?

A: Yes.

Q: I see, what did they do, did they have a little track running along?

A: Yes, they had a track running along there, with various carts to load the ore and take the zinc out.

Q: Were the workers shielded in any way, was that. . .

A: Yes, it was pretty hot.

Q: I can imagine with one of our 100 degree summer days, it must have been a sweat box.

A: Yes, pretty warm in the winters even.

END OF TAPE

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PLACE La Jolla, Ill.

DATE March 27, 1976

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