## The Meier & Frank Clock

This clock is 9 feet, inches in height. It is 29 inches wide and 25 inches deep. It has an Oak case with glass panels in the upper and lower doors on the front and both sides. Inside the wooden case is an inner frame made of iron 99 inches high, 26 inches wide and 22 inches deep. The inner frame starts from a solid iron base plate at the floor of the case and extends upward 5 ½ feet to another full iron plate that supports the movement. This inner frame also serves as housing and support of the automatic winding mechanism.

The dial is 17 inches in diameter and has gold plated Arabic applied numerals and center medallion on a silver, back plate. The hands are pierced and there is a second bit. The movement beats seconds with a mercury-filled pendulum of which I would guess to be 75 to 80 pounds.

A Grimthorpe double three-legged gravity escapement times the movement. This has two sets of three lifting pins, one for each of the two gravity arms; one in front of and one behind the two gravity arms. Each lifting pin locks on a pallet projecting forward from the left gravity arm, and the rear left pin locks on a pallet projecting backward from the right gravity arm. Both pallets are above the centerline of the lift pin arbor and each locks on a radius of 60 degrees from vertical. The two sets of lift pins are positioned on a common arbor 30 degrees out of alignment with each other so that in six beats of the one second pendulum there is one revolution of the lift pin arbor which is then transmitted on to the rest of the train.

The winding of the clock is done automatically once a day by an electric motor coupled to a worm drive to a gear box assembly which in turn connects to two keyed shafts that project from front to back of the gear housing On each end of these two shafts there is a 5 inch sprocket (4 sprockets). When the winding mechanism approaches the bottom of the case the electrical contacts to the motor are closed and through the action of the rotation of the four sprockets the entire winding mechanisms approaches the bottom of the case the electrical contacts to the motor are closed and through the action of the chains (front and rear) until the upper shut off point is reached and the motor stops. At this point the entire winding mechanism is being suspended by the two chains, which are looped over the sprockets on the driving arbor of the movement. Thus, the winding mechanism itself is the weight that drives the clock. The movement also has maintaining power.

This Master clock was made by the E. Howard Co. of Boston about 1910 specially for Meier & Frank Co. along with a number of slave clocks that were located though out the store. The master clock was located in a meeting room on the fourth floor. There was one large slave clock suspended from the ceiling at the center location of each of the retail floors. The slave clocks had double-sided glass dials 24 inches in diameter and each was housed in a heavy bronze cast case. Originally the winding mechanism and slaves were designed for direct

current. About 1947, direct current was no longer available so the master was converted to alternating current and the slaves were changed to synchronous AC, and later changed to more modern clocks. The master clock was taken out of service in 1953 and acquired by Alder Street Clock Shop who had held the contract for its maintenance.

In June of 1999 Mr. Clyde Colvin, one of the founding members of chapter 31 and original owner of The Alder Street Clock Shop, had made arrangements with Mr. Joe Dahl the present owner to donate this clock and one of the slave clocks to chapter 31. The agreement in the donation document was that the clock would be displayed in a public place. The shop was being closed and the building was to be vacated by July 1. So, with little time it was decided to move the clock to The Gresham Pioneer Museum, 4$^{th}$ & Main, Gresham, Oregon. It can remain there indefinitely or until the chapter finds a more appropriate location. This is really a unique timepiece and I would encourage everyone to see it.

Bob Schug