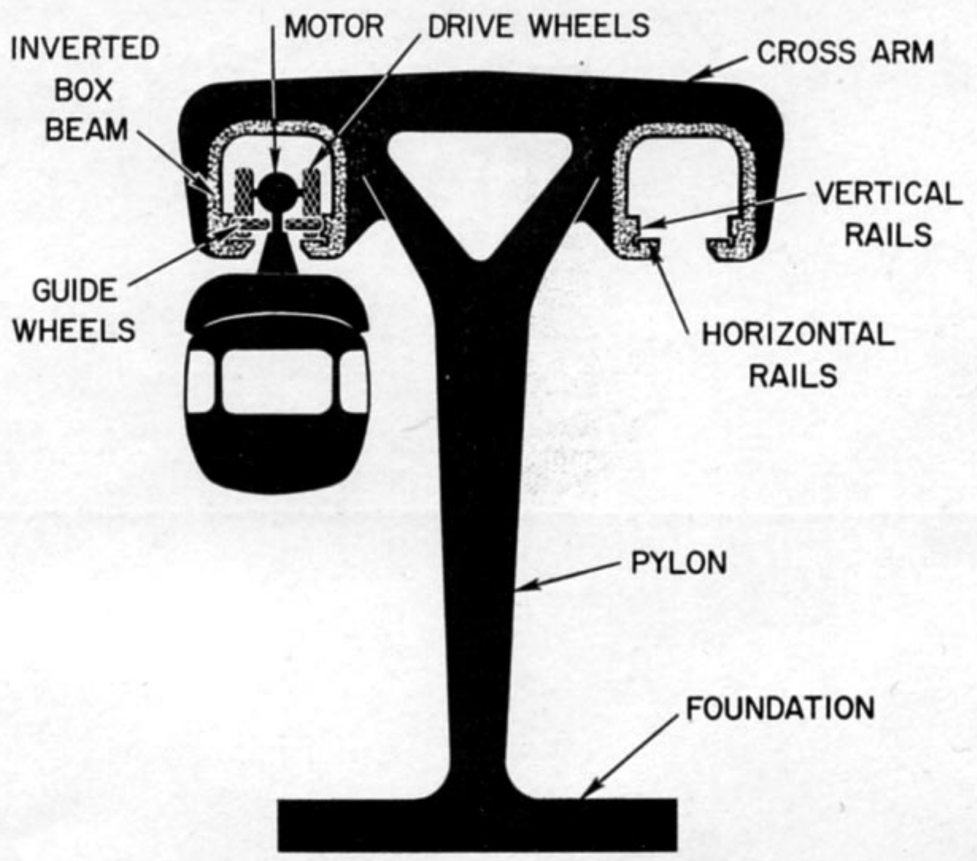
AMF and the Monorail



Success in marketing monorail systems in U. S. and abroad probably will mean participation by AMF Beaird in factory work on new product of American Machine & Foundry Company

PREDICTING what Shreveport would be like in the year 1976, William Hawthorn Lynch seven years ago described (*Shreveport*, Feb. '56) a monorail system rapid transit passengers would be riding.

Mr. Lynch's article, written as if 1976 already had arrived, touched on transportation among other things:

"The monorail urban train stops only at strategic locations, giving Shreveporters the rapid transportation they demanded. Now it is possible to travel a hundred city blocks in the space of a few minutes, with stops only every twenty-five blocks or so, instead of every corner.

"The feeder conveyor belt lines to these central locations have just been installed and are similar to the system installed downtown. The monorail has its terminus on the perimeter of the downtown area and from there passengers ride the conveyor belt lines which crisscross the downtown area."

For his *Shreveport* Magazine article, which included a variety of forecasts for the '70s, Bill Lynch, now assistant city editor of the Shreveport *Times*, received the architectural journalism award of the year from the North Louisiana Chapter of the American Institute of Architects.

In the light of recent industrial developments touching one of America's leading corporations which has a plant in Shreveport, Mr. Lynch may prove to be quite a prophet as well as an imaginative observer of the municipal scene.

American Machine & Foundry Company, which has just acquired the rights to market the French SAFEGE-Transport monorail system in the U. S. as well as the monorail business of American Crane & Hoist Company, will design and build the monorail to be used at the New York World's Fair next year.

John L. Tullis, president of AMF Beaird, Inc., stated that while the Shreveport subsidiary would not participate in the construction of the monorail system for the New York's World Fair, it was very probable the firm would build component parts for monorail systems if AMF is successful in marketing them in the United States and foreign countries.

AMF sees a great potential in the monorail as a system of transportation. Concentrating its efforts in three areas of monorail application, the company sees future uses in: high speed, sophisticated type of systems for city center to airport and interurban use; variable speed closed loop monorails for intra-airport and intra-city transportation; and in variable speed systems for world's fairs, scenic rides and industrial parks.

Shreveport, in trouble with its transit system and seeking a way out, could consider monorail—in view of its interest in American Machine & Foundry through the new $9,700,000 plant of AMF-Beaird now rising in the southern part of the city. Public transportation is a necessity in a city with the population and land area of Shreveport. Like others, it some day may find itself compelled to move in the direction of new and more efficient methods of mass transportation like monorail.

Already, AMF has inquiries about monorail from several municipalities — some larger, some smaller than Shreveport — among them Chicago, Kansas City, Wash-

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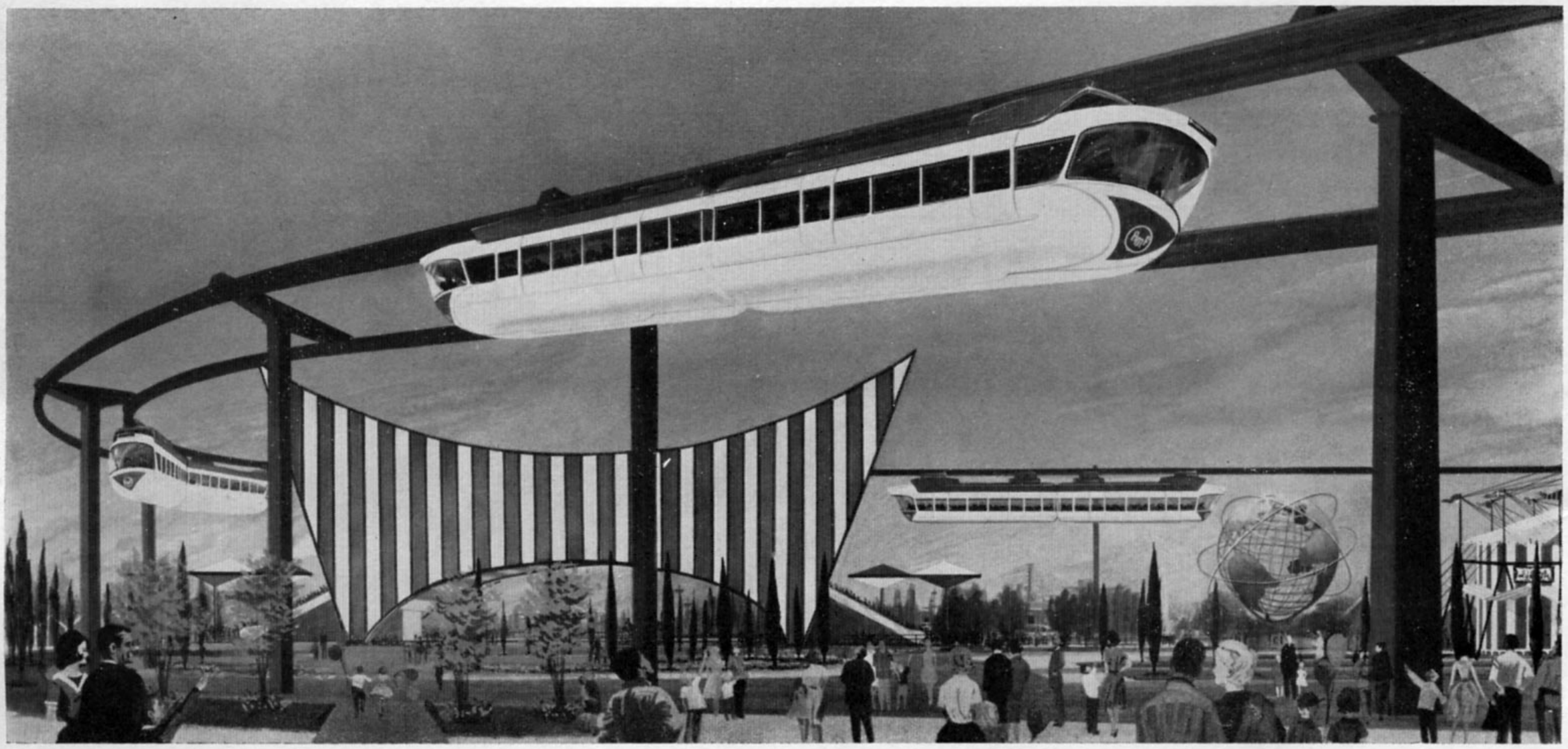
CLOSED LOOP MONORAIL in the lake amusement area at the New York World's Fair will look like this, according to an AMF artist's conception. Automatically controlled and air-conditioned, there will be six two-car, 90-foot long trains carrying 80 passengers travelling in opposite directions 40 feet in the air.



AMF AND THE MONORAIL

(Continued from page 24)

ington, D. C., Sacramento, Long Beach, Las Vegas and Palm Springs.

The Port of New York Authority has shown interest in monorail for Idlewild Airport itself, as well as for transit to LaGuardia and the East Side Terminal.

The new Mineola-Westbury Shopping Center is studying monorail, as are such amusement areas as Palisades Amusement Park and the Steel Pier in Atlantic City.

Last year three counties in the San Francisco Bay area voted to start work on the first major rapid transit system in the U. S. since the Cleveland project in 1955. The Seattle monorail system, which was pictured on a U. S. commemorative stamp, has prompted interest on the part of municipal transit systems.

The Los Angeles transit experts are looking into the possibility of building a monorail which would carry passengers the 17 miles from downtown to Los Angeles International Airport at 90 mph. In Chicago a private developer proposed that a monorailroad be built to link the loop with McCormick Place, the city's lakefront exhibition hall. It would carry 5,400 passengers an hour at speeds up to 60 mph.

Traffic specialists see monorail mass transit as a solution to the problem of many municipalities when used with other forms of transportation. It has advantages over surface mass travel as used today both in interurban and intra-urban situations:

1) Monorail can utilize a "third dimension" — the airspace over congested areas, along superhighways and expressways.

2) The high-strength support beams are narrow and do not interfere with motor or pedestrian traffic, nor with general visibility.

3) Since, for the most part, existing arteries can be used, no premium or heavily-taxed land need be used for construction, as in the case of railroads.

4) The versatility of the monorail design is already proved, as it can negotiate turns in short space, especially in downtown traffic where sharp curves preclude establishment of other rail systems.

5) There is a substantial reduction in noise level; in fact, it is almost noiseless.

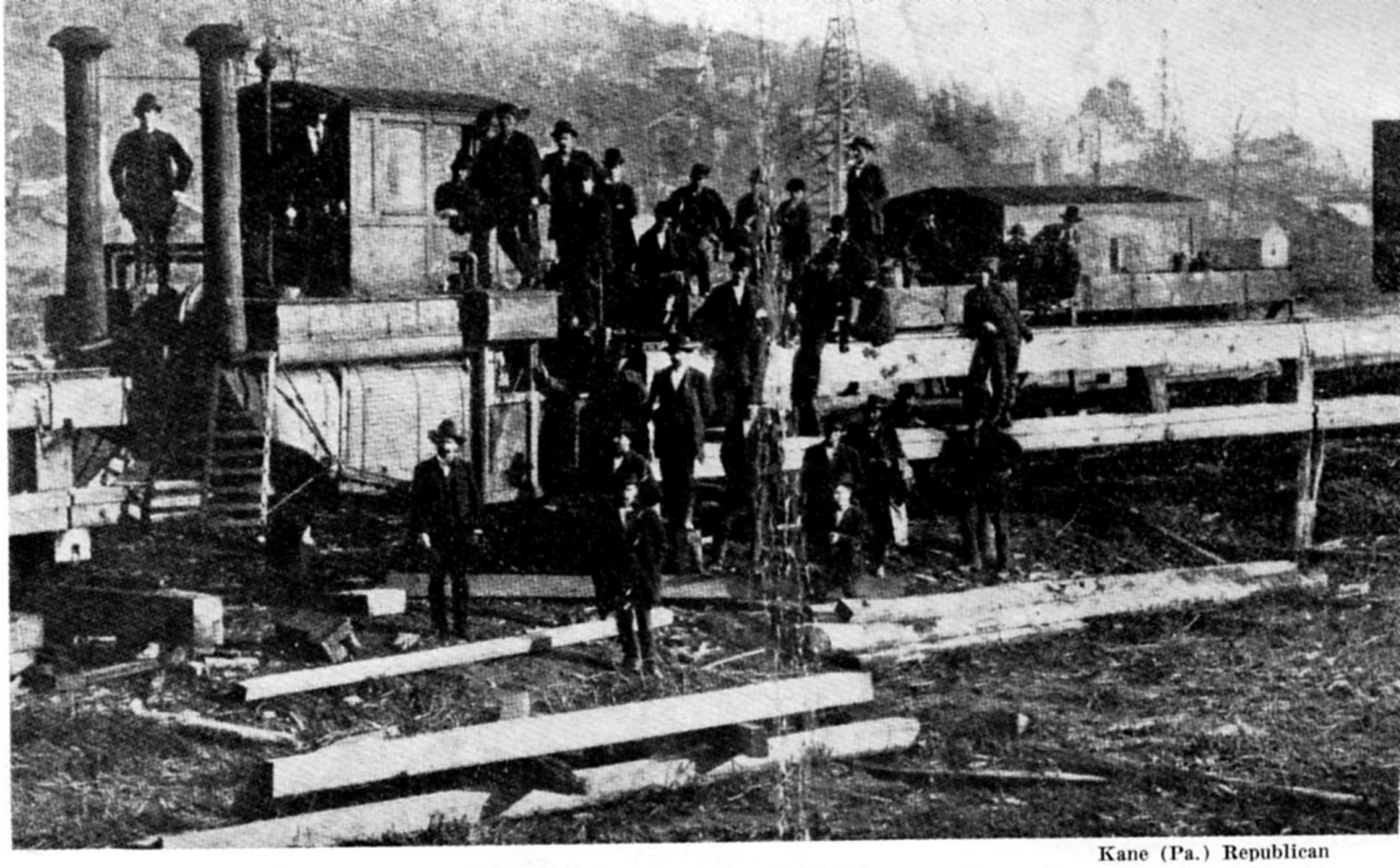
6) Monorail is faster and more comfortable; it offers airconditioning and little or no vibration.

7) There is a major increase in operating speed for a given distance between stations, thereby resulting in economies in the amount of rolling stock required.

8) Exceptional deceleration enables considerable reduction in the length of block sections, and therefore in shorter minimum intervals between trains; passenger-carrying capacity is thus increased.

9) There are considerable savings in initial construction costs; it has been estimated that a monorail costs $1.5 million per mile and subways $7.5 million per mile.

10) Monorail can promote a community's economy, by opening up new avenues to shopping centers, at the same time reducing highway congestion.



Kane (Pa.) Republican

EARLY MONORAIL was the old Peg-Leg Railroad in the oil fields near Kane, Pennsylvania, riding a wooden rail from Bradford to Gillmor. Built in 1877, it was abandoned in 1880, the brief career including explosion of a locomotive boiler which resulted in death of six men and serious injury to three others.

The monorail suspended design is credited generally to Eugene Langen, an engineer from Cologne, Germany, who demonstrated and advocated the one-wheel track. His proposal was basic, with a bicycle-like contraption suspended from a single elevated track. The mobile power was furnished by the inventor's own two legs.

However, well before Langen's demonstration in the 1880s a similar one-wheel track line is said to have been built in 1830 in Western Ireland on a 20-mile strip. Archivists have lost the details of its success or non-success.

There have been many attempts at monorail forms of transportation, but most of them have had their car bodies, as in the case of traditional railways, above the carrier wheels and the tracks. These included the DuChamp prototype built in France in 1872; the Peg Leg Railway, built in 1877 near Kane, Pennsylvania; the Lartigue System, built in 1880 in France and in 1887 in Great Britain. More recently, the Mayer prototype has undergone experimentation in Argentina, and Pneuways system is being tested in South Africa.

The Alweg prototype, built in Cologne, Germany, is one which has been subject to testing over experimental track and actually put to use. A reduced scale model is being used in Disneyland, near Los Angeles, and a full-scale installation was used at the Century 21 Fair in Seattle last year.

Of the true suspended monorail systems, one of the most novel early-day devices was one credited to S. T. Hachenberger in 1885. This innovator discarded tracks and rails and proposed a true aerial tramway utilizing telephone and electric lines. His vehicle was suspended by two trolleys on one line and supported by two wheels on a lower wire.

In the 1890s the Chase-Kirchner Aerodromic Railroad idea was introduced. In this device passenger cars were to be suspended from a single rail; however, motive power was to be augmented with a bank of wings mounted above the supporting trolleys. Promoters claimed speeds of up to 150 mph, as the lift of the wings would lessen the weight of the car. It never left the drawing boards.

The first to build a propeller-driven monorail car (and 750 feet of track to go with it) was the Scottish engineer George Bennie, in 1929. (The structure was pulled down during World War II because the steel was needed.) He announced that both his calculations and his tests indicated that a speed of 200 mph could be reached if the runs were long enough.

Other suspended systems, which have been tried in the past, include the "Skyway" or "Trail Blazer," built in Houston, Texas, in 1927, and a Japanese system in 1958.

The classic example of a successful one-track suspended operation is that of the famed Ruhr Valley Wuppertal monorail. This Schwebebahn, its native name, was conceived in 1898-99 by Langen to connect the twin cities of Elberfeld and Barmen over the Wupper river. It has been in constant use since 1901 and has carried almost a billion passengers. It handles about 4,200 passengers per hour in each direction; and the line has suffered no serious accidents since its inception.

Similar to the Wuppertal system is the smaller adaptation of it, built by American Crane & Hoist Company at the amusement park, called Santa's Village at Lake Arrowhead in California's San Bernardino Mountains.

American Crane has also built the nation's first major, successful, suspended monorail system now used at the Los Angeles County Fair, Pomona, Calif. This one-mile system amply covers the center of activities of the fair, with 14 cars operating over the route, carrying 24 passengers each. It has a safety-block system which automatically maintains proper spacing between cars, thus assuring passenger safety.

AMF, which has acquired the monorail business of American Crane, over the past 63 years has been well known for its pioneering in the field of automated equipment; for its ingenious tools; and for work in diverse heavy steel and equipment areas.

AMF has just completed for the U. S. Air Force several squadrons of huge steel

silos and their equipment for elevating Titan and Atlas missiles to firing position. The company also developed a system for launching the Minuteman missile from a specially-designed railroad car.

The company has been active in the aircraft cargo loading business, one of its recent developments being an Aircraft Cargo Loader which can carry 25,000 pounds at 15 mph speeds.

AMF-SASIB, a subsidiary, has long been in the railroad signalling and ticket machine business. AMF Beaird, another subsidiary, is one of the largest manufacturers of rail car tanks for the petroleum industry —its new plant at Shreveport could well fit into the monorail development. AMF Potter & Brumfield is a leader in the electrical relay industry. The company's extensive factory space with giant machines weighing many tons to delicate precision instruments can convert most any of the basic materials into finished or semi-finished products.

Shreveport, with changes in its transit picture likely, and a big stake in American Machine & Foundry, will be watching with more than casual interest AMF's manufacture and marketing of monorail equipment.