

THE Bicycling World

ARCHERY FIELD

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A WEEKLY JOURNAL OF POLITE ATHLETICS

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CHARLES E. PRATT, } Editors.
LOUIS HARRISON, }

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CURRENTS CALAMO

A CHEERY New Year.

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EXPERIENCED bicyclers do not lay aside their wheels in the winter time.

EXPERIENCED tricyclers do not often attempt to race on the slippery, disingenuous ice. When they do, there is always a side-show.

UNDER "Madeline's" leadership the ladies are expressing themselves freely. Several would-be ladies have sent in communications, in which they hoped to express themselves freely, but the editor does not favor "Bloomers."

CHURCH says that "The Guvnor" at the Museum is spicy; and Dennie, who clove to him between the acts, says that it's all spice. "Yer 'and, Dennie, yer 'and."

Two gentlemen, who probably saw the old year out over a "Tom and Jerry," have sent in a communication which would indicate from its peculiar nature that they entered the new year in the best of "spirits." Will any one send us a cord to hang the "Two Chromos"?

A "BLAHSTED ENGLISHMAN" wants to know why we do not invent a bicycle umbrella. The B. E. is probably not aware that bicycles do not freckle or tan in this climate, and that most of them know enough to go in when it rains.

THOSE who contemplate purchasing new bicycles for the season of 1881, should put in their orders soon, if they desire to have the full benefit of the spring riding. In the busy season following the close of the winter, it is not only difficult to obtain any specialties in construction, but difficult also to obtain even a bicycle, as those who "got left" last spring can testify.

"EYE-OPENER," in the December number of *Cycling*, says of Mr. Pratt's "Mechanics of the Bicycle": "It's very nearly done for me. I have read it in bed and burnt out six candles over it. I have read it backwards and upside

down, and tried it beginning in the middle and standing on my head. Then I have had a hearty supper and gone to bed and dreamt—of fulcrums, planes, and centres of gravity, flying through space, etc.,—and now I am dead licked. And all this after Pratt, in his amusing prattle, tells us he will essay a *simple* answer to the question, how do we keep our equilibrium?"

We don't know how you keep your equilibrium, but we will suggest that you stand on your head six hours a day and let your brain have some nutrition. Don't try to think for a month or two; and then, if you are unable to understand the mechanics of the bicycle in words of one syllable, we will see that you are cared for at the Institute for the feeble-minded, in Chelsea. You might be able to keep your equilibrium at least part of the time, if you would cut down your daily allowance of "eye-openers"; or if you could get a small boy to carry a lamp-post around for you.

THE LONDON correspondent of the New York *Times* writes as follows to that paper, under date of 2 December:—

"As an example of English good feeling toward American work, *Scribner's Magazine* for November reached a sale of over 15,000 copies, a circulation larger than *Cornhill*, *Macmillan*, *Belgravia*, *Fraser*, *Blackwood*, or the *Contemporary*. . . . The portrait of Gladstone in *Scribner* has given great satisfaction to the premier's family and friends."

WE WISH YOU A HAPPY NEW YEAR.

THIS compliment we desire to extend to the two great divisions of the human family, bicyclers and non-bicyclers.

To the former, because we know how it is ourselves. We have been there for three years, and if every bicyclist will take the same pleasure we do in anticipating the many happy hours a-wheel during the coming season, it will indeed be a happy New Year.

To the latter we can only say that they have our deepest sympathy. They do not ride, but it is fair to suppose that they

can read; which leads us to remark that next to riding is reading about riding; which brings us to the announcement, that for the benefit of both the riding and reading public, we have arranged with the following parties to supply the paper to any one who is fortunate enough to possess a dime, and has good taste to inquire for THE BICYCLING WORLD AND ARCHERY FIELD:—

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ADVERTISEMENTS

NOTICE.

THE COPARTNERSHIP heretofore existing between Edward C. Hodges, Charles E. Pratt, and Frank W. Weston, under the firm names of The Bicycling World Company and E. C. Hodges & Co., has been dissolved by mutual consent.

EDWARD C. HODGES.
CHARLES E. PRATT.
FRANK W. WESTON.

Boston, 3 January, 1881.

THE BUSINESS heretofore carried on by the above-mentioned firm will be carried on by a new firm, this day formed, under the name of E. C. Hodges & Co., of which the undersigned are the members. Said new firm is duly authorized to settle all affairs of the before-mentioned copartnership, and all payments should be made to them.

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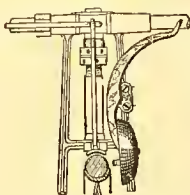
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Is the official organ of the League of American Wheelmen, and of the Eastern Archery Association, and aims to be a fresh, full, impartial record and herald of all that relates to bicycling and archery in America,—clubs, races, excursions, tours, meets and runs, target competitions, sylvan shoots, hunting, personal items, inventions, manufacture, opinions, humors, ranges, paths, routes, and incidents, the best things from other journals, foreign notes,—and of all subjects of direct or collateral interest to bicyclers and archers and their friends. Communications, correspondence, news items, suggestions, clippings, or other aids will be appreciated, and should be sent to EDITOR OF BICYCLING WORLD, ETC., 40 WATER STREET, BOSTON, MASS. Contributors and correspondents are requested to give always their full name and address, to write on one side of the paper only, and to observe that our pages go to press at noon of Tuesday preceding date of publication. For our terms of subscription and rates for advertising, see announcement of Rates and Terms in another column.

BOSTON, 7 JANUARY, 1881.

CLUB HEADQUARTERS are no longer deemed a mere luxury, but are possessed of many of the virtues of a necessity. During the long winter months, when there is a scarcity of friendly meets and companionable runs, some form of social intercourse is needed to keep alive the pleasant relations formed during other seasons. This need is most readily met by providing club-rooms, suited to the general purposes of business meetings, furnished with conveniences for storing wheels, and supplied with those little attractions, such as the files of various wheel papers, which make the place inviting to club members.

Two of the prominent Boston clubs, recognizing the importance of this aid to club unity and strength, have united their efforts and have procured headquarters, which promise, in time, to become models of their kind. The matter was placed in the hands of a "house committee," consisting of three members from each club, who were instructed to procure suitable apartments, furnish them, and institute whatever regulations were necessary. The clubs were thus relieved of all responsibility in the matter, except to pay the rent, as the furnishing expenses were met by private subscription.

As the governing rules may be fruitful of suggestion to others, as well as of interest to those to whom they apply, they are given in full.

RULES AND REGULATIONS OF HEADQUARTERS

BOSTON
BICYCLE CLUB.

MASSACHUSETTS
BICYCLE CLUB.

All members of both clubs shall enjoy equal privileges of these rooms, which are as follows:—

- I. Freedom of rooms at all reasonable hours.
- II. Accommodations for storing bicycles in basement.
- III. Use of lockers upon payment of annual rental.

RULES.

RULE I. No bicycles allowed, under any circumstances, in the Club rooms.

RULE II. Other persons (not members of either club) may enjoy the privileges of the rooms, by unanimous vote of the House Committee, on presentation of their names to that committee, seconded by a member of either club, at the following rates: One week, \$1.00; one month, \$3.00; six months, \$7.00; one year, \$12.00.

RULE III. Members may admit friends to the rooms for two days in a month without charge, upon placing their names on the club register, and being seconded by the member proposing them.

RULE IV. The House Committee shall have the right to offer the freedom of the rooms to such persons as they may think proper, for any length of time, without charge.

RULE V. The exclusive use of some room or rooms for regular or special meetings of either club may be had upon application by the club Secretary to the Secretary of the House Committee at least three days previous to such meeting.

RULE VI. The House Committee shall have absolute control of the management of these Headquarters.

The attention of members is particularly called to a clause in the lease under which these rooms are held, viz.: "No liquor or liquors of any kinds whatsoever shall be in any wise used, kept or sold on said premises."

A violation of these rules by any person using the rooms shall be acted upon by the House Committee at their discretion.

A COMPARATIVE STUDY OF THE BICYCLE. No. II.

BY H.

[Continued from page 119.]

THE progressive development of the bicycle has been remarkably rapid and direct, and in the main has not been much interrupted by objectionable tendencies.

Nothing has been more remarkable than the æsthetic tendency. Bicycling, in the main, is a sport, and nearly all riders look for beauty as well as utility in their machines. The early forms were soon superseded by lighter and more graceful ones; and when, about 1878, there was apparently little left to be improved in the harmony and grace of outline, attention was directed to finish, and especially to polish and plating. Most purchasers are exacting as to beauty of design and workmanship. This is an advantage, in-

asmuch as it compels manufacturers to do better work. The polished or plated machine shows defects of material or workmanship which paint generously covers up. Bicycles sold freely two years ago, which to-day would not be looked at by the same class of purchasers.

Unfortunately all men have not sufficient mechanical knowledge to judge wisely of the merits of a machine when they purchase. Too little attention is paid by riders to vital parts, and too much value is often attached to trivial devices.

Riders do not take and read bicycling papers so much as they ought; and editors do not write as instructively as they ought. This last is a serious defect in our literature. How can a rider learn the advantages or disadvantages of rake? How is he to choose between broad and narrow tread machines, direct spokes or locknuttred ones; Stanley heads or open-steering; or in fact, to buy a machine with any degree of intelligence? He can ask his neighbor, or read the dealers' advertisements which say that every machine is better than any other, or guess at it; and the result is about the same in either case. Happily, when we search out the prettiest and most expensive, we generally get a good machine, and never know that we might do better.

There! having given our dear editor the dig I was aching to, I'll go on, if he permits me. First, I must say I refer to the editor,—not Mr. Pratt. In the *American Bicyclist* Mr. Pratt gave us a great deal of valuable information that has been much read and copied, and has done a great deal of good. I intend myself to pass off as many of his ideas for my own in this article as I can.

HEADS.

The socket head sometimes heated and stuck fast, and was altogether a greasy affair. Just mark here, brother wheelman, it was a cone bearing; we will discuss them hereafter. It was the first type, and in 1877 was in use upon thirty machines; but I can now find only three having it. In that year the Stanley head was already in use upon one hundred and forty bicycles, and centre-steering varieties upon fifty-five.

Now the Stanley head and its own cousin, the Humber, represent about eighty-seven per cent of all in use, and the centre-steering variety about nine per cent. Here is an instance of the power of taste. The Stanley is a good and reliable head; but the centre-steering or open-head variety permits of a longer spindle, and ought to be somewhat superior in point of resistance to wear or strain. It might perhaps give with its longer spindle a better steering and balancing effect, yet it falls off evidently because it is wanting in beauty; and it is safe to look forward to the continued supremacy of the Stanley, or some graceful modification of it.

It is very desirable to get as long a spindle and as low a handle bar as possible. Probably the Stanley head may yet be

so changed as to give some improvement on these points. The spindle I shall write more fully about under the head of rake.

The general tendency for several years has been to shorten the heads, taste and utility going hand in hand. High handles may answer for exceedingly smooth city pavements, but are very objectionable for either the race track or road-riding. We steer by the handles and the feet, but the main use of the handle bar is in balancing and holding one's self down upon the saddle, so as to put the maximum pressure upon the pedals when riding rapidly or over difficult grounds. For these purposes a high handle bar is the worst conceivable form. It lessens the rider's power, and makes him sit somewhat as we used to upon the old bone-shaker, with the shoulders rounded and the chest contracted. A downward pull upon low handles tends to expand the chest, and the rider of the modern machine does not bend his back so much as of old; nor does he lean forward on account of the handles, but to get his weight on the pedals.

HANDLES AND HANDLE BARS.

Handles are now placed so low on many of the leading English machines that the leg touches them every time the crank, passing through the upper part of its stroke, lifts the foot. This is certainly carrying the thing too far. As a believer in rocking saddles, I will say that I think this will in time have its influence, and help establish the rule of low handles. This I will explain hereafter. The handle bar is sometimes placed somewhat forward of the head, and should be, especially on machines with considerable rake.

The old French fashion of bowed handles has never been adopted permanently in England, but is now used upon the Yale bicycle recently introduced into this country. The early handles were straight-sided, tapering pieces of wood, but soon gave way to the present rounded handle of horn. Here, I think, we shall eventually have innovations and improvements. Mr. Sturmey says that in his opinion the spherical handle approaches nearest to perfection. They should not be over two inches in diameter; and to quote from the *Hand-Book*, "are most comfortable, and I find give a much better grip, than any other I have tried. They allow the hands to be shifted into any position with equal comfort." I have ridden perhaps a thousand miles with them, and thoroughly approve of them. The hand naturally caps the ball handle, while it grasps the body of the ordinary one. This gives the handle bar, when fitted with the former, practically a greater length, by fully three inches, than with any other form. This is of decided advantage in the gain of leverage, secured without an increase of length of the bar.

Probably a majority of riders suffer from sore and blistered hands. I recommend them to use the rubber handles

which have been put upon the market within the last year. They are made to fit the leading machines now used in this country, and are a decided improvement upon hard horn handles. The spherical ones are decidedly the best, in my opinion, and I have tried them thoroughly. It is a mistake of the manufacturer that he does not advertise in the bicycle press. These handles are of good white rubber, and are sufficiently elastic to yield slightly to pressure, saving the hands greatly on a long, hard ride. They act also as a safety buffer when the bicycle gets a fall, saving it from much of the shock of striking the ground.

The balls should not exceed two inches in diameter, as larger ones stretch the hands and fatigue the muscles exceedingly. The ordinary form of these rubber handles is well made, and they are large and very pleasant to use.

A short bar has its good points. When the expert rider takes a header, he is often able to clear his legs from the old-fashioned eighteen-inch handle bar, and alight upon his feet. Modern bars are made twenty-two inches, twenty-four inches, and even as long as twenty-eight inches. They are the more effective on the road, the longer they are made; but woe unto him who has such a length in front of him when he goes flying over the handles. They entangle him hopelessly and bring him to grief.

Yet, in fast running, we can illy forego the long handle bar. The strong, quick action of the feet pushes the wheel to one side and the other, so as to make the course a sinuous one. The machine must be kept straight by means of the handle bar, and the labor is much greater with a short one than with a long one. The long bar is of great advantage on the road, when one has to push hard and ride slowly. The question of tread becomes involved in this case. Tread is the distance of the feet apart. A wide hub, of course, produces a broad tread. Many English machines are made with five-inch hubs, and others with hubs of seven inches. This is a question which merits much attention, and it is to be hoped that it will be discussed publicly till some intelligent understanding is arrived at. But to return to the handle bar: if the rider has a broad-tread machine, and is going slowly on a bad road, he must push vigorously. By so doing, he thrusts the wheel first to one side and then the other. To counteract this strong side thrust, and keep a straight course, he must pull as vigorously on the handle as he pushes with his foot on the same side. It is an uneven contest. The comparatively weak arms soon yield the palm to the immense leg muscles, and the rider finds it harder to steer his bicycle than to propel it. No one knows, in such case, the delight of a long bar till he tries it.

Two of my acquaintances ride with twenty-seven-inch handle bars. Both are old riders and superior ones, and their testimony is valuable. Neither would now go back to the use of a short bar.

TREAD.

The foregoing naturally leads to the discussion of tread. I think it is impossible to give a decision in favor of either extreme. There are advantages and disadvantages in each system. I will briefly touch upon them.

In the *American Bicyclist* there is an excellent chapter upon "Equilibrium." We are there shown how much the feet and legs have to do with balancing the rider and his machine. He who reads that chapter will see at once that the broader the tread, *i. e.*, the greater distance the feet are apart, the more easily can the rider balance himself by the feet. Hence the more easily can he ride without touching the handles. In running short curves quickly there is again an advantage, and also in turning around or suddenly swerving to one side. It would seem from this that the broad tread is to be preferred; but in racing or the regular all-day work against the collar on country roads, the long leverage of the broad tread, in its side effect, is most objectionable, as I have shown above. It is to be hoped that riders will study this question when they ride, and give their opinions to the world in bicycling journals.

I think it possible that compromise standards may be arrived at for racing and road machines as to tread; but discussion will enlighten everyone, therefore let us pray for discussion first. I shall some day construct a compound handle bar, giving a greater power and somewhat increased motion without any increase of length. Its success is to be proved.

THE TUBULAR SYSTEM.

Some handle bars are made hollow. The tubular system has been of immense advantage to the bicycle, permitting the use of the lightest members with the greatest possible strength for the amount of metal used.

Hollow axles, cranks, and even spokes have been introduced, but not to a sufficient extent, or with sufficient gain, to call for special comment. The tubular system was an important element in raising the bicycle to success in the fields where the velocipede failed. It addresses itself to popular taste and fancy, and will, with the progressive development of the bicycle, command more and more favor.

BACKBONES.

Many early machines had solid backbones, and had the element of safety if they were heavy, but the hollow form soon displaced all others. Many iron tubes were used, and were no better than gas-pipe tapered under the blacksmith's hammer. These gave rise to many accidents, and even now broken backbones are too common. No more serious danger can threaten the rider than the sudden breaking of this member of his machine. This accident does not by any means always arise from the inferior quality of the tube, but frequently comes

from poor work in brazing or welding on the neck and spindle. This is an unpardonable neglect, and should be publicly condemned as a warning to riders, and to bring about a reform among makers.

Backbones are now mostly made of weldless steel tube, of remarkable lightness and strength. Some are made oval, giving more strength vertically and more resistance to the backward drag of the rear wheel. There is certainly more strain in the direction named than across the bicycle; but a good round backbone is beautifully strong and efficient, and it seems almost useless to attempt to add more strength. It is certainly more graceful than the oval form, and will always hold its own in the market as a matter of taste. I use the oval form myself, but do not admire it so much as the other. But very few oval backbones are used; these, however, are all on machines of the highest class.

FORKS.

Seven hollow forks were used in 1877, and the number has increased till I now find that one hundred and thirty different machines, or nearly forty per cent of all in use, have them. Many of the cheaper ones are made of thin brazed tubes, and others are of sheet steel turned over and brazed. These are mostly of inferior value, and are too often lacking in both strength and rigidity. The better class of machines have hollow forks made from stout, weldless steel tubes, tapered and flattened, and are much to be admired. The saving of weight is not very great, and a solid fork is better than an indifferent hollow one; but when the hollow form is well made it is decidedly the best.

The double hollow fork is made with two hollow-tapered tubes on each side, and is beautifully rigid; in fact, a slight acquaintance with it leads me to think it is the stiffest form yet made. However, it is used on but few machines; a fact which may be accounted for by the patent monopoly which controls the invention. I do not believe the double hollow fork would become exceedingly popular, if free to all, as it lacks the beauty of design of the single form. The latter, when well made, is good enough for any service, and meets every demand of taste, strength, and lightness. It must be, however, stiff enough to resist torsion, and thick enough to resist indentation or bending in case the machine falls upon a stone or sharp object.

Some few makers put hollow forks upon the rear wheel of the bicycle; but this has not become general, and is not especially desirable, as the gain of lightness is only trifling, and, if indented or bent, such forks are difficult to repair. In one case, which came within my observation, the parts had to be returned to England for repairs.

BEARINGS.

It is an appalling task to approach the subject of bearings. Mr. Sturme names

fifty-three kinds for the front wheel and twenty-two for the rear wheel, and this does not by any means exhaust the list. I think I might be inclined to shirk the whole family if I could resist the temptation to give an old enemy a kick.

The old Sheffield bearing was about an inch long, perfectly plain and good for all work. It ran very lightly and gave but little resistance. It was not dust-proof, and that is enough to say about it.

The enemy I wish to belabor is the cone. It was a man of straw set up to be knocked down. Wear was created, in order to give a chance to compensate for it. The cone bearing, on smooth, straight ground, runs well, and what bearing will not? But the moment a bicycle comes to working ground of any kind, the cone becomes a man-killer, if applied to the front wheel. The constant pushing and surging of the machine from side to side, occurring every minute in the day, pushes the bearing sideways hard upon the cones, and the resistance to revolution becomes immense.

Hoisting machinery works perfectly on this principle, the friction of the cones being quite enough to hold a cage and heavy car loaded with coal. These cones, on the bicycle, grind and wear; and then comes in the only good thing about them, their compensating device or take-up. If not thoroughly protected from dust,—and usually they are not,—they act as regular traps or inclined planes to catch and convey inside every particle that falls upon them.

That greasy old socket-head I remember so well, which rattled and shook with every movement of the bicycle, was a cone. The bearings which froze together on the road and chucked the rider over the handles that day we went to M—, were cones. The rider was good; but what he said, and more yet, what he thought, are not to be recorded. You, reader, most likely would have said something worse if compelled to trundle a wheel which would not revolve, and carry one leg in a sling over several miles of inhospitable country, where no place of refreshment bloomed by the roadside, and no passing vehicle offered its aid to the weary and battered bicyclist.

There never was a worse imposition than the everlasting cone pedals. Most of them are perfect sewers to catch dust, and are always dirty inside with the nasty blackness of dust and oil ground up together. They offer an incline plane for the dirt to slide down into the bearing part. The pin is of such shape that its angle, just where the cone joins the cylinder, offers the most perfect form for breakage; and they do break much oftener than plain pins. Add to this the severe friction when the rider works hard and can least afford to overcome it, and we have a poor contrivance to contemplate.

We put cones on the rear wheel; and there I believe I will stop, and criticise no more. Almost anything will do for the poor little rear wheel. It is only the tail-piece, at best, of the machine, and I

have a sort of contempt for it as it meekly trundles and bobs along in the dust behind. It has very much the look of a small dog under a wagon.

There is nothing much finer than a good parallel bearing. When recesses are cut into the hub and crank boss, to receive it and make it dust-proof, it runs well, wears well, and can be very cheaply renewed. If it be made one and one half inches long, with a slight cut taken off from the middle half-inch of its bearing surface, so that it will bear only on half an inch at each end, leaving a slight space in the middle for oil, it will be found in practice a beautifully rigid and easy-running bearing. No man ever condemns this bearing who has it well made. It is still further improved when a universal joint at the lower end of the fork takes off all possibility of the bearing binding, or pinching the journal endwise.

There is no special need for comment on the great variety of bearings before the public. Starley's frictionless rollers are a beautiful contrivance, and as I have proved by trial, run exceedingly well.

I find ten machines using ball bearings in 1877, and some one hundred and thirty in 1879. This gain is very significant, appearing as it does upon the best machines made.

Balls require much less oil than other bearings, and many forms of them will run for weeks without lubrication. This is a most significant fact, and is one of the best arguments in their favor. If they need a minimum of lubrication, it is because there is a minimum of friction.

Double balls are generally confined in sockets, and being stationary, grind upon the moving surfaces, and upon the central cage or ring which confines them, to a certain extent. I think that if a parallel bearing is reduced in size to give a very small surface of contact, with very thorough fit upon the axle, it will be found to run as easily as double balls. The difference, if any, is very slight, but the balls are adjustable, and not so dependent upon perfect fitting to get a first-rate effect.

Single balls do not give so much rigidity to a machine as the double form, and this is in some degree against them. Every one knows what lost motion in the handle bar is, when that member works loose. A thoroughly stiff fork seems absolutely necessary for comfort and safety, and yet I am not entirely certain that a little flexibility in the bearing may not help the machine more easily over rough and rutty ground. I do not affirm this, and will not defy criticism.

Single balls run more easily and need less oil than any other form of bearing. At first they are a puzzle to understand. If a wheel or gear or ball revolves against the face of another, the first in going forward will cause the next one to revolve backwards. This, in single-ball bearings, would apparently compel them

to grind fearfully against each other, and against the bearing box and journal or axle. In fact, when the bicycle is in motion, the whole circle of balls travels slowly round the axle. Each ball in turn comes to the top, takes nearly the whole weight of the machine for a very brief period, holds back the balls behind till there is a very slight vacant space in front of it, passes the summit, and then, as the following ball relieves it of its load, it drops down upon the busy little travellers in front with a click which can be distinctly heard. Gravity on one side, and a small amount of pressure from the rolling axle, carry the balls forward through their circuit. There is not a severe pressure upon the balls, except where they pass over the top point in their course, and they do not rub severely against each other. The small amount and uniform nature of the wear of all the parts, and the good service which light oils do in minute quantities, prove this statement.

Whatever the bearing may be, it is of vital importance to keep out the dust, and every rider should be particular on this point. The rear wheel especially needs to have the best of dust-proof bearings, as it runs so low and gets its own proportion, and that also which is stirred up by the front wheel.

Ball bearings now appear upon nearly forty per cent of all the different machines. They represented during 1878 about sixteen per cent, and in 1877 about five per cent.

Cones were used upon more than forty-four per cent of all the different makes in 1877, and now have fallen to eleven per cent.

The various forms of plain bearings, during the time mentioned, have risen from twenty-two per cent to twenty-six per cent, and rollers have fallen off from twenty-eight per cent to twenty-four per cent.

During 1877, out of one hundred and seventy-seven machines, one hundred and sixty-eight had cones on the rear wheel. They are still in the lead, but balls and some varieties of plain bearings are gaining ground.

(To be continued.)

WHAT A BICYCLER'S WIFE THINKS.

Mr Editor:—Your lady correspondent "Madeline" takes a very rosy view of the bicycle and its riders, which makes me believe she looks wholly from the outside. She may be a married lady; but if so her husband does n't ride the bicycle, as mine does. It is a very pretty sight to see a row of riders glide by on their silent wheels, as "Madeline" describes them, and if the experience ends when the bicycles pass out of sight there is nothing but pleasure in it; but when a woman has to live day after day with a bicycle rider, she soon learns what a nuisance the "wheel" is. Some people seem to think that bicycle riders are very polite creatures to the ladies, and always raise their hats when passing, and hum-

bly beg pardon if a timid lady is nervous at their approach in the street; but I *must* say I have never observed it. When my husband comes home from a "run," as he calls it, he does n't raise his hat, but he raises a terrible row if supper is n't ready, and the way he eats would make a coal-heaver envious. Then he drags his dirty old wheel through the house, leaving his oily finger-marks on all the door-knobs, and shouts out to me that he has burst the buttons off his knee-breeches or torn a hole in his stockings, and I must drop everything and fix him up in decent order. Every few weeks he has to buy a new uniform, because "the club" has voted to change it. Every one of these uniforms is more horrid in color and cut than the one before it, but he keeps on buying them, and I can't get half the dresses that I am actually suffering for. As for the club meetings, I never could see what they were for, except to change the uniform, as I hear nothing else about them, though there must be a good deal of discussion about it, for they are held almost every other night. A little while ago, my husband's club opened new "temperance headquarters"; and when he came home (at midnight), he talked all sorts of nonsense about "two-day runs," "cradle springs," "pitchers of punch," and "headers" (whatever they are I don't know). Before my husband bought his bicycle, we used to make pleasure trips on Sundays to the cemetery, to see the grave of his mother-in-law; but now on summer Sundays there is always a "meet" somewhere, and I don't see him from morning till night. I suppose he improves (?) the time by riding up and down in front of the windows of "Madeline," and other women who like such things; but if any fellow comes riding by my house, I always feel like setting the dog at him. I don't wonder the dogs bark at them, and try to bite their spindle-legs, some of which look more like beef-bones than anything else. I don't believe you look like that, Mr. Editor; and as I read your paper every week, I think you must be a very nice man, except that you have the fault of riding a bicycle. I see that some other ladies agree with "Madeline," and perhaps 'most all do; but I hope you will not refuse to print this in your paper, to show there is ONE WHO DOES N'T.

BALTIMORE NOTES.

It was *about* the 1st of November "World," under head of "Baltimore and Washington Wheel Notes," that "Ike," in speaking of bicycling in the Monumental City, says: "I am grieved to say that the outlook for the wheel is not encouraging. Prejudice and stupidity are strong in opposition to the use of the wheel; the parks are forbidden grounds to the bicyclist unless he rides in the foot-paths. The streets are most outrageously paved, so that it is an utter impossibility to ride in them; the out-of-town roads are not good, and too difficult

to reach to be much used by one living in the city, and wherever riding is attempted sneers and unpleasant remarks come quick and plentifully from the lookers-on."

Now, it is not proposed to enter a discussion concerning the absolute or comparative merits of our roads, etc.; but justice to our city, our roads, and our wheelmen will allow the statement of a few facts by one who has ridden over 500 miles of Baltimore roads.

The outlook for the wheel here *is* encouraging; prejudice and stupidity *are not* strong in opposition to its use; the parks are by no means forbidden ground. The streets of the city, it is true, *are* badly paved for the use of the bicycle, but *are* passable, and *are* ridden over.

The out-of-town roads *are* good, and *are not* difficult to reach, and *are* much used by those of us who live in the city; and wherever and whenever riding is attempted, sneers and unpleasant remarks *are not* the rule, but the exception.

"I am grieved to say" that the writer in question did not try any of our roads; and am further grieved that he did not call at the headquarters of our club, where he would have been entertained, and whence he would have been escorted on a spin over some of our many good roads.

The first wheel shipped to this city was received only last April; and during that first season a club was formed which now numbers sixteen active riders, ranging in years from the sunny side of twenty-five to the shadowy side of fifty-five. The coming spring will bring accessions to our rank and file, and altogether the "outlook" is *very* encouraging. "Prejudice and stupidity" do not stalk abroad, but of course show their slight heads here and there, as they are wont elsewhere to do; but the pale visages of both are fast disappearing.

The park commissioners have granted us the use of the park up to 8 or 9 o'clock mornings, and after 5 o'clock P.M. The foot-paths we could use at any hour; but as we should not, we do not so use them.

We see brighter hopes in the future. His Honor the mayor is our friend, and expressed himself as seeing no reason why we should not have the use of the roads of the park "at *any* and *all* times." Our wedge, entered at our "meet" last October, still moves; nor do we entertain any idea of its finally stopping until it shall have opened up all avenues into which we list to go. Our morning, evening, and moonlight rides are thus about as we wish them. The "outlook" is *very* encouraging.

At an election held last fall, the citizens of Baltimore voted an ordinance authorizing the mayor and city council to expend \$500,000 in repaving our streets with new and improved pavement. So, since all the main streets are to have good smooth surface, and some of the most important avenues leading to the parks and suburbs are to be elegantly

paved, our "outlook" in this direction is also encouraging.

If from the centre of the city, with a radius of ten miles, you describe a semi-circle from the S. E. around by N. to N. W., you will have encompassed about 125 square miles of territory. Now, if from this you subtract a central semi-circle of three or four miles' radius, embracing about 25 square miles, you will have left 100 square miles of suburb and country, through and across which run our best and most frequented roads. The 25 miles lying to the S. E. are threaded and checkered by the very smoothest, hardest, and best of shell roads, on which it is the wheelman's delight to let his flying wheel away. And the magnificent moonlight riding they afford with their clear white track is just too numerous to mention.

Farther around to the north are the splendid avenues that lead out from the city for a distance of 5, 8, and 10 miles, through a most beautiful part of the country, and over whose hard, smooth beds our short runs of 10, 20, and 30 miles are usually made. Charles street avenue, Roland avenue, Lake avenue, Bellona avenue, and Pimlico road deserve special mention. And yet the "outlook" is encouraging. Don't you think so? LOOKOUT.

BALTIMORE, December, 1880.

1881.

CHELSEA, 1 January, 1881. — *Editor Bicycling World*: — We send you greeting. The centennial issue of your paper, in 200,000 copies, forcibly contrasts with your issue a hundred years ago, which we have found from a musty old Midwinter Number to be only 15,000. Not more forcibly, however, than does the present great political party mentioned in that issue as the League of American Wheelmen, now numbering several millions, then mustering but a paltry thousand. Then the bicyclic art, like aerial navigation and artificial sunlight, was regarded by the ignorant bigots of that age as absurd and futile, notwithstanding those very people considered themselves progressive, and were prone to ridicule the bigoted ignorance of their predecessors.

Nothing is more suggestive of the ignorance of that time than the folly of the "culchahed" Bostonians in erecting their houses upon the insidious mud, which three hundred years after the settlement of the town settled out of sight, and effectually settled all real-estate difficulties. It is sad to reflect that where now a new channel is being dredged, once stood the commodious edifice occupied by the Massachusetts Bicycle Club. Since Chelsea has become the metropolis of the East, the palatial quarters of the club have in all their appointments kept pace with the increasing magnificence of the city; but the tender associations which hover around 40 Providence street are yet fondly cherished in the breasts of the antediluvians.

One of the happiest results of the increased longevity conferred upon bicycle riders is the survival of three of that famous club, who have recently met together to rake over old memories. It was a pleasant sight to see the hardy old veteran, Weston, aged one hundred and thirty-seven, the grand old gentleman, E. W. Pope, aged one hundred and thirty-four, and the venerable Charles E. Pratt, of about the same age, gathered around water and toothpicks for three, discussing old times. It was intensely interesting to hear them review their early struggles to keep alive an art which now is endeared to every one, and without which life would seem incomplete. How strange it seems that people who were so ostensibly alive to their own advancement were so blind to this effectual means of promoting their own health and pleasure!

It was a touching sight to see these venerables each bring forth some relic of their former companions, such as Duker's badges, Carpenter's prayer-book, Harrison's stub pen, Baker's forceps, Parsons's Tract on Temperance, Shillaber's moth-eaten stockings, Churchill's turkey-bone, Dean's mustache comb, Hodges's "Ain't-I-fat remedy," and last but not least, a peculiar souvenir extracted from Weston's voluminous ulster pocket. A tear glistened in every eye as they gazed upon the classic boots of "*Juvenis*." Overcome with emotion, we left.

"THE TWO CHROMOS."

GLANCES ABROAD

BETTING AT RACE MEETINGS meets with deserved disfavor across the water. A correspondent of the *Cyclist* says: "There is probably no one thing under heaven which could as soon and so easily degrade bicycle racing as the introduction of systematic betting at race meetings. Horse racing is brought low enough by this curse, heaven knows, but it is kept just on the fringe of respectability by its antiquity, as well as by the numerous great names and long purses which support it. Bicycling, as yet, has none of these extraneous advantages, and will surely suffer a total eclipse if this hideous deformity is ever allowed to be engrafted upon it."

TRICYCLE CONSTRUCTION engages the attention of another correspondent, who criticises the faulty distribution of weight in modern tricycles. He advocates placing the driving wheel in front, and thus sustains his theory: "By placing one driving wheel in front in the centre, and two somewhat smaller ones behind as guiders, great power and absolute control is obtained in descending hills: a stoppage can be effected in two or three yards down the steepest hill, simply by the action of the feet only, without any special brake. When we come to ascend hills with the driving wheel in front, we put, as it were, the principle in a bank, and draw upon it the more, the steeper the gradient becomes. In making the

machine, care must be taken to put just sufficient weight on the driving wheel to cause it to bite up the steepest hill, and no more, for three reasons: because the less weight there is on, it is easier to propel; the machine is shorter, and will consequently make a sharper turn. Those tricycles whose driving wheel is behind require a maximum variation of power in ascending and descending hills, and those with the driving wheel in front a minimum only; that is, the driving wheel in front equalizes the power required more than the driving wheel behind does. Again, with the front driving wheel it is easier to ascend and descend hills; with the back driving wheel it is harder work up hill and requires more brake power down hill. The foregoing statements are not the mere guessings of a playful fancy, but proved facts, obtained after fifteen years of intelligent, practical experience."

THE *Bicycling News* countenances some very tall anecdotes, if the following may be taken as a sample: "A gentleman with very long legs was out touring, and put up at a wayside inn some fifty miles from the spot of his birth. After saying innumerable pretty things to the barmaid, whereby he excited the jealousy of an individual present, and duly refreshing himself, he came out, but found his steed was gone, or transformed into a 'bone-shaker,' for the latter was the only machine to be found. It was evident he had been made the victim of an unscrupulous wag, who had perhaps humored his conscience with the idea that 'exchange is no robbery.' Prompt action was necessary, but there was no railway station within ten miles, and his long legs disdained the 'bone-shaker.' Yet our wheelman was determined to regain his steed, and not return to London without it, to be the laughing-stock of his fellow clubmen. But his determination was futile. In vain he mounted horses and scoured the country. In vain by swift trains he endeavored to intercept the daring thief. His inquiries were successful, but the swiftness of his runaway steed always left their effects fruitless. He had tracked it through twenty villages, and telegraphed here and there and everywhere to stop it, but in vain. He saw it and its burly rider no less than three times during the chase, but always disappearing over a neighboring hill. At last, after having spent a whole week and a ten-pound note in the pursuit, he gave up in disgust, and seriously concluded that he was the victim of no less an immortal than 'old Nick himself.' He delayed in the neighborhood a few days, however, like a fish out of water, and then disconsolately returned to the spot of his birth. On getting out at Clapham Junction, however, and in passing the parcel office, he beheld a bicycle with a wonderful resemblance to his own. He irresistibly approached it, and lo! there was his name and address in full on the label. Explanation following: it had arrived by

the preceding train, and in the pouch was a polite note thanking the owner for a very pleasant trip and congratulating him on being the possessor of such a steed. The wheelman no doubt owed the return of his machine to the fact of his name and address being engraved upon it. The anonymous writer added, as an explanation of his conduct, that while our friend was making love to his (the writer's) Sally at the inn bar, he fell in love with the gentleman's machine outside."

A CLUB QUADRICYCLE, described in a recent number of *Cycling*, may be able to cope with the famous or infamous three-wheeler introduced upon this side of the water. Its inventor says: "I will describe, as well as I can without the aid of a woodcut, which would have rendered my task much easier, a quadricycle with rowing motion, or rather a sociable, the minimum number of riders to be five: four rowers or propellers, and a coxswain or steerer. A pair of sixty-inch driving wheels are connected by a frame with two smaller steering wheels, which may be placed either in front or behind; probably the best plan would be to have them behind. Upon the centre of the driving axle is a fixed-toothed wheel, and upon a secondary axle placed behind or above this is fixed a toothed wheel double the size, so that two revolutions of the driving wheel would be obtained to one of the multiplying wheel. This secondary axle is cranked, having four cranks with connecting rods from them (two pairs) to four cross bars supported from the frame by rocking levers or rods. The propellers are to be set in a line; viz., one in front of the driving axle, one just behind, and two between this one and the axle of steering wheels. The steerer is to sit just behind this axle, the steering bar being straight above it. His work, in addition to steering, would be the working of the brake, and it would be advisable for him to sit higher than his men. Foot-boards are to be placed at convenient distances for propellers, and the seats are the same as those of a boat. Nine-inch cranks, or even longer, might be used; this would give eighteen inches as the length of stroke. I am not aware what the usual length of stroke of a rower is; perhaps it would be advisable to have the stroke something near it. The cogged wheels would, of course, have to be made of sufficient size to allow of the cranked axle, whatever its length of throw, to just pass without touching the main axle; for nine-inch cranks, about seven-inch and fourteen-inch respectively.

If I have made my plan sufficiently clear, it will be seen that there are two pulls to each turn of the driving wheels, and two propellers to each pull. Need I say that the combined power of four men would be immense? Here we should have a long, slow, and powerful pull, for a crank double the length of that used by the feet could be worked without inconvenience; and the pulls would be contin-

uous, for directly one pair of riders had ended their stroke, the others would begin, and they would have the advantage over oarsmen of sitting facing the front of their machine and not riding backwards. The steering, receiving the sole attention of one man, would be perfection, and for a rest, each of the propellers might in his turn have a spell at it.

Now that there is a talk of clubs breaking up through lack of interest, such a machine among them would be the means of adding fresh zest and cementing them together. The number to be carried is not limited, and the pace would be simply terrific. The attempt of a bicyclist to try his strength with that of four or more combined skilled riders would be an utter failure, be he even a Cortis or Keen. The advantage it would be to those who are fond of boating, but who are living away from the vicinity of a river or other boating requisite, would be great, for they could have their row on the road with less danger, greater convenience, greater speed, more excitement, and with the same healthy athletic exercise and exact similarity of motion."

PERSONAL

THE PROVIDENCE CLUB has recently added to its reputation for hospitality and good taste by electing Capt. E. C. Hodges an honorary member.

SIR WILLIAM PALLISER, the great gun man, and another great gun, the venerable Archdeacon Daykin, are mentioned among the enthusiastic tricycle riders in England.

MR. JESSE HOWARD, of the Providence Club, has been appointed upon the finance committee of the Providence Base Ball Association.

MR. ALFRED D. CHANDLER has in preparation for the Midwinter Number the first of a series of articles upon practical touring in England, which, carefully prepared and based upon personal experience as they are, will be valued by those who contemplate making the trip.

THE POPE MANUFACTURING COMPANY are now established in their commodious new quarters, at 597 Washington street.

CUNNINGHAM & Co. have chosen a pleasant location for their new sales-rooms, at 6 and 8 Berkeley street, and are now ready for business.

MR. JOHN M. FAIRFIELD, of Chicago, sends us a handsome New-Year's card in the shape of his catalogue for 1881. The design on the cover, which is a novel one, contains two illustrations, and the interior arrangement is well suited to the requirements of purchasers.

MR. GEORGE E. BLACKHAM is a live patron of the wheel, at Dunkirk, N. Y. A welcome communication from him was printed in the last number of the BICYCLING WORLD, under the title, "Will some Brother explain?" Mr. Blackham suggests in a later note that the influence

of the holidays was bad either upon his calligraphy or upon our proof-reader, for the types made him say in speaking of adjustable rake, "rapidity," instead of rigidity as he meant it, and also got his initials "J. E. B.," instead of G. E. B., which corrections we hasten to make so far as we can.

MR. L. J. BATES, president of the Detroit Bicycle Club, fell recently while walking, and seriously injured his right hand. It has not, however, interfered with his sending us a pleasant letter, and will not, we hope, interfere in the least with his riding.

MR. LOUIS HARRISON, Massachusetts Bi. C., is the "new editor" whom we introduced in some prefatory remarks in our last issue. Now that he is on the staff, we do not dare to be too complimentary; but we stand by what we said in the editorial, "Happy New Year," and believe that our readers will congratulate themselves upon the acquisition.

MR. FRANK W. WESTON, the secretary of the Boston Bi. C., and chief consul B. T. C., severed his business connection with the publication of the BICYCLING WORLD AND ARCHERY FIELD last week, and a notice of the business change appears in another column. We cannot let the incident go by with the mere mention in a business notice. He has sold his interest in the paper and in the firm of publishers in one sense; but in another sense, we trust his interest in them is in no wise parted with. Mr. Weston was in at the commencement of the first bicycling paper in this country, and edited the *American Bicycling Journal* until it was merged in the BICYCLING WORLD, and Mr. Weston became one of the proprietors of the latter paper. Not only his means, but his genial enthusiasm and wide influence at all times, and occasionally his ready pen, have promoted the interests of our larger venture, and aided in bringing it to the success which it has reached; and we are happy for ourselves and the publishers to make this acknowledgment on his departure, and to wish him every success in the business to which in the future he may be devoted.

MR. FRED T. MERRILL, of San Francisco, has challenged all bicycle riders to compete in a twenty-four hour contest for the championship of California and \$85 in coin, to come off at the opening of his new school on Market street, in that city, commencing Friday evening, 31 December; adding that he will allow amateurs and inexperienced riders a satisfactory handicap. This challenge was accepted by A. A. Bennett and several other riders.

ADVERTISERS will find the MIDWINTER NUMBER of the BICYCLING WORLD AND ARCHERY FIELD, with its rare attractions and its issue of 15,000 copies, a valuable opportunity to take advantage of.



Is the official organ of the League of American Wheelmen, and of the Eastern Archery Association, and aims to be a fresh, full, impartial record and herald of all that relates to bicycling and archery in America,—clubs, races, excursions, tours, meets and runs, target competitions, sylvan shoots, hunting, personal items, inventions, manufacture, opinions, humors, ranges, paths, routes, and incidents, the best things from other journals, foreign notes,—and of all subjects of direct or collateral interest to bicyclers and archers and their friends. Communications, correspondence, news items, suggestions, clippings, or other aids will be appreciated, and should be sent to EDITOR OF BICYCLING WORLD, ETC., 40 WATER STREET, BOSTON, MASS. Contributors and correspondents are requested to give always their full name and address, to write on one side of the paper only, and to observe that our pages go to press at noon of Tuesday preceding date of publication. For our terms of subscription and rates for advertising, see announcement of Rates and Terms in another column.

BOSTON, 7 JANUARY, 1881.

THE CREEDMOOR STYLE of target valuation has been adopted on the Pacific Coast, according to the *Pacific Life*, as informed by the secretary of the Pacific Coast Association, and henceforth scores on the Pacific Coast will be kept accordingly; that is, counting the value of the colors or the respective rings of the target from the gold outward, 5, 4, 3, 2, 1, instead of 9, 7, 5, 3, 1. Now Mr. Brownell ought to be happy. We do not attribute this change of fashion entirely to his visit to California, but we recall the controversy of a year ago over this matter of archery scoring, and which was begun in the BICYCLING WORLD for 10 January, 1880. In a subsequent number of the same paper, "Capt. Jack" pointed out what he thought the true values for the colors as follows; gold, 9; red, 3; blue, $1\frac{8}{16}$; black, $1\frac{3}{16}$; white, 1; though he did not think this a convenient valuation, on account of the fractions. But we mean merely to allude to the old discussion in passing. It is probable that this action of the westernmost association in this country will provoke much comment on this side the Rocky Mountains, and we are ready to reserve our opinions until some of the leading archers have expressed theirs.

Of course, if a revolution is to be made, it must start somewhere, and this may be but the beginning; but it is certainly desirable that the same system of scoring should prevail throughout the country as it has heretofore, otherwise readers of the published accounts of archery matches will have to exercise themselves in compound numbers, and in translating the new style into the old whenever it occurs, or *vice versa*. Perhaps for ready reckoning, some patient and benevolent contributor will furnish the press with a commutation table, by which such calculation may be saved. In making this suggestion, however, we do not forget the difficulties attending the making of such a table; we do not forget that where, as now prevails for the most part, only the total number of hits and scores were given, it would be a question of some embarrassment to determine what would be an equivalent old score for one of the new. Perhaps now the Pacificers will go on improving the ancient methods, and provide that in reporting the York round, for instance, the distance shall be called 30, 60, and 90 yards, instead of 60, 80, and 100; or else that the number of arrows shall be 20, 40, and 60, so as to reckon them by tens instead of by dozens. There is nothing like discarding the old, and nothing so convenient and beautiful as adopting the new, covering up past history and past records, and starting a new era, especially in archery.

DRIFT AND WAG

MR. SECRETARY THOMPSON, of the Private Practice Club, gives us a very short report and a very long appendix of scores, for this number.

MR. FRANK H. WALWORTH, of Saratoga Springs, N. Y., is looming up for the Chieftain's Badge prize. An average of 888 at the double York round is immense; and with one practice score of 205-941 at that round, and at the single round of 107-511, he takes his place among the first of American archers. Only Mr. Will H. Thompson, so far as we are informed, has exceeded or even reached this score, even in private practice. A score of 212-1028 is credited to him for September, 1879, at the double York; a score which has only four times been exceeded in any *public* match in the world.

SUBSCRIPTIONS to the Chieftain's Badge Fund are acknowledged, from Mr. D. V. R. Manley and Mr. F. E. Roff.

MR. FRANK E. ROFF, of Toledo, has been dangerously ill with typhoid fever, but is now recovering.

ARCHERY CLUBS

THE TOLEDO Archery Club, at Toledo, Ohio, has elected the following officers: President, Dean V. R. Manley; vice-president, W. T. Carrington; secretary, A. F. Goodyear; treasurer, F. H. Bidwell; executive committee, F. E. Roff, Birchard A. Hayes, A. F. Goodyear, T. E. E. LeBaron, Dean V. R. Manley, *ex officio*.

PRIVATE PRACTICE CLUB.

THIS report has been long delayed, the secretary waiting for reports from members. The cold weather has doubtless driven most of the members from their ranges; and until winter gives way to spring, very few will keep up their regular practice. The most noteworthy record is that of Mr. Walworth. He shows an average of 888 at the double round, has one double round of 941 points, with 205 hits, a single round of 107-511, a score at 100 yards of 44-158, at 80 yards of 40-208, and at 60 yards of 24-162. His last 144 arrows, at 60 yards, gave him 140-862.

Mr. Hyatt gives us one score of 811 on the double round, and 24-146 at 60 yards. The number of members shooting being so few, no general comment seems necessary upon the month's work.

WILL H. THOMPSON, *Secretary*.

FRANK H. WALWORTH, SARATOGA SPRINGS, N. Y.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 2.	31-127	38-190	21-127	90-444
" 3.	37-129	39-169	22-132	98-430
" 6.	44-158	40-208	23-145	107-511
" 8.	35-135	39-151	22-118	96-404
" 10.	34-128	30-162	23-141	87-431

72 arrows, at 100 yards.

28-102 32-102 34-128 33-129

24 arrows, at 60 yards.

21-111	21-103	23-99	23-127	24-140
23-115	24-136	24-148	23-135	22-124
22-108	22-106	21-101	22-112	21-105
23-139	19-109	23-117	24-116	22-128
22-118	22-130	22-132	23-133	24-162
23-127	22-118	23-139	20-120	21-125
24-148	20-116	23-117	23-121	23-123
22-120	23-127	22-122	23-135	22-134
22-110	23-127	23-105	19-111	20-100
20-104	20-102	22-122	23-103	23-117
23-123	23-123	22-130	20-118	22-102
21-123	21-119	22-142	23-141	23-139
24-152	24-152	24-136		

Average York Round = 444.

" 100 yards = 126 $\frac{3}{4}$.

" 80 yards = 176.

" 60 yards = 123 $\frac{1}{4}$.

WILL H. THOMPSON, CRAWFORDSVILLE, IND.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 4, 5.	34-164	37-197	22-136	93-497
" 11, 12.	34-140	35-169	23-123	92-432

24 arrows, at 60 yards.

22-118	23-137	21-117	24-140	24-130
24-130	23-139	24-146	22-124	24-132
21-119	22-126	24-130	23-133	

Average York Round = 464½.

"	100 yards	= 152.
"	80 yards	= 183.
"	60 yards	= 130.

MAURICE THOMPSON, CRAWFORDS-VILLE, IND.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 4, 5.	33-129	38-190	22-138	93-457
" 11, 12.	39-157	39-183	21-111	99-451

24 arrows, at 60 yards.

22-100	21-87	23-129	22-126.
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Average York Round = 454.

"	100 yards	= 143.
"	80 yards	= 186½.
"	60 yards	= 115½.

F. O. HYATT, CORTLAND, N. Y.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 2.	19-77	20-88	20-96	59-261
" 3.	24-92	32-110	20-114	66-316
" 5.	20-70	27-89	21-111	68-270
" 6.	18-86	27-125	23-119	68-330
" 8.	21-97	38-168	22-142	81-407
" 9.	30-144	38-154	22-126	90-424
" 10.	23-113	34-130	20-132	77-375
" 16.	24-126	35-171	21-121	80-418
" 17.	19-81	37-183	23-129	79-393
" 19.	20-108	32-150	24-146	86-404

24 arrows, at 60 yards.

22-120	23-133	24-124	20-114.
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Average York Round = 359½.

"	100 yards	= 99½.
"	80 yards	= 136½.
"	60 yards	= 123½.

T. R. WILLARD, GALESBURG, ILL.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 1.	28-82	33-139	18-88	79-309
" 2.	31-87	26-116	22-106	79-309
" 3.	27-109	25-105	19-97	71-311
" 4.	26-86	28-110	20-94	74-290
" 5.	24-94	28-106	23-99	75-299
" 6.	25-99	24-110	23-105	72-314
" 8.	33-103	38-114	21-85	92-302
" 9.	37-119	28-116	22-82	87-317
" 12.	22-100	31-143	19-83	72-326
" 13.	27-81	34-132	22-104	83-317
" 15.	29-99	29-103	21-111	79-313
" 17.	21-73	34-144	20-102	75-319
" 18.	23-99	31-137	21-103	75-337
" 22.	27-105	32-130	19-91	78-326
" 23.	24-96	30-124	17-95	71-315

Average York Round = 313½.

"	100 yards	= 95½.
"	80 yards	= 121½.
"	60 yards	= 96½.

TAC HUSSEY, DES MOINES, IOWA.

72 arrows, at 100 yards.

16-54	20-72	22-72	23-67
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24 arrows, at 60 yards.

18-84	17-77	23-93	19-91	19-95
18-90	22-100	21-95	18-104	22-108
21-97				

Average at 100 yards = 66½.

" 60 yards = 94.

O. W. KYLE, HIGHLAND PARK, ILL.

SEPTEMBER.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Sept. 13.	9-33	24-102	18-68	51-203

24 arrows, at 60 yards.

14-62	19-101	12-46	16-72	13-49
18-46	17-69	16-64	15-55	17-63
18-82				

Average York Round = 203.

"	100 yards	= 33.
"	80 yards	= 102.
"	60 yards	= 67½.

A. W. HAVENS, SAN FRANCISCO, CAL.

York Rounds.

	100 yards..	80 yards.	60 yards.	Total.
Oct.	11-45	16-46	17-83	44-174
"	17-05	15-63	14-74	46-202
"	9-31	18-78	19-99	46-208
"	10-40	14-64	16-74	40-178
"	16-62	23-101	16-74	55-237
"	12-56	19-75	12-54	43-185
"	12-34	20-66	13-39	45-139
"	11-49	20-84	13-45	44-178
"	17-59	21-77	14-58	52-194

24 arrows, at 60 yards.

15-69	16-82	15-89	18-84	18-90
12-54	15-39	14-48	11-47	14-64
15-73	17-53	16-56	16-76	16-62
11-41	16-52			

Average York Round = 188½.

"	100 yards	= 49.
"	80 yards	= 72½.
"	60 yards	= 64½.

E. T. CHURCH, CHARLOTTE, MICH.

24 arrows, at 60 yards.

15-49	19-89	15-53	18-76
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Average = 66½.

PARM. S. DEGRAFF, CHARLOTTE, MICH.

24 arrows, at 60 yards.

19-99	20-102	20-100	21-107
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Average = 20-102.

A. S. BROWNELL, BOSTON, MASS.

SEPTEMBER.

York Rounds.

	100 yards.	80 yards.	60 yards.	Total.
Sept. 1.	20-100	22-90	13-37	55-227
" 2.	16-44	18-56	17-53	51-153
" 8.	9-25	16-54	17-65	38-146
" 18.	19-53	12-48	20-84	47-183
" 24.	28-120	23-79	20-104	71-303
" 27.	24-90	24-98	17-81	65-269
" 30.	15-49	20-86	15-53	50-188

24 arrows, at 60 yards.

18-82	13-47	16-60	17-67	14-68	19-77
18-74	18-80	19-81			

48 arrows, at 60 yards.

26-88	28-106	(24 arrows) = 10-42
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OCTOBER, 1880.

	100 yards.	80 yards.	60 yards.	Total.
Oct. 20.	16-54	25-99	19-87	60-240

48 arrows, at 80 yards.

27-109	15-59
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24 arrows, at 60 yards.

19-107	18-80	19-95	24-118	18-72	13-53
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NOVEMBER, 1880.

	100 yards.	80 yards.	60 yards.	Total.
Nov. 27.	16-62	22-60	16-62	54-184

24 arrows, at 60 yards.

18-82	16-66	18-64	17-67
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Average York Round, September = 195½.

" " " October = 240.

" " " November = 184.

Average 100 yards, September = 68½.

" " " October = 54.

" " " November = 62.

Average 80 yards, September = 78½.

" " " October = 89.

" " " November = 60.

Average 60 yards, September = 69½.

" " " October = 87½.

" " " November = 68½.

NEW YORK NEWS AND NONSENSE.

LOOK out for a fresh supply of bolognas, at Huff's. Old dog "Treadles," the guardian of 791, has disappeared in a very mysterious manner.

MR. JAS. BUCHAN, JR., of the *Mercury*, will present the club in the spring with two sketches in black and white.

THE new ambulance, with the bicycle wheels, works like a charm. Wright and Noel say they never had a more enjoyable ride than the one taken last Tuesday in the noiseless vehicle.

MR. REVEL, though no longer in the bicycle business, still keeps up his pedal exercise. He is in the employ of Legget & Co.

MR. DREW, the affable artist employed by the Pope Manufacturing Company to decorate this city, can paint a sign 100 x 10 feet, containing the magic words "Columbia Bicycle," in two hours.

IT is reported that Mr. Wentworth Rollins has taken a lease of the Metropolitan Concert Hall, which he will open on 3 January, as a place for roller skating. He ought to clear \$10,000 out of this season.

A SMALL fire occurred at 791 Fifth avenue, a few nights ago. A plumber, employed to thaw out the pipes in the basement, set fire to a pile of shavings; and but for the prompt action of Messrs. Carter, Rodier, Lynch, and Waterman, the old headquarters would now be a mass of ruins. The building is insured to cover all it contains; and if destroyed by fire, parties storing machines there will be reimbursed for any loss they may suffer.

MR. WRIGHT has closed Harlem Hall. It has been open a little over a month, and about fifteen rides have been enjoyed by enthusiastic wheelmen. It was probably not conducted properly. His manager began wrong by taking a place in the country, instead of in the heart of

the city, — say in the vicinity of the Fifth Avenue Hotel, or some other get-at-able location. Then he made a big mistake in not having obtained, before opening the establishment, an injunction against balls, parties, theatres, kettle-drums, and other fashionable amusements that occupy the bicycling fraternity during the winter months. It was a *faux pas* to have placed on his circulars that a mile had been made in Chicago in less time than it had been done nearer home; and it was another false move not to have closed the school immediately after having opened it.

THE truth of the matter is, if a New-Yorker gets nine months of riding, he is satisfied to give it up during the other three; and he is right, too, for the enjoyment and novelty go when the pastime is hunted down. The closing of the hall throws Rodier and Waterman out of positions. Two good men for somebody.

OUT of sixteen sonnets sent to compete for the prize offered for the best one to the New Year, we have selected the two given below. "Oc. Togenarian," of "Modern Athens," secures the first prize, a pair of arctics; and we are only waiting for the latitude and longitude of his feet in order to forward his reward. "Oc." has improved wonderfully in the last few days; he uses less Latin, and has consequently become more lucid; but it will be many years before he can earn, by the aid of his verse, even such necessities of life as bread, butter, and brogans. The sentiment at the end of his sonnet is excellent.

JANUARIUS.

My muse, in one consolidated lump
Of gladness, gusheth forth as doth the stream —
What time the summer reigns o'er all supreme —
In purling plenitude; and oh! ker-thump
Doth go my heart as I do slip and bump
Myself on *aqua solid*, and unseem-
Ly language use, and all for thee, O cream
Of months! doth come my gush and blow of trump.
I would repeat *ut supra*, which please *vide*.
I grow disjoined — quite so — in your praise,
And trust my friends with me to coincide.
I better pen *hic jacet* o'er my lays,
And strive hereafter for no greater feat
Than selling papers on the public street.

The second prize, a porous plaster, is awarded to "New-Yorker." It is very well in its way, but has not that vagueness of meaning about it which we generally find in "Oc.'s" effusions, and which is an invaluable accompaniment to the sonnet.

TO THE NEW YEAR.

All hail, O first of Jan! thou greatest day
For swearing off of all the merry year!
When whiskey toppers drop to lager beer,
And beardless youths demand a never in pay.
When thou appearest in thy slushed array,
Thou bringest us a thousand trophies dear:
The barber boy's insinuating leer,
The postman's blithe, explanatory lay.
For these and more we thank ye; but, O Jan!
The wheelman's benison will never flow
In praise of one who who steals his summer tan,
And blocks the avenues with ice and snow.
If thou wouldst note the cyclist's happy eye,
Retain thine icy gifts till — well — July.

KNICK O'BOCKER.

2 JANUARY, 1881.

RECORDS OF ROAD RIDING for the year are coming in. Director Hazlitt sends the following:—

PORTSMOUTH, N. H., 1 January, 1880.

Mr. Editor:—Your call for records induces me to send mine. The first year 1,660 miles was run, and during the next seven months, ending November, 1880, 2,240 miles, making my cyclometer register during the first nineteen months a distance of 3,900 miles. But four days this winter has the snow prevented my riding daily, and this New-Year's day my miles number 4,200.

With compliments of the season and best wishes for the WORLD, which grows steadily better and more interesting each week.

I remain, yours truly,

C. A. HAZLITT.

DIRECTOR GULLEN sends this: You ask for extracts of riders' yearly mileage records for 1880. The following, being a summary of my riding during the past twelve months, may prove of some interest:—

1880.	Miles.	Number of times out.	Average run in miles
Jan. . .	51	5	10.20
Feb. . .	108	15	7.20
March . .	177	16	11.06
April . .	132	16	8.25
May . .	290	28	10.35
June . .	170	19	8.94
July . .	201	19	10.57
Aug. . .	240	20	12.00
Sept. . .	320	18	17.77
Oct. . .	176	18	9.77
Nov. . .	70	4	17.50
Dec. . .	61	6	10.16

Miles, 1,996 184

These figures show 184 runs made during the year, averaging 10.84 miles each. Longest day's run, 55 miles. I may mention that the within record only includes two Sunday rides.

W. F. GULLEN,

Captain B. Bi. C., Director L. A. W.,
Consul B. T. C.

BICYCLING IN BROOKLYN at present is entirely at a standstill, owing to the playful vagaries of Jack Frost on the late abundant snow-falls. The streets and avenues are deep in loose snow, much resembling sand, making bicycle riding an impossibility.

The Brooklyn Club members, happy in the possession of their comfortable club rooms, drop in during the present long evenings and content themselves with closely criticising the various points of the numerous makes of machines resting in the bicycle-room, and recounting the year's runs and experiences. The regular monthly meetings of the club are looked forward to with a certain amount of pleasure, inasmuch as they afford a strong gathering of the members, and so admit of a general exchange of all the latest bicycle matters. Our next meeting takes place to-morrow evening. The law committee of the old board of aldermen seem to have made no report so far with regard to bicycle riding in the city.

Wishing you a happy and prosperous new year in the best sense of the words, I remain,

Yours fraternally,

W. F. GULLEN,

Capt. B. Bi. C., Director L. A. W.,
Consul B. T. C.

SOME ADDITIONAL NOTIONS.

Editor of *Bicycling World*:—My communication giving some of my notions as to the best form of bicycle for American use, I am glad to note, has called out the notions of a number of others, whose experience and judgment are perhaps superior to mine; and their publication in the *WORLD*, which all American riders read, appears to me of large benefit to wheelmen. I hope more of such suggestive and valuable articles, the results of the experiences of thoughtful wheelmen, will be published.

J. E. B.—, in your issue of 31 December, alluding to my notion that cranks of 5, 6, and 7 inches are desirable,—the 5-inch for smooth roads, and the longer lengths for sandy and bad roads in touring,—suggests the difficulty of carrying three sets of cranks, and thinks that 6½-inch cranks, with long slots, will do. Now, whoever has tried riding with the pedals taken up knows the discomfort and peril of projecting crank ends.

However, I have another notion. I do not like detachable cranks; they will get loose. I prefer solidly fastened 5-inch cranks, to which I think the following describes a practicable and easily adjustable extension, which can readily be carried: Take two pieces of best quality Swedes iron or low steel, 4½ inches long, 1¼ inches wide, and ⅜ inch thick, with a slot 3½ inches long and ½ inch wide. Fasten one on the outside of each crank, with two bolts through the crank-slot,—one bolt at each end of the crank-slot. Let the bolts have wide heads on the outside, with strong nuts, and thin washers on the inside. You can then extend this any distance from 1 inch to 2 inches beyond the 5-inch crank, and it will hold securely, and be strong and reliable, affording a range of crank length of from 5 to 7 inches. Two such pieces are not much to carry; and in touring, as you will seldom use the 5-inch, they may be permanently carried attached to the cranks. But there still needs a saddle and spring capable of being raised and lowered to suit the length of crank, unless you ride a machine which fits easily with a 6-inch crank, and can be reached at 7 inches, but is a little short at 5 inches. The manufacturers, however, ought to be able to give us a neater adjustable crank, and also an adjustable spring and saddle.

Another notion: the spokes of machines rarely or never break except when they are weakened by the screw thread. The screw thread often strips. This may be remedied by enlarging the ends of spokes which carry the thread to double thickness, allowing a coarse and strong thread, without weakening the wire; but a better

plan would be to put a shot-head on the end of each wire, passing it through a thimble split in halves lengthwise, with a cap of equal length to screw up outside the split thimble, under the shot-head, and strain the wire. This could be fixed in either the hub or the rim, as desired; I think preferably in the rim, after the "Invincible" or "Yale" style.

B.

WHEEL CLUB DOINGS

THE Ariel Bi. Club, of Chicago, Ill., was organized early in the fall, with the following officers: Captain, John B. Lyon, Jr.; secretary, L. J. C. Spruance; treasurer, L. W. Fuller; sub-captain, Geo. Keen. Uniform consists of a short corduroy coat and knee pants of the same material, blue stockings and white flannel shirt; navy blue skull-cap. Badge consists of a gold wheel, and silver ring attached to the hub, pendent from a scroll, on which is engraved the name of the club, and the motto, "*Volucrum fuga praevertitur Eurum.*"

ATLANTA Bi. C.—At a meeting of this club, at Salem, Mass., on 27 December, officers for the ensuing three months were elected as follows: Captain, George B. Harris; sub-captain, C. H. Millet; secretary and treasurer, C. F. Webb, (135 Lafayette street). Headquarters are at 163 Lafayette street.

CORRESPONDENCE

SWEDISH MYSTERY.—Cyclomaniac writes: "May I inquire through your columns whether any of your travelled readers have seen the machine called a 'Draisene'; and if so, what is it like, and what is it good for?"

We are not travelled, but we have pumped our hired girl, who is, and she says that the "Draisene" is a velocipede; it is alive, and it is a native of Sweden. Further information may be procured of the travelled hired girl in her native tongue. Her address may be had upon application.

FROM far-away Montana a suggestion comes that may be of service to wheelmen. W. E. Norris, of Helena, writes that "after experimenting for some time in quest of a quick cement for tires, he has found Spaulding's liquid glue not only suited to emergencies, but also very safe and efficient."

WHEELING ON THE SNOW.—A valued Pittsburg correspondent sends us the following: "A few days ago, while walking down one of our busy streets, retarded unusually, — for 'they let too many women out at a time' about Xmas, — I was somewhat startled by the quick exclamation near me, of 'Look at that!' It was a sight that sent a thrill of pleasure through me that returns again as I write. So unexpected, yet instantly I was in sympathy with it. Picture a street fairly filled with slowly moving teams and rapidly drawn cutters, — for

THE "YALE" ROADSTER is a bicycle which has become somewhat familiar to many of our readers through the circulars of Cunningham & Co., and from the fact that several of them are in use already, and that they have made their appearance in a few of the autumn races. In general respects it is the "Invincible" of the Surrey Machinists Co., who manufacture it. It has the "Invincible" hollow rim, or double section rim, which is constructed of sheet steel rolled into two rims, in which the edges of one overlap the edges of the other, and hermetically sealed. In appearance it is a deep U rim, and is very rigid, resisting vertically the weight of a man or more, without reference to the spokes. The hubs are of gun-metal composition, pierced with holes, through which the spokes are threaded horizontally. The spokes are of small wire, cut two spokes to a length, the free ends carried to the rim and secured by notches on the inside of it, so that they draw, not directly from the centre of the axle to the rim, but in direction of a tangent to the axle, whence they are called tangent spokes. The cranks are shrunk on to the axle, and are therefore not detachable. It has single ball bearings, not adjustable to the front wheel, and the rear wheel has cone bearings, which are adjustable for wear. The front forks are hollow, of weldless steel tube, and the rear fork is also hollow; that is, the backbone, which is elliptical or oval in form, is divided into two halves at the rear end, to form the outside of the rear fork, while the inside is completed and closed by fine sheet steel overlapping the edges. The head is of a Stanley pattern, and very short or low, and to it are attached curved handle bars, each bar being curved upward from near the head, then downward, so that the top of the handle bar is higher than the top of the head, and the handle is lower than the top of the head. These curved handle bars give the machine a peculiar appearance, and are not generally used on the "Invincible," though they are not a novelty.

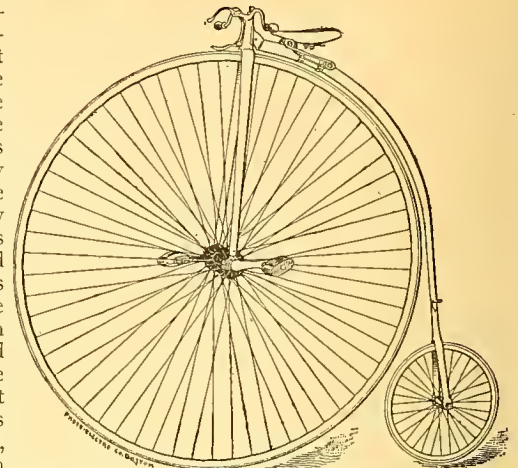
The machine is furnished painted as to the wheels and burnished as to the other parts, or entirely painted. The tires are five eighths inch in diameter from the rear wheel, and three quarters inch from the front wheel; and this smallness of tire, with the hollow construction of the rims and rear fork and front forks, make it a very light machine. It has been said of the "Invincible" roadster, that it is the lightest roadster made.

This "Yale" roadster is supplied with rubber handles, large in diameter, and also with the cradle spring. It is thought by the manufacturers that with this arrangement of more elastic handle and spring, there is full compensation for the loss of elasticity in the tire, and that the jar of the road, which is ordinarily greater with a light machine than it is with a heavy one, is reduced to a minimum, so far as it affects the rider, by this arrangement. The spread between pedals is rather less than in the "Harvard" machine, for instance, and the weight is considerably less. The weight of a fifty-four inch, complete with cradle spring, saddle, and pedals, is thirty-eight pounds.

The price is the same as that of the "Harvard," and the introduction of the "Yale" seems to have been the result of a well-considered attempt on the part of this firm to bring out for American riders a lighter roadster than was hitherto in use.

The cut at the beginning of this article will give the reader a fair idea of the general appearance of the machine.

THE "YALE" ROADSTER.



there was good sleighing, — when at good speed a splendid specimen of a young man, on a 52-inch nickelled bicycle, wheeled smoothly and steadily along over the packed snow, with an evident ease, grace, and security of movement that won the admiration of the envious sidewalkers. He, too, soon was beyond our range of vision; but the sight, and the knowledge that there was one bicyclist here that would take advantage of the opportunity to ride when he could, and go where bicyclists are seldom seen, showing the slipping pedestrians his superior locomotion, will

not be soon forgotten by the writer. May the example of this true wheelman be the means of discovering to some bicycle owners that pleasant summer days are not the only ones that they can with pleasure and advantage use their ever saddled and willing steed.

"Our club members have received their L. A. W. tickets at last. Now let the wonderful badges come soon, and may every member be proud to possess and wear one.

"I hear of only one or two bicycles being given for Xmas presents about here.

Only wise and far-seeing ones make gifts that seem so unsuitable as a bicycle in winter, with six inches of snow on the ground."

L. A. W

Amateur bicyclers everywhere are cordially invited to join the League of American Wheelmen.

Admission fee is \$1.00 for individuals; 50c. each for members of clubs when the entire active membership joins. Fees must accompany the application, and will be returned in case of rejection. Make checks, drafts, or postal money orders payable to Hugh L. Willoughby, treasurer, Saratoga Springs, N. Y.

Applications accompanied by the fees, as above and other communications, should be addressed to Albert S. Parsons, Cor. Sec. L. A. W., Cambridgeport, Mass. Names of applicants should be written very plainly with first names in full, giving full address, and on one side only of separate sheet from letter of advice.

Applicants should notice names as published in the BICYCLING WORLD, and notify the corresponding secretary if any error is made.

Bicyclers generally are requested to notice the names also, and inform the corresponding secretary (confidentially) if any professional or otherwise objectionable person applies.

Every member should endeavor to extend the influence and benefits of the league by inviting desirable bicyclers to join.

Circulars, etc., regarding the league will be sent to any address on application to the corresponding secretary.

The rules of the league are given in full in the BICYCLING WORLD of 2 October, and may be obtained by sending 10c. to the office of the WORLD. It is very important that every member should be familiar with these rules, and they will not be published in book form at present, as the organization is not yet perfected.

Badges are to be obtained by any member on his forwarding his full name and address and membership number to the treasurer, with a deposit of \$2.00 for solid silver, or \$1.00 for nickel-plated badge.

THE January meeting of the board of officers L. A. W. occurs to-day, and is unfinished as we go to press. The officers present in the forenoon were President Pratt, Secretary Parsons and Directors Lamson, Beach, and Hodges. Secretary Burrill was delayed by a late train, and others were expected. Several important matters were to be considered, and we shall give a full account next week.

MR. GALLAGHER ON ROLLERS.—The circumstances were as follows: Mr. Gallagher had to take a train that left at six o'clock, and so he arose before daylight, to breakfast, and thought that he would put on his thick boots instead of the very light shoes he had on over evening. Now it seems that Gallagher's son had worn the old man's boots while roller skating, and had left the skates on the boots; and in the darkness, Gallagher didn't notice this fact as he pulled the boots on, though he thought the boots felt heavy. He then groped his way to the head of the stairs, the skates making no trouble on the carpets. Then he started to go down stairs. He got there.

He got there dreadfully sudden. He was terribly annoyed as he picked himself up, and said very wicked things as he started for the dining-room. Breakfast was laid, but only a dim light was burning. Immediately he set foot on the polished floor, Mr. G.'s feet flew into the air, and his head came down with terrible force. The wild yell he gave brought his wife and mother-in-law from the kitchen. He arose to his feet, but they immediately started off in different directions; and after wrenching his spine and knee joints terribly, in trying to control them, they got away and he jarred his spinal column the whole length as he went down. "Land of gracious! this floor's oiled!" he roared as he began to make efforts to rise. "Have you the apoplexy, or have you been drinking?" asked his wife as she strove to assist him to get up. "You hold yer jaw, you idiot!" he replied, and then she let go of him sort of sudden and down he went, bruising himself in six places. "Gosh," "tunket," "drat," and "durn" were words called into requisition to relieve his mind that time; and he told his mother-in-law who had fallen, laughing, into a chair, that he hoped she'd meet cows every time she went out. Then he essayed to rise once more and got upon his feet. The skates began to slip, but he struggled like a hero and clutched the air wildly to keep his balance. No use. As he fell forward, he wildly grabbed the table-cloth, and as a result, yanked the entire breakfast upon him. The hot tea scalded him, the pepper got in his eyes, the mustard in his mouth, and the eggs all over him. His cries were fearful. They hauled him from the debris and started to put him to bed when they discovered the rollers. Mr. G. was terribly used up, but he started at once to find his son, and the lad's sighing over his great grief was heard six blocks away. — *Pawtucket Gazette.*

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In answer to many letters of inquiry regarding our *Directory of Agents*, we have set up a few names, to show the arrangement space, etc.

This directory is designed to meet a demand for a cheap and profitable method of advertising for those agents who do not desire to occupy a larger space in our columns during the winter season.

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The directory will appear in every issue of the *WORLD*, and will commence probably with No. 9, 7 January, 1881. Applications for space should be sent in on or before 1 January.

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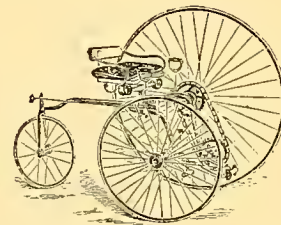
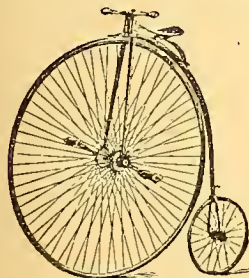
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