

very sorry that my children could not have the advantages in education that I had in my native country, and I like to state right here that I consider that every mathematical instinct my children have inherited from me has been killed by the sort of miseducation they received in the primary schools in this country.

Mr. Redfield: We want to know about your training which would qualify you as a judge of the subject we are dealing with.

Mr. Barth: After I had graduated from this school I apprenticed myself in the navy yard. After working about two years in the shops for the second time, such pressure was brought to bear upon me to take an instructorship in the technical school that I finally yielded, greatly against my personal wishes, because I never spent two happier years in my life than when working in those shops. I spent part of the time in the boiler shop and part in the machine shop, and in both places stood exceedingly well with my superiors. I was an instructor in mathematics for half of each day for one year in the technical school and then was in the shop superintendent's office in the navy yard for the other half of the day, after which I was prevailed upon to give my whole time to the school, teaching mathematics in the mornings and mechanical drawing in the afternoons, the following year. However, in spite of receiving my superior's recognition of my services as an instructor, the pay connected with the position was so poor that while I could amply pay my board I could not fully clothe myself, and for that reason I concluded to emigrate to this country to try to get a job that would enable me to earn a complete livelihood, though I was told that in the long run when the hard times would be over, I would have a better chance around the navy yard than anybody else who had been there for many a day in a similar position. Considerable pressure was, in fact, put on me to remain, but I could no longer stand for accepting more money from a father with a large family still on his hands, when I knew that I was worthy of enough remuneration to take care of myself, and so I quit anyhow and came to this country.

Another thing that helped me to make up my mind to come to this country was an experience that made me feel very sore the year I spent partly at the school, partly in the superintendent's office, where, among other things, I had the supervision

of the chain testing in the navy yard.

For private parties this chain testing had previously to the hard times been done on overtime, and the supervisor had for this work received the "munificent" compensation of half a crown (about 13½ cents) an hour, while it fell to my lot to do this on regular hours at 10 ore (about 2¾ cents) an hour. This appeared to me very unjust, and on my pointing the matter out to the manager this official took the matter under advisement, only later to tell me, through one of the chief engineers in the navy, who was just then also doing duty in the superintendent's office, that, while he felt that I was entitled to the extra pay that had always gone with his private chain testing, and while he would be glad to give it to me personally, he did not dare to do so, because I might get a successor who would not deserve it.

I have never been able to forget this man for his perverted ideas of good management and justice, and I have mentioned the incident as one of many I could give to show that I have in the past been made fully aware of what it means to work without adequate pecuniary reward. Allow me to add, however, that never for a moment in all my life have I permitted dissatisfaction with my pay to detract from the enthusiasm and energy with which I have always tackled any piece of work intrusted to me; and not long after the incident related the superintendent told the same chief engineer that I ate up work so fast that he hardly knew how to keep me going.

Mr. Redfield: Then you came to America?

Mr. Barth: Yes; I came to America, and with no great ideas about picking up \$20 gold pieces in the streets, but merely to try to make money enough so that I would not have to burden my father any longer.

Mr. Redfield: Mr. Barth, I want to ask you to boil this down, if you can. We have to print it all, and it will make quite a good deal.

Mr. Barth: Can I not boil it down later, with your permission?

Mr. Redfield: No; you just boil it down now.

Mr. Barth: Please remember that I don't do this kind of a thing as a regular business.

The Chairman: I think Mr. Redfield is entirely responsible for the situation.

Mr. Redfield: Tell us what your experience has been as briefly as you can.

Mr. Barth: I came to Philadelphia, where I got a position in the drawing room of William Sellers & Co., and I want to tell you just how it happened. I had a friend working for that Company, through whose recommendation I was invited to call on Mr. Coleman Sellers, Jr., now president of the company, to show my examination drawings from the technical school. This gentleman found my drawings so satisfactory that he took them to Mr. William Sellers himself, who declared them to be the finest school drawings he had ever had presented to him. As a consequence I was offered a place in the drawing room of this company at \$2 a day to start with. This was more than I could imagine myself worth, however, and I humbly suggested that they better start me off at \$1.50 only until they actually found out what I would be able to do for them; but even so, I can assure you that my first week's pay looked pretty big to me.

I got along very rapidly with William Sellers & Co., and my efforts were well appreciated by little voluntary increases in my pay from time to time until I reached \$20 per week, after which I had to make a fight for every additional cent of increase I received.

I had in the meanwhile married and gotten a family on my hands, and as the demands on me became more pressing I was made to realize more readily than I otherwise would have done that I was getting more and more valuable to the company; and as this grew on me I got my Dutch up from time to time and made demands for wages more commensurate with my services.

I mention this to show you that I know what it is to have to fight for one's rights, and also because I want to tell you that I have great sympathy for the average man who has not the gumption to fight for his rights the way I have done on numerous occasions; for when my Dutch is up I fight for what I consider right regardless of consequences; and I have as often done this for my fellow man as I have for myself.

I mention this to convince you that I have never represented the management side of any concern as against the workman, for I have always looked upon these as my fellow workmen.

With an intermission of less than a year, I was with William Sellers & Co. nearly 14 years.

Mr. Redfield: What did you do when you left

Sellers?

Mr. Barth: I left there during the hard times of 1905.

Mr. Redfield: How much pay were you getting when you left?

Mr. Barth: \$3,000 a year; but I could relate an incident that would prove that I could readily have had \$4,500 a year, and perhaps \$5,000, four years earlier, if I had been as hard after money as some people are. However, as this incident is a reflection on the ability of a past admiral of the United States Navy who stands high in the estimation of the present Secretary of the Navy, it better be left out.

Mr. Redfield: What were you doing?

Mr. Barth: I was chief designer when I left.

Mr. Redfield: Designing machinery?

Mr. Barth: Yes, sir.

Mr. Redfield: What did you do next?

Mr. Barth: I had several reasons for leaving William Sellers & Co. when I did. In addition to working for them during the day I taught mechanical drawing in the Franklin Institute evening schools for six years, and gave private lessons in mathematics during the remaining evenings of the week. After this I ran an evening school of my own for two years, and through this work cultivated a desire some day to become a professor in an engineering school in this country.

With this in view, I gave up further night work for money, and set to work to utilize all my spare time to further improve my theoretical knowledge of engineering subjects.

I also contemplated leaving Sellers and go somewhere else where I could get practical experience in other lines of engineering, so that when I finally presented myself as a candidate for a professorship I might be a strong one. My desire to become a professor came from a natural tendency to instruct everybody less informed than myself, and at Sellers' I was constantly helping the younger men along, a fact much valued by the company.

Accordingly, when the hard times came on, and the company wanted to cut everybody 20 per cent, including a countryman of mine who had worked directly under me for two years, and who had developed to a point where he was worth far more than he was getting, I protested that I thought the only fair thing to do would be first to raise everybody that would have received an increase