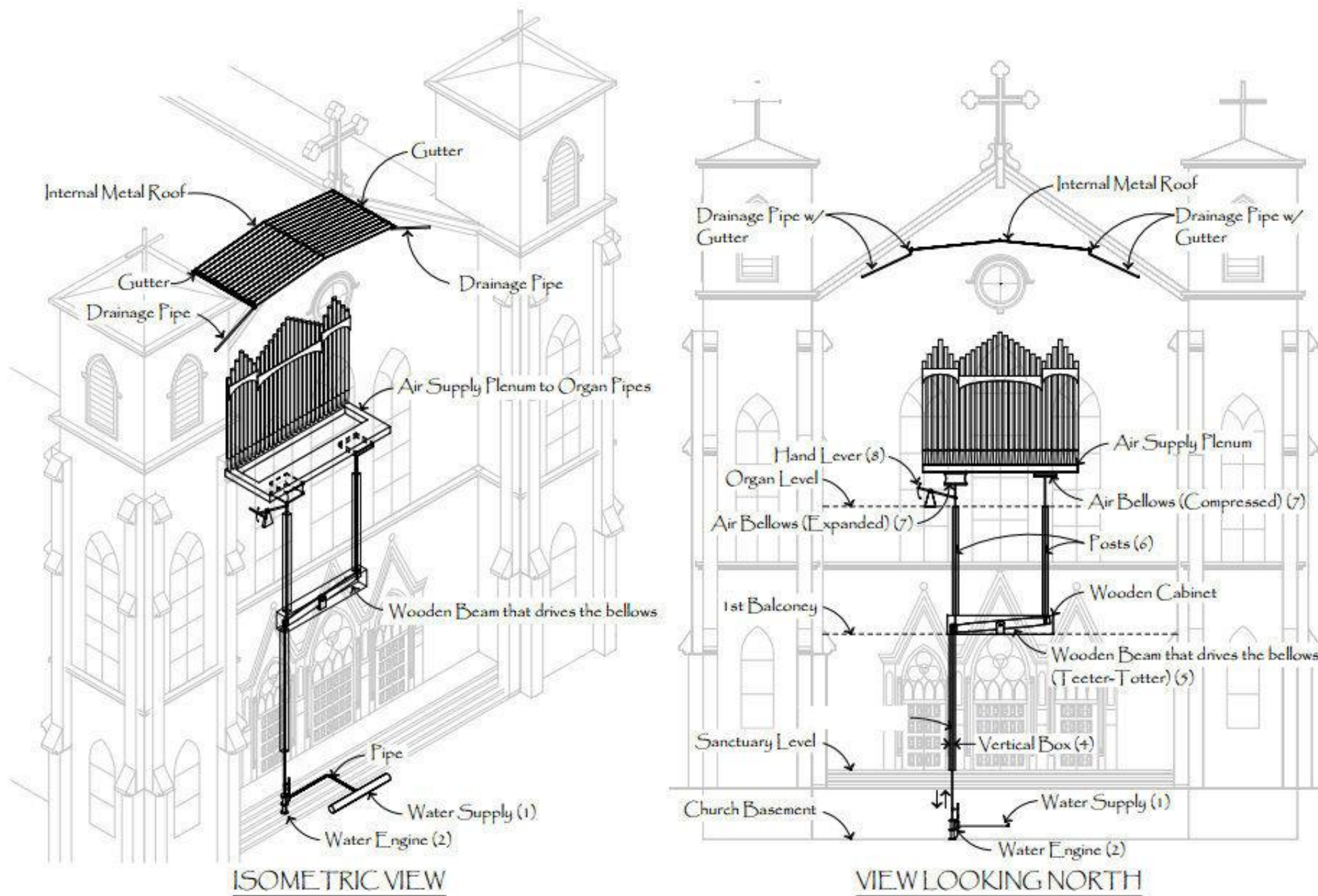


## 1887 Felgemaker Pipe Organ Original Water Power Mechanism with Protective Interior Roof



**WATER POWERED PIPE ORGAN.** In 1887 the pipe organ was built before electricity came into common use. It was a completely mechanical device. Wind to the pipes was provided by a water engine located in the church basement.

**CELLAR LEVEL: THE WATER SUPPLY AND WATER ENGINE.**

The Dayton City Water Supply (1) was located below grade under the street in front of the church steps. A pipe fed the pressurized water horizontally to church property into utility area in a small cellar under the church steps, where the Water Engine (2) was located. The water engine connected to a Drive rod (3) that moved vertically up/down. This drive rod extended upward from a small spot inside where the men's restroom is located today. This rod continued into and through the entire height of the church entranceway.

**SANCTUARY LEVEL: THE TALL BOX.** An enclosed Vertical Box (4) extended from floor to ceiling at the entrance vestibule of the church. This box protected people from coming into contact with the drive rod that was inside, and likely muffled the mechanical noise. That same box remains today as a pathway for electrical wiring.

**FIRST BALCONY LEVEL: THE TEETER-TOTTER TWO MORE TALL BOXES AND A CABINET.** This vertical drive rod was connected to one end of a rigid horizontal wooden Beam that rocked on a pivot, to make a Teeter-Totter (5). This teeter-totter mechanism is located on the first balcony, encased in a wooden cabinet. Two vertical Posts (6) extended upward from the top of each end of the teeter-totter. Similar in appearance to the vertical box at ground level, two vertical box enclosures of these rods extended from the wooden cabinet into the ceiling.

**ORGAN LEVEL: TWO AIR BELLOWS.** These two posts moved alternately up/down' expanding and compressing two Air Bellows (7) or each side of the organ on the next floor level to feed to the Air Supply Plenum (9).

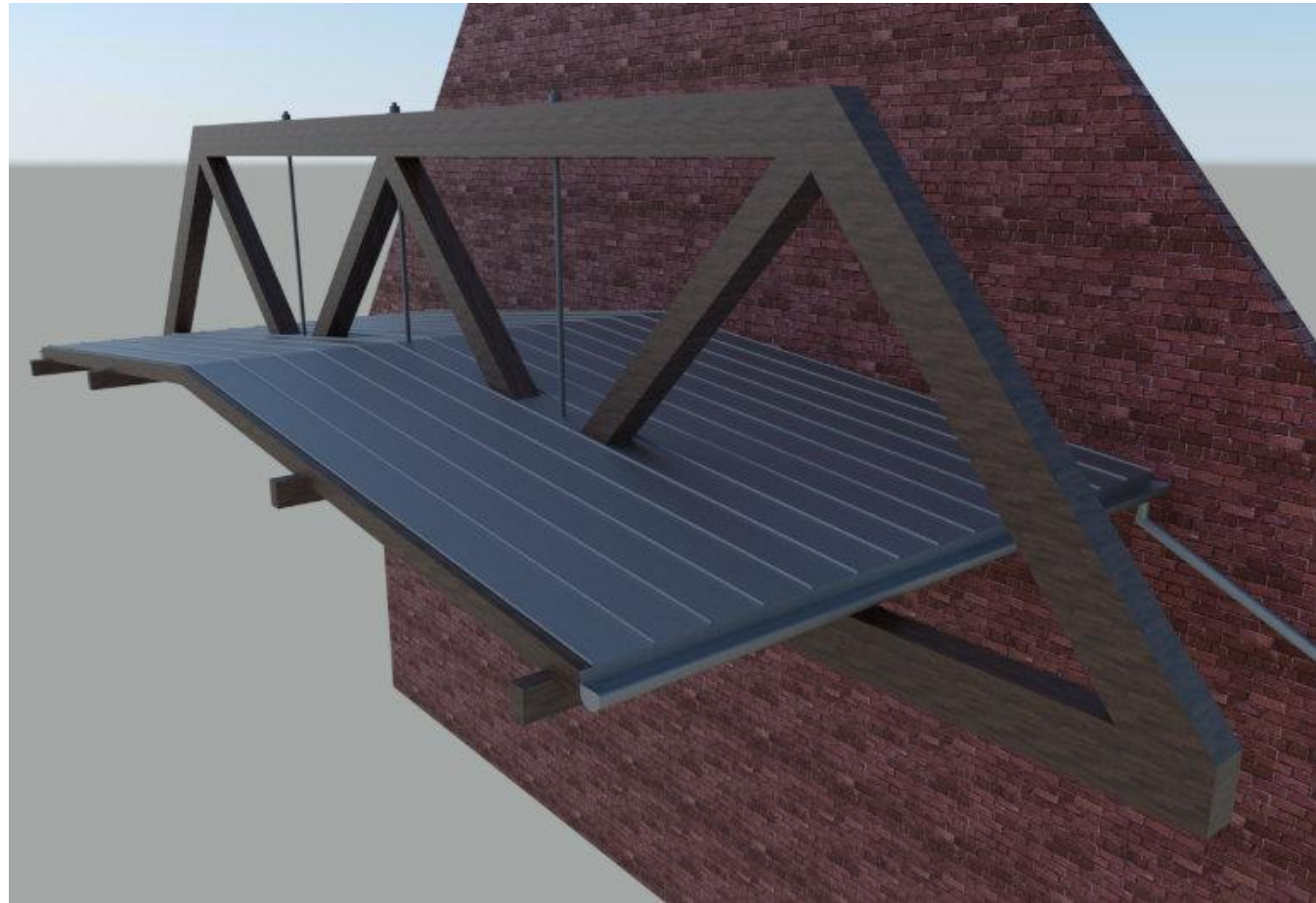
**HUMAN BACK-UP POWER.** As a back-up, a person (known as a *calcant*, or *organ-pumper*) would operate a Lever (8) to the organ bellows in case the main mechanism might fail.

**THE WATER ORGAN TODAY.** The original water power mechanism is no longer functional, and its history had been mostly-forgotten. The existence of the mechanism on the premises was unknown. It was in mid-summer, 2012, that the vestiges of the original water mechanism were discovered unexpectedly in the course of routine maintenance. That important moment led to a happy rediscovery of this important part of the history of Emmanuel Church.

**PROTECTIVE INTERIOR ROOF IN THE ATTIC.** A massive interior roof structure was constructed in the attic over the pipe organ. If the outside roof should leak, the water damage to the organ could be devastating. For additional protection, this second roof, constructed of raised-ridge sheet metal, wooden planks and beams, is positioned below the eaves of the church building and above the organ area, complete with metal gutters and downspouts. *Illustration by Darren Markins*

*Information provided by Emmanuel Catholic Church, Dayton, OH – posted to <http://www.n8rrb.com/pipeorgans/emmanuelcc>*

## PROTECTIVE INTERIOR ROOF IN THE ATTIC



A massive interior roof structure was constructed in the attic over the pipe organ. If the outside roof should leak, the water damage to the organ could be devastating.

For additional protection, this second roof, constructed of raised-ridge sheet metal, wooden planks, heavy beams, large bolts, and guy wires, is positioned below the eaves of the church building and above the organ area, complete with metal gutters and downspouts.

