

# THE WHEELMAN'S GAZETTE.

A JOURNAL OF CYCLING. PUBLISHED MONTHLY.

Vol. IV. No. 9.

INDIANAPOLIS, IND., SEPTEMBER, 1889.

50 cents per Annum.

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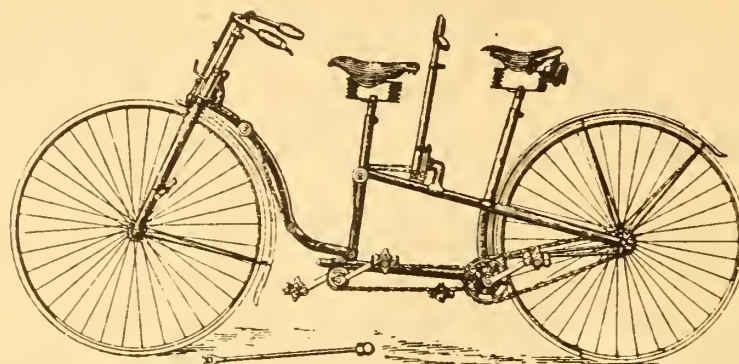
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Words by John J. Chickering.

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BEAUTIFUL SENTIMENTAL BICYCLE SONG AND CHORUS.

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A little peach of emerald hue."

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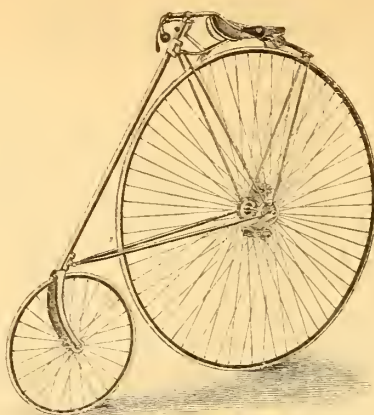
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It Can Coast a Hill

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Do not wait until it has been given to some one else.

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VOL. IV.

INDIANAPOLIS, IND., SEPTEMBER, 1889.

No. 9.

## HOW I CAME TO RIDE.



AMONG the large army of cyclers there must doubtless be many who can give some interesting experiences under the above heading.

I do not think there is anything extraordinary, or particularly worth mentioning in my own initiation into the mysteries and delights of cycling, except, perhaps, that my age was decidedly above that of the average beginner. However, having been requested to send my contribution to the

series which are to appear in the GAZETTE, I will give it for what it is worth.

My first attempt at riding on the wheel was entirely unpremeditated. It had never occurred to me that the wheel was a very desirable article. Neither had I ever thought of corresponding with any large cycle manufacturing company recommending the advisability of opening a rink near my place of residence, in order that I might "have a chance to see if I could learn how to ride."

I was born in the chief cycling country of the world, but it was not there that the cycling fever seized me, and I have never experienced the delight of wheeling over any of its splendid roadways, although I anticipate that this would now constitute one of my chief sources of pleasure were I once more to visit my mother country.

I remember when about the age of fifteen—which would make it the year 1867—while on the street of a quiet English country town one evening about dusk, a being flitted by me balanced between two wheels fitted tandem fashion. The suddenness of his approach and the imperfect light prevented anything more than a fitful glimpse of this strange rider, but the sight impressed me sufficiently to cause some talk with the friend with whom I was walking at the time. and I remember something was said about the fact that the vehicle must run upon the same principal as the hoop when trundled by children.

It must have been one of the old Draisines, but I do not remember that I ever saw another one, and it was not till years after, that the idea of riding a bicycle myself occurred to me. The following year I left home, and since seeing that two-wheeler I have travelled many thousands of miles; three times across the Atlantic Ocean, several journeys on the Pacific Ocean, and several times across this country, from the Eastern seaboard to the Pacific states and territories, and have seen many of the large cities of the Union, besides foreign cities, but from 1867 to 1887 I do not remember that I ever saw a bicycle of any description, except one old bone-shaker in a little town in Washington Territory about the year 1879, and this was so crude an affair, and the roads in that vicinity were so bad, that the desire to ride the thing never occurred to me, although its owner was a personal acquaintance, and bantered me to try it, and I saw my own brother, who had learned the art of riding after my departure from home, and had afterwards joined me, mount it and take a spin along the street apparently without any trouble.

I do not doubt but that I must somewhere along in between 1880 and 1887 have seen any number of bicycles, as the greater part of that time was spent either in the principal city of Missouri, or the

metropolis of California, in both of which places the machines were numerous, but I took so little interest in them that I was unconscious of the fact when I did see one, which appears to me in these days as somewhat singular considering that a cycle of any pattern, large or small, never fails now to create a lively interest, no matter where I may come across it.

It was in May 1887. At that time I was thirty-five years old, and had never mounted a velocipede or cycle of any description in my life. I was living in Alameda, a beautiful town just across the bay from San Francisco. It was at this time and place that I learned to ride.

One evening one of my daughters told me that Uncle John had just been seen riding on a bicycle. Uncle John was fond of shooting, which sport for the past eight or nine years had apparently satisfied him without the help of any other, but now, I thought he was re-



JOSEPH J. BLISS.

turning to one of his boyish pastimes. About dusk, his call brought me out to look at the bicycle. It was a 50 inch, full nicked Columbia Expert. Not a new machine but a good one, provided with ball bearings all around, and it needed to be a strong one to stand the treatment that was in store for it.

My brother said he had brought it around for me to ride it, and that he knew very well from his knowledge of my activity and other qualifications that I would master it in short order if the notion seized me. Perhaps this specious flattery was one of the principal causes in making me resolve upon the trial. I could not even then form any idea of the enjoyment I was ultimately to obtain, when the machine had been mastered. However I doffed my coat and took the matter in hand.

There was a very fair gravelled street both in front and on the side of my house, and although it was dark, an electric light tower



with four lights on the opposite corner furnished quite as much light as was necessary; in fact I had no particular desire about that time to attract any observation than was unavoidable. No time whatever was wasted in any attempts to ride or balance the machine, after getting to the saddle with the assistance of others, but I took the bicycle under my own sole control and immediately essayed the attempt to get into the saddle unassisted.

Many hops were required to give what was fancied to be the required momentum, and of course when the attempt to reach the saddle was made, it was sure to be not with the proper easy slide, but with too much of a jump which landed me over the handle-bars, with the machine uppermost. I had the faculty of falling without breaking or dislocating any of my bones, and although the perspiration was soon dripping from me, my legs and arms aching from the unwonted exertion, and my body soon covered with bruises, I succeeded in the course of an hour or two in being able to reach the saddle, and get one or both feet on the pedals and keep them there sufficiently long to meander a few yards till the side of the road was reached, or a soft spot or inequality in the road was discovered, and then I began to learn what side falls, as well as headers, were like.

I think that all the time, my principal fears were for the machine rather than for myself, and it was the fear of wearing out my brother's patience, which induced me to relinquish my efforts on the first night, while yet uncertain whether I should ever accomplish the feat of staying on the machine till I wanted to get off.

The next evening the battle was commenced a little earlier, and contrary to my expectations I found I could not resume operations exactly where I had left off, but had to go over again some of the previous evenings experiences. Perhaps the stiffness engendered by bruises rendered me a little less active, and to bark one's elbow or knee over and over again on the very spot where the healing process had barely set in, was hardly comfortable, but after getting warmed up to the work again, till there was less consideration as to exactly how the next fall was to be taken. I began to make more progress, and occasionally, when

## A SOUTHERN CATASTROPHE.



OLD COON:—Sonny, I's 'fered dis mule am er gwinter git skeered at some'in', an' if 'e duz yer mus'hol' on es tight es yer kin.



OLD COON — Dar now;—What I dun tole yer?





OLD COON:—Stick tight sonny.



lucky enough to avoid all uneven surfaces, would astonish myself by riding quite a number of yards before feeling compelled to make the usual abrupt dismount.

About this time my struggles attracted the attention of another wheelman who was passing with a 52 inch Royal Mail and he paused to witness my next attempt. Whether it was the fact that I was under additional observation, that caused a greater feeling of daring, or kept my thoughts more from the likelihood of falling, I knew not, but in the attempt I kept my balance till I had ridden completely out of sight into the darkness beyond the radiance of the electric light. There I made an ungraceful dismount as I dare ride no farther into the obscurity, and turning my machine around succeeded in getting on and riding completely back to the starting point, to receive the comforting assurance that I was doing well for a new beginner, I was then willing to, and did, make the attempt to ride the 52 inch machine which had tangent spokes, and was lighter, but the extra two inches made a deal of difference in getting over the centre of the saddle.

I could now mount and ride after a fashion, and found it was a great source of satisfaction that I need not get off till I wanted to. The getting off was at first somewhat difficult, and required some degree of determination; when I had reached that stage where there was a feeling of security so long as I was going ahead, and still had the knowledge that stopping might cause me to damage myself or the machine. I first got in the habit of dismounting on the right side, which I was told was the wrong side, and it caused me some trouble and a few falls to correct this habit. After this was done came the attempt to make a turn in a very wide circle, and it was only at the intersection of the streets that I could find enough room for this.

On the third evening I felt that I was master of the machine. I had learned to mount, ride, turn corners, and dismount; without any assistance. Now that I could ride it, the skill to handle it properly was merely a question of practice. I was covered with bruises and abrasions, but they were all out of sight under my clothing, and I had not broken any part of the machine, though there was a pedal-pin slightly,



and some spokes sadly bent, which would necessitate the attention of the repairer.

Before the end of the next week I was the possessor of a 54 inch American Challenge, which was about as tall a machine as I could well manage, but on the Sunday I essayed my first ride into the country to a town twelve miles distant, and although a strong head-wind was encountered during the entire twelve miles on the return, the trip was made successfully, though with aching limbs by reason of the head-wind. The roads were good, the scenery new and delightful, and the weather all that could be desired, barring wind, and having a strong liking for travel, and the exploring of country that was new to me, a new field of enjoyment was opened, in which I felt that I should take more pleasure than in any other sport I had ever indulged in. The day's pleasure did not by any means satisfy my desire for the time being, as had been my experience when fishing or shooting, but my thoughts were immediately turned with considerable longing to the next trip, and the possibility of exploring every road within fifty miles of my home, caused me to study the maps of the country adjacent, with a view of selecting the next day's trip, which I was determined should be a longer one.

My brother had some business in a village about thirty miles distant that he wished to attend to, and he asked me if I thought I could make a sixty-mile trip on the following Sunday. Part of the distance was over mountains, but I was a good walker. The trip was made and the newer rider was the fresher of the two at the end of it, with no accident to himself or machine, while the more experienced one had a broken spoke and bent crank on his higher grade wheel.

The next week I induced my brother to take a yet more difficult trip over unexplored roads, and on this occasion in going down a mountain grade, which I had thought was not too steep, my machine run away with me, and it was very fortunate that I met with no injury. After the stop, which was somewhat disastrous, for it occurred very suddenly while the machine was going at a speed of I think upwards of thirty miles an hour, I found after picking myself up, that the rim of the big wheel was bent, three spokes broken, and the backbone bent at the head, till the little wheel shut up clean past the large one, but I was unhurt myself, and succeeded in straightening the machine enough to enable me to make forty more miles that day, to complete the journey of about seventy.

This spill learnt me a lesson in caution, in taking down grades, and the journey was hard enough to cause my brother to decline longer ones with me over such rough roads. My own ambition was to make the great run of wheelmen of this vicinity, the hundred mile trip around the Bay of San Francisco, and I made it alone on the following Sunday, on my plain bearing 54 inch Challenge, over roads unknown to me, which were in many places poor, and I afterwards found my ignorance as to the route had led me to select some portions which the experienced cyclist would have avoided for better, I had made a century run, within one month after first mounting a machine.

I now begun to appreciate the advantages of adjustable ball bearings, and wanted a first-class machine, so after riding about six hundred miles on my plain bearing wheel, I finally, after considerable investigation, decided on a New Mail which I obtained the same size, 54 inch, though some riders told me a couple of inches smaller would be better for me. My height is 5 feet, 9½ inches, I provided the machine with a Lakin Cyclometer, and together they have since afforded me every satisfaction.

Nearly all the roads within a hundred miles circuit of San Francisco we have now explored together. The machine has, according to the cyclometer, which I have found very correct, carried me upwards of 4,000 miles since we first became acquainted, and I think will continue to carry me for some time to come, on my trips which are usually made once a week, rarely less than fifty miles each trip, and over new ground whenever possible.

I do not think that for my kind of riding—long and rough trips—that the more complicated and smaller safety would be as satisfactory as is the ordinary machine. Now that I have mastered the ordinary tolerably well, it is practicably safe enough, and I have ridden upwards of 2,000 miles on my machine, which is as tall a one as I can well ride, without taking a single fall of any description during the time, and have never had a fall which has hurt me much,

or prevented an immediate remount. The item of safety afforded by the small machine, therefore seems to me to be hardly worth comparing with the greater comfort, speed, and pleasure, furnished by the ordinary, especially when the greater beauty and simplicity of the machine is considered.

Racing and scorching I do not indulge in, though when in company with others I have occasionally made upwards of fifteen miles in an hour. My average speed for an all-day run is about eight miles an hour, including stops, which are not frequent or lengthy when travelling alone. This I find is a very comfortable gait, and will in the course of a day, take me over as long a journey as the average cyclist cares about making, and without any undue fatigue.

My feelings in regard to cycling must be something akin to those of the religious enthusiast. He finds so much happiness in his religion, that he tries to convert everyone with whom he comes in contact. The sport gives me so much pleasure, that I anticipate I shall never entirely give it up while health and strength last, and I think those that know nothing of the pleasure afforded by the modern cycle miss one of the joys of this life, and the most pleasant and beneficial of all sports.

JOSEPH J. BLISS

*San Francisco, Cal. March, 1889.*

## CYCLING FOR LADIES.

It is with a feeling of awe and nervous dread that we approach the all-mysterious subject of dress. It is a subject of burning importance to the fair sex, and one on which opinions so vary that one who has the misfortune to belong to the "male persuasion" can hardly hope that his opinion will bear much weight. We must confess our knowledge of the subject in general is rather meagre; but, nevertheless, we have had the pleasure of meeting, at various times, a very large number of lady cyclists, of having had discussions on the subject, and of making use of our own opportunities for observation.

Without doubt, the manner in which many devotees of the sport dress, who ought to know better, has been the cause of much of the prejudice which exists still, to some extent, against ladies cycling. How often have we met girls with short skirts riding with their saddles several inches too low, and their handles too high. The sight is a painful one to the enthusiast. We remember one girl, in particular, whom we constantly passed in the evenings, and the world desire which always seized upon us to dismount and give her a few hints, used to make us flee from the spot, lest our feelings would get the better of us, and we should offend against the laws of etiquette, and leave ourselves open to a well-deserved snub. That girl, we are sure, did immense harm. It is instances like these that cause the public to look upon cycling as unbecoming for ladies, and one such "black sheep" will impress a whole neighborhood more than a dozen graceful riders.

Those who desire to ride in comfort, and without the danger of catching a chill should have all-woollen undergarments. They should wear as light clothes as possible, give up corsets and tight-lacing altogether, and their dress should be composed of some light but strong material, of a color that will not show dust or oil stains too clearly. The skirt should be as plain as possible, and should be longer than an ordinary walking dress, but at the same time it is absurd to go to extremes in this particular, as there is not the slightest necessity to conceal the feet. If the cyclist is too low, or sits too far back, no dress will look well, as the action of the knees will be too plainly seen, making the rider look ungraceful and awkward. Shoes must be worn, and they should have broad soles and heels, and be fitted with narrow slits corresponding to the rubber bars of the pedal, so as to afford a grip to the feet and help the rider to make up for want of muscular power by correct ankle action. If the reader uses square rubber pedals or toe-clips these slits are unnecessary, if possible, avoid garters, but if you will have them garter loosely.

Whatever dress you ride in do not let it be your best—or one that you have any care for, for from long experience I have discovered that if your machine is the very model of a well-behaved animal, and does not attempt to catch your dress anywhere around, or do little tricks of that kind, it is certain to lubricate the end of your skirt with at least a small, more usually a very plentiful supply of black oil. Yes, if the truth must be told, cycling is certainly not good for dresses, a fact which most beginners learn from bitter experience.



# THE WHEELMEN'S GAZETTE.

Issued on the Fifteenth of Every Month.

## TERMS OF SUBSCRIPTION:

One Year, by mail,	50 cents.
Six Months, by mail,	25 cents.
Single Copy,	10 cents.
Foreign Subscription,	50 cents, postage extra.
Newsdealers supplied through the American News Co., and its branches.	

DARROW BROS., Publishers,  
25 Sentinel Building, Indianapolis, Ind.

Circulation, 10,000 copies per. issue. Advertising rates on application.

Change of Address. Always give both old and new address when ordering a change.

Subscriptions may begin with any number; back numbers can always be supplied at regular rates.

Receipts. The fact that you receive your paper is proof that we have received your remittance. Your subscription expires at the date on the wrapper.

Errors. We make them; so does everybody, but we will cheerfully correct any we may make if you will write us. Try to write good-naturedly, but if you cannot, then write us anyway; do not complain to your friends and let it pass; we want an early opportunity to make right any injustice we may do.

Entered at the Post-Office, Indianapolis, as second-class mail matter.

"Jones is particularly liable to error, isn't he?" asked his friend.

"Not that I know of" was the reply. "Why?"

"Because he works in a bicycle factory, and makes so many brakes."

*Anxious Friend* (to returning bicyclers, who have been competing at a country meet)—Well boys, did you break the record?

*Heavy Backer*.—No. But it's about the only constituent of the party that isn't broke.

A little iodine mixed with water and rubbed on the face, looks exactly like sunburn. This item is for the benefit of our brother wheelmen who were unable to get a summer vacation this year, and still wish to keep up their reputation as tourists.

A young man living at Gem, Ind. recently purchased a 62 inch bicycle, which proved to be too small for him.—*Item*. We don't see what the party alluded to above, wanted of a bicycle any way. It strikes us that a man with a pair of legs too long for a 62 inch wheel could walk as fast as an ordinary bicycle could go.

The cheapest and simplest gymnasium in the world; one that will exercise every bone and muscle in the body, is a flat piece of steel, notched on one side, fitted tightly into a wooden frame, and after being greased on both sides with a bacon rind, rubbed into a stick of cord wood laid crosswise on a frame commonly called a saw-buck.

*MISS BALLSBRIDGE*.—Freddy, a suspicion lurks within me that you don't love me, but want to marry me for my money.

*FREDDY*.—My dear you are so silly. Don't you know I'm a member of the League of American Wheelmen.

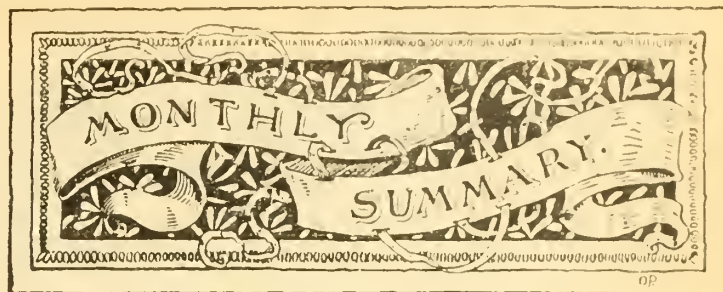
"What has that to do with it?"

"A great deal. It bars me from taking part in any event for money."

*Hiensteinberg*.—Hey, mein friendt; cum in an' loog ad tose new picycle shirdts, eh. Aindt id?

*Youth*. (trying to change the subject.)—Where've you been of late Mr. Hiensteinberg? Haven't seen you.

"Vell, I shou'd cues nodt I pought a flannel shirdt from dat shwindler yonder, an' wend to de countré. De first dime I 'ad dot shird washed, all de up an' down sthripds washed out, an' lefd de cross ones. Dey took me up for a stray convict, an' I was in chail a week, on account of dot shirdt. Mein friendt, come in an' look ad my shirdts. Dey all fade eben, or nod at all."



FROM AUGUST 15 TO SEPTEMBER 15.

*California*. Eight day tour of the Southern California Wheelmen Sept 11.

*Connecticut*. Handicap road race at East Greenwich, Aug. 22. Tournament at Hartford, Sept. 2, 3. Twenty mile road race of the Hartford Wheel Club, Sept. 3. Handicap road race at East Greenwich, Aug. 22.

*Illinois*. Run of the Chicago Cycle Club from Indianapolis to Cincinnati, Sept. 1. Chicago-Illinois Clubs team race won by the latter with 32 points against the formers 23. Race meet at Nicholasville, Sept. 9. Race meet at Carthage, Sept 9-13.

*Iowa*. Iowa division meet, at Des Moines, Sept. 3-5.

*Kentucky*. Race meet at Nicholasville, Sept. 9.

*Louisiana*. Louisiana division meet at New Orleans, Sept 14.

*Massachusetts*. Fifty mile local road race, and fifty mile open road race, under the auspices of the Springfield (Mass.) Bicycle Club, over the Springfield-Hartford track, Sept. 13. Bay State Bicycle Clubs' tournament at Worcester, Sept. 14. Danvers Cycle Club tournament, Sept. 2. Road race at Waltham. Aug 16. Twenty mile race between Van Wagoner and Anthony, won by the latter in 1:9:12.

*Minnesota*. Race meet of the N. T. A., at Minneapolis, Sept. 11-13.

*Missouri*. St. Louis Bicycle Track Association Tournament, Aug. 31. Race meet of the United Wheelmen, at Kansas City, Mo., Aug. 31, Sept. 1. Race meet at Sedalia, Aug. 23.

*New Jersey*. P. C. A. A. tournament at Clifton, Aug. 31.

*New York*. Albany Wheelmen's tournament, Aug. 31. Run of Brooklyn Wheelmen to Hotel Massapequa, Aug. 31. Race meet of the Albany Wheelmen, Sept. 2. Race meet at Binghamton, Sept. 10, 11. New York State Division Meet at New York and Brooklyn, Sept. 13, 14. Kings County Wheelmen's 25 mile handicap road race, Sept. 3. Berkeley Athletic Club's race meet at New York, Sept. 7. Lewis County Wheelmen's tournament, at Lowville, Sept. 4. Second century run of the Buffalo Ramblers, from Erie to Buffalo, Aug. 18. Race meet at Lockport, Aug. 15. Tournament at Fort Edward, Sept. 12. Race meet at New Rochelle, Sept. 2.

*Ohio*. Race meet at Carthage, Aug. 25.

*Pennsylvania*. Race meet at Lancaster, Aug. 24. Tour of the Scranton Club Aug. 10-24. Ten mile road race of the South End Wheelmen, of Philadelphia, over the Montgomery Course Aug. 17. Pennsylvania division meet at York, Sept. 2, 3. Race meet at Manheim, Pa., Aug. 24. Tournament at McKeesport, Aug. 29. Tournament at Brownsville, Aug. 28.

*South Carolina*. Race meet at Charleston, Aug. 31.

*Virginia*. Race meet at Portsmouth, Sept 8.

*West Virginia*. Race meet at Wheeling, Sept. 10.

## FOREIGN.

*Canada*. Summer Carnival at Hamilton, Ont., Aug. 19-25. Montreal Bicycle Club tournament at Montreal, Quebec, Aug. 24. Race meet at Kingston, Sept 4.

*England*. Fifty mile bicycle and one mile safety N. C. U. championship at Paddington, Eng.

## MEMORY.

Would you Love's fairest daughter see?

Yonder she stands—sweet Memory.

A statue of unconscious grace,

She stands with bowed, averted face.





### NEW AMERICAN PATENTS.

A selected list of patents reported especially for the WHEELMEN'S GAZETTE, by C. A. Snow & Co., Patent Attorneys, Washington, D. C.

- 405,438. August 6. R. G. Roper, Needham, Mass. Bicycle tights.  
 408,624. August 6. G. Johnson, Chicago, Ill. Tricycle.  
 408,516. August 6. W. Phillips, Coventry, Eng. Velocipede.  
 408,634. August 6. W. H. Rudy, Hagerstown, Md. Velocipede.  
 408,718. August 13. T. B. Jeffery, Chicago, Ill. Velocipede saddle.  
 408,743. August 13. C. H. Phelps, Cuyahoga, Ohio. Seat for bicycles.  
 408,845. August 13. C. E. McGlinchey, Chicago, Ill. Bicycle.  
 408,861. August 13. W. B. Turner, Coventry Eng. Velocipede saddle.  
 408,902. August 13. O. L. Spalding, St. Johns, Mich. Axle bearing for bicycles.  
 409,758. August 27. G. Schlœmer, Milwaukee, Wis. Velocipede.  
 409,811. August 27. C. B. Underhill, Lancaster, N. Y. Oil can nozzle.  
 409,964. August 27. C. T. Harvey, Philadelphia, Penn. Bicycle.  
 410,179. Sept. 3. O. Neuhauser, Pforzheim, Germany. Velocipede.  
 410,335. Sept. 3. W. E. Sanborne, Boston, Mass. Steering attachment for bicycles.  
 410,384. Sept. 3. C. A. Swanson, Marshall, Minn. Wrench.  
 410,240. Sept. 3. H. Hamond, New Haven, Conn. Wrench.

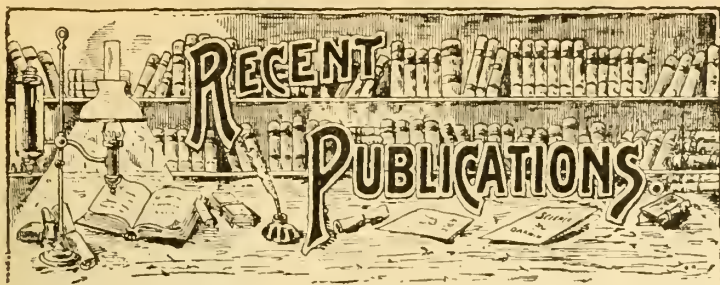
### NEW ENGLISH PATENTS.

- 10,613. W. Brown, 6 Lord Street, Liverpool. Improvements in or appertaining to bicycles.  
 10,627. C. Smith, 54 Fleet Street, London. Improvements in the driving gear of bicycles, tricycles and other velocipedes. (F. H. Addis, India.)  
 10,647. J. Sherrin and J. V. Sherrin, 77 Chancery Lane, London, W. C. Improvements in the application of primary batteries and electro-motors to tricycles and other velocipedes.  
 11,051. July 9. J. A. Lamplugh. Improvements in supporting the saddles or seats of bicycles, tricycles, and other velocipedes.  
 11,053. July 9. J. Tabre. Improvements in velocipedes.  
 11,181. July 11. S. Martin. Improvements in and relating to velocipedes.  
 11,321. July 15. G. A. Richardson. An anti-vibrator for the front wheels of bicycles and tricycles, specially constructed for application to existing machines without alteration of the machine.  
 11,322. July 15. G. A. Richardson. Improved gearing for bicycles and tricycles.  
 11,373. July 16. S. J. Rose. Gearing up and driving safety bicycles by a new method of applying bevel and mitre tooth wheels.  
 11,396. July 16. P. P. Burt and S. B. Edmonds. Improvements in the attachment for bicycle, tricycle, and similar lamps.  
 11,421. July 16. L. Barrow and C. H. Guest. Improvements in and relating to velocipedes.  
 11,448. July 17. C. Lurie. An improved method of adjusting the pedals on the cranks of velocipedes.  
 11,482. July 18. J. A. Patrick. An improvement for cycle tires.  
 11,572. July 19. C. E. Winterross. Improvements in velocipedes.

- 11,592. July 20. R. W. Annersly. A bicycle rest,  
 11,632. July 22. W. Garvey, J. Tattersall and E. Jones. Improved driving and steering motion for go-carts, perambulators, tricycles, and other vehicles propelled by hand.  
 11,689. July 23. W. H. Doughty and W. Nagle. Improved treadle motion.  
 11,692. July 23. P. A. Bans. A perforated cycling saddle.  
 11,695. W. H. J. Grout and G. Watts. Improvements in velocipedes.  
 11,704. W. Sykes. Improvements in the manufacture of gloves used by cyclers.  
 11,713. A. Steny. Improvements in the construction of velocipedes.  
 11,800. July 24. W. E. Bartlet. Improvement in tires of wheels of bicycles, tricycles, applicable also to ambulance, invalid, and common road carriages.  
 11,823. July 25. G. Gilbert. Improvements in velocipedes.  
 11,852. July 25. F. Broughton and J. Bennett. Improvements connected with cycles or vehicles worked by hand or foot power.  
 11,893. July 26. R. Parker and A. Parker. Improvements in or relating to the driving mechanism of bicycles, tricycles and other road machines or vehicles.  
 11,936. July 27. H. H. Taylor. An improvement in self-steering safety bicycles, and described by him as a castor front wheel self-steering safety bicycle.  
 11,937. July 27. D. Jones and C. Wade. Improvements in cycle gearing.  
 12,006. July 29. W. C. Burton. Improvements in velocipedes.  
 12,012. July 29. F. C. Bedford. A new or improved rest for safety bicycles, etc., to support same when not in motion  
 12,023. July 29. W. H. Kitto. Improvements in luggage carriers for velocipedes.  
 12,027. July 29. J. Ashbury. Improvements in velocipedes.  
 12,064. July 30. B. Colback. Improved means for reducing the strain upon bicycle and tricycle riders, and riders of like machines while going up hills or steady slopes,  
 12,069. July 30. H. Edwards. Improvements in and relating to velocipedes.  
 12,174. July 31. B. Carr. Improvements in driving gear for velocipedes.  
 12,177. July 31. J. Crawford. Improvements in tandem bicycles.  
 12,195. August 1. W. Wootton. An Improved cycling railway.  
 12,200. August 1. J. H. Skinner. A detachable child's chair for use with bicycles and tricycles, and styled the Cyclepram.  
 12,242. August 1. H. J. Grafham and F. C. Ash. An improved attachment for velocipede and other pedals.  
 12,256. August 2. J. Marston and J. Muir. Improvements in velocipedes.  
 12,452. A. E. Harris. Improvements in lamps and wicks.  
 12,546. R. Hadden. Improvements in tricycles and other velocipedes. (M. M. Metcalfe, France.)  
 12,510. August 7. G. A. Schoth. Improvements in velocipedes.  
 12,591. J. Anderton. Improvements in the driving mechanism for bicycles and other velocipedes.  
 12,604. A. J. Rath. A noiseless wheel for vehicles.  
 12,628. J. Aylward. A folding or compressed bicycle.  
 12,683. E. Barnes. An adjustable ball gear wheel and chain combined for bicycles, tricycles and other wheels.  
 12,807. W. Rowthorn. An improvement in the construction of bicycles and tricycles.  
 12,865. W. J. Cocks. Improvements in and relating to velocipedes.  
 12,930. J. Bailsford. Improvements in handles for bicycles and tricycles.  
 12,959. A. Butscher and M. Finzel. Improvements in wheels for bicycles, tricycles and the like.  
 17,061. R. Stevens. Improvements in the construction of two-wheeled machines.

Reports reach us of a young bicyclist, Elmer Caughenbaugh, of Webb City, Mo., aged four years, who it is claimed has ridden a mile in 4 minutes.





*American Leads at Whist.* Whist Card Co., West Newton, Mass.  
*Listen to my Tale of Woe.* Words by Eugene Field, music by H. T. Smith. John F. Ellis & Co., Washington, D. C.

*Swiftly and Silently.* Words by J. J. Chickering, music by H. T. Smith. John F. Ellis & Co., Washington D. C.

*Tandem Waltzes.* By J. E. Shaw. John F. Ellis & Co., Washington, D. C.

*Teachers and Pupils Guide to Music.* Alonzo Chamberlain, Corona, N. J.

*Wheel on to Glory.* Words and music by H. T. Smith. John F. Ellis & Co., Washington, D. C.

The November *Century* is to contain a new story by Mark Twain.

The *No Name Magazine*, is a new literary venture started at Baltimore, Md. Its first issue will appear in October and a host of interesting features are promised.

*The Cyclists' Companion*, a small paged monthly has been launched upon the cycling world. The important feature is the photographs which are found in each issue, and which, though small are fairly well executed. The book is filled to a large extent with matter valuable for reference.

J. B. Lippencott Co., announce that they have in press a volume entitled *Cycling Art, Energy and Locomotion*, which they describe as being a popular account of the origin and developement of the bicycle, with other information of interest and value to wheelmen. Its author is a well known cyclist of Baltimore, Md., who desires his name to be withheld for the present.

Mr. Frank R. Stockton has written a new and characteristic story called "The Merry Chanter." It will begin in the November *Century* and run through four numbers. The story takes its name from a vessel which started from a Massachusetts port on a peculiar cruise. The owners, a young married couple, are on board, and the vessel is commanded and manned by four village captains of unusual experience. It will be illustrated by Mr. Dana Gibson.

### COMING EVENTS.

September 16. Virginia State Division Meet at Norfolk. (Postponed from Aug. 26, 27.)

September 18. Tenth annual tournament of the Rochester Bicycle Club.

September 19. Second annual meet of the Juniata Wheelmen at Hollidaysburgh, Pa.

September 20. Maine Division Meet, at Portland.

September 20. Michigan Division Meet at Ypsilanti.

September 21. Murphy - Van Wagoner 25 mile race over the Irvington-Milburn course.

Michigan Division Meet races at Detroit.

September 24-27. Race meet of the Hudson County Wheelmen, of Jersey City, N. J.

September 28. Tournament of the A. A. A., of Canada, at Toronto.

September 30. Washington Cycle Club, of Chicago, Ill, two weeks tour to Boston.

October 4, 5. First annual fall race meet of the Peoria (Ill.) Bicycle Club.

October 8, 9. Cumberland County (Pa.) race meet at Carlisle, Pa.

October 19. Wilmington (Del.) Bicycle Club's 25 mile Handicap Road Race.

October 21-26. Tournament at Toronto, Canada.

October 23, 24, 28, 29. Tournament at Macon, Ga.

November 5. Kings County Wheelmen's 25 mile handicap road race.

### THE BOYNTON BICYCLE ENGINE.

THIS novel machine, suggesting a very radical change in railway construction, arrived in New York last week from Portland, Maine, where it was built. It weighs 22 tons, and came on a truck attached to the rear of a regular train. The total height of the machine is 15 feet, 6 inches, and it has a single driving wheel of 7 feet, 9 inches diameter, with double flanges, to ride on a single rail. The cab is two stories high, the upper story being occupied by the engineer, and the lower story by the fire-man. The engine has two cylinders, 12x14 inches each, and is designed to be operated with a boiler pressure of 150 pounds to the square inch. The passenger cars to be drawn by this engine are to be 4 feet wide, and 14 feet high, in two stories, and such cars 40 feet long are designed to weigh 5 tons, and carry 108 passengers each. The engine and train are to be kept on their single track by upper wooden guiding beams supported 15 feet above the track below by a bridge-like skeleton frame arching the roadway. The freight cars are to be of similar height and width, and it is designed that the two rails of an ordinary track shall form a double track for bicycle trains, without altering the tracks used for the present cars and engines, the guiding beams and skeleton frames being out of the way of trains made up of locomotives and cars, as now built.

It is designed by this form of construction to save greatly in weight and friction, reducing the weight of the cars, both passenger and freight, relatively to the load carried, and saving power lost in rounding curves, it being intended to so balance the train that there will be but little strain on the top guiding rail, and thus great additional speed will be attained with a reduction of power. The momentum of a train thus balanced is designed to hold it to the track, with but little actual bearing of the flanged wheels against the top guiding rail.

The engine has been experimentally tried in the yard of the Portland Company's works, where it was built, and it is farther to be tested on a track which has been fitted for the purpose at Gravesend. The prospectus of the company promises nothing less than a revolution in the railway business of the country as a result of the introduction of the bicycle railway system, but a few practical proofs of its merits will be necessary before this happens.

### SOME GOOD TIPS.

#### TO BUYERS OF SECOND-HAND SAFETIES.

Hold up the back wheel and spin slowly, watching if it stops dead or oscillates before stopping. If it stops dead it has evidently been tightened up for the occasion, and to ride a machine in that state would certainly mean broken balls. If it oscillates, then so far good. In the next place, feel if there is any shake in the bearings, not only in one place, but in five or six places round the wheel. It ought to be tight to the same extent wherever in the circumference you feel it. If it is loose in some parts and tight in others the machine has had a good deal of wear, or the bearings are made of soft iron and are not perfectly round.

Try front wheel in same manner.

Try bottom-bracket in same manner.

Look to the cogs, they ought not to be sharp or the machine has had about two seasons wear.

Turn now your attention to the neck; take hold of the handles and lift to see if there is any shake, see also, if, when the wheel is turned at right angles to the backbone, the steering is of the same stiffness. If it gets tighter the further you turn it round, the neck is worn, i.e., the cones and cups are worn oval.

Feel for loose spokes, they ought all to be of the same tension.

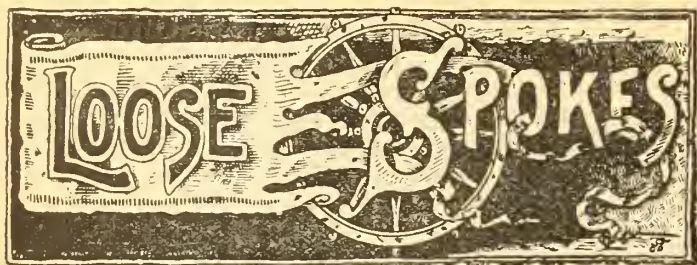
You can tell if the tires have been turned by looking close to the rim, where, if they have been, there will plainly be seen a rough line where the good and bad parts of the tire join.

Look over the frame to see for any cracks, though you might almost save yourself the trouble, as enamel hides such a multitude of sins that you must in nearly all cases leave it to chance.

Spui wheels to see if they are true.

Do not ask any questions as to age, what it cost, etc., as this is only putting temptation in people's way to tell fibs. Take the machine on its own merits, and place not your trust in plate, enamel, or green lines.





S. G. Whittaker is now a partner in the Strong & Green Cycle Co., of Philadelphia.

\*\*\*

An Englishman recently advertised a lot in High Gate Cemetery in exchange for a wheel.

\*\*\*

Bicyclers for the first time in this country are taxed in Boston, at the rate of 81 cents each.

\*\*\*

We have to thank the Clark Cycle Co., of Washington for the handsome map of that city they sent us.

\*\*\*

We are in receipt of a photograph of the handsome gold medal won by A. E. Lumsden in the 1889 Pullman road race.

\*\*\*

Stevens was last heard from at Zanzibar, Africa. The cablegram, however, was very meagre in information, and a detailed letter will probably follow it.

\*\*\*

The Stover Bicycle Co., has been organized at Freeport, Ill., with a capital stock of \$100,000. W. C. Smith once with the Gormully & Jeffery Mfg. Co., and later with Brown Bros. is superintendent. High grade safeties are to be made a specialty.

\*\*\*

The hill climbing contest between Hal Greenwood and W. P. Banker, will, in all probability, take place about the middle of October. There is to be a series of three climbs, one on Kimmiswick Hill 20 miles below St Louis, one on Murder Lane or Sycamore Street Hill, Pittsburg, and a third, if necessary, on neutral ground.

\*\*\*

The Losier & Yost Bicycle Co., of Toledo, O., has recently been formed for the manufacture of safeties for men, ladies and boys. The officers of the company are H. A. Lozier, President; J. L. Yost, Treasurer; and C. J. Moore, Superintendent. The last two gentlemen were formally with the Springfield Bicycle Mfg. Co., and have a deal of practical experience to aid them in their new venture.

\*\*\*

Of all persons, truly the farmer is the most patient, and according to his means, liberal and civil. He welcomes with open-heartedness the city cousins and even their friends to his plain and festive board through the heated season. What wheelman is there who has ever been refused a reasonable request, be it a drink of water or a glass of milk or a square meal? The spirit of liberality and open-heartedness is possessed by the farmer in a degree far more than he is credited with. As wheelmen; I think we owe him a rousing vote of thanks in the hurry and bustle of business life, we in a measure, forget this. The farmer is a necessity to the wheelman. Our highest sport is touring, and without the farmer's kindness and generosity we should be robbed of half our pleasure.—*Courier Journal*.

\*\*\*

There is an elixir of life, which while it will not give man earthly immortality, nor produce the magical results dreamed of by De Soto, will yet measurably renew the youth, improve the health, and prolong the life of man. That elixir of life is simply a vigorous and intelligent observance of the laws of health. The secret is known to all. There is no mystery about it. It is not concocted by elaborate and expensive means from rare and costly ingredients. There is no patent upon it. The true elixir of life is simply fresh air, sunlight, exercise and temperance. This is the combination what constitutes the precious elixir. Temperance, mind you, in all things; not in drinking alone, but in eating, in devotion to business, in work of any kind, in the use of tobacco, in your emotions, your passions, in everything. Abandon all those furious consumers of your nervous and

physical energies for a single month, and get out into the air and sunshine with plenty of exercise, and you won't know yourself when the month closes.

This is the true elixir of life. It is easy and pleasant to take. Nature offers the ingredients, already mixed in perfection, in lavish abundance, free for everybody's use. Do not waste your time in the vain search of some mysterious decoction or compound that will magically repair the abused and dilapidated old system, restore the health, and renew one's youth, because you will not find it, and old age, disease and death will surprise you in the search. Look at and seize upon the elixir that is under your nose, that is all around you, that nature proffers with both hands. *Trenton State Gazette*.

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"Of wheeling as a source of health and amusement, the greatest praise that can be bestowed is every whit deserved. We believe that no means of developing symmetrically and healthfully the physical power of man, of relaxing and invigorating the mind, and at the same time of contributing directly and indirectly to the pleasures which make up a cheerful and happy existence, has been devised against which so few objections can be truthfully urged. Of course, there is danger of accident, of course, there is a possibility of over-exertion; of course, a very bad man may be a wheelman, and a wheelman a very bad man. One who fears not God, neither regards the laws of man, may be associated with us. At the same time, we assert with confidence that amateur wheeling is unique among the physical sports for the amount of real, substantial healthful, God-allowed pleasure, which it affords, so that one who has said with truth, that if you want to save your son from dissipation, buy him a wheel. This is true, because wheeling takes the young man away from the haunts of vice in the great cities—bad air has a good deal to do with immorality—and enables him to look on the face of Nature in all her freshness and loveliness, to fill his lungs with the pure atmosphere of the rural districts, and his mind with the scenes and associations which incline to virtue rather than to vice; to feel the influence of God's sunshine, and occasionally refreshing showers. From his wheel he beholds the handiwork of the Creator spread out before him in lakes and rivers, mountains and valleys, rocks and trees, hillsides and brooklets, and inwardly he worships the God in whom he lives and moves and has his being. We say again, that wheeling is the most healthful, the most rational, the most moral enjoyment known to mankind. We regard the invention of the modern bicycle as a special providence—an auxiliary to religion and morality, a positive moral force, an instrument for furthering the civilization, the Christianisation, and salvation of the world. May God preserve the high standing which wheeling has already obtained among physical sport; may He establish and sustain the high character both morally, socially, and religiously which has and does distinguish the majority of those who use the wheel from the participation of other forms of athletic sport."—*Rev. Chas Fessenden*.

## THE BICYCLE CRANK.

Earth and part of Heaven are mine,  
Though I boast not riches;  
Though I own not palace halls  
Replete with treasured riches;  
Though I own not acres wide,  
Though I boast not learning,  
Though my years count up, and though  
The tide with me is turning.

Notwithstanding that I am not  
Master, of what many  
Men would claim to make up life,  
Still to say that any  
Of the joys that rule the world.  
Would to me bring pleasure,  
More than what I now enjoy,  
Is truth but in a measure.

For my wheel is all to me  
That I ask or care for,  
And it constitutes for me  
All life's why and wherefore;  
Laugh at me just as you will,  
Call me crank and duffer;  
So! We'll travel each our way,  
And see which most will suffer.

CHRIS WHEELER.



## ROADS AND ROAD-MAKING.

BY CAPTAIN FRANCIS V. GREENE.



THE PROGRESS of civilization has everywhere been marked by good roads. It may even be said to be largely due to them. Ancient Rome was not only famous for its own roads, but it carried the art of road-making into all its conquered provinces. As its civilization disappeared in the degeneracy of the Dark Ages, good roads ceased to exist, and they only reappeared when modern nations began to emerge from the Middle ages. It is often said that the test of civilization in any country is the consumption of iron;

but this is true only because railroads are the chief consumers of iron, and they are but one form of roadway.

It is an undeniable fact that while the United States has the finest railway system in the world—the most perfectly adapted to the work it has to do, and the cheapest in charges for transportation—yet its roads and its city streets are far inferior to those of France, England, Germany, Austria, and Italy. Doubtless the admirable character of its railways is itself the cause of its bad roads and streets, for the railways serve their purpose so well that there is less apparent needs of good carriage roads. All the other countries above named had reached a high degree of civilization before the advent of railways about fifty years ago, whereas about three-fourths of the present area of the United States have been settled and populated during the railway era. The rapid advances in wealth and population of the principal countries of Europe during the latter part of the eighteenth and early part of the nineteenth century would have been impossible without a corresponding and simultaneous improvement in the quality of their roads. The still more rapid advance of America has been accomplished chiefly through the instrumentality of railways, and these have so thoroughly intersected the country in every direction, bringing the merchant and manufacturer at one end and the farmer and miner at the other into such close communication, that the necessity for good roads has been overlooked. The opinion is now gaining ground, however, that notwithstanding the excellent and cheap service of the railroad, there is a great loss in the unnecessary cost of transportation in hauling merchandise through the mud to reach the railroad, and again over rough cobble-stones when it leaves the cars at its destination. And independent of the commercial aspect of the question, there is still to be considered the comfort and convenience of those who use roads and streets for pleasure riding and driving, and to whom good road surfaces are absolutely necessary. During the last few years there has been a constant increase in the attention and thought devoted to the question of roads both without and within cities, and the object of this article is to give briefly such information as to the history and present condition of the art of road-making as may be needful in this discussion.

The much-quoted Roman roads were in reality, far inferior to the best roads of modern Europe, and were much more costly. Hence they may be dismissed in a few words. They were stone pavements with a very thick concrete foundation; or, as described by another writer, they were "masonry walls laid on their sides." The most famous of them was the Appian Way, constructed about 313 B.C., from Rome to Capua, and subsequently extended to Brundisium. The foundation consisted of one or two courses of large flat stones laid in lime and mortar; next came a layer of concrete made of one part of lime and three of broken stones, thoroughly mixed and consolidated by ramming; on this was spread a thin layer of mortar, in which the stones forming the top were bedded. These stones were of basaltic lava about twelve to fourteen inches in width, with smooth upper surfaces but irregular sides, and when carefully jointed together they formed a large mosaic. The total thickness of the road was about three feet, and its width varied from twelve to twenty feet. On either side were raised footways, paved with stone, and at frequent intervals were stepping stones for mounting horses. It was also marked by mile-stones indicating the dis-

tance from the forum at Rome.

This road was certainly durable, as it proved by the fact that although it had to be rebuilt by Trajan, at the end of the first century A. D., parts of it are still in existence, 2200 years after it was first constructed; but it was deficient in the other qualities of a good road. Horace is authority for the statement that it was "less fatiguing to people who travel slowly."

Similar roads were built in Gaul, in Great Britain, during the Roman occupation, and in Thrace by the Emperor Trajan.

With the decline of Rome, road-making shared the fate of the other mechanical arts, and for the time was forgotten. Good roads were unknown again in Europe until the middle of the eighteenth century. They were revived almost simultaneously in France and England, and soon afterward in the other chief countries of Europe.

Among English speaking races the perfection of modern roads is generally attributed to two Englishmen, Macadam and Telford, who rebuilt nearly all the English roads in the early part of this century. Telford was a distinguished engineer, while Macadam prided himself on being nothing but a road-maker. It is also generally believed that to Macadam is due the principal of using small angular fragments of clean stone, which under traffic unite in a solid mass. The distinctive feature of Telford's roads was a layer of irregular stone, from six to eight inches in size, carefully placed on the ground as a foundation for the smaller stones, technically called road metal. The chief object of this foundation was to afford good drainage, and prevent the metal being pushed into the ground in places where it was soft; but Macadam always denied its utility or necessity, and engineers are still divided on the question. In regard to the size of the metal, Telford specified that the stones should be as nearly as possible uniform in size, the largest of which should pass, in its longest dimensions, through a ring two and a half inches in diameter. Macadam preferred the test of weight, and insisted that no stone should weigh more than six ounces—which is the weight of a cube of one and a half inches of hard, compact limestone. His overseers were provided with a small pair of scales and a six-ounce weight, in order to test the largest stones.

It is a fact, however, that the correct principals of modern road-building are not due to either Macadam or Telford, but to a French engineer, Tresaguet, who anticipated them in every detail by about thirty years. In a memoir prepared in 1775 Tresaguet advocated the small angular fragments of broken stone of Macadam, and the rough paving foundation of Telford. He built the high-roads from Paris to Toulouse, and from Paris to the Spanish frontier. His views were adopted by all French engineers at the end of the last century, and it was in accordance with them that the Simplon and other great roads over the Alps, as well as the principal roads of France, were built under Napoleon.

The excellence of broken stone roads caused their universal adoption in the first half of this century, and in only two particulars have any improvements been made upon them to the present day. The first is in regard to the manner of breaking the stone. Macadam caused the stone to be broken by hand on the side of the road, the size and weight of the hammer being carefully specified. Now they are much more quickly and cheaply broken by machine. Two classes of stone-crushers have been devised for this purpose. The first usually known as the Blake, consists essentially of a strong iron frame, near one end is a movable jaw of iron. By means of a toggle-joint and an eccentric, this jaw is moved back and forward a slight distance from the frame. As the jaw recedes, the opening increases and the stone descends; as it approaches the frame, the stone is crushed. The second class is known as the Gates, and consists of a solid mass of iron shaped somewhat like a bell, which is supported within an iron cone. By means of an eccentric shaft a rocking and rotary motion is given to the bell, so that each point of its surface is successively brought near to and removed from the surface of the cone, which causes the stone to descend and be crushed as before. These machines are driven by steam-engines and are of various sizes, capable of crushing from ten to two hundred tons per day. By regulating the width of opening between the jaws, or within the cone the size to which the stone can be broken is correspondingly regulated; and by the use of revolving screens with openings of various sizes, the stones of various sizes can be separated and delivered in



separate piles of one-half inch, one inch, two and one-half inches, and etc.

The other improvement is the use of rollers to consolidate the road and give a smooth, uniform surface, instead of allowing this work to be slowly and painfully performed by the vehicles using it. Horse rollers were introduced about 1834, and steam rollers about 1860. There was for some time a discussion as to the relative economy and merits of the two kinds of rollers, but this has now been settled in favor of the steam-rollers.

Macadam roads are now everywhere constructed on substantially the same principals. The ground is first cleared and levelled of the prescribed width, and if necessary, excavated to the depth of the road-covering. All roots of trees, and soft and spongy places not affording a firm bearing, are removed and their places filled with good gravel or broken stone. The surface is then rolled with a heavy roller, in order to thoroughly compact it. If the Telford foundation is used, it is placed on the rolled earth in the form of irregular stones from six to eight inches in size, carefully placed in position and forming a rough pavement, on which the Macadam metal is placed. If the Telford foundation is not used, the metal is placed directly on the earth, in a uniform layer not exceeding six inches in depth. This is then thoroughly compacted by rolling with a heavy roller for several hours, until the metal will not yield under the roller. Another layer of broken stone of the same depth is then placed on the first and compacted in the same manner. Finally a layer of from one to two inches in depth of very fine stone or gravel not exceeding three-fourths of an inch in largest dimensions, is spread on the surface, and this in turn is compacted by rolling. The road is then ready for use. The rolling is greatly facilitated and the compactness of the road increased by thoroughly sprinkling each layer in connection with the rolling. In many cases the total thickness of the macadam is only eight inches, instead of twelve to thirteen inches, as above described.

The cost of such roads depends chiefly on two factors, the price of labor and the price of broken stone. In addition to this is the cost of culverts and bridges, which must be provided for any road, whatever the road surface may be. The price of broken stone varies from 70 cents to \$2 per ton, depending on the character of the stone and the distance which it has to be hauled. For a road 30 feet wide and 9 inches thick, about 5,500 tons are required for each mile in length. The cost of the road surface alone is about \$12,000 per mile. The cost of embankment, excavation, culverts, drains, stone gutters, etc., may carry the cost up to \$70,000 per mile.

These figures might even be increased in the case of roads traversing a mountainous district, where expensive embankments, cuttings in rock and earth, retaining-walls, etc., would be necessary. The laying out of such roads calls for the same surveys and the same engineering skill as the laying out of railroads.

The shape of cross section to be given to the road has been the subject of much discussion in the past. Roads which are much rounded in the centre shed the water very easily, but, on the other hand, they are very uncomfortable for vehicles. There has also been much dispute as to whether the cross shape of the road should be a curve, or should consist of two straight lines meeting in the centre. It is now generally conceded that the cross-section should be a curve and that the height of the road should be about one sixtieth of its width, *i. e.*, in roads thirty feet wide the centre should be 6 inches higher than the sides, in roads 40 feet wide it should be eight inches, and so in proportion to its width.

The great cost of macadam roads, and the comparative lack of necessity for them in consequence of the enormous development of railways, has prevented their construction to any great extent in America. The National Road, which was intended to form the great highway across the Alleghenies from the Potomac to the Ohio, was begun under authority of Congress about sixty years ago, but it had only progressed a short distance beyond Cumberland, Maryland, when its construction was abandoned, in consequence of the building of railways for the same purpose. Macadamized roads have therefore been confined to city or suburban streets, and to a few of the older states in the east. Even the turnpikes, or toll roads, originally built by corporations which made their profits by levying toll on each passing horse or vehicle, were macadamized only for a small portion of their width in the center, leaving earth roads on

each side. These latter were habitually used in summer, leaving the hard central portion, whose surface was seldom kept smooth, for use during the rains and mud of winter.

With the exception of these few turnpike high-roads, American roads have been built of whatever material was nearest to hand. Frequently, if not generally, they were made by simply plowing a ditch on each side and throwing the earth into a mound in the centre. An improvement in this was to spread a layer of bank gravel containing a large proportion of clay over the road; and on the New England coast, where a rocky soil and clean gravel were available, these materials were used, and formed a comparatively hard and durable road surface. Through the swamps and clay soils of the South, where stone and gravel were not available, the corduroy road was much used. This consisted in felling trees, stripping the branches, and putting the trunks across the road; and it was probably the most inhuman device ever suggested as a means of communication. In central New York, and in some parts of the West, plank roads were at one time constructed, but their lack of durability caused this system to be soon abandoned.

The condition of a road depends not only upon the manner in which it is constructed, but upon the manner in which it is maintained. The best of roads are being constantly worn by traffic, and if they are not quickly repaired whenever any defects appear, they are soon destroyed. Macadam's reputation was not made in building new roads, but in repairing old roads, and keeping them always in good order. In order to accomplish this result incessant attention is necessary, so as to fill up any ruts or holes the moment they appear and prevent them from being enlarged by travel and rain. The road thus gradually wears down, but always presents a uniform and smooth surface; and when its thickness is reduced to about five inches it is necessary to make general repairs by covering it with a new coating of stone. The amount of wear is proportional to the amount of traffic, on some of the heavily travelled macadam streets of London and Paris it has been as much as four inches in a year, but on high-roads between cities it is often as low as one-half inch in a year.

Nowhere is the art of road-making and maintenance carried on to such perfection as in France, where the necessity of constant supervision and prompt repairs are fully appreciated. Her roads have a length of about 200,000 miles, of which more than 120,000 miles are macadamized. They have cost nearly \$600,000,000 for construction, and the sum of \$18,000,000 (or about three per cent of first cost) is annually spent for their maintenance. Until we are prepared to expend the necessary sums for solid construction and incessant maintenance we cannot have good roads. With an area of 204,000 square miles, and a population of 38,000,000 inhabitants, France has about one mile of road to every square mile of territory, and to every 190 inhabitants, its roads have cost about \$3,000 for each square mile, and about \$18 for each inhabitant; their maintenance costs annually \$60 for each square mile, and 48 cents for each inhabitant.

The State of New York has an area of 47,000 square miles, and a population of 6,500,000, the number of inhabitants per square mile being about three-fourths the number in France. On the basis of area, in order that its roads should be equal to those in France, their length should be 46,000 miles, the first cost would be \$138,000,000, and the annual cost of maintenance \$4,140,000, or 64 cents for each inhabitant. The railroads of this State have cost nearly \$900,000,000, and the annual expense of maintaining their road-beds is fully 6 per cent. of their first cost. It is evident that it would not be an impossible task to create a system of roads corresponding in excellence to the railroads whenever the necessity for them is fully recognized; and it would not be difficult to prove that the benefits derived in cheapening the cost of transportation to the railroads, of which the roads would act as feeders, and would be more than equivalent for the expense. Nor would the cost in reality be anything like the large sums above named, for many of the existing roads contain an abundance of stone, which could be taken up, broken, and relaid, after the manner in which Macadam rebuilt the roads of England, the cost of which is stated in his memoir to have been as low as \$600 per mile. Owing to the increase in the cost of labor since Macadam's time, the cost would now be about \$2,500 per mile.

It is worth while to note the manner in which France maintains these splendid roads. While we have no such large body of trained



engineers in the public service, and while our political organization does not permit the adoption of the system as a whole, yet there are many of its features which are not only applicable to us, but are essential to any satisfactory method of road maintenance.

The roads in each department in France are under the general supervision of the prefect of the department, and their construction and repair are intrusted to the engineers of the *ponts et chaussées*. The necessary funds for this purpose are allotted to each department by the Minister of Public Works. The high-roads are divided into two classes—national roads, running through two or more departments and connecting the chief cities, and departmental roads, connecting the principal cities within a single department. The local roads are divided into three classes—the important local roads, the ordinary local roads, and the by-roads. Each road is thus classified according to its use and the traffic upon it, as determined by actual count at stated periods. The construction and the maintenance are varied according to the use and volume of traffic. Some of the national roads are paved with stone blocks, like city streets, for long distances; others are macadamized, and the local roads are of gravel. The engineer-in-chief has charge of all the roads in the department; under him are engineers having charge of certain districts, and under each of these are superintendents and overseers, each in charge of a certain length of road, and with a certain force of laborers and the necessary materials for keeping the road always in good order. It is, in short, the same system of constant inspection, maintenance, and repair, which is in use on every one of our principal railroads, but which is never applied to our roads.

The fundamental principals of maintenance, as laid down in the *Manual of Instruction*, are only two in number, viz.: 1. The removal of the daily wear of the road, whether in the form of mud or dust; 2. The prompt replacement of this wear by new materials.

Each road is divided into sections called cantons; on heavily travelled roads a canton may be only 100 yards long, on light roads it may be a mile; and to each canton there is a workman known as a *cantonnier*, who is responsible for the condition of the road in his canton. He lives in the immediate vicinity, and is obliged to be on the road from 5 A. M. to 7 P. M. in summer, and from sunrise to sunset in winter; he can rest 2 hours for his noonday meal, but with this exception he must be always at work between the hours above stated. He has the following tools, viz.: wheelbarrow, iron shovel, wooden shovel, pick, iron scraper, wooden scraper, broom, iron rake, crowbar, hammer, and tape-line. His duties are; 1, to keep the gutters clear so that the water can run off freely; 2, to scrape off the mud in wet weather and sweep off the dust in dry weather, so as to keep his canton always clean; 3, to clean off the snow as far as possible, and break up the ice on the surface of the road and in the gutters during the winter; 4, to pick up all loose stones, break them, and pile them in regularly shaped piles on the side of the road, ready for use in repairing ruts and holes; 5, to keep the mile-posts in good order; 6, to take care of the trees bordering the road.

The six adjacent *cantonniers* form a special squad called a brigade which is under a foreman called a *cantonnier-chef*, and forms the unit of working force. Several brigades are placed under a *conducteur*, or Superintendent, who has charge of a section of forty to fifty miles of road, for the good order of which he is responsible, and every part of which he must inspect and report upon twice a month. Several sections are placed under an engineer, who has charge of all the roads in an *arrondissement*, or township, and must inspect every part of them once in three months. Finally, the engineer-in-chief has charge of all the roads in the department, or province, eighty-seven of which constitute the territory of France.

During the winter, when the repairs are heavy, and whenever a general resurfacing of the road is undertaken, the regular *cantonniers* are assisted by auxiliary labor hired for the time being. The broken stone required for such work is furnished by contract.

It should be borne in mind that this is not a mere paper organization, or code of forgotten statutes, but an actual working system in full operation to-day. It is the result of 120 years of thought and labor devoted to an important subject by some of the best minds in France, and the result is one of the most superb systems of roads to be found anywhere in the world. The cost is surprisingly small, considering what is accomplished. The actual cost per mile of maintaining the national roads (all macadamized) is given in Debaux's

*Manual* for each of the eighty-seven departments. It varies from \$60 to \$500 per mile, with an average of \$150, of which about half is for labor and half for materials.

It would seem as if a somewhat analogous system might be devised in America, by which the roads in each State might be placed in charge of the State Engineer, a uniform road tax of say five miles to be levied throughout the State, but the amount of taxes raised in each county to be expended in that county.

In brief, then, the only system for good country roads, as shown by universal experience, is a bed of stone, broken into small angular fragments and thoroughly rolled, and maintained in good order by a small force of laborers, under proper organization and supervision, constantly at work summer and winter in cleaning off the road and repairing any defects the moment they appear; to which must be added from time to time, according to the amount of traffic and resulting wear, a general renewal of the road surface with the same materials.

City streets are simply roads of very heavy traffic, and the problem of paving is road-making designed to meet certain conditions. A vast amount of ingenuity has been expended in the effort to make pavements that would be indestructible, but the effort was entirely futile. In the constant attrition of wheels and pavement something must be worn, and if the pavement is indestructible the vehicles will soon be destroyed.

That pavement is the cheapest which affords the least wear to its own surface and the vehicles combined. A good pavement should be durable, smooth, cleanly, as nearly noiseless as possible, and afford a good foothold for horses. Every form of construction material—iron, brick, stone, and wood—has been tried in every conceivable manner of application during the last fifty years. The results of this experience—as to cost and durability, ease of traction and cleanliness, noisiness and slipperiness,—have been studied by French and English engineers, and to a certain, though much less, extent by American engineers. While it cannot be said that the actual amount of wear in terms of the traffic has been fully determined, nor that the effect of different pavements upon the wear of vehicles and the cost of transportation has been mathematically demonstrated, yet certain fundamental principles are now generally admitted by all who have given careful thought to the matter, viz.: 1. A foundation is necessary, which constitutes the real pavement, and which is indestructible. 2. On this foundation a suitable wearing surface should be laid, and renewed from time to time. 3. The only suitable wearing surfaces are stone blocks, asphalt and wood.

In reality these principals are only a development of the macadam road. Since the surface of macadam is worn too rapidly by heavy traffic, it must be protected with a renewable surface, leaving the body of broken stone as the permanent road-bed. As broken stone and cement mixed with sand will acquire in a few days the solidity that macadam will attain only after several months or years, the bed of macadam metal has naturally given place to a bed of concrete.

This is universally conceded to be the proper foundation for any good city pavement. A thickness of six inches has been found by experience to be amply sufficient; in cases of exceptionally heavy traffic it should be made of Portland cement, but in all other cases the ordinary American cements are strong enough.

In selecting the wearing surface due regard should be had to the gradient, the traffic, and the climate. Stone blocks are the most durable, but they are the most expensive, the most noisy, and offer the greatest resistance to traffic. Asphalt is the smoothest and cleanest, but it should not be used on grades of more than  $4\frac{1}{2}$  in 100. Wood is the least durable, but it is smooth and noiseless. Among different kinds of stone, sandstone and limestone are not sufficiently durable, and trap is so hard that it polishes and becomes very slippery under traffic. Hence granite is considered the best stone to use. Of asphalt there are two different varieties, the natural bituminous limestone of France, and the artificial bituminous sandstone made by mixing sand with pure asphalt, which is largely used in many American cities. Of wood many varieties both hard and soft have been used, but the best wooden pavements of London and Paris are made of Baltic fir.

Acting on these general principals, engineers have usually recommended granite blocks in streets of heavy traffic or steep grades, and asphalt or wood for residence streets. They have for many



years condemned macadam as a city pavement on account of its lack of durability, and because it cannot be kept clean, being always muddy when watered and dusty when dry. There are still large areas of macadam in the cities of Europe as well as of New England, but the expense of maintaining them is so great, that they are being replaced as rapidly as possible. The wood pavement on a concrete foundation has not been popular in America on account of its lack of durability; the wood surface requiring renewal every five or six years; but it is largely used in London and Paris.

The granite block surface has been used more largely than any other, an undue importance having been attributed to the element of durability, regardless of all other qualities. But of late years the questions of noiselessness, cleanliness, and ease of traction have been more fully considered, and the result has been a large development of smooth-surface pavements, i.e., asphalt and wood.

The limits of this article do not admit an exhaustive statement of the relative merits of the different kinds of road surfaces, but certain facts in relation to them may be briefly stated.

1. *As to Durability.*—The average life of granite blocks under heavy traffic in London is fifteen years, during which time the wear is about two inches, and the edges become so rounded that the pavement is as rough as cobble stones. They can then be taken up, redressed, and laid on streets of lighter traffic, where they will last for twenty years more, during which time the wear is another two inches. The blocks are then so worn that they have not sufficient depth for a pavement surface, but can be sent to the crusher and broken up for concrete.

2. *Ease of Traction.*—Elaborate experiments have been made by Morin, MacNeil, Rumford, Gordon, and others, to determine the force required to draw a given load on various surfaces. The results agree fairly well, and show that the force is from  $\frac{1}{20}$  to  $\frac{1}{15}$  of the load depending on the surface.

The importance of these facts is but little realized, and in the absence of accurate statistics as to the number of vehicles, the amount of tonnage, and the distance travelled in large cities, it is impossible accurately to demonstrate their effect.

3. *Cleanliness.*—The joints of a block pavement are receptacles for manure, urine, and all other street filth, and these joints can never be perfectly cleaned. The only remedy is to make the joints as small as possible. This is easily accomplished in wooden pavements where the blocks are sawed to exact shape. In stone pavements it is more difficult, but the dirt spaces are reduced to a minimum by filling the joints with gravel and hot tar, which renders them waterproof, and fills them up flush with the surface. When this work is carefully done with proper materials the filling is very durable, and remains in place for many years. It can easily be replaced when worn or broken by travel, by raking out the joints and refilling them. On asphalt pavements there are no joints, the surface being continuous, and for this reason the asphalt is the cleanest of all pavements.

There are two methods of cleaning streets. The cheapest, and the one most commonly used, is to clean the pavements (preferably at night, and after being sprinkled to lay the dust) by revolving brooms attached to carts. The broom is set at an angle, and revolved by cog-wheels connecting with the main wheels. The dirt is thus brushed into the gutter, where it is collected into piles and removed by carts. The other method consists in removing by hand every particle of manure or dirt the instant it is placed on the street. Boys or men are stationed on every block, and provided with a broom and dust-pan or canvas bag, into which they brush the dirt, and deposit it in a receptacle placed on the sidewalk, whence it is removed every few hours by carts. Broadway between Seventeenth and Twenty-third streets, and Fourteenth and Twenty-third streets between Fifth and Sixth avenues, in front of the large dry-goods stores, are thus cleaned by private enterprise. In London this work is done at public expense by large numbers of boys between ten and fourteen years of age, whose dexterity in darting between the horses and wheels in the most crowded thoroughfares is quite remarkable. Iron boxes are placed on the curb-stones at intervals of about 150 feet, into which they empty the contents of their dust-pans, and the boxes are in turn emptied into carts, and hauled away every few hours. The expense of this labor is much greater than a daily sweeping with machines, but it is very much more effective. Where

the streets are not properly cleaned, sprinkling is resorted to in order to lay the dust, and the result is only to substitute one evil for another, for the sprinkling turns the dust into mud, and renders all pavements very slippery. Pavements of all kinds should be kept dry and perfectly clean.

4. *Noise.*—The asphalt and wood pavements have a great superiority over stone in the matter of noise. Wood is probably the most noiseless of all, as the only sound is a low rumbling, due to the wheels passing over the joints of the blocks. On asphalt there is a click of the horses' feet, but no noise from the wheels; this is hardly noticeable in summer, but is observed in winter, when the pavement becomes harder. But both the rumbling and the click are insignificant in comparison to the roar caused by the mingling of countless blows of iron shoes and wheel tires on stone blocks. Several eminent physicians have expressed the opinion that this incessant noise is the chief cause of the nervous diseases which have come to be such a feature of modern city life.

5. *Foothold.*—The opinion generally prevails that granite block pavements are less slippery than smooth pavements, but careful observations show that this is not the fact. The best foothold for a horse is afforded by the soft dry soil of a race-track; next to this is a gravel road, and then macadam. But all of these surfaces are out of the question on heavily travelled streets.

Under ordinary conditions, such as exist on probably three hundred and fifty days in a year, the number of accidents to horses is much greater on stone pavements than on either asphalt or wood. In fact the surface of granite, or of any stone sufficiently hard for use on streets, polishes under traffic and becomes very slippery. The only foothold afforded to the horses is in the joints between the blocks. On the other hand, under certain conditions, such as light dry snow, or a fine rain on a dirty surface, asphalt and wood are more slippery than stone. The surface of these materials is not so slippery even under these circumstances as the stone, but they have no joints to prevent the horses from completely losing their footing. The number of accidents on stone pavements, under the circumstances named, is very great, but not so great as on the smoother pavements. But when kept dry and clean, both asphalt and wood afford a perfectly good foothold for horses, if reasonable care is exercised in turning corners. It is the practice in London and Paris to sprinkle sand on the smooth pavements, when the conditions are unfavorable and the same practice is followed daily under all circumstances by the street car companies in New York on the stone pavements used by their horses.

6. *Cost.*—The prices of labor and materials differ so widely in various cities and at times in the same city, the conditions of traffic and cleanliness are so different on different streets, and the character of the maintenance is so different, that it is extremely difficult to form comparative tables of cost of the different road surfaces that can be relied on as accurate. It is evident at a glance that the cost of construction is only one factor in the problem, and not the most important one. The main question to be determined is the cost of construction and interest on the same added to cost of maintenance during a long term of years. And by maintenance is meant maintaining the surface in a condition practically as good as when first laid. Of course if stone blocks are placed upon a street and become full of ruts and depressions at the end of five years they will not become very much worse in another twenty or even thirty years, even if no repairs are made. The cost of maintenance under such circumstances would be very different from the figures obtained from the experience of Paris, London, Manchester, or Liverpool, where the surface is always kept in good order.

In brief, however, of the three wearing surfaces granite block is the cheapest, but at the same time the noisiest, the most destructive to vehicles, and the most expensive for transportation. Asphalt is the smoothest and cleanest, and is slightly more expensive than granite; wood is the most noiseless, is quite smooth, but is the most expensive.—*Harper's Weekly.*

A bicycle club composed wholly of temperance men has been formed in London. The popular idea, however, is that a drunken man is never injured by a fall, and, in accordance with that idea, temperance and bicycling would be inconsistent.



## A TRAMP THROUGH THE CONTINENT.



Y AN arrangement made with the Cycle Touring Club, no duty is levied upon bicycles at Dieppe, otherwise there is no advantage to be gained by sailing from New Haven. On the contrary, there is everything to be lost, provided one is susceptible to sea sickness, for the journey is longer and rougher than that from Dover to Calais.

In order to get into the harbor of Dieppe, the steamers are rather small and have no state-rooms in consequence. There is one large room with bunks arranged around it, two abreast, and two deep, each bunk being as hard as a rock, and only two feet wide. Bunks cannot be engaged, but "first come,

first served" principle applies. The steamer was boarded about 10 P. M., on the night of July 9th, and much time was spent in looking for the softest place on which to rest our weary bodies, but sounds without, resembling the foot-steps of men put a stop to further search and caused those within to precipitate themselves into the nearest berth. In a moment the cabin was swarming with men, women, and children, who had just arrived from London, and such a scramble was never seen before or since.

Those who had berths, enjoyed the situation for awhile, until about midnight, when sleep was found to be unobtainable, on account of the noise created by the steamer and the people who had to sit up for the night. They smoked, and drank and made a nuisance of themselves generally.

Dieppe was finally reached at 3:30 A. M., but it required an hour to effect a landing. A light breakfast was obtained for an exorbitant price, the luggage strapped on the wheels, and at 5:30 the wheels were mounted and the wheelmen off for Paris.

The northern route was chosen as it is fully as good as the route through Rouen and, in addition, is much shorter. The route through Rouen is preferable, if the tourist has time to stop over in Rouen; but as Paris was offering such a fine attraction on the 14th of July, and only four days remained in which to complete the journey and get well settled before the great fetes, the more direct route was chosen.

Some time was spent in making signs to the natives with a view to getting on the correct road. Signs were used to supply our deficiency in the French vocabulary.

The first few kilometres were a little heavy and up grade, but quite interesting. As all roads on the Continent are measured by kilometres, each of which is equivalent to five-eighths of a mile, that term will hereafter be employed. All the roads thus far traversed have a stone at every hektometre, and at every ten hektometres there is a larger stone indicating how many kilometres it is to certain objective points. At every crossing there is a post with directions clearly printed thereon, stating the number of kilometres to the towns indicated thereon, so one may safely tour through France with no knowledge of the language whatever.

It must be an enormous expense to the government to keep all these posts in order, for France is a perfect net work of roads, all of which are very fine for cycling with the exception of the grand military roads, which are paved with Belgium blocks. A very fair road usually runs along the edge of the pavement, but it is best to avoid them entirely.

If it is an expense to provide posts to guide the traveller, what must it be to keep their thousands of miles of roads in order? There doesn't seem to be enough traffic over them to warrant the outlay, but no doubt there is at other seasons of the year.

With all these beautiful roads, the Frenchmen do very little riding on bicycles, and it is no common thing to pass through villages, the people of which have never seen a "velocipede," as they call them. Such villages are always pleasant to visit for the natives flock around the wheels and ask innumerable questions, which enables one to learn a little of the language.

Usually the first question propounded is: "Anglais?" but when informed "American" they become quite communicative. They have the highest regard for Americans, and it doesn't seem to emanate from a mercenary standpoint, as is the case in the large cities.

An early start from Dieppe was obtained, but comparatively so little rest having been obtained on the boat the party were tired out by the time they reached Forges-les-Eaux, 52 kilometres from Dieppe. A good dinner, and plenty of rest would have fitted them for a long evening spin, but unfortunately they miscalculated their ability to properly quench their thirst with the French substitute for water, and thus another delay was occasioned. Twenty-one more kilometres were made, which brought them to Gournay, a pretty town of about 5,000 soles, some of them of the female persuasion being quite bewitching and pretty.

The road from Forges to Gournay is as straight as a cashier, who doesn't have to leave the country on account of his health, and it is as smooth as an asphalt pavement. The scenery on either side is beautiful and many stops were made to fully enjoy the view. The peasants all wear long blue blouses that are both picturesque and comfortable and wouldn't be a bad thing for cyclers to wear in warm weather. The women do as much work in the fields as the men, which, no doubt accounts for their neat garden like appearance. (The fields, not the women.)

In England every patch of ground is surrounded by a fence of stone or hedge and the roads are also enclosed by fences, but in France fences are seldom seen, consequently the country looks more open and free.

A stop was made in Gournay for the night, and the next day, July 11, the ride was continued through Gisors and Channeout-en-Vexin to Pontoise, a distance of 73 kilometres, from which place a beautiful view can be had of the Eiffel Tower. The road from Pontoise being very bad, it was decided to remain over night and go into Paris by rail next morning, which was accordingly done. Ninety miles of Normandy was traversed, but no fine horses seen. No doubt all their best horses are sold and the smaller horses kept at home.

Paris was reached on the morning of the 12th and nice quarters secured at reasonable rates, considering the crowd in the city. Many runs were planned for the city, but on account of the crowded conditions of the streets, cyclers are forbidden to ride on them after 11 A. M., so all our planning was of little avail. However, few of the streets are rideable, most of them being paved with Belgium blocks.

A pleasant journey was made to Versailles on Sunday, the 21st to witness the great water display, which is said to be the finest in the world. The road to Versailles is about the best leading out of Paris, and that isn't saying much for it. A climb from the bridge at St. Cloud, to the top of the hill is rewarded by the finest view of Paris to be had, the view from the terrace near the Chateau not excepted.

There are many fine rides to be had in the park at Versailles, but not being permitted to take our bikes in the front gate to the Palace they were stacked, and the journey made afoot. It was discovered that by riding to the north of the Castle, an entrance could be obtained to the park. It is a pity the fore-sight isn't as good as the hind sight. It is only 25 miles there and return, which is a very nice run.

After a pleasant sojourn of eleven days in Paris, the train was boarded July 23rd at 10:45, for Laguy, 28 kilometres distant, where, at noon, the ride to Brussels was begun. Meaux, 21 kilometres, was reached in a short time, the road being very good. A good dinner was had and the journey resumed to La Ferte. Lo and behold! After riding 18 kilometres it was discovered that La Ferte was only 1½ kilometres further and not 15 kilometres as laid down in the road book. Closer investigation revealed the fact that the road had been taken to La Ferte sous Jonrane, instead of La Ferte Milon. A French editor once stated that the Mayor of St. Etienne had embezzled 40,000 francs, whereupon twenty-nine suits were brought against him for libel and the Mayor of the twenty-nine St. Etiennes recovered damages because the editor failed to specify which St. Etienne he meant. The La Fertes seem to be quite as numerous, so care should be taken to always get on the correct road. A road was found which led to La Ferte Milon, through Duisy, Coulombo and Ches-y-en Orxois where an elegant supper was obtained and a halt made for the night. The road from Ches-y-en Orxois to La Ferte is about the best in France, the first 5 kilometres being considerably down grade, affording one of the finest coasts imaginable, especially when it winds up the days run.

The following day while *en route* for Soisson, the first accident



occurred, but it was to a cart and not one of the bikes. It happened that the cart was being hauled along by two horses and the driver was some distance away, so when four bikes came flying down the hill, the horses endeavored to climb a perpendicular embankment. The horses succeeded in retaining their equilibrium, but the cart cast itself aloof from the horse and turned a back somersault, emptying the contents, at one and the same time. Doubtless the driver is still wondering how his load got there, as we were out of sight before he appeared on the scene.

There seemed to be quite a number of wheelmen residing at Soisson, many of whom use American made wheels. A steep hill without a let up for 8 kilometres made the exit from Soisson very disagreeable, but the next 10 kilometres, to Coney le Chateau was pleasant riding. Here, on the summit of an almost perpendicular hill is the ruins of an old castle that was once, a pleasant place to spend the night, no doubt, but a drearier place could hardly be found than this old feudal stronghold, as it now stands. The shades of night were falling fast, but by pushing on Chailvet was reached and lodgings for the night secured.

All through France the beds are supplied with a light feather bed to pull over you at night, in addition to a blanket, spread, and sheet, and besides producing considerable perspiration, it renders one lightning proof, otherwise they are a nuisance. If the feathers used in the construction of this covering were employed in widening the beds, a great deal more enjoyment could be had in the course of the night. However one ought not to kick when it is considered that supper and lodging only cost 35 cents.

The following morning, July 25, a ride was taken to the fortified town of Laon, 9 kilometres, for an appetizer. The last 2 kilometres was quite hard work, the road winding up a hill with a considerable grade. Laon is a very pretty town, the principle part of the inhabitants being French soldiers. The knoll upon which it sits seems to rise up from the plain that surrounds it, as though it was made expressly for a fort. A view is had of the surrounding country for miles and miles. Of course the ride out of the city was enjoyed, as a coast of 2 kilometres was obtained. Like magic the scene changed for the elegant road gave way to a rocky by-road, and the pretty weather that we had enjoyed for a month, disappeared before a heavy rain. The mackintosh coats that had been transported across England and France were resorted to, and they did their duty well. During the intervals between the showers Marle was reached, and a supply of pies, cakes, and other indigestion producing pastry was purchased, and the ride was resumed for 4 kilometres, until the road passed under the rail road where a stop was made to consume the purchase. Another shower about that time compelled a number of peasants to take refuge under the same bridge, so the indigestion was divided with them in exchange for their company. They wore large wooden shoes and corduroy clothes, instead of blue blouses as in Normandy. They are different looking people entirely from the people between Dieppe and Paris, probably from the fact that they drink beer instead of wine.

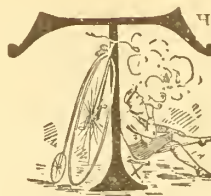
Hirson is quite near the frontier, and was the last town in France where the night was spent. As the frontier was approached the country became more interesting but less picturesque, and prosperous. Living expenses become cheaper and accommodations better. The following day, July 26th only 15 kilometres were made, which brought the party to Olean, when rain prevented further progress for the morning. There "Von" left the party to go to Namur and Dresseldorf to visit relatives, but to meet again on the Rhine. The rest of the party desired to ride across the boundary line before taking the train for Brussels, but after pedaling through 8 kilometres of mud to Liessier, the attempt was abandoned and the train taken for Erquelinne, which was reached at 8 P. M., and thus ended a most delightful journey through France. Four hundred and forty-eight kilometres or 280 miles of French roads have been traversed, and such a favorable impression of the people, scenery, and roads was obtained that the return to French soil is looked forward to with great pleasure.

*Brussels, Germany, July 27, 1889.*

A school teacher instructs her pupils that "professionals" is a plural noun. This may be so but some of their actions are decidedly singular.

## AN EVERGLADE EXPERIENCE.

BY CHARLES ALEXANDER PERSONS.



THE PLACE was the club room of the cycling association in a large city in Canada. The time was one evening late in October, and the cold, crisp air had caused big fires of oak wood to be built in the great open chimneys, and around there sat a number of wheelmen, discussing matters of the day. Suddenly the door opened and a visitor entered. Some arose to greet him, when one of them cried out: "Why hello! if it isn't Marion Speed, I'm mightily mistaken. Where have you been, old fellow?"

He proved to be an old friend of ours, that had been a member of the club, two years before, but about that time, had rather quietly disappeared, and had not since been heard from.

One of our fellows, however, had seen a little item in some newspaper, about some Speed being chased by a panther down in Florida, and mentioned the fact, and when questioned about it, it proved to be our own Marion. Of course we wished to know all about it; why he had left home as suddenly, and all that, and in response to urgent solicitations, as near as I can remember, he told the following tale.

"All during the summer and autumn past, my health had continued to grow poorer and poorer, and as the leaves began to fall and the wild goose to fly southward, that old lung trouble seemed to come back again, and make its presence felt as it had done long years ago, but there was no use running from Fate, grim and gaunt, so I decided to stay at home, among my friends, and face the worst when it came, rather than leave the country,

"But when the winter drew on with its chilling blasts and icy winds, there was a doubtful look on my doctor's face when he would ask how I felt, and as the answers were not always as good as they might have been, he gave me to understand that he was contemplating some important move for me to take.

"One morning he came in the office where I was writing, and, taking me by the arm, said: 'My dear young fellow, if you don't get out out of this, in less than six months you'll be a dead man.'

"What do you mean?" I asked, more surprised than frightened.

"Then he explained to me my condition, and showed me up in such a bad light, that when he was through, I was prepared to believe that I was half dead already. But what the doctor said I really needed, was good out-door exercise, in a warm and balmy climate, and the sooner I got this, the better my chances for staying on this earth awhile longer would be.

"Well, a few weeks later found me in South Florida, in possession of a new wheel; and improving some by the change. The roads down that way I found passably good only. Down in the Southern part, where I was, there were few railroads, and the teams being resorted to, it was to their advantage to keep the roads up, and some of their streaks of sand-beds had been turned into quite respectable pikes. The place I was stopping in—well—its name don't matter; we'll call it Echoconnee; was nothing but a trading and lumbering station. Situated on the very edge or border of that great swamp and wilderness, the Everglades, it at first seemed like the jumping off place of the earth to me, but after being there awhile, I liked it fairly well.

"I was not long in making acquaintances in the neighborhood, and one of these that ripened into a warm friendship was with a young fellow named Wales Wynton. He was a kind of speculator in anything that came along—except horses—and ran a small store in the village. His chief hobby was to buy or lease a big tract in the swamp, getting it for almost nothing; cutting and hauling the fine cypress trees that grew there, and shipping them North to the railroad companies. There were a number of roads that had been built, penetrating far into the swamp, over which the timber was hauled, and near the end of one of these, about twelve miles inland, Wales had leased a tract of about five hundred acres. He closed the trade on Monday, and asked me if I would ride out to it with him the following Saturday and of course I joyously consented, and as the ride was to be a long one, we decided to make an all day affair of it.

"Bright and early at the appointed time we met at the village post office, and were soon under way; he riding a magnificent iron-



gray, while I was astride my safety, as usual.

"The trip was something new to me, and as we went deeper and deeper into the wilderness, things reminded me more and more of the Great Dismal swamp—a thousand miles higher north. There would be great white cranes standing out in the water, that would take wing as we approached; moccasins and mud-turtles, lying up on decaying logs, sunning themselves, while alligators splashed about where the pools were deeper. The cypress trees stretched aloft straight as arrows, while plumed birds sang and chattered among their branches.

"The road was something like a railroad embankment, without the railroad; having been raised above the water level by rolling together piles of logs, and covering them with sand and pine straw which made it a very good one. A short time before noon, we reached the place where Wales land began, and here left our steeds for awhile, in charge of an old half-breed hunter who had a hut on the centre of a rising piece of ground, away from the road a bit. After giving him instructions to fix us up something for dinner, we set out on our tramp, and for nearly three hours, walked around that dreary place—skirting the edge of the water—sometimes jumping from log to log—but ever and eternally fighting mosquitoes. When we got back to the hut, the odor that came through the narrow doorway, reminded us of our hunger, but the rather novel repast of alligator shanks, turtle, fish, and possum, soon aided us to forget it.

"After dinner, we set out again, but this time in the canoe of the hunter who paddled us about wherever Wales wished, as he was getting up a map of his lease, and putting up signs for the cutters to go by. All this took a great deal of time, and when we turned into the road again, facing home, it was rapidly growing dark. Frogs moaned and croaked around in the marshes, and crickets chirped on every side. Fire-flies flickered and flew among the shadowy forms of the tall gaunt trees, as the night winds sighed through their branches above. Presently the big red moon rose from afar off in the east, and climbed high up in the heavens, casting doubtful shadows across the pathway, as we sped on through the night. Sometimes there would be a heavy flapping of wings as some great bird disturbed from its rest, left for calmer quarters. Over from afar off—o'er this waste of land and waters came a cry shrill and faint. But before long it rang out again, this time ahead, loud, wild and shrill, filled with a tone of defiance to be plainly distinguished. In a moment Wynton's horse dropped his gut from a fast trot to a walk, and then stopped completely, while shivers ran over him and he gave a whimper of terror. I put on my brake and stopped, as he dismounted and tried to calm his steed.

"'I'm afraid there's going to be trouble ahead,' he remarked, 'and even if we get through, Bob will be so undone that he will never do to come this way again.'

"'Why what's the matter?' I asked in surprise.

"'It's just this,' he said in a rather troubled tone. 'That cry you heard just now was from a panther, and they're bad things to meet out here alone. If we can get by all right, we may be safe, but we'll have to run the gauntlet if we do!'

"'How is that? What do you mean?'

"'It's just this way,' he explained; 'those big cats lay their plans as well as humans could. They take a certain stretch of woods or road; and the two watch it—about half-a-mile apart. When one sees any game, it waits until it is in the trap and then cries out, giving the signal to the other, and then they close in on it. In a trap of that kind, you're gone; sure as fate. I was a fool for coming out here unarmed, and we've got to look sharp.'

"There was a tinge of despair in his voice that I did not like, but we were mounted and under way again, though he seemed to agree with his horse in not wishing to travel further that way. Soon we were getting along at a very good pace, and our spirits were rising. The moon was now high up, and was shedding its silvery beams in streaks through the trees, over the road and water about us. Suddenly, quicker than I can tell it, Wynton's horse gave a loud neigh, and shied to one side, and came near dashing into me. There was a rustle in the branches overhead, and a shadow passed over me like a flash. The big horse gave a bound and landed far out into the mire, and sank deep into the bog, with Wynton still in the saddle, holding on for dear life. Then in a moment that great spotted cat landed where the horse had been a second before, and then, with a

cry that rings in my ear even now—sprung out to where Wynton was, as helpless as if he had been chained. Then came another—jumping down into the road, and coming toward me, like a cat after a mouse.

"But I put foot to pedal, and the chase began. At first he gained, and soon I could hear his great velvet paws as they struck the earth, and bounced up again. The horrors of that ride I shall never forget. Expecting every moment to strike some rock or hole, and fall, I could hardly help but think of my fate should such be the case pressed as I was at the time. No funeral—no burial—no tombstone—nothing. Only some crushed and battered bones, away off in the den of some wild beast—soon to be forgotten by man. And who would get my wheel—what would my folks in the North do?—and all that—still I pedaled as I never pedaled before—I would do my best—and die if I must—knowing it had been a good fight—well fought.

"But soon the breathing of the beast came hard and fast, and then as the distance between us increased, it ceased all together, and as the rubber-tired wheels gave no scent to be followed, I knew the chase had been deserted. When town was reached, I was surprised to find it only eight o'clock. It seemed like weeks since I started out that morning.

"The news spread rapidly, and soon a large party was on horseback, armed, and with torches, ready to start out and find my comrade. In an hours ride we reached the spot from which Wynton's horse had jumped, but all was still and quiet. The torches were lighted, and out there in the morass was the body of the big iron-grey; his skin and throat torn and bleeding, and stone dead. Wynton was nowhere to be found, but close search disclosed drops of blood by the side of the tracks of the two panthers, deep in the mud, as they led off into the wilderness, helped to realise our worst fears. The poor fellow was gone, and would never be seen again.

"It was a sad procession that went back to town that night, though it all seemed more like a dream to me than anything else. I staid in Echocoonnee until April, and then came back up here, but as long as I was there, I never went out on one of those swamp roads again. You may say what you please, but I'll take my chances ten times to one, with a pack of hungry wolves in the woods up here in Canada; to a couple of panthers in the Everglades of South Florida. See if I don't."

## A DOUBTFUL SUCCESS.

THERE is a bicycle club in one of our Eastern villages that pays its janitor by giving him an occasional donation party and as the members always responded very liberally on these occasions the old man was wont to consider he had a rather soft job.

One of the members, the other evening was telling of the customs of the old-fashioned New Englanders, and among other things of their manner of conducting a donation party. According to him it was their custom, in order to avoid invidious distinctions, to wrap all donations in plain brown paper, without labeling or other distinguishing mark.

The members were all pleasantly impressed with method of holding a donation party and as their next party for the benefit of their janitor was to be held the following evening, it was agreed to give this method a trial.

The following evening the members all showed up with their donations neatly tied up in brown paper.

The following is a resume of the harvest:

One pair old boots.

Half-dozen bicycle spokes, assorted lengths.

Three pounds sawdust.

Small package cloves.

Two cigarette butts.

One "Missing Link" bicycle lock, without key.

One pair faded bicycle stockings.

Three banana skins.

Two peanuts.

One pair overalls, worn out.

One silk hat, vintage of 1883.

Two bricks.

The janitor has resigned.





❖ A \* DREAM. ❖

DEDICATED TO AMELIE RIVES CHANLER.

In the swailil's swirl of the soulful wind, as the  
rusty so flooring by, I sit on my wheel and roll along,  
with a moan, and a soulful sigh. The silvery moon  
comes into view, while o'er the night's gentle breeze I  
hear:

*Oh, the flub-dub moans to his doo-le-doo,  
Who yearns for her doo-le-dum.  
But 'tis naught of the yearning I've for you,  
As I play on my lum te-lum.  
The pewee wimples the night away,  
In the lush of the welting dew,  
As I reeve the cre in a round-de-lay,  
To my sweet Anne—you know who.*

Now pedal me quick from the surging sound. I'm  
weary of world and wind; yet the gruesome grunt of the  
jabberwock comes jimmering to my mind. The croaking  
song of yon spotsome frog, comes soughing slow, and  
once again I hear, through the mellow mists, that wail so  
soft and low:

*Oh where is the swing of the swoonful swish,  
And the voice of the flip-flam foul;  
Methinks it moans from the murky mould;  
From the home of the hootful owl.*

I dreamed, I dreamed of Amelie Rives, in the dim  
of the danksome dark. and I thought I rode on a smooth  
turnpike; on the seat of a tandem trike. I wrought a  
rhyme as I rolled along, as the starlets blinked in blue.  
I awoke at hawn of the dimpled day. Above is that  
rhyme or two.

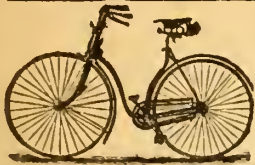
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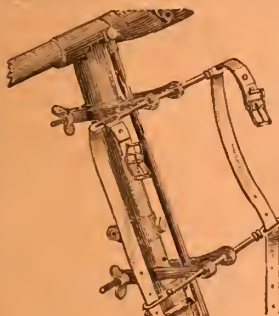
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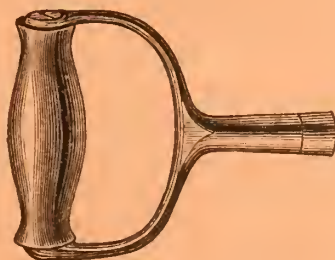


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