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REEVES PULLEY COMPANY
Columbus
Bartholomew County
Indiana

Photographs and
Written and Historical data
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Historic American Engineering Record
National Park Service
Department of Interior
Washington, D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

Reeves Pulley Company

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Location:	South side of Seventh Street, east of Wilson Street. UTM: 16.594110.4339940 Quad: Columbus
Date of Construction:	1890c.
Present Owner:	Reliance Electric Company
Significance:	Manufacturer of a variable speed transmission system used in line shafting and in limited production automobiles.
Historians:	Robert Rosenberg Donald Sackheim

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The Reeves Pulley Company was one of several manufacturing enterprises established by Marshall T. Reeves and his family. Beginning as a manufacturer of agricultural implements in 1888, the Reeves family organized a company to manufacture split wood pulleys and later introduced a variable speed transmission to complement their wood pulleys used in line-shafting. In 1896, caught up in the excitement surrounding an idea whose time had come, Milton Reeves, Marshall's younger brother, built several experimental automobiles and used the variable speed transmission developed for line shafting to power an early example of internal combustion engine automobiles.

Marshall T. Reeves, born on the family farm in Rush County, Indiana on 5 March 1851, was the inventive member of the family. In 1869 he patented his first invention, a tongueless corn plow, and in the spring of 1875 he convinced his father and uncle to begin manufacture of the "Hoosier Boy Tongueless Corn Plow" in Knightstown, Indiana. After a short time they moved the plow-manufacturing operation to Columbus and soon there followed a succession of inventions from the fertile imagination of Marshall Reeves: the Reeves Straw Stacker invented in 1881; the Reeves Clover Huller introduced in 1895. In all, some 50 patents were issued to the Reeves Company with Marshall Reeves either named as sole inventor or co-inventor with another company employee.¹

In 1879 the name of the firm was changed from the Hoosier Boy Cultivator Company to Reeves and Company and the cultivator was discontinued in 1883 or 1884. The corn stacker proved to be the backbone of the implements business, however, and in a single year, 1887, 1200 were manufactured and sold. By the following year, the factory was employing between 150-200 people.² Presumably the implements business continued for some time, although no precise date can be cited for its demise.

In 1888 Marshall Reeves and his two brothers, Milton and Girney, organized a new manufacturing venture, the Reeves Pulley Company. The new company initially occupied a small space in the implements factory but was moved across the street into a new plant sometime around 1890.³

It seems certain that as an outgrowth of their manufacture of split wood pulleys, the Reeves family developed an interest in variable speed transmissions. The principal problem encountered with wood pulleys and line shafting was the difficulty of adjusting the operating speed of the system. In a line system separate gearing or a step cone were required for each change of speed, and when the appropriate pulley was not on line the entire operation had to be shut down while a new installation was made. In essence, the Reeves Variable Speed Transmission adjusted the circumference of the driven pulley to attain a proper operating speed.

The Reeves Variable Speed Transmission consisted of two "V" groove pulleys, one on the drive shaft and one on the driven shaft. These pulleys were split, and the two halves, controlled by levers, could be moved towards or away from each other. In effect, the circumferences of the tractive surfaces were variable. When the halves of the pulleys were apart at the farthest point, the belt travelling

over the pulley rode deep in the "V" groove and was carried around the smallest circumference. As the halves were moved together, the belt rose in the "V" groove and was carried around a larger circumference.

The mechanism was so arranged that when the levers enlarged the pulley on one shaft it simultaneously decreased the pulley circumference on the other shaft. This permitted the pulleys to operate at variable speeds.⁴

Like other inventive men in the 1890's, the Reeves brothers began experimenting with horseless carriages. During the summer of 1896, Milton, Marshall's younger brother, built a "motorcycle": a horseless carriage which employed a two cylinder, two cycle, six horsepower Sintz engine, one of their variable speed transmissions, and a coach built by the Fehring Carriage Company. The first "motorcycle" was tested on 26 September 1896 and after further development it was driven from Columbus to Indianapolis in November 1896.⁵

Milton Reeves built other experimental model automobiles during the last years of the century, but the principal problem was finding a dependable engine. In 1899 the family decided to stop backing Milton's experiments, probably reasoning that since other auto producers had already developed a dependable auto transmission, the Reeves variable speed model no longer granted them a competitive advantage.

Milton O. Reeves did not lose his enthusiasm for the automobile, however, and both he and his younger brother Girney bought the Haynes Apperson runabouts and began experimenting with them. By mid-1904 Milton Reeves had gained the backing of the family for another attempt "to investigate the then current possibilities" of auto production.

The engine, the primary problem encountered a few years earlier in the "motocar", became the strong point of the renewed attempt to produce automobiles. The first Reeves engines, introduced in 1905, were air cooled, valve-in-head motors which used individually cast cylinders, splash lubrication, and intake and exhaust manifolds on opposite sides. The company received a contract for 500 engines from the Aerocar Company in 1905 and by 1906 the Reeves plant was turning out 15 engines a week. The ready market for the air-cooled engines and demand for a water cooled model prompted construction of a new 64' x 100' plant in late 1906.

The water-cooled engine, first introduced in 1906, was built to meet the demands of a changing market. The first model used a "T" head design with intake and exhaust valves mounted in pockets on either side of the cylinder and a separate timing cam for each. Intake was on the right side with sparkplugs mounted on the top of the pockets. Water was fed to the individually cast cylinders by a circulation system located at the center of the "T".

The "T" model water-cooled engine was followed by an "L" shaped design using cylinders cast in pairs and a single camshaft to operate the intake and exhaust located on the left side. The model "L" remained basically unchanged although a later model "S" returned to individually cast cylinders, suggesting that problems were encountered in casting the cylinders in pairs.

The engines and the various model automobiles that they powered continued to evolve, but some time in 1910 the Reeves family abandoned their efforts to build automobiles. The Reeves family continued to manufacture the variable speed transmission however, and it was reported that in 18 January 1955 the Reeves Pulley Company

and the Reliance Electric and Engineering Company of Cleveland merged their manufacturing operations of variable speed driven and electric motors.⁷

The scanty documentary evidence about the building reveals almost nothing of the structure's relationship to the manufacturing process. If the office located in the 190'x 156' west building was, in fact, the only office space in any of the three buildings, then it probably was in the original building, the Reeves and Company implement factory. Following such reasoning the 207' x 56' building just to the east was the Reeves Pulley Company Factory, built in 1890, and "situated just across the street from Reeves and Company." The third building was the 1906 100 x 64 structure with an addition.

The reasoning is tenuous, but it does account for dates of construction of the various buildings. However, the buildings themselves tell us almost nothing about the manufacturing processes they housed. The clerestory monitor in the 1906 structure may have provided light and ventilation, but it certainly could have been placed in either of the other factories with equal effect. As for the other buildings, the manufacturing in one might have been moved to the other with equal alacrity, suggesting that they were merely simple utilitarian structures.

Beginning as a manufacturer of agricultural implements, the Reeves family later produced wood pulleys, transmissions, and automobile engines. While all of the other products were gradually phased out, the unique design of their variable speed transmission system provided a foundation for subsequent company growth. The Reeves Pulley Company was finally sold to the Reliance Electric Company in 1955.

Reeves Pulley Company

Notes

- 1 Biographical Record of Bartholomew and Brown Counties, p. 216-217.
- 2 History of Bartholomew County, Indiana, p. 601.
- 3 Biographical Record of Bartholomew and Brown Counties, p. 216-217.
- 4 See diagram in The Reeves Variable Speed Transmission Catalog.
- 5 All information on involvement of the Reeves family in automobile and automobile engine production is taken from Reeves and the Automobile. Reprinted in Horseless Carriage, September-October, 1968.
- 6 The Reeves Company introduced several completed automobiles although none of them had an extensive manufacturing run. For a complete description of the automobiles and model changes see Reeves and the Automobile.
- 7 Indianapolis Times, 18 January 1955, p. 9.

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