Sociology of Cycling: 3.3

Tricycles and Tricyclists, 1850 – 1900: The Early Years as Illustrated through Contemporary Photographs

Lorne Shields, Thornhill, Ontario, Canada

Before 1816 and prior to the invention of the two-wheeled Draisienne, also called the hobby-horse, the 'developmental' cycles were generally constructed with three or four wheels. Although uncommon, there were also three-wheeled Draisiennes and hobby-horses, but the vast majority of newly developed manumotive or pedomotive vehicles in the late-1700s through to the early 1860s were tricycles or quadricycles of various kinds – usually referred to as 'velocipedes.'[1]

By about 1865, pedals and cranks were put on a two-wheeled 'cycle' and the velocipede, or 'bicycle' as it was soon called, was born. The two-wheeled cycle was very popular, but not everyone who wanted to ride one could accomplish the act of balancing. So tricycles appealed to many riders because there was no need to balance and the dangers from falling were perceived as minimal. Lack of experience did not hinder the tricyclist as there was virtually no learning curve. There was a slight tip-over problem while turning a corner, but this could generally be avoided by reducing speed. Women, who were not able to ride high-wheelers because of their skirts, now had an opportunity to enjoy cycling. Almost anyone who could afford a bicycle could also afford a tricycle.[2]

The golden years of the tricycle were between 1877 and 1888. The safety bicycle came onto the market in the mid- to late-1880s and rapidly diminished the importance of the tricycle. The decline in tricycle use paralleled the safety bicycle's rapid acceptance.

There were some very important develop-

ments in the history of the tricycle which paved the way for the broad use of today's automobile. Here are some of them:

- James Starley's diffential gear allowed rear wheels on the tricycle to revolve variably, which greatly enhanced the automobile's ability to turn safely.
- the basics of Rudge's rack-and-pinion steering are still used to this day.
- the three-wheeled motor-driven tricar and autocar, such as those of De Dion, Pierce & E. R. Thomas, accelerated the rapid development of a comprehensive automobile industry by helping to create an infrastructure for mass-production.
- accessible and rideable roads were crucial goals of the Good Roads Movement which was mainly a result of lobbying by the organized bicycle and tricycle organizations of the era. These were the League of American Wheelmen (later to become the AAA), the Canadian Wheelmen's Association (the CAA), the Cyclists' Touring Club (the BAA) and similar organizations throughout Europe.

These images illustrate the mechanical development of the tricycle, which enhanced the efficiency of the vehicle.[3] Look for examples of:

- the hand lever, foot treadle, and double-cranked, pedal-shaft propulsion which evolved into the standard chain wheel and crank.
- the change from the wooden-spoked wheel with a flat-strip iron rim to the tangentially wire-spoked wheel with a pneumatic tire.
- the evolution from foot or tiller steering to rack-and-pinion steering and then eventually to direct steering by use of the handlebar.

Many different manufacturers made some of the same styles of vehicles. In some instances, it would be almost impossible to identify the maker unless information about the cycle or the cycle itself was identified. An example is the Starley Salvo tricycle, whose pattern was copied by many others, including the Overman Wheel Company and their Victor model.

Advances in style and design for all cycles progressed rapidly. It is worth pointing out that patent protection was secure in the USA and England – which were the biggest markets in the 1870s and 1880s. Apart from the costs of tooling and the constant innovation in design, patent protection was a significant factor in the import and export of various cycles.

Other images will illustrate the fact that basic fashion changed little for lady tricyclists. Even with somewhat restrictive clothing, it was lady tricyclists' attire which helped pave the way for less constrictive clothing for the lady bicyclists, and women in general.

The images are, for the most part, in chronological order. Some variations in dating may be feasible since these particular photographs could have been take either when the machine was first made, or sold, or become popular, or some years after purchase. Even those photos that are inscribed may not be dated correctly.[4] Using the term 'circa' with some of these images is based upon interpreting the overall history of that model and photograph.

These photographs with tricycles are presented to illustrate many of the major developments in the history of the tricycle within the 1850 to 1900 time frame. There was a cornucopia of vehicles on the roads. What a grand sight those cyclists must have been! The images are illustrated in the photos that follow.[5]

Fig. 1. (Left) **Come Watch Me Ride!** (United States, c.1850). This is a three-wheeled youth's velocipede which was hand-lever propelled via connecting rods to the cranked rear axle. Steering was controlled by foot pegs mounted on the front fork. The figural shape of the velocipede is that of a horse. The photo is identified with a paper which was placed behind the photograph in the case. It reads: "1850 ... F. B. James ... taken at Cincinnati Ohio ... in 1850". It is a Daguerreotype photograph. A Daguerreotype is a photograph on a highly polished silver surface adhered to a copper plate that is made photo-sensitive and after exposure to light is developed in mercury fumes. The half-plate Daguerreotype, 4-1/4" x 5-1/2", is housed in a 4-5/8" x 6" folding case. Unidentified photographer. Acquired in USA.

Fig. 2. (above) **The Modern Man and his Conveyance** (England, c.1869). A modified actual Rantoone or Rantoone-style tricycle. This type of vehicle was in use from 1863 - when the Rantoone was invented - throughout the 1860s. Foot treadles to the rear axle activate the propulsion. Both hand levers can assist in the propulsion via the rear axle. The vehicle is double-steering. The rider's left hand can control the tiller steering when he is not actuating the left-side propulsion lever. The right-side lever is equipped with a pulley system that can control the steering while the lever is simultaneously being actuated for propulsion. Rear wheels appear to be constructed with a shock-absorbing (possibly rubber) compound between the exterior steel and wooden inner rims. Front wheel has ten felloes with iron rim directly over the wood. The vehicle has a platform over box-type seat. Note the early candle lamp. After 1869, any vehicle in England had to comply with the Metropolitan Carriage Act and have a lamp that shone a white light to the front and a red light to the rear from one hour after sunset to one hour before sunrise. Albumen carte de visite, 4" x 2-3/8". No photographer's identification. Acquired in England. A definitive article on the Rantoone tricycle was written by Roger Street for *The Boneshaker* #122/9, Spring 1990.

Fig. 3. **Better Mobility for our Wounded** (United States, c.1865): This was a Civil War-era tricycle developed for invalids. Hand-held lever-drive propulsion to the rear wheels. The front wheel has a floating pivotal mechanism similar to that of the Quadrant Tricycle used about fifteen years later. Lever-controlled hand-operated steering. Although invalid three- and four-wheeled vehicles were on the market, there were currently greater potential sales because of Civil War casualties. The tax revenue stamp adhered to the back of the photograph indicates that the photo was produced between Sept.1, 1864 and Aug.1, 1866. Albumen carte de visite, 3-7/8" x 2-3/8". Photographer identified as F.B. Zay of Galion, Ohio.

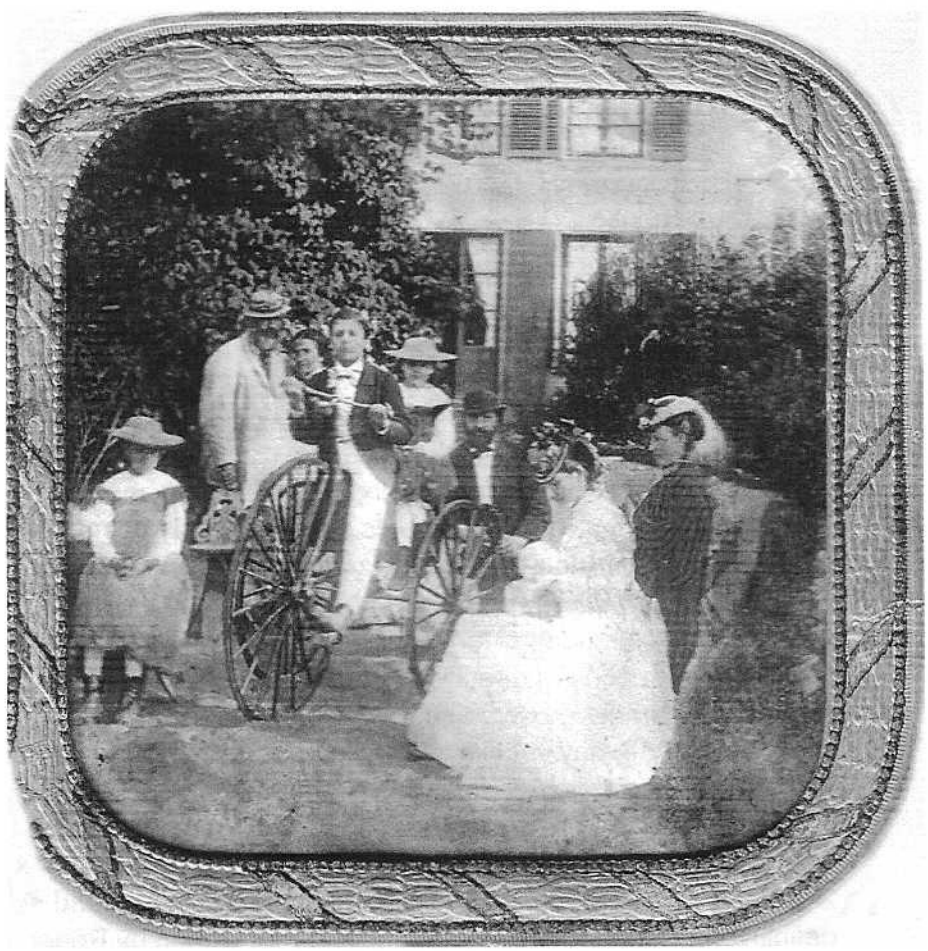

Fig. 4. **Our Family Values** (France, 1869): Camus was the maker of this highly unusual front-wheel drive, rear-steering velocipede tandem tricycle. Rack-and-pinion steering to the rear. The handlebar is attached to a gear which mates to a long rod that is housed within the main frame. This rod connects to the rear axle for the purpose of steering. Frame and forks were steel. This vehicle is discussed in the book *Le Velocipede Illustre* by Claude Reynaud on pp.288- 291. Illustrated is one half of a stereoscopic card whose full size is 6-7/8" x 3-3/8". Translucent tissues were mounted in a board frame so that the light goes through the card for a more life-like view. No maker identification. From the Treadwell Collection, acquired in Canada.

Fig. 5. **Come See my Beautiful New Machine** (France, c.1869): A very interesting tricycle with a unique set of mechanisms for propulsion that incorporates treadles to the front-wheel cranks and a hand lever attached to an articulated rear-driving axle. Wicker seat with cushion, tiller steering, stirrup on rider's right side for mounting. Appears to have rubber-covered tires. Albumen carte de visite, wet-plate camera, 2-3/4" x 4-1/8". No photographer's identification or other information. Acquired in France.

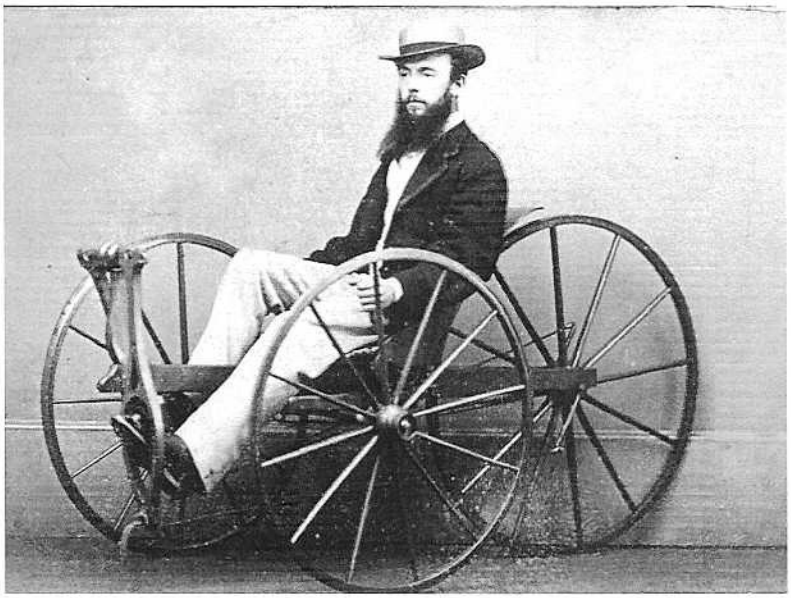

Fig. 6. **For the Artist and Tourist** (Scotland, 1869): The weight was 83 pounds. Hand levers connected to the front axle controlled the front-wheel steering. Propulsion was affected via foot stirrups attached to rods which activated the rear drive-wheel. The rider wrote: "I have always a comfortable seat to sketch from, or to rest when I need, with great ease in driving." Albumen carte de visite, 4" x 2-1/2". Taken in "Taylor's Photographic & Art Studios" located at 62, Jamaica St., Glasgow. William Taylor's studio was at that location from 1869 to 1872. An article about this vehicle, "The Edinburgh Tricycle", was presented by Alastair Dodds and Alex Brown at the 5th ICHC held in 1994: see *Cycle History 5*, pp.45-50.

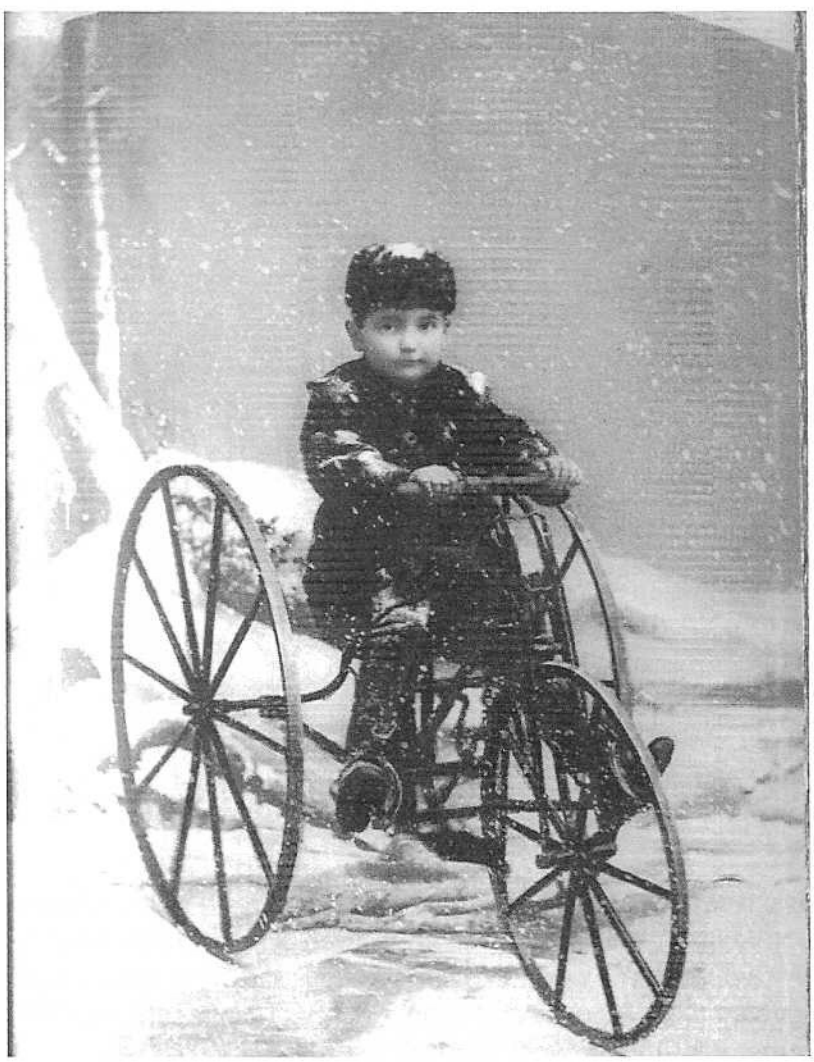

Fig. 7. **For My Special Child** (United States, c.1878): This is a Sheridan Velocipede. The uniqueness of the machine was that its propulsion was activated by a 'cantering' movement. It propelled itself as if the rider was on a horse. The vehicle was patented and made by A. A. Crosby of Rondout, NY. The contemporary retail price was $10. An advertisement from the maker claimed: "Among the developing tendencies of American Life none is more commendable than healthful exercise. The Sheridan Velocipede meets every requirement in this line, being propelled by the weight of the rider together with the feet. While it requires the same muscular action as rowing, the motion is that of riding on horseback." Spots represent winter snowflakes rather than a defect in the image. Studio photo, carbon process,. image printed on the underside surface of the convex glass. Exterior size of the frame 5-1/8" x 7". Unidentified photographer. Acquired in the United States.

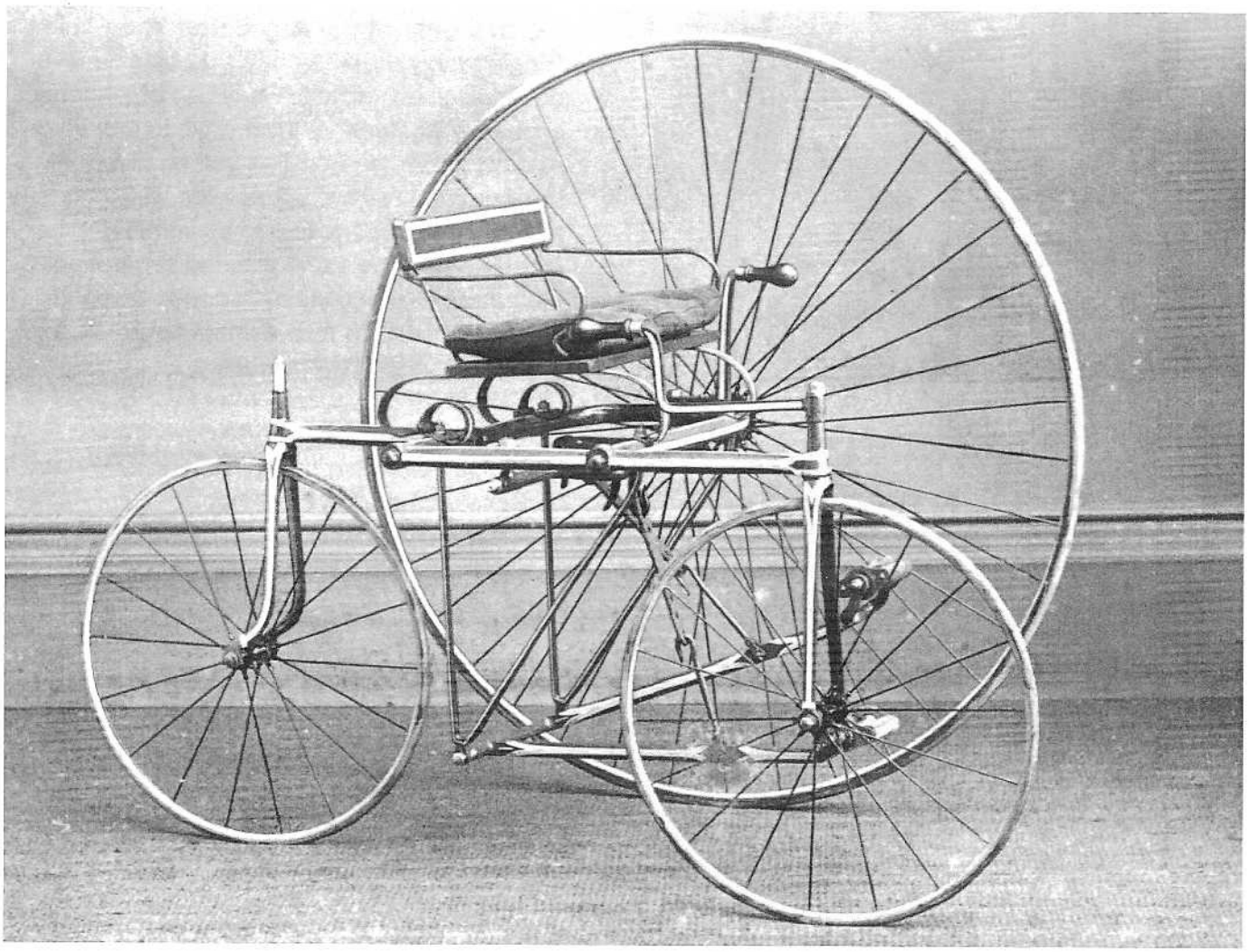

Fig. 8. **The Latest and Greatest** (England, c.1877): Excelsior model tricycle made by Bayliss, Thomas and Co. Tiller steering. Lever drive to the large side wheel. A very 'modern' tricycle of the era. Metal-framed cushion seat has a wooden slat-back rest. Seat is mounted on heavy springs. Note the beautifully painted frame with contrast-painted lines and highlights. Reverse reads in contemporary script: "Bayliss Thomas & Co.....Coventry, 48 inch - £15 – 15 – 0". Albumen carte de visite, 4-1/16" x 2-1/2". Photograph was used by a salesman for the company. Photographer identified as R.V. Green of Coventry.

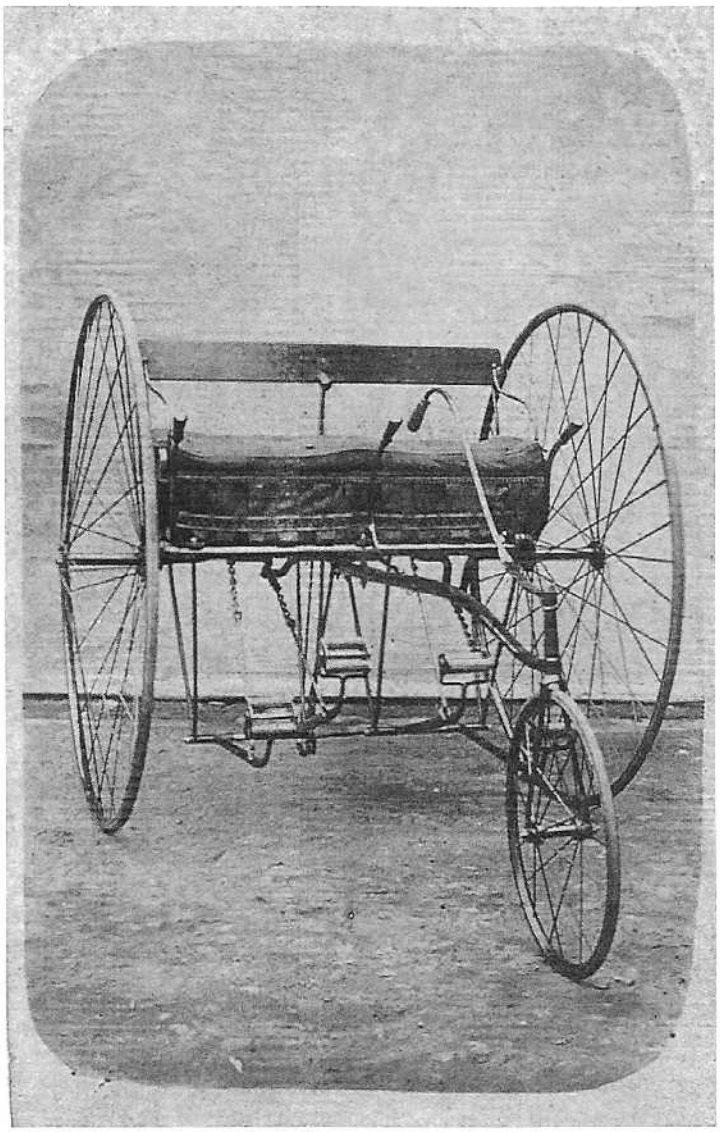

Fig. 9. **It Cannot Get Any Better Than This** (England, c.1876): An early side-by-side lever-driven sociable tricycle. Early use of tangent spokes, tiller steering, lever drive to a cranked rear axle. No differential as yet, so this would have needed the two riders to be well in sync with each other to ride as intended. The interesting cushion seat with the separation at the middle rear is constructed with a wooden slat-back board. In a contemporary article a similar machine weighed 80 lbs. Photograph was likely used by a salesman for a cycle manufacturer. Albumen carte de visite, 2-1/2" x 4". No photographer's identification or country of origin. Acquired in England.

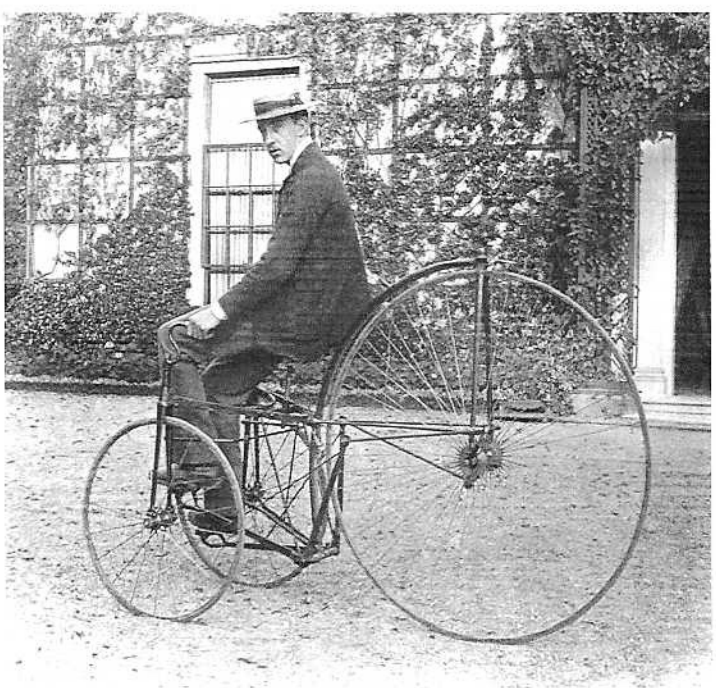

Fig. 10. **Yes....I'll Be Back Shortly** (England, c.1877): Challenge-pattern, lever-driven tricycle made by Singer and Co. of Coventry. Front hand-lever steering with two front wheels and a rear drive-wheel. Levers activate the cranks which propel the rear wheel. Tricycle has a short rear mudguard mounted under the acorn nut at the rear fork, similar in style to the Dublin Tricycle. An example of this machine is in the collection of Canada's Science and Technology Museum in Ottawa, Canada. Albumen photograph mounted on an album board, 8-1/2" x 4", sheet disbound from a Victorian photograph album, with photos on both sides. No photographer's identification. Acquired in England.

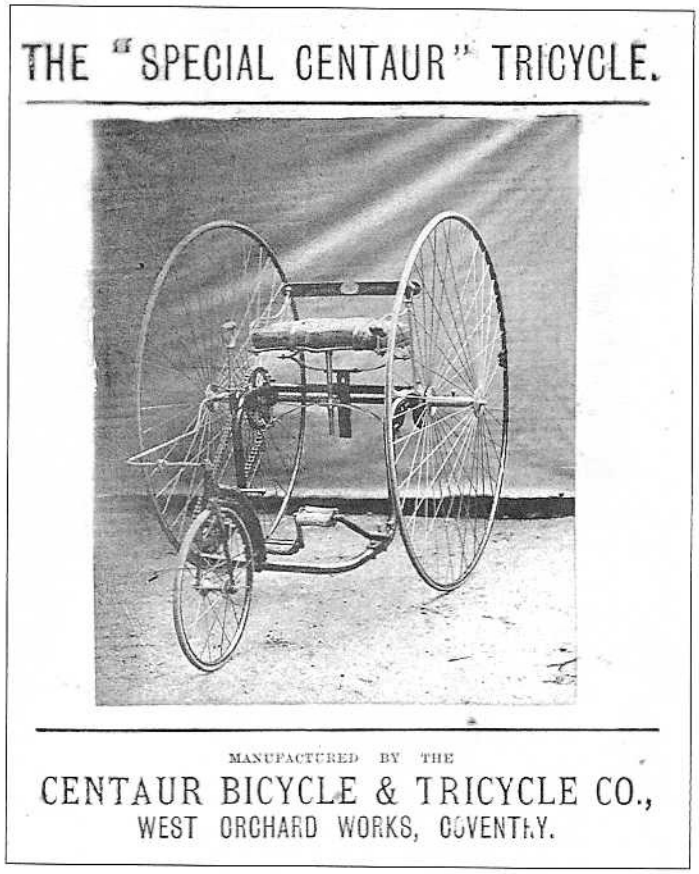

Fig. 11. **We Are Pleased To Present** (England, c.1880): the Special Centaur. Rack-and-pinion steering from the spade handle at the side of the seat to the front wheel. Revolving double-cranked pedal shaft crank activates the chainwheel with chain-drive mechanism. Right-side drive wheel. Cushion seat has a back slat with the maker's identification plate in the center. Identified as the 'Special Centaur' Tricycle built by the Centaur Bicycle and Tricycle Co., of Coventry, England. Albumen photograph, 3-5/8" x 4-3/4", used by a salesman for the company for prospective clients. No photographer's identification. Probably done in Coventry.

Fig. 12. **A Sojourn in the Country** (England, c.1882): likely a Cheylesmore, two-speed rear- steering tricycle which was sharing the road with a high-wheel. The Cheylesmore was a popular brand of the Coventry Machinists' Company. The tricycle has a double-cranked pedal shaft with a chain-drive mechanism attached to both front-drive wheels. There is a mechanism which engages a clutch so that only one corresponding drive wheel functions at a time. Rack-and-pinion steering to the rear wheel. Seat has a rear-mounted platform which is supporting a travel case. The bell is mounted on the control shaft at the side of the saddle. Box oil lamp, commonly found as a pair on this style of tricycle, at side of the saddle. The high-wheel bicycle in the image is likely a Rudge. Albumen photograph, 8-1/8" x 3-3/4", mounted on an album board. Photos on both sides. Sheet disbound from a Victorian photograph album. No photographer's identification. Acquired in England.

Fig. 13. **Just Traveling** (England, c.1882): Meteor tricycle Model 1, made by Starley & Sutton of Coventry, England. Hayfork open-front frame. Rear steering. Double-cranked pedal shaft. Note the heavy duty chain. Original price in 1882 was £16 0s 0d. Tricycle lamp mounted at front. Rider has a Cyclists' Touring Club pin mounted on his left breast. Reverse of the photograph identifies the rider as Henry Moore, Battledown View, Cheltenham, as well as the machine being a Meteor. This is a photograph from the C.T.C.'s 1882-1883 membership album. A note from *Sturmey's Tricyclists' Indispensable Annual and Handbook for 1882*: 'This is the machine that the majority of open-front machines are derived from - it was the first of its kind. It is a strong, handy machine and runs well up hills, though unsteady going down hills as are all back steerers.' Albumen cabinet card, 4-1/4" x 6". No photographer's identification.

Fig. 14. **My Neighbours Won't Have One** (England, c.1882): A "Dual" tricycle built in Christchurch, England by a watchmaker named William Jeans. The name "Dual" reflected the fact that it had two speeds. Double-cranked pedal shaft. It was propelled solely by gears. Either the left- or right-side chainwheel was engaged while the other side ran as a freewheel. Rear steering. Seat sat upon heavy springs, ensuring a comfortable ride. Pencil marking on the reverse indicates the photo was taken in Berkeley, California circa 1875, but that date is impossible as the vehicle was only produced in England in 1882. Albumen photograph mounted on card, 6-1/2" x 9". Probably an American photograph, using this English tricycle.

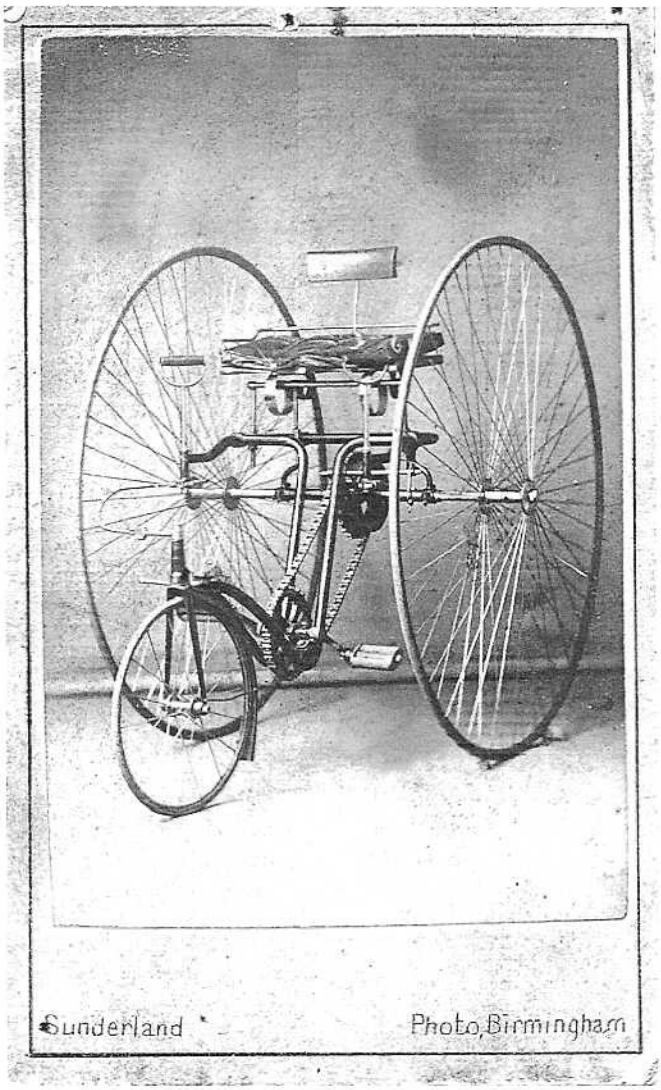

Fig. 15. **Heading in the Right Direction** (England, c.1884): Three-track central-chain-driven tricycle. The symmetry of the frame design is interesting. Pedals on cranks propel the center chainwheel with a chain drive to the rear axle. Driver's left hand activates a band-brake mechanism that constricts against an extension of the rear-drive chainwheel. The rider's right hand activates the rack and pinion steering with hoop-shaped linkage. Seat with back rest is supported with double springs. Studio image with small rocks placed at front and rear of right-facing wheel to steady the tricycle in the studio. Albumen carte de visite, 2-1/2" x 4-1/8". Photographer was J. Sunderland, Birmingham, England.

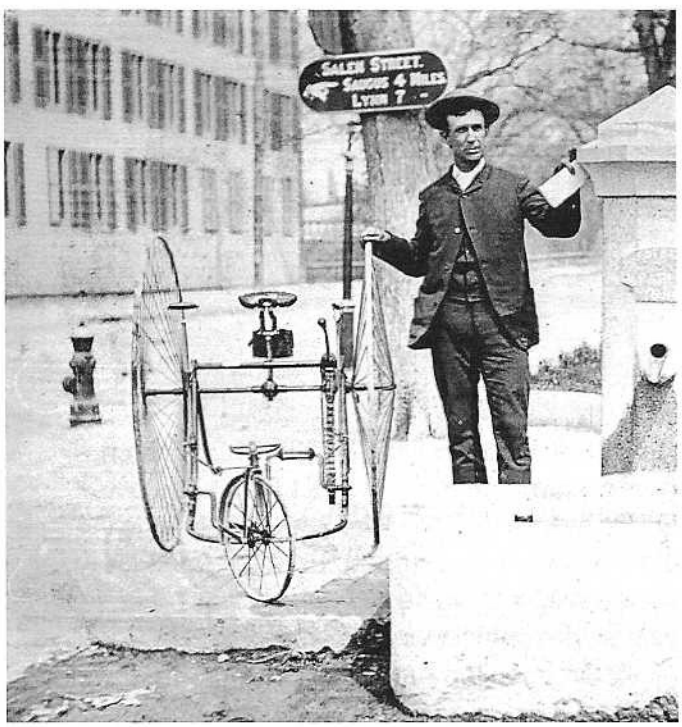

Fig. 16. **I Will Be Home Right After Posting the Letter** (United States, c.1886): a Victor tricycle made by the Overman Wheel Co. of Chicopee Falls, Mass. Has a clearly visible differential set in the center of rear axle. Rack-and-pinion steering. Chain drive to rider's left wheel. Rear safety tip-tail extension. Saddle mounted on coiled double-rod springs. From a contemporary advertisement of Stall and Burt, Agents; 509 Tremont St., Boston, Mass.: "One machine fits the whole family. Over 60,000 in use! ... By doctors, lawyers, clergymen, ladies - young and old - and business men of all classes. Queen Victoria owns three Tricycles." The scene is at a combination water pump and mailbox at a town center. Location is on Salem Street in Melrose, Mass. Sign reads "Saugus 4 miles ... Lynn 7 miles". Albumen photograph, 7-1/4" x 4-3/8", mounted on 10" x 8" card. No photographer or other information.

Fig. 17. **The Consumate Professional** (England, c.1884): the Rotary-type tricycle was made by many manufacturers, but is commonly associated with D. Rudge and Co. of Coventry. Gentleman wearing a top hat, long-tailed jacket, white shirt and bow tie while proudly posing on his most modern conveyance. This tricycle pattern was very popular during the 1880s. Features rack-and- pinion steering, chain drive to left-side wheel, band brake and platform seat with cushion. The tricycle oil lamp at head of front fork was made by A. S. T. Tongue & Co. Has a tool kit mounted on the side of the seat frame. Albumen carte de visit photograph, 2-1/2" x 4". Photographer is identified as (M) Boak, Bridlington, England. Photograph acquired in England.

Fig. 18. **I Do Belong** (England, c.1886): Cripper-style tricycle. Note the progressive development of this vehicle. Direct-steering with a rake to the front fork. Slightly smaller front wheel with two larger rear wheels. Tangent-spoked wheels. Differential gear. Central positioning of the chainwheel and crank mechanism. Does not appear to have a brake mechanism. Tubular handlebar. Head badge appears to be that of a Rover. This photo captures a fashionable Victorian lady tricyclist; was included in an album which originated from the London Wheelers Cycling Club. Albumen cabinet card, 4-1/4" x 6-3/8". Includes photographer's name and identification along left side of the photo that is no longer legible. London, England.

Fig. 19. **A Most Modern Couple** (France, c.1886) This Quadrant tandem tricycle was built by the Quadrant Tricycle Co. of Birmingham, England. The image portrays fashionable people with the latest in transportation, and the shadow of the tricycle and the riders is very appealing. Both riders can control the steering. The front wheel is controlled by linkage rods set below the frame, making the vehicle more suitable for a female rider. The front wheel is set within two extended channels. Accessories include a tool kit mounted on the front column behind the handlebar and a rubber bulb horn on the rear handlebar. Safety tip-tail wheel at the rear. Albumen photograph, 4-1/2" x 6-1/2", not mounted. No photographer's identification. Acquired in France.

Fig. 20. **Suits Me Just Fine** (United States, c.1886): a Columbia tricycle made by the Pope Manufacturing Co., two-track model. By 1886, the Pope Manufacturing Co. was the largest cycle maker in America and had offices in New York, Boston and Chicago. The idea behind a "two track" was to take advantage of the reduced rolling resistance required to travel along the unpaved road on two tracks cut into the surface by the wheels, rather than three. Chainwheel and crank drive to the rear axle. Rack-and-pinion steering to the front wheel. Tricycle has both left and right shoulder guards so that the rider could not sway into either side wheel. Accessorized with an oil lamp. Albumen photograph, 4-1/4" x 6-1/2". Photographer is identified as E. M. Van Aken, of Elmira, N.Y. Acquired in the United States.

Fig. 21. **Let's Go Out for a Ride** (England, c.1889): an Olympia tandem tricycle built by Marriott and Cooper of London, England. Open-front frame. Steering is controlled by the rear rider. The front "Whatton" pattern handles bend round from below. Propulsion activated by a series of chainwheels and cranks that are linked so that the tricycle is driven by both cyclists. The lady and gentleman belong to the same cycling club as indicated by the "star" logo on their cap/hat. Tricycle has a front-mount lamp with bell and rear carrier. Albumen photograph is a cabinet card, 4-1/8" x 6-1/2". Photographer identified as Walter Moore of Bristol, England.

Fig. 22. **Steady As She Goes** (England, c.1887): Front-steering tricycle. Rear-wheel drive activated by a chainwheel and crank mechanism Lever-activated brake mechanism to the driver's right side. Accessorized with a bell on the handlebar and a front platform carrier. One can envisage the development of this "alternative" tricycle from the latest style of two-wheeled safeties. Would not steer very well, but safe and effective enough when traveling more slowly. Elder gentleman appears to be holding himself rigid for the camera. A similar example of this tricycle is in the Velorama Museum, Nijmegen, Holland. Unmounted albumen photograph, 6-1/2" x 4-1/2". No photographer's identification. Acquired in England.

Fig. 23. **Let Us Meander** (United States, c.1887): Wilson's Cycles was located in Cottage City, a town on Martha's Vineyard, Mass. There are many interesting examples of tricycles available for sale or rent. The tricycle models range from children's to adult tandems. The man under the "e" of the word "Let" on the sign is riding a tandem with a youth seated at the front. The young lady with the cap - second person from the right - is on a two-track Columbia. The man in the front with the dog on his lap, wearing a cap embroidered with the word "Tricycles", could well have been the proprietor. Note the springs on the front fork at the wheel hub of this Columbia tricycle. The third person from the right is a youth with a hard-tired safety bicycle. Many of the cycles have bells but none have lamps. Everyone in the photo is wearing a cap or hat. Water-melons are on the shelf at the grocery store to the left. Albumen photograph mounted on board 12" x 10", photo 9-1/4" x 6-3/4". On the reverse is written - "Cottage City near Oak Bluffs." Acquired in the U.S.A.

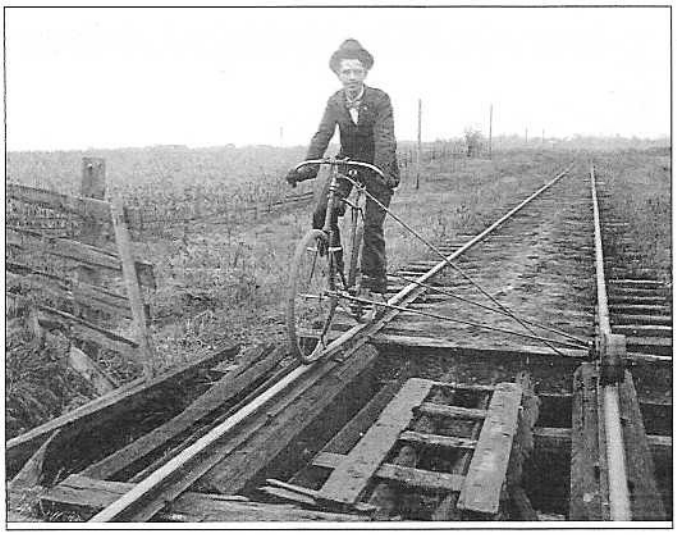

Fig. 24. **On the Rails Again** (United States, c.1896): this tricycle was converted from a bicycle with the addition of an adapter kit which consisted of a side wheel and fittings. When fully assembled, the bicycle aspect had two fitting mechanisms that held the pneumatic wheels on one track. The third wheel kept the 'tricycle' from slipping off either track. Triangulation of the apparatus kept the complete structure firm. It took about ten seconds to dismount and remove the vehicle from the tracks. Many cities were built close to railroad lines: the land was flat and this was farm country. Even in hilly country, the railroad lines probably had the best grades for cyclists. If towns were connected by a road then probably it was not very bicycle friendly. This unit appears to be of limited production. For other examples see "Ridin' the Rails" in *The Wheelmen Magazine*, No. 79, of November 2011. Use of these adapter kits was an accepted method of travel used by cyclists until good roads were in place. Only a few years before, in 1884, Thomas Stevens walked or rode his high-wheel bicycle along the path of the railroad since roads did not exist in vast stretches of America. The background shows the spires of buildings from the town. Identified in script on the reverse as Charlie Robinson of Ipava, Illinois. Some identification along the right side of the photograph. Albumen photograph mounted on board, 10" x 7-7/8", photo is 8" x 5". Acquired in U.S.A.

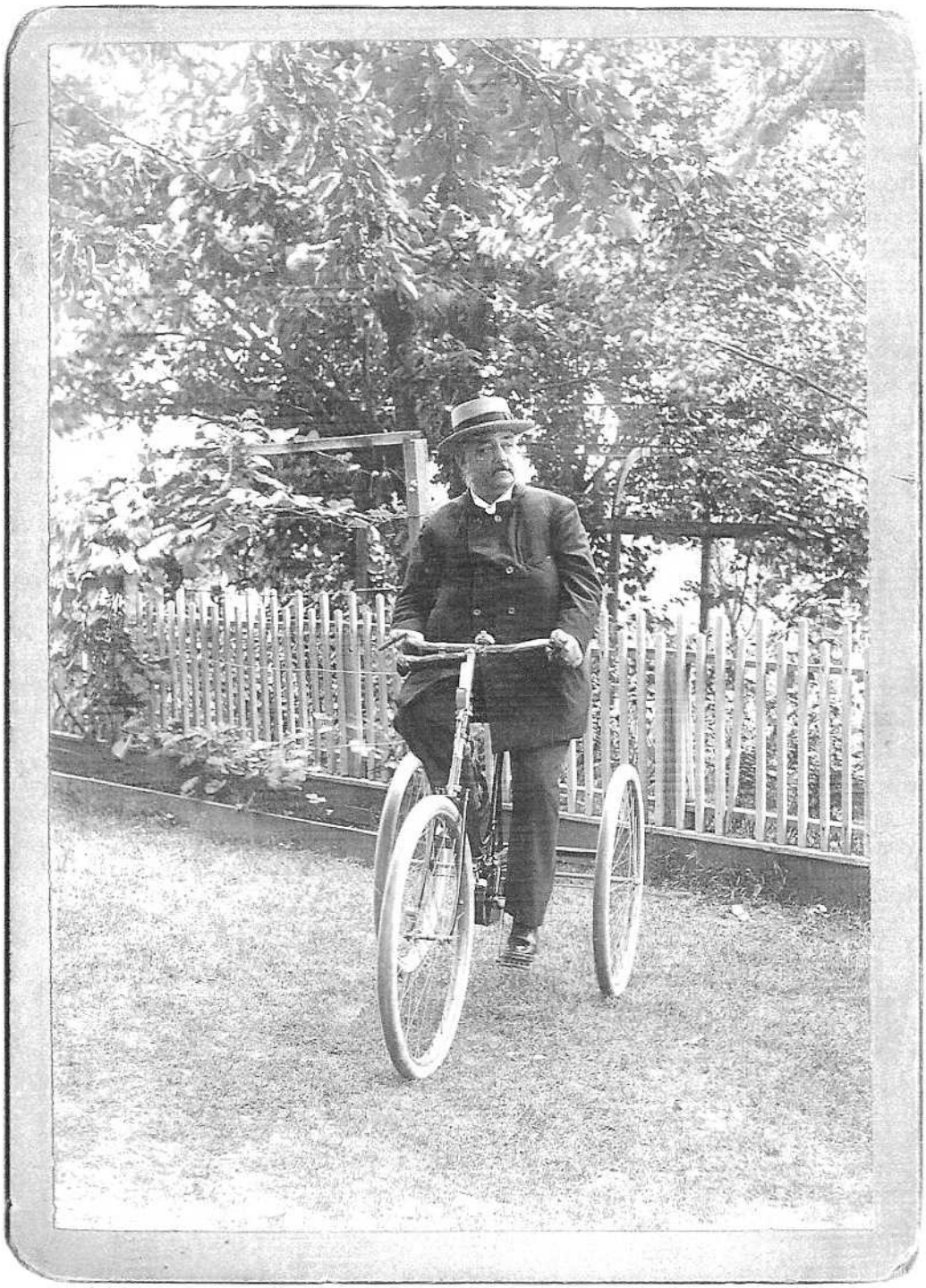

Fig. 25. **The Perfect Gentleman** (United States, c.1899): a standard model tricycle has arrived which is more or less the same pattern as used today. This example is a single-speed of English manufacture. Plunger brake to the front tire. The tricycle was equipped with same-sized pneumatic tires, encased chain-cover and a differential. Accessories include a lamp bracket, bell, cyclometer, tool kit and a pocket watch mounted on the handlebar. The well-dressed cyclist posing with a cigar in his right hand is identified on the reverse as "Cortland de Peyster Field". Cortland was a successful businessman, banker and philanthropist. He donated a library to Peekskill, New York, in 1886. Albumen photograph, 5" x 7". No photographer's identification. Acquired in United States.

Acknowledgements

I would like to recognize the assistance of the following people - in alphabetical order - who helped me with this presentation. Thank you to each of you for your invaluable assistance. The result of your combined efforts is here for everyone to share:

- Glenn Eames, who shared information and his point of view and posed a question or two which helped me better understand the context of an image.
- Gary Sanderson, who set up and formatted this article. Gary unselfishly extended a great deal of effort at all levels of these ICHC *Proceedings*.
- Mel Shields, who helped with the text.
- Roger Street, who helped with the identification and historical background for many of these cycles.
- John Weiss, who continuously guided me in the editing of the text and his insightful suggestions.
- Carey Williams, who identified many of the cycles as well as adding information relative to alternative aspects of the images, which helped enhance the importance of this article.

ENDNOTES

1 "Manumotive" and "pedomotive" machines were highly uncommon until the early 1860s when the velocipede came into being. Many of the earliest machines were the direct development of serious efforts by amateur artisans for private use. We might call them tinkerers today. Early examples can be viewed in *The London Magazine* (England) of August 1769 and *The Encyclopedia* of Diderot & d'Alembert (Paris, France) completed in 1777. Other sources for examples are issues of such technical magazines as *Mechanics' Magazine, Museum, Register, Journal and Gazette* (UK – first published in 1823) and *The Scientific American* (first published in 1845).

2 In 1883 a 50" American Club high-wheel bicycle made by the Coventry Machinists Co. of the UK, sold by R.V. R. Schuyler of 189, Broadway in New York, was priced at $142.50. The cheaper model, the Universal Club high-wheeler sold (all sizes) for $122.50. The man's sized 44" Cheylesmore Tricycle sold for $157.50. In 1883, Spalding sold the Harvard tricycle for $135.00 and a 50" high-wheel Harvard Roadster for $117.50.

3 The first commercially successful type of photograph was the daguerreotype which was brought to the market by its inventor, Louis Daguerre of France in 1839. Consequently, contemporary photographs illustrating these types of vehicles pre-1839 do not exist and those from the 1840s to the early 1860s are considered rare.

4 I have found that some images are incorrectly dated by family members many years after the fact. Generally one can pick up inaccuracies, but caution should be used.

5 Other early tricycling images from this collection may be found in the *Proceedings* of the 21st ICHC held in Prague, Czech Republic, in 2010 (*Cycle History 21*, pp.56 - 62) and in the *Proceedings* of the 24th ICHC held in Lisbon, Portugal, in 2013 (*Cycle History 24*, pp.29 – 32).