2017

UA1F WKU Carillon / Cherry Hall Chimes

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The Carillon

The bell instrument on which Mr. Klein presents this recital is one of the many different carillons which are handcrafted into being in Sellersville, Pennsylvania, the bell capital of the world, the site of Schulmerich Carillons, Inc.

Well established after more than 40 years of producing bells, the company is one of very few whose product is unique and whose manufacturing philosophies are dedicated solely to the perfection of its products . . . the perfectly tuned bell(s) of each Schulmerich instrument.

The carillon being heard in Mr. Klein's recital is the end result of a concept formulated in the '30's when George J. Schulmerich, then a sound system expert installing systems in churches, noted that many of the churches which he visited had no bell or no bell tower. Some had a bell which was cracked and useless; some had a perfectly good bell in a tower so weakened by the stressors of swinging the bell that further use of the bell was dangerously prohibitive; some churches could not afford the cost of a cast bell. In one of those rare flashes of insight he decided that he could develop an instrument which would reproduce the sound of the expensive cast bells at much more reasonable cost, and at much less wear on the physical properties of church towers.

It is interesting to reconstruct the train of thought which led Schulmerich to the bells on which Mr. Klein presents his recital. The sound of a bell is, of course, a percussion sound. In any household, there are a number of artifacts which will produce a quasi-bell sound…a metal wastebasket, a metal ashtray, a pot or pan. The metal of railroad track, struck by the pseudo-clapper of a sledge, will produce a ringing sound, and so did the long-forgotten circle of suspended steel rail which was once used to sound the fire alarm in every American community. These facts were not lost on Schulmerich who realized that a bell is not a shape, but a sound.

Basic research established that the desired bell tonal quality could come only from some shape formed from the bronze bell metal. Further research disclosed that a good bell was tuned in different ways; i.e., the Flemish bell, or the English bell. Since sound is a function of frequency of vibration, and because Flemish bells have five separate distinct tones, it followed that a bell . . . whatever its shape . . . must vibrate at five different points along its profile when struck by a single clapper.

The new Flemish bell form which emerged from the Schulmerich engineering laboratory was unlike any form envisioned at the project's outset. It was, in fact, a series of rods of bronze bell metal, grooved, collared, weighted, suspended in various ways, and of various cross-sections, and struck by a tiny clapper to produce the perfect, five-partials of the Flemish bell. Fed electronically through an amplifier into specially-compensated stentors, a few ounces of Schulmerich bell rod produce the equivalent of a cast bell weighing 42,480 pounds…more than 21 tons.

Most importantly, the small, physical dimension of the Schulmerich neo-form bell made it possible to achieve tuning accuracy unapproachable in cast bells. That traditional bell form is cast in a mold, which, as closely as possible, approximates its final, turned

profile. Laboriously and ponderously, the casting is then turned in a lathe for final tuning, which consists of removing metal from the inner profile of the bell. In terms of 5 or 10/000 of an inch, too much metal removed from here or there on a cast bell makes it useless as a carillon bell; the only recourse is to re-cast it and start the whole ponderous procedure anew.

In contrast, the Schulmerich, neo-form bell tuning is accomplished perfectly and routinely by simple adjustments of its various parts. Sophisticated Schulmerich electronic instruments measure the frequency of each partial in each bell, telling the technician the exact nature and the exact degree of any correction to bring each bell into perfect tuning, and which thereafter needs no further tuning. Hence, the perfection of these recital bells.

Mr. Klein's recital instrument is one of the widely-diverse range of bell instruments created by the company in Sellersville, Pennsylvania. Mr. Klein worked closely with company engineers in developing new bell color voices…Harp, Celeste, Quadra, and Minor Tierce bells. These new bell voices are beautifully consonant, not only with each other, but with the Flemish or English tuned bells. The bells can be "ranked" in any combination(s) up to 671-bells, making it possible for any institution to select the instrument best meeting its needs, or any donor to select the bell instrument of his or her taste. (Most Schulmerich bells are purchased by donors, either as outright gifts or as memorials.) To any such instrument can be added the colorful solo voice of the English bells, treasured for their especial sonority.

The tone of a bell has the unique ability to reach people by awakening a natural inner response of well being. This response may be emotional, joyful, prayerful, brotherly or whatever. The music of bells is the voice of life and its many facets of individual response. May your enjoyment of the bells be satisfying and memorable.

Cherry Hall Chimes

After 36 years, Cherry Hall was closed for renovation at hte end of spring semester 1973. At this point the new electronic carillon chime system came into reality. A new "Model 180 Coronation Carillon" was installed. It was equipped with a keyboard and a roll-player which provided a repertoire of 72 tunes. Others can be added later.

A sounding of each quarter, half, three-quarter and hour will bring forth Westminster style chimes.

The roll player is a device (much like a player piano) which plays the carillon bells through the use of continuous rolls of perforated plastic about 10 feet in length. The rolls actuate the circuits which strike the bell units, thus duplicating the performance of an artist at the keyboard. The rolls can play either a single desired selection or an extended program.

The system is based on electro-mechanical bells made of small bronze rods (bell metal) which are struck by tiny hammers (clappers) to produce English-tuned bell sounds. The tone of a tuned bell actually consists of a basic tone and several partial overtones. The inventor of Cherry Hall's carillon electro-mechanical bell system made it capable of being tuned with far greater accuracy than can bells made by casting. By adding electronic amplifiers the system is light, compact and economical.

Cherry Hall's first chimes were placed in Cherry Hall in 1957. They could be played manually in room 301 of Cherry Hall. Their tones were picked up by microphone and transferred to speakers in the tower.

The new carillon will have equipment in the same room of Cherry Hall and will sound by schedule. The keyboard can also be moved to the portico in front of the building where there will be a connection for an ordinary voice microphone.

The carillon system consists of 25 miniature bell units which are amplified more than 100,000 times by the electronic system.

The unit in Cherry Hall is the equivalent of almost 80,000 pounds of cast bronze bells tuned to the finest English standards. The bell tones range from G below middle C to the G two octaves above. The lowest G bell is equal in tone to a cast bell weighing some 13,250 pounds.

The newly advanced contemporary electronic carillon chimes still evoke memories of the past.