

The Indiana

A Magazine Exploring Indiana History

Historian



“a marvel of ingenuity”

Focus

Cover illustration: Carolyn and Steve Carter, in period costume, pose on their 1889 Columbia tandem tricycle. According to Carter, only five are now known to exist. Indiana Historical Bureau; Patricia A. Pollard.

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The Indiana Historian provides resources and models for the study of local history to encourage Indiana's citizens of all ages to become engaged with the history of their communities and the state of Indiana.

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Bicycles are a common sight today on paths and roads throughout the country. People, young and old, ride for fun, health, and transportation. As the 1996 Olympic games in Atlanta reinforced, bicycle racing is a popular amateur and professional sport. As a result of all this interest, there is an industry to produce and improve bicycles. Manufacturers and entrepreneurs are adept at producing clothing and “necessities” to tempt the rider to invest.

This is nothing new! As the nineteenth century was coming to an end, the bicycle was taking America by storm and becoming one of the most significant inventions for social change in American history to that time.

This issue focuses on the phenomenon of the bicycle when it was a short-lived “craze” in the 1890s.

On page 3, there is a brief overview of the significance of the bicycle. On pages 4-5, the eco-

nomic impact of the bicycle is introduced.

On pages 6-10, the riders of bicycles are the focus. The map on page 11 provides a statewide overview of some bicycle businesses and cycle clubs.

On pages 12-13, the League of American Wheelmen is discussed.

An exciting addition to the research and resources has been an alliance with Steve Carter, Plainfield, Indiana, who is a bicycle collector, restorer, and historian. His collection of bicycles, replicas, and accessories have been the basis for many illustrations in the issue. On page 14, we share some of Carter's interesting perspectives.

On page 15, there is the usual sampling of sources and suggested readings.

On page 16, the photograph and the quotation of an automobile pioneer provide some perspective of the past and for the present and future.

“a marvel of ingenuity”

The title of this issue is part of a quotation from Charles E. Pratt, *The American Bicyclist*:

From 1868 until the present time [1879] the patented improvements have been numerous, and the mechanical details of construction have been thoroughly worked out, until the machine has become a marvel of ingenuity and of workmanship; and the modern bicycle has been there developed to its present state of perfection in strength, lightness, ease of propulsion, certainty of control, and gracefulness of design and operation (19).

Pratt goes on to quote an 1869 source on velocipedes:

... “The machines now in use are so radically different from those of fifty

years ago, so perfect in propelling power, so easy to ride, so swift of motion, so useful as a means of conveyance, that it seems impossible for history to repeat itself with regard to the present mania” (20).

Pratt comments: “we can pity the man with the poor thing” that he was describing.

The quotations help to illustrate the role of perspective in history. Pratt in 1879 was describing the high-wheeler—or ordinary—as the modern bicycle. Keep in mind the technology of bicycles of today as you learn more about the development of the bicycle and attitudes toward it.

Bicycle mania—and change

For most individuals, walking or using a horse—with or without a wheeled vehicle—were the standard transportation options on land until the late nineteenth century, even after railroads came in the mid-1800s.

In 1876, Philadelphia held an exposition in honor of the centennial of the United States. It was here that the English high-wheeler, or ordinary, was first introduced to the American public. It was not long thereafter that the bicycle mania gripped consumers.

Robert Smith, a modern historian, has written of

the impact of the bicycle on American life, an influence far transcending its use for mere sport . . . especially in the areas of technological advances and alterations of the transportation system (x).

According to one contemporary author, Maria Ward,

The usefulness of the bicycle begins where that of the railroad ceases, for it connects and opens districts of country that the railroad has not reached (2).

Smith asserts that

the old concepts of social morality and proper conduct were undermined by the freedom conferred upon those who rode the wheel. As a result, a considerable part of American society had to re-evaluate its old ideas (112-13).

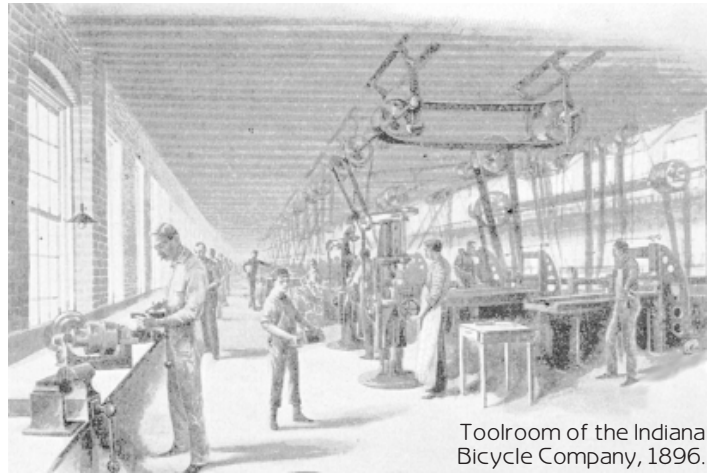
For the first time, more people could go where and when they wanted, if they had enough money to purchase a bicycle. Early bicycles were expensive, and, for the most part, only the wealthy could afford them.

Others, including women and children, got to ride as mechanical improvements were made and prices came down.

Social restrictions were relaxed. Men and women met, talked, and even rode together, without the watchful eye of a chaperone. The healthful benefits of riding a bicycle were promoted.

The bicycle also set the stage for the coming automobile. Innovative manufacturing and marketing, safety accessories, insurance, service clubs, good roads movement, and road maps and signage, for example, were first developed with the bicycle.

General source: Smith, *Social History*.



Toolroom of the Indiana Bicycle Company, 1896.
Indiana Bicycle Company, *Waverly* (Indianapolis, 1896), 5.

You be the historian!

The table of bicycle factories on this page provides limited information about workers in Indiana in 1895-1896.

- Determine the number of workers. What percentages were women and boys?
- Which workers—in what city—had the highest and lowest wages?
- The catalogs of seven Indiana companies in 1895 show sixteen bicycle models ranging from \$30 to \$150, with an average price just over \$90. How many hours of work would it take a skilled laborer in Richmond to pay for a \$90 bicycle? Do you think most bicycle workers were able to buy a bicycle?

Bicycle Factories 1895-1896 from Proprietors' Statements

Location	Indianapolis	Plymouth	Michigan City	La Porte	Goshen	New Castle	Richmond	Marion
Number of Establishments	9	2	1	1	1	1	1	1
Employees—Men	1,063	435	100	25	150	55	25	96
Employees—Boys	129	55			10	5	5	4
Employees—Women	262							
Highest Daily Wages Skilled Labor	\$4.12	\$3.25	\$3.50		\$3.35	\$2.75	\$3.00	5.00
Highest Daily Wages Unskilled Labor	\$1.41	\$1.37			\$1.00	\$1.25	\$2.00	1.50
Average Daily Wages Paid Boys	\$.60	\$.50			\$.75	\$.50	\$.60	.75
Average Daily Wages Paid Women & Girls	\$.71							

Indiana Department of Statistics, *Biennial Report*, 1895-1896, p. 42.

The business of bicycles

When the English ordinary was introduced at the Centennial Exposition in Philadelphia in 1876, Albert A. Pope, a successful Boston industrialist, was impressed with the new machine. He soon visited England to learn about the cycle industry. He later opened a bicycle import house in Boston.

Pope hired a patent attorney, Charles E. Pratt, to secure foreign and U.S. bicycle patents so that he would not have to pay royalties. Pope hired a mechanic to construct a new bicycle based on the English design of the ordinary. Allegedly, this—the 1878 “Columbia” model ordinary—was the first American-made bicycle.

Although the bicycle craze

started on the east coast, it moved west. Indiana citizens joined in. Harry T. Hearsey was the man who introduced the safety bicycle to Indianapolis.

In addition to Hearsey, there were many others who benefited financially from the bicycle craze in Indiana. The standard history of this period in Indiana notes that there was in 1895

a total of 17 establishments engaged in making bicycles and bicycle parts in 8 cities, 9 shops being located in Indianapolis itself. The value of products was estimated at \$3,085,377 (Phillips, 310-11).

The Indiana Department of Statistics *Biennial Report, 1895-1896* notes that “This is the youngest industry” and “it makes a fairly good showing” in the number of

people dependent on it (43, 44). The total establishments reported peaked at nineteen in 1899; only two were reported in 1904.

As the map on page 11 indicates, there is evidence of many more Indiana establishments whose business had to do with bicycles. The table on page 3 is probably a low indication of the many people who earned a living from those establishments.

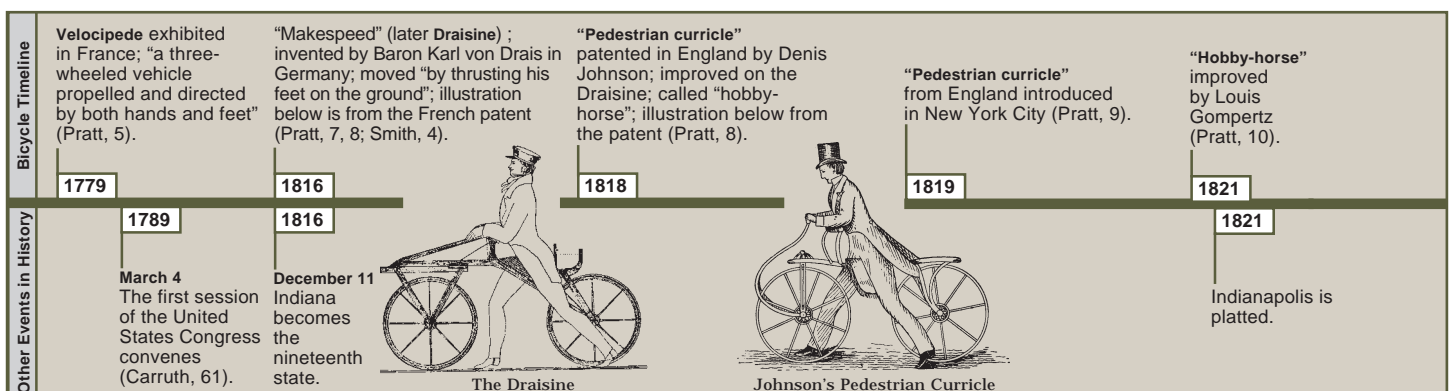
Many related businesses took advantage of the bicycle craze: clothing and shoes, roadside taverns, bicycle theft insurance, publishers of newsletters, manuals, and maps, etc.

General source: Smith, *Social History*.



Indiana Historical Bureau.

A pair of 1892 Columbia spring fork light roadster safety bicycles from the Carter Collection. Note the differences between the men's frame (left) and the women's frame (right).



You don't WANT your wheel to be stolen
You don't EXPECT your wheel to be stolen
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American Wheelman's Protective Association
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Assures you and it only costs you **\$2.00 a Year.**

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Up to date. Work Guaranteed First Class.
Make Your Wheel Look Like a '96.

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H. F. RIKHOFF,
Merchant Tailor. Latest Novelties in imported Suitings.
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H and Y
Puncture proof Compound
.....

Will quickly, and without assistance of the rider automatically repair all punctures in single tube or hose pipe tires.
Nails, wire, pins, broken glass, hedge thorns or barbed wire fences have no terror for the riders of bicycles when

Tires have been treated
with H and Y Puncture Proof Compound.
.....

A can holding sufficient quantity for two tires sent by express, prepaid, on receipt of
PRICE \$1.00
Address all orders to
JOHN E. HENDRICKS,
Peru, Indiana.



The manufacturer's plate of a 1915 safety bicycle by the H. T. Hearsey Cycle Company, Indiana from the Carter Collection.

Harry T. Hearsey: an Indianapolis entrepreneur

Harry T. Hearsey was a trained mechanic, having worked for the Cunningham-Heath Company, a Boston manufacturer of bicycles, and an expert rider. On an 1885 exhibition tour for his company, he visited Indianapolis.

In 1886, he opened a bicycle shop in Indianapolis at Delaware and New York streets. He then opened a bigger shop at 116-118 North Pennsylvania Street. It was the first sales room and riding academy in Indianapolis. He installed the "town pump," a foot pump for blowing up the new pneumatic, or air-filled rubber tires. His shop became the popular "hang out" for the city's bicyclists and the biggest names in

professional bicycle racing.

In the spring of 1889, Hearsey introduced Indianapolis to the "Rudge," a new English safety bicycle. With great ceremony, he unveiled the bicycle to a packed Tomlinson Hall, the largest assembly place in Indianapolis.

Hearsey also introduced the "Swift," an English pneumatic-tired safety, that really caught on. Hearsey publicized this model with a relay road trip to Rushville. Sources: Jacob Piatt Dunn, *Indiana and Indianans* (Chicago: The American Historical Society, 1919), 4:1704-6; *Indianapolis Star*, June 27, 1937; *Indianapolis Times*, October 1, 1948.

<p>"Pedal-powered bicycle" invented by Scottish blacksmith Kirpatrick Macmillan; illustration on page 14 (Wilson, 21).</p> <p>1839</p>	<p>"Two-wheeled velocipede" demonstrated in Paris by Pierre Lallement, French mechanic instrumental in creation (Pratt, 13).</p> <p>1865</p>	<p>"Two-wheeled velocipede" patented in November in U.S. by Lallement (who had emigrated) and James Carrol; "two wooden wheels, with iron tires, of nearly equal size, one before the other, surmounted by a wooden perch"; illustration from the patent (Pratt, 13-14; Smith, 6).</p> <p>1866</p>	<p>Development and use of bicycle expand in France and England and then in U.S. (Pratt, 18, 20).</p> <p>1867-1869</p>
<p>1825 October 26 Erie Canal officially opens, connecting the Great Lakes with the Atlantic Ocean (Carruth, 103).</p>	<p>1861-1865 U.S. Civil War.</p>	<p>1867 U.S. purchases Alaska from Russia (Carruth, 170).</p>	<p>1867 Indiana University admits first woman student (Thornbrough, 507).</p> <p>1868 The Studebaker Corporation is formed from the Studebaker Wagon Works. Located in South Bend, it is the largest Indiana wagon and carriage manufacturer (Thornbrough, 420-21).</p>

Lallement's Velocipede (Pratt, 14)

The accomplished rider

In 1879, Charles Pratt noted that the ability to ride the bicycle easily and gracefully on occasion is already an accomplishment which no gentleman can afford to be without (Pratt, 32).

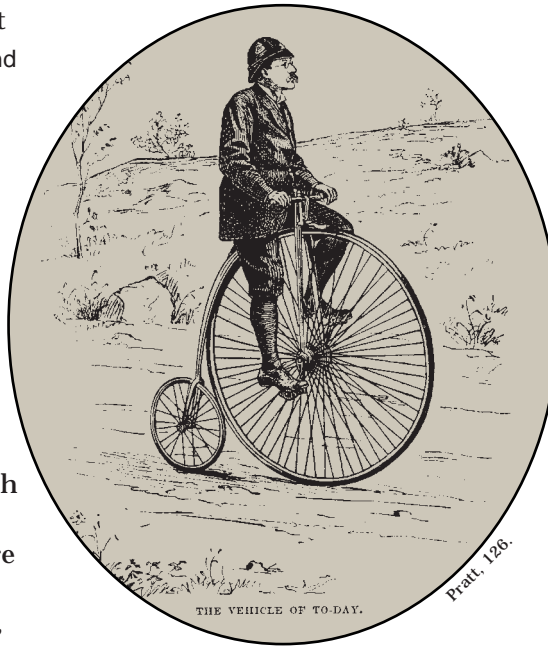
Although Pratt may have been somewhat biased, riding the high-wheeler—or ordinary—was extremely difficult. Perched directly atop a wheel approximately fifty inches high, the rider was always in danger of taking a “header”—being pitched forward up and over the handlebars. Hard rubber tires and rough roads added to the challenge.

Even experienced riders were not immune to falls. An Indianapolis *News* article, February 7, 1931, with reminiscences about the Indianapolis Zig Zag Cycle Club (1890-1896), states,

woe befell the rider who ‘skidded’ in a rut . . . Carl G. Fisher, who afterward gained fame in the motor industry, drew for himself the nickname of Crip (cripple) because he frequently, in bursts of speed, took a spill and ended with many bruises and cuts.

The “safety” bicycle opened the sport to many other people—including women—because it was easier to ride and cheaper to buy. Many riders, however, refused to give up their ordinaries.

Most people learned to ride



on their own. During the mid-1890s especially, many manufacturers of bicycles opened riding academies within their shops to encourage people to buy their bicycles. Private academies opened, generally for the rich.

In Indianapolis, for example, Fred I. Willis, a stenographer for the H. T. Hearsey Company, also served as a riding instructor. An Indianapolis *News* article, November 24, 1961 recounts his memory of teaching Benjamin McKee, the

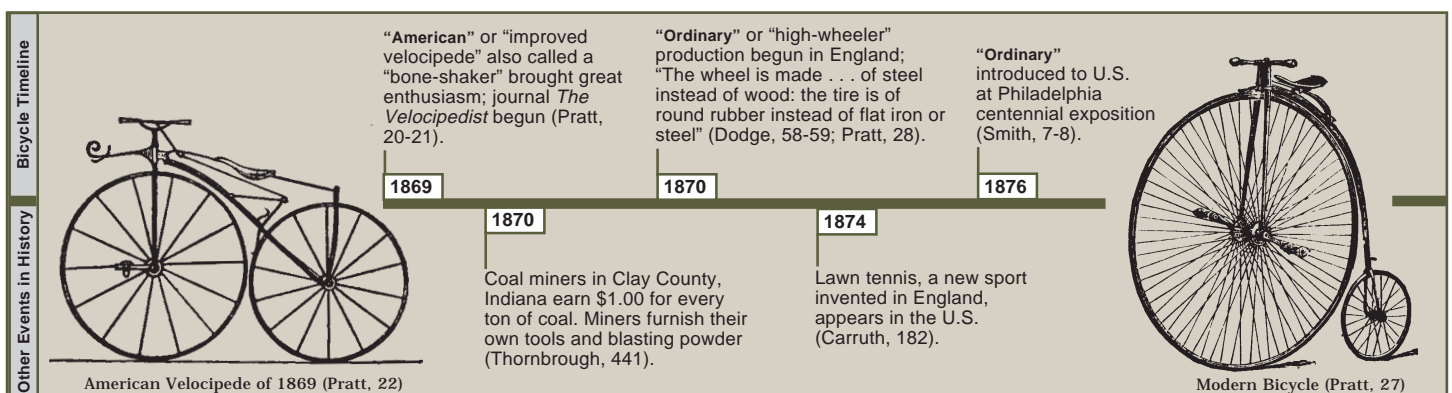
grandson of President Benjamin Harrison.

Bicycle riders in this time freely traveled. Zig Zag Cycle Club members in 1931 reminisced about Sunday trips on ordinaries to “Greenfield, Columbus, Franklin, Shelbyville, Lebanon, Danville, Martinsville and other points within easy riding distance.”

Adolph Schmuck, writing in the Indianapolis *News*, November 13, 1920 remembers a trip with the Indianapolis Bicycle Club around 1890. Twenty-five or thirty members—on both ordinaries and safety bicycles—rode “to Cincinnati, averaging about forty miles a day, so that it took three days . . . The intervening nights were spent at Rushville and Brookville.”

Schmuck also notes that wise riders enhance a trip “when it would be much easier and more sensible to skip over a stretch of bad road . . . by taking an interurban car or a train, or possibly a steamboat.”

General source: Smith, *Social History*, 27, 28.



An Indiana traveler

In 1894, George S. Cottman published in four issues of the *Indiana Farmer* (October 27, November 10, 17, 24) a description of his bicycle trip with a companion from New Albany to Wyandotte Cave in Crawford County. Selections from that description were published in Shirley S. McCord, comp., *Travel Accounts of Indiana, 1679-1961* (Indianapolis: Indiana Historical Bureau, 1970), 244-48.

Cottman founded the *Indiana Magazine of History* in 1904 and wrote a history of the state published in 1925. He "had a sincere love for his native state and its history, and enjoyed traveling on foot, by canoe, bicycle, and other conveyance to various areas of the state" (McCord, 244).

Most of Cottman's description is of the country, but a few comments that follow provide some insight about the mode of travel.

One bright morning not long since two of us boarded the train at Southport, near Indianapolis, and about four hours later wheeled westward out of New Albany, bound for that greatest natural wonder in all Hoosierdom, Wyandotte cave, some 30 miles away. The highway connecting New Albany and Corydon is macadamized pike, and one of the oldest in the State. . . .

We trundled along easily up hill and down dale for the rest of that afternoon, secured supper at a wayside house, slept in a farmer's hay mow, and the next morning were a wheel bright and early, blithe and fresh as larks. . . . Before long we approached the ancient town of Corydon. . . .

. . . . We reached there [Wyandotte Cave], a very weary pair of travelers, after pushing our pneumatics up a huge hill which seemed to us a veritable mountain. It has a top, however—an airy eminence where stands the Rothrock hotel looking out over a magnificent prospect and this we reached just as the supper bell was ringing. . . .



As riders took to the roads in Indiana, and elsewhere, they were smart to take along essential repair tools. Items from the Carter Collection (left to right) are a tire pump, a small oil can, a screw driver, a fixed wrench, an adjustable wrench, and a spoke wrench.

ROUTE No. 14.
To Millersville.—Out College Avenue to end, and turn to right; pass Howland Station; keep straight on road; distance, 8 m. Fried chicken for supper every day; telephone connection with eating house; a favorite place for supper runs.

ROUTE No. 15.
To Mooresville.—Out Kentucky Avenue, to Maywood; through Maywood, turn to right on first gravel road. Good road 20 m.

LAST, BUT NOT LEAST.
 If you want a good weekly paper, and desire to assist the sport, send us your name and two dollars, for your initiation to that grand organization, the League of American Wheelmen, 20,000 strong. We want you.

DISTANCES COVERED ON BICYCLES.
 Without special training, any man can enjoy from 25 to 40 miles in a day's ride, while the scorcher will ride from 50 to 80 miles. The average speed is from 7 to 8 miles per hour. The fastest record for one mile is 2 minutes, 20 seconds, while over 20 miles have been covered in one hour, and 300 miles and over in 24 hours. Every physician who has made himself familiar with the advantages of cycling highly recommends it. In fact, we have quite a number of physicians that use the wheel instead of the horse, and we have sold as high as four wheels in one doctor's family. We would be pleased to show at all times our various wheels.

HAY & WILLITS.

Map of Gravel Roads in Central Indiana (Indianapolis: Hay & Willits, n.d.).

You be the historian!

Investigate the means of transportation in Indiana in the 1890s.

- What are interurbans? Where are they located? When and why did they cease operations?
- Where were railroads located?
- Where are railroads located today? What has replaced many railroads?

Albert Pope, Boston, begins bicycle import house and riding school; commissions mechanic to build "allegedly the first real bicycle made in America" (Smith, 8). 1877	Pope began producing the Columbia model ordinary (Smith, 8). 1878	League of American Wheelmen "organized to 'promote the general interests of bicycling . . .'" (Smith, 12). 1880	"Safety bicycle" of John Kemp Starley (third model Rover); two nearly equal wheels "with chain drive, diamond frame, and low wheels, influenced bicycle design to the present" (Oliver and Berkebile, 20). 1885	Victor Bicycle (safety) patented by A. H. Overman, Massachusetts (Smith, 14). 1887	John Dunlop patents the pneumatic tire in England (Oliver and Berkebile, 20). 1888
1878 Average pay per day for teachers in Indiana township schools is \$1.90 for men and \$1.70 for women (Thornbrough, 505).	1880 70% of the school age population of Indiana (ages 5 to 21) are enrolled in school—an increase from less than 50% in 1863 (Thornbrough, 477).	1883 A system of standard time is adopted by railroads of the U.S. and Canada to eliminate problems caused by the unsystematic setting of local times (Carruth, 195).	1886 The first successful natural gas well in Indiana is bored near Portland in Jay County setting off a gas boom lasting almost two decades (Phillips, 192-93).		

Bicycle Timeline

Other Events in History

Bicycling for women

Unlike the male population, the female of the 1890s faced many social and physical obstacles—in addition to money—before she could comfortably experience the joys of the bicycle.

Andrew Ritchie, in *King of the Road*, sums up the woman's situation at that time:

It was not just a question of whether women should have the right to ride or not (and this was always the main issue until about 1895), but what they should wear when they rode, how they should ride, when they should ride, who they should ride with, whether they should race, whether it was good for their health, their morals, their families, their complexions, their hair and their reputations (146).

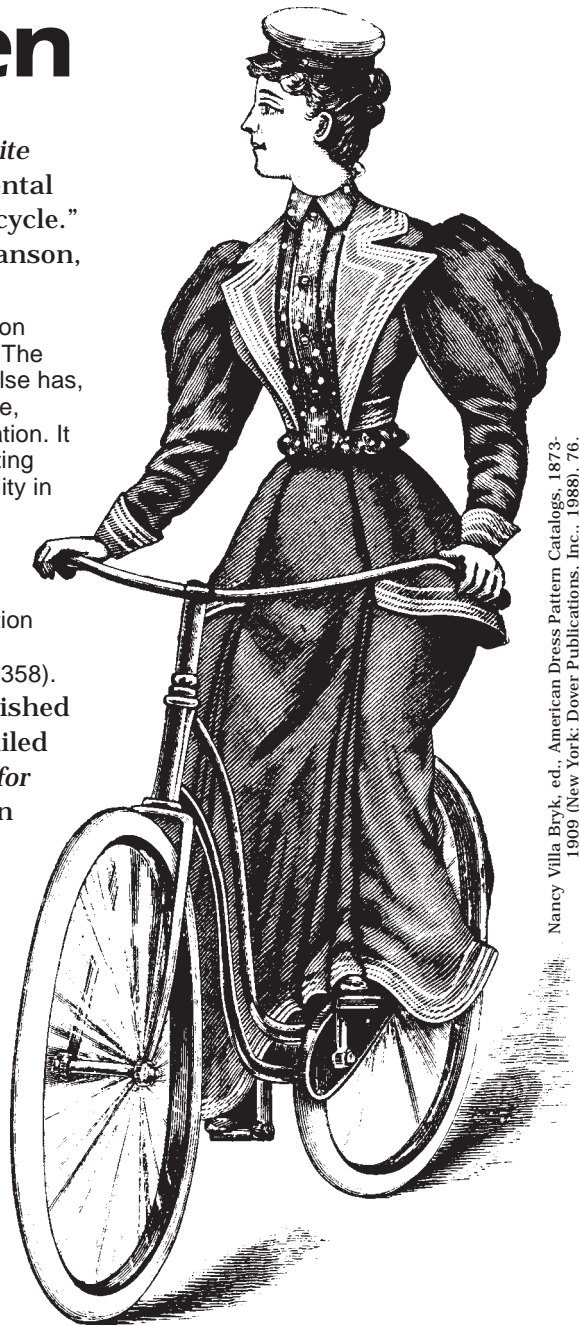
As women fought for the right to ride the bicycle, they did so generally in layers of undergarments, including binding corsets, long, heavy skirts, and long-sleeved shirts with high, tight collars. Not only social attitudes had to be changed, but women's clothing as well.

Etiquette was another concern; books were written for both men and women on the proper bicycle etiquette. By the mid-1890s, the social attitude regarding women bicycle riders had changed. In the 1896 *Etiquette of To-Day: The Customs*

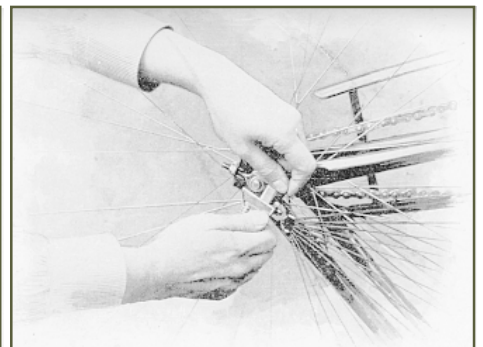
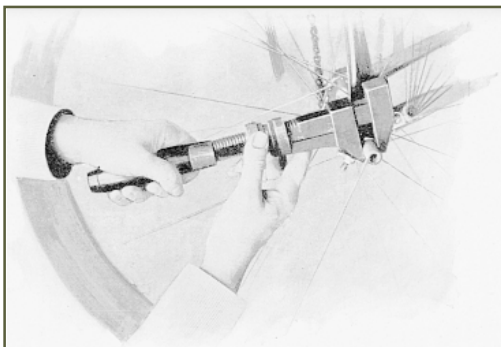
and Usages Required by Polite Society, there is a supplemental chapter "Etiquette of the Bicycle." The author, John Wesley Hanson, Jr., states,

The beneficent influence upon women is everywhere evident. The bicycle has given, as nothing else has, the means for healthful exercise, combined with delightful recreation. It has gone far toward emancipating them from slavish conventionality in both dress and conduct. It has taught them the advantage of sensible and healthful attire. It has also imparted a renewed strength to the natural association between the two sexes, so characteristic of American life (358).

A "self-help" book published in 1896, complete with detailed illustrations, was *Bicycling for Ladies*, by Maria E. Ward. In addition to the expected chapter on "Dress," are chapters on "Women and Tools," "Tools and How to Use Them," "Training," "Position and Power," etc. Ward notes that "Bicycling opens a delightful future to all who attempt it intelligently" (6). She provided in her book the instruction to accomplish that goal.



Nancy Villa Bryk, ed., *American Dress Pattern Catalogs, 1873-1909* (New York: Dover Publications, Inc., 1988), 76.



Ward, *Bicycling for Ladies*, 92, 112, 116.

L. S. AYRES & CO.

Sole Agents for Improved Standard Patterns.

The Wheel-woman



She is omni-present and omni-important, even to the dry goods merchant now-a-days. We acknowledge her importance and bow to it, but in doing so we have assembled such a prodigality of wheel-wearables as will make L. S. Ayres & Co. as necessary to the wheel-woman as the wheel-woman is to us.

Cycling Suits.

Correct materials, correct styles, correct colors, and correct prices. That's all, but it tells the story our supremacy; these samples demonstrate it.

- Suits of Beige Invisible Plaid Cassimere, circular skirt with deep stitched hem, Tuxedo 3-button coat, fancy taffeta lining, skirt unlined. . . . \$17.50
- Of Olive and Brown Mixed Invisible Plaid Cassimere, circular skirt, 4-button jacket, silk-faced but unlined, a suit \$12.00
- Golf Suits, much used for the wheel, heavy double-faced cloths, circular skirt and cut-a-way jackets, each suit \$17.50
- Homespun Cycle Suits in all-wool mixtures, fly front jockets, circular shape skirts, splendid values each \$6.45
- Black or Blue English Worsted Cheviot Suits, Tuxedo jacket, 3 buttons, circular skirts with fronts silk-lined, jackets lined throughout with heavy taffeta silk. These are handsome qualities, handsomely made, each \$22.50

SHIRT WAISTS.

- Shirt Waists of plaid duck, red, black, blue and green shadings, pretty and very good, each . . . \$1.98
- Madras Waists in blue pink, green, reds and greys, pretty style broche lavandare stripes, each . . . \$2.95
- Plaid Waists fine, firm texture, dainty colorings, separate collars, each waist \$1.49

CYCLE HOSE.

- Something of summer comfort in these present styles, all wool but light weight, novelty in color and designs but without the coarseness of texture or gaudy colors of the well-known golf hose. Ask to see them at our hosiery counter, a pair . . . \$1.00

NEW CYCLE GLOVES.

- Net Gauntlets, brown and tan, open mesh tops, dog skin palms, a tiny purse concealed beneath the cuff, stylish and serviceable, a pair \$1.00
- Chamois gloves in tan or white, with two patent clasps, soft and comfortable, will wash, a pair according to quality, \$1.00 and 75 cts.

BELTS.

- The cycle belt should be simple in style but of unquestioned quality and strength. See these: Morocco Belts in every desirable color 65 cts.
- Belts of grain leather or calf skin, snap buttons instead of buckles, each 75 cts or 50 cts.

L. S. AYRES & CO.



Indiana Historical Bureau.

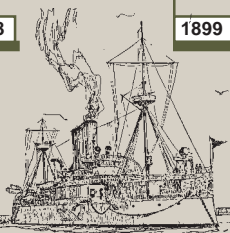
Carolyn Carter poses in period costume with her 1896 "Outing" by Indianapolis manufacturer, Hay & Willits. Note that the back wheel has a thin wooden fender and woven string to protect the woman's skirt. There is also a thin, wooden frame around the chain, paint, pin striping, and nickel plating are original.

The photograph below shows a fully outfitted 1897 "Crescent" model tandem, built by the Western Wheel Co., Chicago. Note the tool bag, bicycle pump, lantern, and bell. The woman rode in the front and the man in the back (note the different frames). It has dual steering. This is the Gay Nineties tandem which inspired the famous song "A Bicycle Built for Two," by Harry Dacre.



Indiana Historical Bureau.

Advertisement for L.S. Ayres, in *The Indiana Woman*, May 28, 1898.

<p>In Indiana, 1 establishment makes bicycles and parts (federal census).</p> <p>1890</p>	<p>George S. Cottman publishes in <i>Indiana Farmer</i> report of his bicycle trip from New Albany to Wyandotte Cave (McCord, 244-48).</p> <p>1894</p>	<p>In Indiana, 17 establishments make bicycles and parts with a value of \$3,085,377 (state statistics).</p> <p>1895</p>	<p>Bicycle industry listed for first time in report of State of Indiana Department of Statistics.</p> <p>1896</p>	<p>Indianapolis hosts national meeting of League of American Wheelmen.</p> <p>1898</p>	<p>In Indiana, 19 establishments make bicycles or parts (Phillips, 311).</p> <p>1899</p>	<p>In Indiana, 2 establishments make bicycles or bicycle parts (Phillips, 311).</p> <p>1904</p>	<p>Bicycle Timeline</p>
		<p>1894</p> <p>July 4 Elwood Haynes' "horseless carriage" completes a successful 8 mph trial run on Pumpkinvine Pike near Kokomo (Phillips, 312).</p>	<p>1895</p> <p>U.S. patent issued to Charles E. Duryea for a gasoline-driven automobile. Karl Benz had received a U.S. patent in 1894 for a German motor car (Carruth, 217).</p>	<p>1898</p> <p>April 24 Spain declares war on U.S. Congress passes declaration of war April 25 (Carruth, 221).</p>	 <p>U.S.S. Maine</p>		<p>Other Events in History</p>

Bicyclists join together



Indiana Historical Bureau.

Steve Carter, 1996, wearing his club riding uniform, complete with medals, with his 1885 "Columbia" ordinary made by the Pope Manufacturing Company, Boston. The "Columbia" came with a ten-year guarantee. Compare Carter's uniform to Pratt's suggestions:

Short breeches, either buttoned or buckled just below the knee, or knickerbockers with elastic band, are the things for the legs; with long stockings, and either low shoes or elastic-side congress boots. A short coat or jacket, with woollen shirt . . . with tie to choice, complete the suit.

The most favorite head-gear is the polo or plug cap, though the helmet is much worn; and many clubs prefer a cap with visor . . . (Pratt, 169).

... THE ... CYCLE CLUB BULLETIN

VOL. 1. INDIANAPOLIS, JUNE 13, 1896. NUMBER 41.

There were national and local magazines available to bicyclists which kept them informed of the latest in bicycle improvements, new models, accessories, meets, races, legislation, etc.

Charles Pratt, a Boston patent attorney for bicycle entrepreneur Albert Pope, was also a bicycle enthusiast and avid promoter of the sport. In 1879, he wrote the book, *The American Bicycler*. In 1880, he helped to found the League of American Wheelmen and was its first president.

The American Bicycler became the premiere guide for American riders, especially for the hundreds of bicycle clubs that were founded during the late 1800s. Pratt encouraged bicyclists to form riding clubs stating that the

advantages are good-fellowship, companionship for spins, and social standing in the bicycling community, special stimulus to interest, and incentives to excellence in riding (Pratt, 165-66).

Another, more serious reason was to protect themselves and their rights against those who felt the bicycle was merely a hazard—for example, teamsters, riders of horses, and pedestrians.

Pratt realized that there is strength in numbers:

They promote . . . like all other societies and associations, both individual and collective enjoyment, while they mould public sentiment and unite forces for defence and advancement (Pratt, 166).

If a cycle club followed Pratt's book, it was paramilitary, using the Cavalry Tactics of the United States Army. Officers were elected, uniforms worn, military formations used while riding, bugle calls used for signals, and a code-of-conduct governed members.

There were many clubs in Indiana. According to Anton Scherrer, writing in the *Indianapolis News*, October 29, 1948, in the late 1890s,

Indianapolis had around a hundred bicycle clubs. Every texture of society was represented. The clerks of the New York Store, some 40 of them, had a club And so did the ladies of the Propylaeum. The latter group denounced the wearing of bicycle bloomers.

General source: Dodge, *The Bicycle*, 82.

Bicycles in Indiana

It is difficult—if not impossible—to determine all the business enterprises and cycle clubs that existed in Indiana around the turn of the twentieth century. The list presented here is a starting place for exploration of your own local bicycle history.

The Indiana Historical Bureau would like to know the results of your research and have copies of materials that you may find.

We look forward to hearing from you!

Sources: The names of bicycle manufacturers and businesses have been compiled from records of Steve Carter and the Indiana Division, Indiana State Library. The names of cycle clubs are from *The Cycle Club Bulletin*, 1:41 (June 13, 1896), 3.

Allen County

Ft. Wayne Cycling Club
Y.M.C.A. Triangle Cycling Club, Ft. Wayne
Morgan & Co., Ft. Wayne
Randall Cycle Co., Ft. Wayne

Blackford County

Congress Cycle Co., Hartford City

Bartholomew County

Columbia Brass & Iron Co., Columbus

Clark County

Rodgers Clark Cycle Club, Jeffersonville

Clay County

Brazil Road Club

De Kalb County

Butler Co., Butler

Delaware County

Ball Cycle Co., Muncie

Elkhart County

Elkhart Cycle Club
Ariel Cycle Club, Goshen
Acme Cycle Co., Elkhart
Soudan Manufacturing Co., Elkhart
Elkhart Cycle Co.
Spark Cycle Manufacturing Co., Goshen
Ariel Cycle Manufacturing Co., Goshen
Walker & Stutz Co., Goshen

Fayette County

William Roberts & Son, Connersville

Floyd County

T. S. Evans Manufacturing Co., New Albany

Grant County

Marion Cycle Club
Marion Cycle Co.

Hamilton County

Cicero Cycle Club
Noblesville Racy Club

Henry County

Knightstown Cycle Club
Speeder Cycle Mfg. Co., New Castle

Huntington County

Huntington Cycle Club

Jackson County

Timms Manufacturing Co., Seymour

Jay County

Jones Cycle Co., Portland

Jefferson County

Madison Cycle and Athletic Club

Kosciusko County

Warsaw Cycling Club
C. L. Leonard, Silver Lake

La Porte County

Crown Cycle Co., La Porte
Great Western Manufacturing Co., La Porte
Allen Manufacturing Co., Michigan City

Madison County

Alexandria Bicycle Club
Anderson Wheelmen
Anderson Bicycle Wheel Co.

Marion County

Indianapolis Cycle Club
Junior Cycle Club, Indianapolis
Montauk Club, Indianapolis
U.S. Military Wheelmen, Indianapolis
Waverly Bicycle Club, Indianapolis
H. T. Conde Implement Co., Indianapolis
Arrow Manufacturing Co., Indianapolis
Sensitive Governor Co., Indianapolis

National Cycling Co., Indianapolis

S. A. Haines Co., Indianapolis
Dellis Cycle Co., Indianapolis
Central Cycle Manufacturing Co., Indianapolis
Hay & Willits Manufacturing Co., Indianapolis
Eclipse Bicycle Works, Indianapolis
Indiana Bicycle Co., Indianapolis
Van Camp Hardware & Iron Co., Indianapolis
Famous Cycle Works, Indianapolis
H. T. Hearsey & Co., Indianapolis
V. B. Holton Manufacturing Co., Indianapolis
Wheelmen's Co., Indianapolis
Indianapolis Cycle Co.
Mohawk Cycle Co., Indianapolis
A. M. Kleinschmidt, Indianapolis
Munger Cycle Manufacturing Co., Indianapolis
Outing Manufacturing Co., Indianapolis
Standard Manufacturing Co., Indianapolis
W. G. Ribble Co., Indianapolis
Specialty Mfg. Co., Indianapolis
Vanguard Cycle Co., Indianapolis
Progress Manufacturing Co., Indianapolis
Pettis Dry Goods [New York Store], Indianapolis

Marshall County

Plymouth Cycle Club
Plymouth Cycle Manufacturing Co.
Marble Cycle Manufacturing Co., Plymouth

Miami County

Peru Cycle Exchange

Montgomery County

Tallyho Wheelmen, Crawfordsville

Noble County

Albion Bicycle Club

Perry County

Triumph Cycle Club, Tell City

Porter County

Valpo Cycle Club, Valparaiso

St. Joseph County

South Bend Cycle Club
Collmer Brothers, South Bend
Collman Brothers, South Bend
Brown Brothers, South Bend
Colfax Manufacturing Co., South Bend

Shelby County

Century Cycle Manufacturing Co., Shelbyville

Sullivan County

Ledgerwood Cycling Club, Sullivan

Tipton County

Tipton Cycle Club

Vanderburgh County

Evansville Cycle Club
Copeland Cycle Manufacturing Co., Evansville
Single Center Springs Co., Evansville
Evansville Cycle Works

Vermillion County

E. E. Harris, Perrysville

Vigo County

Wabash Cycling Club, Terre Haute
Terre Haute Manufacturing Co.

Wabash County

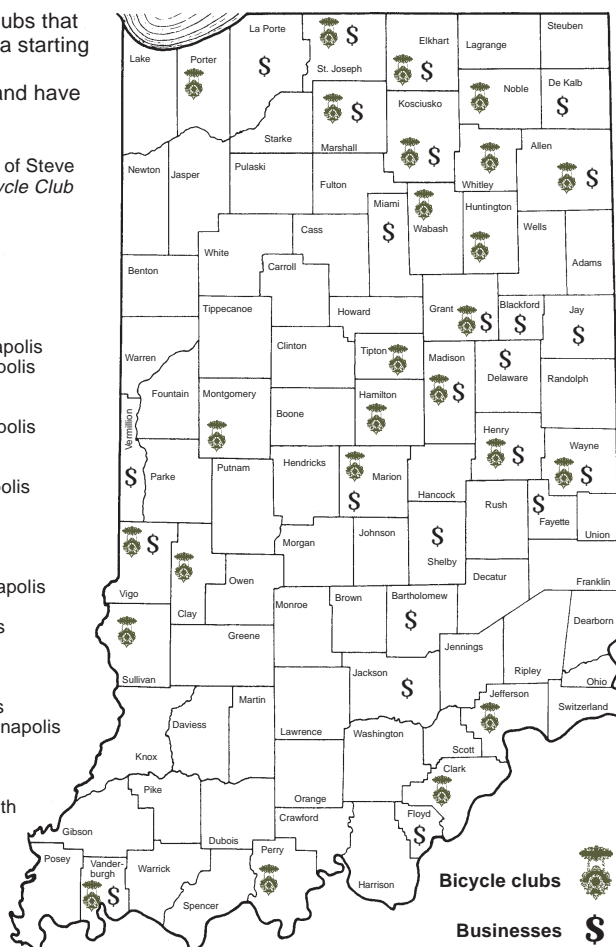
Dragon Cycle Club, Wabash

Wayne County

Richmond Cycle Club
Richmond Bicycle Co.
Henley Bicycle Works, Richmond

Whitley County

Churubusco Cycle Club



Riding conditions

By way of summary we will state that the northwestern section of the state is a lake region, very marshy and sandy and unfit for pleasure riding. The same can be said of the extreme northeastern section. The central part of the state, as far down as Columbus, is principally fine gravel or macadam roads, mostly level; but with the exception of Floyd and Vanderburg[h] counties, the southern section is wholly unfit for pleasure riding. The southwestern part consists principally of sandy loam. Between Floyd and Dubois counties the country is almost unrideable. The southeastern section is mostly dirt and hilly roads.

From "Preface," *Tour Book of Indiana* (Indianapolis: Indiana Division, League of American Wheelmen, 1898).

Wheelmen united

Not everyone was happy with the bicycle and the “wheelmen” who rode them. There were many accidents—some fatal. Some insurance companies charged higher rates for bicycle travel than for other transportation methods; special coverage for bicycle accidents was available. “Victims” of the bicycle craze demanded that there be protection.

In order to address such problems, regulatory laws and ordinances were passed throughout the country during the 1890s. First, warning devices such as bells or horns were required. Lights were later required, causing problems since they used kerosene. Brakes soon became standard equipment.

Elkhart, Indiana was apparently in the forefront. In 1893, Elkhart had a \$2 tax on each bicycle, required a warning device (bell or horn), “and required a cyclist to carry an affidavit testifying that he had ridden a bicycle at least two months” (Smith, 199, 224).

Bicyclists were not about to give up their new found freedom, and they demanded the right to the roads too. In May, 1880, in Newport, Rhode Island, a group of bicycle enthusiasts, including attorney Charles Pratt, formed the national League of American Wheelmen (Oliver and Berkebile, 22).

According to *The Official L.A.W. Road Book of Indiana* (1896),

The main “planks” in the “platform” of the League are to promote the general interests of cycling, to ascertain, defend and protect the rights of wheelmen; to facilitate touring; to secure improvement in the public roads and highways and to promote and regulate cycle racing on the track ([7]).



Bicycles were quiet and often startled pedestrians and horses. Laws or ordinances were passed that required one or more of these warning devices, all made in the mid-1890s to the early 1900s: (left to right) English horn, lever bell, “Search Light” lantern, and “Duplex” whistle which had two tones. Carter Collection.

Indiana Historical Bureau: Patricia A. Pollard.

One point on which everyone agreed—bicyclists, teamsters, pedestrians, businessmen, and farmers—was that roads had to be improved. The LAW made better roads a priority. The organization distributed pamphlets and in November 1891 began publication of *Good Roads Magazine*. By 1897, with over a million members, the LAW was having an effect throughout the country.

Indiana Governor James Atwell Mount (1897-1901) promoted better highways:

as a result of his efforts, the state came to have a good system of “free graded” roads. . . . when the LAW met in Indianapolis [in August 1898], Mount was invited to address them as a special mark of their approval of his efforts (Smith, 210).

The LAW also emphasized racing. Races were generally part of annual meetings, and there were sponsored events throughout the world. There were continuing controversies about amateur and professional racers, and in 1900, the LAW left racing.

Indiana has a place in this racing history. Marshall (Major) Taylor, of Indianapolis, was “the first black American athlete to achieve national recognition and acclaim” (Smith, 162). Taylor’s story is one of worldwide triumphs and tragedy, because of the racial prejudice at the time.

In 1894, the LAW amended its constitution to exclude blacks from membership. There was much negative reaction to the change, and local chapters across the country varied in their enforcement of it. According to Smith, there were many black cyclists and cycle clubs.

The LAW changed its name in the twentieth century to continue its fight for better roads. In 1967, the Wheelmen, a national non-profit organization was formed to preserve the bicycling heritage in which the LAW had been so important.

General source: Smith, *Social History*, 193-210, 243-71.

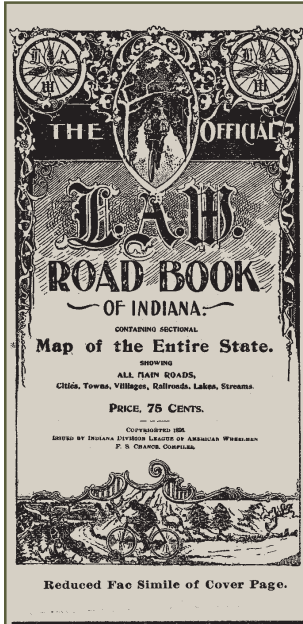
OFFICIAL
INFORMATION BOOK
 FOR THE
NINTH ANNUAL MEET
 OF THE
League of American Wheelmen,
INDIANAPOLIS, IND.
August 9th to 13th.
 COMPLIMENTS OF THE
INDIANAPOLIS NEWS.

Copyrighted by Emil Grossman & Co., Cleveland, O.

This little booklet—2 5/8 by 4 1/4 inches—is full of interesting information about the LAW and Indianapolis in the summer of 1898. It was actually the **nineteenth** annual meet. Along with the program of activities and race events, it includes local accommodations, transportation, hospitals, etc.; descriptions of tours and runs, including one for wheelwomen; and "Advice from Experience," including "Road Etiquette."

The Indiana Woman, an Indianapolis literary and family publication founded in 1895, published a "Bicycle Number" for its May 28, 1898 issue. The issue focuses on preparations for the August LAW national meeting: "There are over 100 miles of well-paved streets in the city, which make Indianapolis one of the most delightful cycling centers in the country" (6). The issues of August 13 and August 20 provide some coverage of the meeting. An item quoted from the Pittsburgh *Bulletin*, indicates the great success of the meeting, attended by about 25,000 wheelmen (in August 20, 1898, p. 7).

The 1896 publication advertised here was the first published by the Indiana Division of the League of American Wheelmen. It includes information about the national LAW, including other state road books, bicycle insurance, and signals to post about road conditions, accommodations, etc. available in a stencil kit. It lists Indiana League hotels in forty-four cities and repair shops in twenty cities. It is filled with informative advertisements. The five sectional maps designate gravel roads, dirt roads, and hills in red ink.



L. A. W. ROAD BOOK of Indiana
NOW OUT.

Contains sectional map of entire State, showing all good cycling roads, designates the good from the bad and locates hills. Alphabetical index enabling the user to find any town or hamlet in the State quickly. Much other information of interest to cyclers. Bound in perspiration proof covers. Over 2,000 copies sold in ten days from date of issue. Buy one now before the edition is exhausted. Ask for it of your wheel dealer or stationer. If they don't have it, send 75 cents to

F. S. CHANCE,
 COMPILER,
 INDIANAPOLIS, IND.

NOTE TO DEALERS:—This has proved to be the fastest selling bicycle accessory ever placed on the Indiana market. For prices and terms, address as above.

91 GREENCASTLE to CATARACT FALLS, 16 1-2 m. ROUTE 140							
POINTS ON ROUTE	Total Distance from Start	Distance Between Points	Material of Road	Grade of Road	Condition at Best	Turns, Forks, General Instructions.	
						T. P.—Telegraph Pole T. L.—Turn Left T. R.—Turn Right	X. R.—Cross Road L. F.—Left Fork R. F.—Right Fork
GREENCASTLE	0.0	9.5	G	R	1	Cross National Road 4 m. from Greencastle. Cataract Falls, fine resort; the Mill fork of Eel river has two falls, one 12 and one 18 feet fall; fine fishing and scenery. Road crosses National road 2 m. E. of Putnamville, and can be reached from Terre Haute and west by turning R. at Manhattan.	
CLOVERDALE	9.5						
CATARACT FALLS	16.5	7.0	D & G	R	2		
NEW ALBANY to ELIZABETH, 18 m. ROUTE 141							
NEW ALBANY	0.0	5.0	D	L	1	River road.	
FIVE-MILE LANE	5.0						
SUGAR GROVE	13.0	8.0	D & R	H	3		
ELIZABETH	18.0	5.0	D & R	II	3		
EVANSVILLE to NEW HARMONY, 24 m. ROUTE 142							
EVANSVILLE	0.0	4.0	M	R	1	The first 10 m. are fair M. and D. roads, but balance sandy loam, and only good in very seasonable weather.	
KASSON	4.0						
BLAIRSVILLE	12.0	8.0	M & D	H	2		
WADESVILLE	14.0	2.0	D & S	R	3		
NEW HARMONY	24.0	10.0	D & S	R	3		

A page from the 1898 *Tour Book of Indiana*, the first compiled by the Indiana Division of the League of American Wheelmen. The book is 6 3/4 by 4 inches in size. It describes 155 routes throughout the state and is indexed by city name.

Behind the Scenes

"Behind the Scenes" presents some aspect of how the Bureau staff produces each issue of the magazine. The focus may be, for example, the research process, an interpretation problem, etc. It also enables us to thank our partners and demonstrate that research is a collaboration with often unexpected twists and turns.

Steve Carter, a Plainfield fireman, is a man of the nineties—the 1890s. His handlebar mustache makes him look as if he just stepped out of a history book. That impression is more real when he puts on his 1890s reproduction bicycle uniform, climbs on his "ordinary," and rides away with expert ease. *The Indiana Historian* asked Carter to share his experiences with its readers.

TIH: How does someone become so passionate about old bicycles?

SC: It began over ten years ago at a 500 Swap meet, when I was offered a ride on an original. After my first ride, I knew I had to have one. I purchased a replica of a high wheel bicycle and began riding around home.

TIH: Was it difficult to learn to ride?

SC: I felt comfortable after a couple of days. The initial riding of the ordinary is only the beginning. After which you hone riding skills and showmanship. The mounting and dismounting is an acquired skill.

TIH: How do you determine what period clothes to wear?

SC: Old photographs and copies of original manufacturers' catalogs are used to reproduce riding outfits.

TIH: How many items do you have in your collection?

SC: There are thirty bicycles and tricycles and many pieces of memorabilia from

the 1860s to 1910. The collection is always changing as better examples or more rare pieces are found. I still dream of finding a high wheel in someone's attic or basement but I also dream of winning the lottery and have about as good a chance of either.

TIH: Where do you find old bicycles?

SC: Most come from other bike collectors. I have placed want ads in periodicals, sent flyers to antique dealers and have been contacted by people who have seen articles about my bicycles and my rides.

TIH: How often do you have to restore bikes?

SC: Seldom is the bicycle in show or ride condition. Part of the enjoyment is restoring the bike to near original condition. As the caretaker of these pieces of history, I feel the caretaker's responsibility is to pass these bicycles on in better condition than I found them. Leather seats, rubber tires and wooden/cork grips deteriorate much quicker than the metal. The Wheelmen extensive library of original manufacturers' sales catalogs help. Some parts I can make; other items I must get from an eager machinist.

TIH: Tell us about your antique bicycle club.

SC: The club is The Wheelmen. It was incorporated in 1967 by a few men and has grown to over 3,000 members in the U.S., Europe, Australia, and Asia. It is based on the bicycles built between 1816 and 1916.

The Wheelmen meet annually and re-create the bicycle craze. Most dress in reproduction period clothing. There

are rides, seminars, bike displays, and social events.

Wheelmen events include demonstrations, displays, parades, ten mile tours, a century (100 miles) ride in one day, and multi-day trips.

TIH: How did you become the National Historian for The Wheelmen?

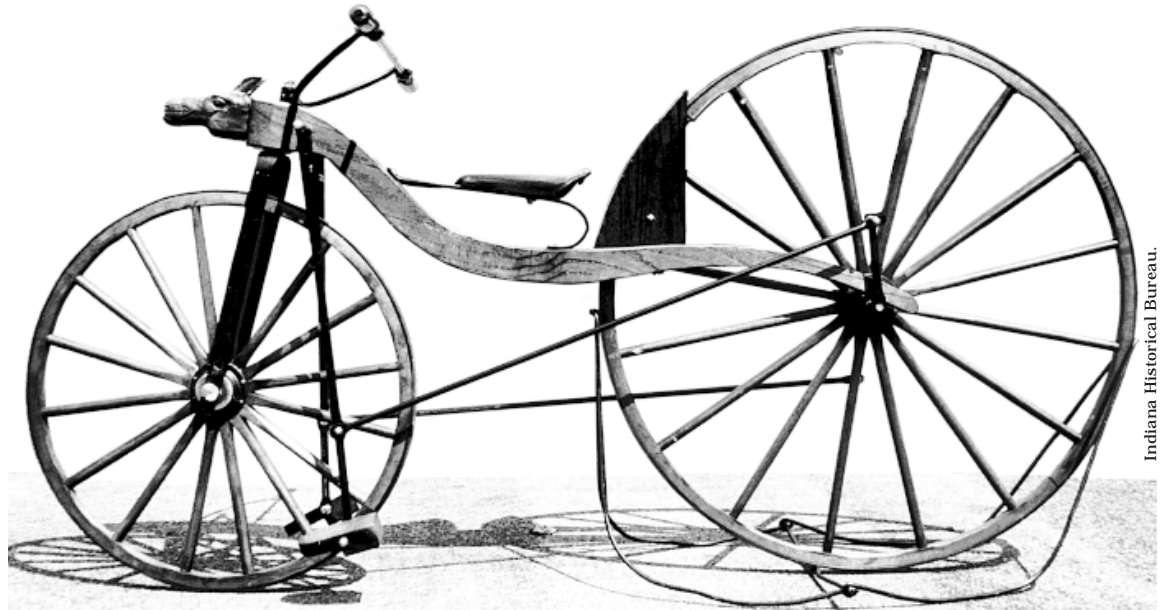
SC: I started researching the bicycles in my possession, so I could answer the many questions at parades and displays. The Wheelmen have a library filled with information about early bikes and events. This work grew into becoming the National Historian and giving talks and demonstrations locally, nationally, and even internationally.

TIH: How did you get into the Guinness Book of Records?

SC: A goal of many Wheelmen is to recreate the first bicycle to cross the U.S. from San Francisco to Boston. In 1884 Thomas Steves rode a 50 inch Columbia high wheel covering over 3,300 miles in 104 days. In 1992, I rode the same course (as near as possible) on my 1885 Columbia and covered 3,428 miles in 33 days 7 hours setting the Guinness World Record for High Wheels Trans Continental Crossing in the process. The most memorable experience would have to be the great people I met along the route.

TIH: What is the most enjoyable aspect of this hobby?

SC: I enjoy all aspects of the hobby especially talking to people or groups and showing them something, that up until then, they had only seen in history books.



Indiana Historical Bureau.

A reproduction of an 1839 "MacMillan" built by Steve Carter and in the Carter Collection. Note the treadle pedals.

A Note Regarding Resources: Items are listed on this page that enhance work with the topic discussed. Some older items, especially, may include dated practices and ideas that are no longer generally accepted. Resources reflecting current practices are noted whenever possible.

Selected Resources

Bibliography

- Carruth, Gorton. *What Happened When: A Chronology of Life and Events in America*. New York: Harper & Row, Publishers, 1989.

A handy, abridged edition of *The Encyclopedia of American Facts & Dates*.

- Dodge, Pryor. *The Bicycle*. Paris: Flammarion, 1996.

Excellent book on the history of bicycles. Beautiful photographs.

- Maxim, Hiram Percy. *Horseless Carriage Days*. New York: Harper & Brothers Publishers, 1937.

First-hand account by an inventor about his experiments with bicycles, the earliest motorcycles, and the first automobiles.

- Oliver, Smith Hempstone, and Donald H. Berkebile. *Wheels and Wheeling: The Smithsonian Cycle Collection*. Washington, D.C.: Smithsonian Institution Press, 1974.

Information about some of the early bicycles in the museum's collection. Good illustrations.

- Palmer, Arthur Judson. *Riding High: The Story of the Bicycle*. New York: E. P. Dutton & Co., Inc., 1956.

Good illustrations of early bicycles.

- Phillips, Clifton J. *Indiana in Transition: The Emergence of an Industrial Commonwealth, 1880-1920*. Indianapolis: Indiana Historical Bureau and Indiana Historical Society, 1968.

The standard history for this period.

- Pratt, Charles E. *The American Bicyclist: A Manual for the Observer, the Learner, and the Expert*. Boston: The Author, 1880.

Excellent source; considered the premier guide for bicylists at the time.

- Pridmore, Jay, and Jim Hurd. *The American Bicycle*. Osceola, WI: Motorbooks International Publishers & Wholesalers, 1995.

Good source on the history and many types of bicycles.

- Ritchie, Andrew. *King of the Road: An Illustrated History of Cycling*. London: Wildwood House, 1975.

Excellent reference.

- Smith, Robert A. *A Social History of the Bicycle: Its Early Life and Times in America*. New York: American Heritage Press, 1972.

An informative, easy-to-read book on the social impact of the bicycle.

- Thornbrough, Emma Lou. *Indiana in the Civil War Era, 1850-1880*. Indianapolis: Indiana Historical Bureau and Indiana Historical Society, 1965.

The standard history for this period.

- Ward, Maria E. *Bicycling for Ladies*. New York: Brentano's, 1896.

A delightful manual for women who want to know about and ride the bicycle.

- Wilson, Anthony. *Visual Timeline of Transportation*. London: Dorling Kindersley, 1995.

Beautiful photographs used to illustrate this timeline.

Suggested Reading

Your local library should have many books on the history of the bicycle.

- Beeley, Serena. *A History of Bicycles*. Secaucus, NJ: Wellfleet Press, 1992.

Deals extensively with the English history of the bicycle, but includes much about American bicycles.

Beautiful photographs.

- Levinson, Nancy Smiler. *Turn of the Century: Our Nation One Hundred Years Ago*. New York: Lodestar Books, 1994.

Life in America during the height of the bicycle craze.

- Ritchie, Andrew. *Major Taylor: The Extraordinary Career of a Champion Bicycle Racer*. San Francisco: Bicycle Books, 1988.

Excellent biography of Major Taylor, Indiana's world champion bicycle racer.

- Taylor, Marshall W. "Major." *The Fastest Bicycle Rider in the World: The Story of a Colored Boy's Indomitable Courage and Success against Great Odds*. Freeport, NY: Books for Libraries Press, 1971.

Originally published in 1928, this autobiography details Taylor's career

as a championship bicycle racer.

- *This Fabulous Century: Prelude, 1870-1900*. New York: Time-Life Books, 1970.

Industrial development and growth in U.S. are covered.

- Walker, Robert H. *Everyday Life in The Age of Enterprise: 1865-1900*. New York: G. P. Putnam's Sons, 1967.

Covers America's industrial development and growth.

Selected Student Resources

- Davies, Eryl. *Timelines Transport: On Land, Road & Rail*. New York: Franklin Watts, 1992.

Surveys the development of land transportation in relation to needs, skills, and technologies. Illustrations are very helpful.

- Lafferty, Peter, and David Jefferis. *Pedal Power: The History of Bicycles*. New York: Franklin Watts, 1990.

Includes use of bicycles from their origin to the present day, with excellent illustrations. Intermediate readers.

- Pursell, Thomas F. *Bicycles on Parade: A Brief History*. Minneapolis: Lerner Publications Company, 1980.

Covers 1790s to modern times in an easy-to-read style.

- Woodforde, John. *The Story of the Bicycle*. New York: Universe Books, 1971.

An easy-to-read history.

Special Thanks

- To Steve and Carolyn Carter, Plainfield, Indiana for sharing their time, knowledge, and collections.

- To John Phung and William Kelly, photographers with the Indiana Department of Transportation, for their work in documenting the Carter Collection for the Indiana Historical Bureau.



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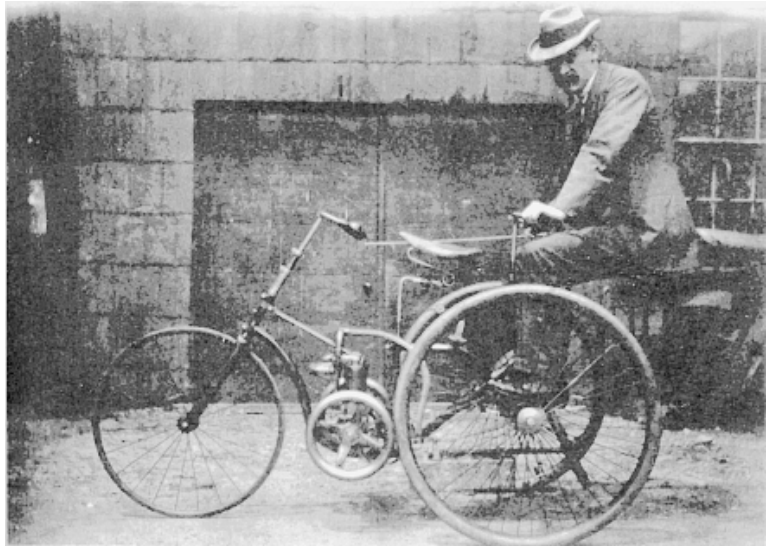
The next step

Hiram Percy Maxim in his 1937 book comments about the advent of the automobile in 1895:

The reason why we did not build mechanical road vehicles before this . . . was because the bicycle had not yet come in numbers and had not directed men's minds to the possibilities of independent, long-distance travel over the ordinary highway. . . . The bicycle created a new demand which it was beyond the ability of the railroad to supply. Then . . . the bicycle could not satisfy the demand which it had created. A mechanically propelled vehicle was wanted instead of a foot-propelled one, and we now know that the automobile was the answer.

. . . what is likely to be the tendency from here on? The automobile demand had to come before a reliable gasoline-engine could be developed. When this engine became available the airplane appeared. The airplane . . . is one of our established systems of transportation. . . . The airplane has created a demand for something beyond the ability of the gasoline-engine to supply. This something is bound to appear. Who shall say that another fifty forward-looking men are not at work independently upon it at this moment, keeping their efforts secret just as we horseless-carriage pioneers forty years ago kept our efforts secret, and just as blissfully ignorant of one another's existence as we were? History has a strange way of repeating itself (Maxim, 4-5).

- From your perspective over sixty years later, has Maxim's prediction come true? What discoveries have proved his point?
- Apply Maxim's point to the present and predict what the future may hold for transportation technology.



Hiram Percy Maxim's "first horseless carriage, built in 1895" (Maxim, 81).