Memo about (absolute zero - the conquest of cold)

Engineering

Absolute Zero: The Conquest of Cold In the documentary film from YouTube about heat and cold, the narrator takes us through a series of developments and discovering pertaining hot and cold. He describes in details the scientists whom were involved in the process that resulted in eventually inventing artificial refrigeration in the 20th century. Before this, a number of physic theories were applied towards in development. One of them include the caloric theory which stated that heat usually consisted of a given fluid (called caloric) and could be transferred basically from one form (body) to another. In addition, the theory also emphasized that heat could neither be “ destroyed” or “ created.” Entrepreneurs like Frederick Jude and Henry Feroe, who started a company that offered shipment services that were preserved by ice which he got from around his place. He knew that ice (cold) could be used as a preservative and hence commercialized its use. The idea became more popular as the world got into the industrial revolution. If not for Joule, the concept of energy conversion from mechanical to heat energy could not have been utilized. Joule demonstrated through his experiment of the possibility of converting Mechanical energy into heat. It is by the help of Thompson that he improved on Joules theory and came up with the Laws of Thermodynamics. The first Law of thermodynamic stated that energy can always be converted from form to form, but cannot be destroyed or created. The second Law of Thermodynamics stated that heat cannot move from a cool surface to a hot surface. The first substance to be used in artificial refrigerators as working liquid was ammonia liquid. It is evident from the documentary that the invention of the refrigeration system took a very long time as it entailed a cocktail of a number of theories before it was actualized. After the first artificial prototype was made, several attempts to come with a

good refrigeration system was put in place and several companies ventured into its production becoming a commercial product.

In the documentary, I found it interesting how the refrigerator came to be made. As we live in today’s world, one cannot always appreciate some of the inventions unless they look back into the history involved in its making. It is a fact that the making of the first artificial refrigeration system took many decades before it came in place as it entailed a number of theories and facts before any agreement could be made regarding how it should work. Eventually, through the discovery of the law of conservation of energy together with the law of thermodynamics, really helped in understanding how a refrigerator should work. It is upon the help of our forefathers in the field of physics that inventions like the modern refrigeration system came into existence.

Work Cited.

Absolute cold: The conquest of cold. Retrieved on 13th February, 2014. https://www. youtube. com/watch? v= oCn8e6GnmLI