

Vault Light History

Cast-iron vault lights were originally patented by Thaddeus Hyatt in 1845. As envisioned by Hyatt, the system incorporated small glass lenses set into cast-iron panels. The panels were modular, allowing for installation over large areas. Vault lights, sometimes referred to as "Hyatt Patent Lights," became widespread through the second half of the nineteenth century, paralleling the rapid development of cast-iron architecture (see figures a and b). As detailed in numerous historical trade catalogues of the time, vault lights were marketed to building owners and architects as a safe, inexpensive daylighting system that allowed for the conversion of previously "unusable" basements into "rent-earning, productive work space." Prismatic pendant (or "saw-tooth") lenses were often used in place of the basic lenses because the angled projections on the underside of the prism bent light rays, directing them to the inner reaches of the lower levels (see figure c).

Vault lights were also widely employed in the early 1900s construction of New York City's first

subway system (see figure d).

Purposefully employed by the designers of the Interborough Rapid Transit Company's (IRT) subway, vault lights were constructed in the ceilings above the platforms to create an inviting underground space for a public unaccustomed to subterranean travel. Along with decorative amenities and the promise of rapid transit, the subway depended largely on pure, natural light to attract its riders.

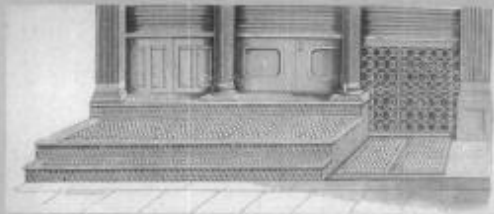


Figure a.



Figure b.

With the emergence of Portland cement as a new building material at the end of the nineteenth century, vault lights were increasingly constructed with round, translucent glass lenses set into reinforced concrete. The new concrete-and-glass version improved durability, waterproofing and slip-resistance while producing the same illuminating effect.

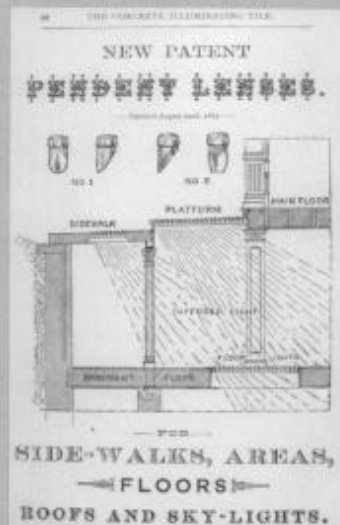


Figure c.



Figure d.



