Article Summary

*Equipment: Instruments (3)*

**Citation**: Benade, Arthur H, and Keefe, Douglas H, *The Physics of a New Clarinet Design*. The Galpin Society Journal, Mar 1996, Vol 49, pp 113-142.

**Article Title**: *The Physics of a New Clarinet Design*

**Author**: Arthur H. Benade and Douglas H. Keefe

**INSTRUMENT**: Clarinet

**Magazine or Journal Title**: The Galpin Society Journal

**Summary**:

1. Arthur Benade in the 1980s wanted to apply his knowledge to create a new clarinet.
   1. NX (New experimental clarinet)
2. Provided is a very in depth explanation of the factors that contributed to his design.
3. Tuning a Clarinet
   1. Graphs and equations are provided explaining the basics and specifics of tuning
4. Design considerations for the NX clarinet
   1. The register-hole system
      1. Goals
      2. Concept of system
   2. Non-linear effects
   3. Conical terminations and flaring bells
      1. Purpose of the flaring bell
5. Experiments of the NX clarinet
   1. Graphs provided for the alignment of playing frequencies
   2. Comparisons are made to Buffet clarinets
   3. Diagrams of the keys and mechanics of the NX clarinet
6. Conclusions
   1. This clarinet represents a strong achievement
   2. This design used:
      1. Knowledge of physics
      2. Knowledge of player
      3. Knowledge from playing experiments