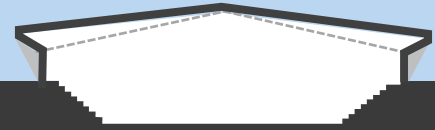


# 'It's Cheaper to Dig than to Build': Ralph Legeman's Sunken Gyms



By Danielle Kauffmann, Director of Engagement  
Indiana DNR, Division of Historic Preservation & Archaeology

The theme for **Indiana Historic Preservation Month 2024** highlights Indiana's historic scholastic gymnasiums. Indiana's fascination with basketball goes back almost to its invention in 1892. The sport especially grew in popularity between 1911 and 1937, when the number of teams in the Indiana High School Athletic Association's state tournament expanded from 12 to more than 800, establishing what is now known as "Hoosier Hysteria."

Gymnasiums over time grew to accommodate large crowds for tournament games. Early gymnasiums were often connected to the original school building and featured little to no space for spectator seating. Eventually they were constructed as stand-alone buildings, providing more room for spectators. However, as gym structures got bigger, the need for columns or pillars to support the size of these buildings limited sightlines, and standalone buildings were expensive for small communities to build. That changed with the creation of the "sunken gym" pioneered by Evansville-based architect Ralph Legeman. His patented design allowed ample space with unobstructed views and an efficient usage of materials, all at cost savings for construction. Many of Legeman's gyms are still in use and are some of the most popular gyms to visit in Indiana.

Legeman was born in Evansville on July 2, 1904. He graduated from Evansville Central High School in 1921 and soon joined the architecture firm Shopbell, Fowler, and Thole. Five years later he organized Thole and Legeman, which was reorganized in 1931 as Fowler and Legeman. By 1940, he created Ralph Legeman and Associates.

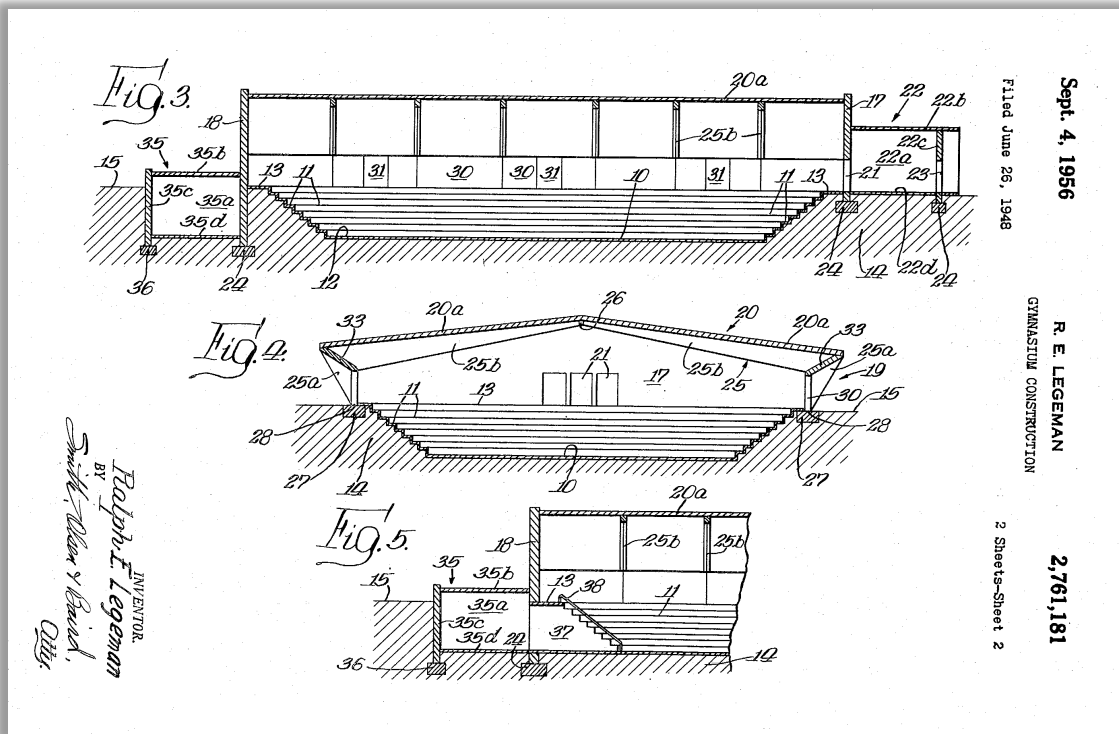
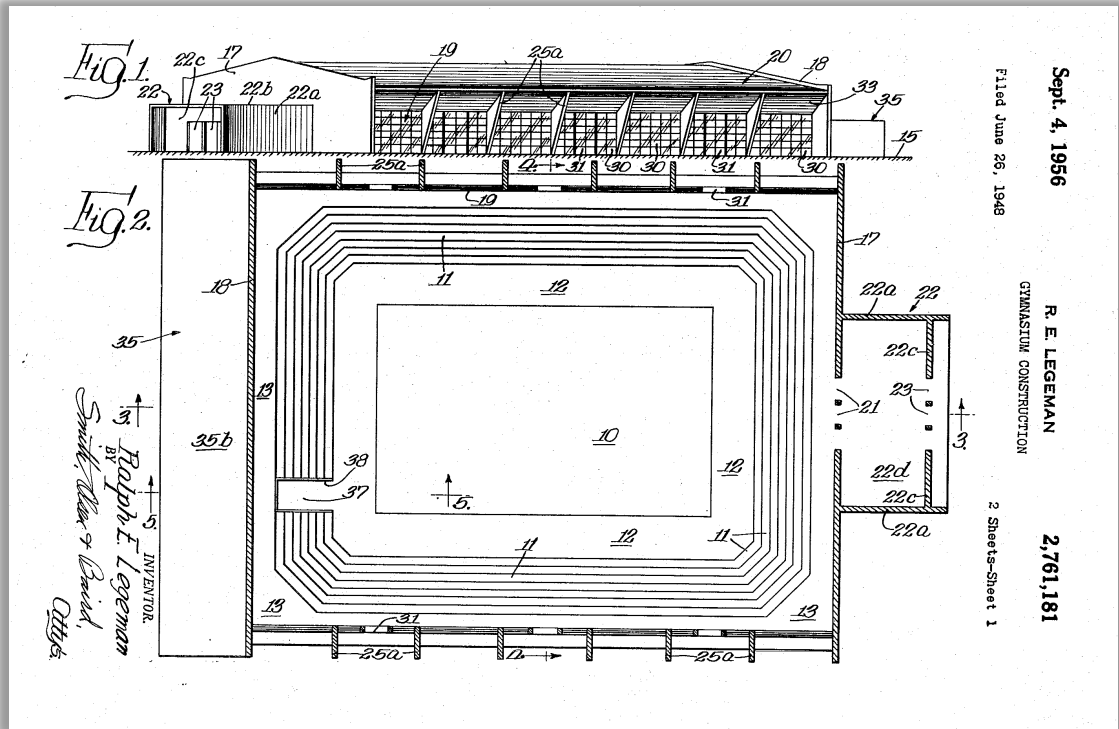
In the years following World War II, Legeman experimented with materials and designs that would result in cost savings across the board. He was primarily interested in school architecture and designed Evansville North High School, as well as fellow town schools Perry Heights Middle School, Dexter Elementary, and Harper Elementary.

In 1946, he was asked to design a new gymnasium in Herrin, Illinois. The school wanted a gymnasium that could hold a large crowd but not at the expense of a large price tag. Comparing the needs and the costs, he landed on a sunken structure design that included ten rows of bleachers in a new, octagonal layout. Concrete bleachers were built directly into the sloping, excavated ground, and only the roof and upper walls rose above the ground. Steel trusses that line the top of the building didn't require additional pillars or columns on the interior that hindered the sightlines of the basketball court. The Herrin High School Gymnasium opened in 1949.



**Ralph Legeman** in 1956  
(*Indianapolis Star Magazine*,  
"Basketball Goes Underground,"  
February 12, 1956)

Legeman filed a patent application on June 26, 1948, for this design. He detailed its purpose was "to provide a new form of gymnasium which will be economical in construction, safe and convenient in use and attractive in appearance." The patent was issued eight years later in 1956 (US 2761181 A).

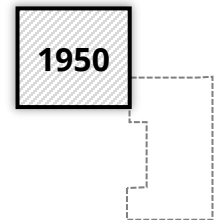


US Patent drawings of Ralph Legeman's sunken gymnasium construction

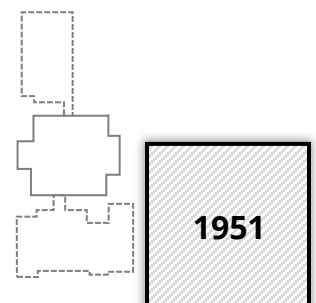
The success of this design spread and a similar model was used for new gyms in Owensville, Indiana, and Norris City and Murphysboro, Illinois. The Owensville Bowl opened with a capacity of 2,000. His second Indiana gym, the Huntingburg Memorial Fieldhouse, was dedicated in November 1951 with a capacity of 6,000 across 17 rows. Over a span of twenty years, his design would be used for more than 27 gymnasiums that varied in occupancy from 2,000 to 10,000 in Illinois, Indiana, and Michigan. Some communities commissioned to build gymnasiums so large that they could accommodate more than their entire population, attracting coveted Indiana high school basketball tournament games.

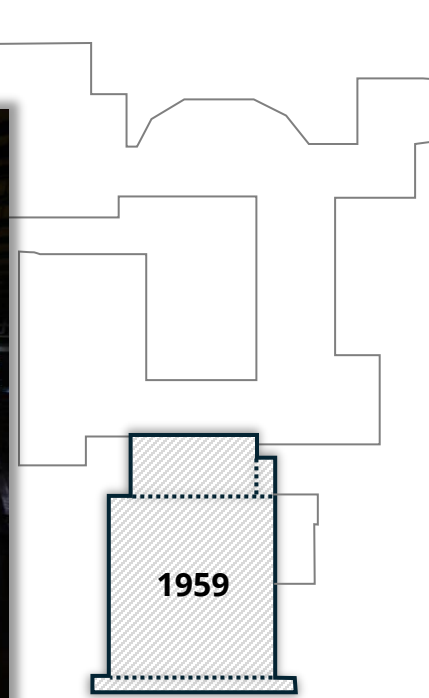


**Montgomery Township Gymnasium, Owensville, the first of the sunken gyms constructed by Ralph Legeman in Indiana**



**Huntingburg Memorial Fieldhouse c. 1990 (Courtesy of Indiana Album: Harley Sheets Collection)**





Interior of **New Castle Fieldhouse**, considered the largest basketball gym in the country (Photo: DNR Communications)

With the sunken bowl design, fans enter at street level and find their seats from above, allowing no distractions to the action taking place on the court. Numerous doors at ground-level provide spectators with a quick and efficient exit at the conclusion of a game. Because the bulk of the building is below ground-level, the “cost of construction is greatly reduced as compared with former practice,” according to the patent. By using the ground as primary support, the weight of the bleachers was no longer a worry and as a 1956 Indianapolis Star feature detailed, the weight of the roof “stands like a multi-legged spider on the ‘haunches’, imbedded in concrete.”

Gyms using this design are easy to recognize; their form is a direct result of the function that they serve. While the buildings may seem to be unassuming one-story structures, rows of steel trusses can be spotted projecting diagonally from the side walls, acting as buttresses and supporting a low slope gabled roof. The buildings’ exteriors are overall simple – buff brick with some windows on the sides to provide natural light. What is lacking in ornamentation and detail on the exterior is made up for in the cavernous interior space allotted for the gymnasium and seating. Because the court is built into the ground below, the gym has a much greater capacity than it would appear when viewing the structure from the outside.



**Center Grove  
High School West  
Gym, Greenwood**

1954



**Edinburg High School  
Gymnasium, Edinburg**

1957

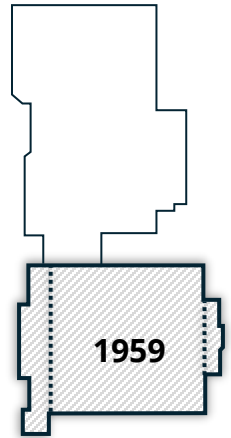


*Historic postcard of **Boonville  
Gymnasium** (Courtesy of  
Indiana Album: Harley Sheets  
Collection)*

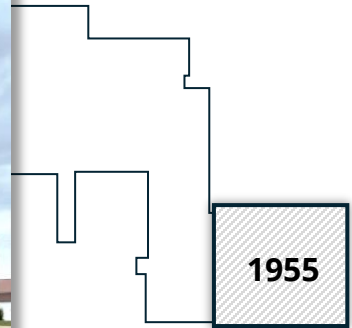
1958



**Nicosan Hall,**  
*University of Indianapolis*

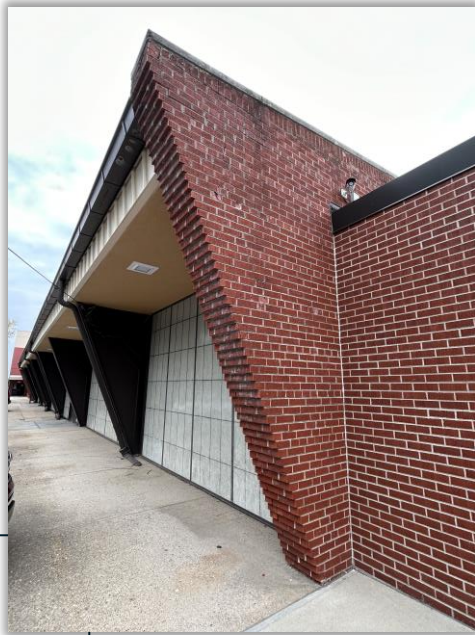


**White River Valley High School Gymnasium,** *Switz City*



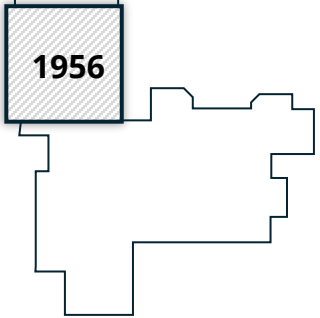
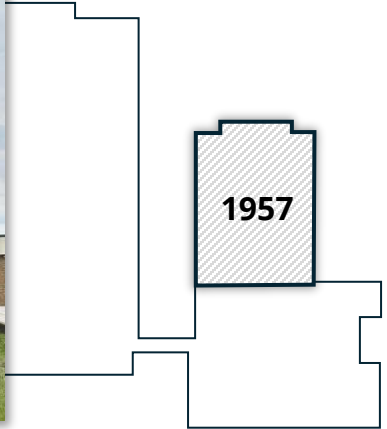
**Springs Valley High School Gymnasium,** *French Lick*  
*(Photo: DNR Communications)*





Left: **Clay City High School Gymnasium**, Clay City

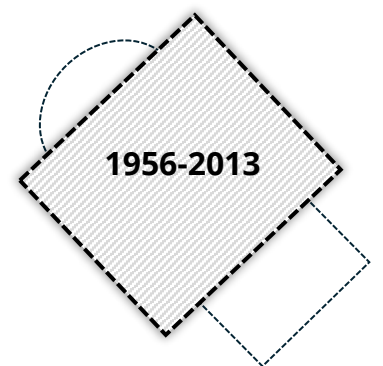
Right: Former **North High School Gymnasium**, Evansville



In Evansville, Legeman built multiple gyms featuring this design, including Evansville North High School (now Academy for Innovative Studies) and Roberts Stadium (demolished). Coincidentally, while he first built a home on Roosevelt Avenue in 1937 (Indiana Historic Sites & Structures Inventory #163-196-51261) and lived there until the 1960s, he later constructed and moved to a home on St. James Boulevard which utilizes the same sunken design.



**Roberts Municipal Stadium**, Evansville (demolished)  
(Courtesy of Indiana Album: Harley Sheets Collection)



Legeman retired in 1972 and died on July 3, 1974. Many of his gyms and gyms that utilized his patented design are still around and enjoyed by countless basketball fans every year.



# “Sunken Bowl” Gym Designs in Indiana

**\*Note** – This list contains gyms constructed by Legeman & gyms constructed by others utilizing this patented design.



- 1950 ● **A.** Owensville High School (Owensville)
- 1951 ● **B.** Huntingburg High School (Huntingburg)
- 1952 ● **C.** Lynnville High School (Lynnville)
- 1953
- 1954 ● **D.** Center Grove High School West Gym (Greenwood)
- 1955 ● **E.** White River Valley High School (Switz City)
- 1956 ● **F.** Clay City High School (Clay City)
- **G.** Roberts Stadium (Demolished - Evansville)
- 1957 ● **G.** Evansville North High School (Evansville)
- **H.** Edinburgh High School (Edinburgh)
- 1958 ● **I.** Boonville High School (Boonville)
- **J.** Connersville High School (Connersville)
- **K.** Carmel High School (Carmel)
- **L.** Orleans High School (Orleans)
- 1959 ● **M.** New Castle Fieldhouse (New Castle)
- **N.** University of Indianapolis, Nicosan Hall (Indianapolis)
- 1960 ● **O.** West Vigo High School (West Vigo)
- 1961 ● **P.** Springs Valley High School (French Lick)
- 1962
- 1963
- 1964 ● **Q.** Brownstown Central High School (Brownstown)
- **R.** West Washington High School (Campbellsburg)
- 1965
- 1966
- 1967 ● **S.** Eastern High School (Pekin)
- **T.** Indian Creek High School (Trafalgar)
- 1968 ● **U.** Loogootee High School 'Jack Butcher Arena' (Loogootee)

## References for further reading:

The Man Behind the Sunken Gym & Many Memories: <https://oldstadiumjourney.com/the-man-behind-the-sunken-gym-many-memories/>

Ralph Legeman – A Forgotten Man, but not his Basketball Gyms: <https://oldstadiumjourney.com/the-man-behind-the-sunken-gym-many-memories/>

Boxscore: A Publication of the Indiana High School Basketball Historical Society: [http://www.indianabasketballhistory.com/Boxscore\\_back\\_issues/2012\\_4\\_winter.pdf](http://www.indianabasketballhistory.com/Boxscore_back_issues/2012_4_winter.pdf)