SWIFTLY SPEEDING TRAINS.

How Swiftness and Safety Are Combined.

The Misapprehensions of the Early Days of Railroading—Far-Seeing Engineers and Evolutionists—Fast Trains All Along the Railroad Era—Recent Remarkable Developments.

The existence of "fast trains" in railroading began almost as far back as the time when coaches were first run upon a railway laid upon the surface of the earth. The 36 miles an hour attained by Engineer Stephenson in his famous original trip furnished a most effective text, from which sermons on rapid transit were preached, and which bore most practical fruit as time rolled on and railroad development increased.

Somehow the pioneers in railroad engineering were far-seeing from the first with regard to the possibilities of the fast movement of trains as the locomotive should be perfected and the railway tracks improved; and their recruits and successors in all the years that have since elapsed have never disagreed with their theories nor doubted their prophecies, while a great many of them have succeeded in reducing the one to practice and the other to fulfillment. Long before the first half of the five or six decades in which the railroad may be said to have existed as an institution were past, "fast trains," which were such in fact, and for which this title was no misnomer, had not only passed through the experimental stage, but had become features of railroad systems, and in some cases had become historic as marking points in the progress and evolution of transportation.

PROGRESSIVE PERIODS.

But if this first half of the railway period was thus distinguished, what shall be said in this regard of the decades that have succeeded? The era of fast trains once fairly inaugurated, and it would seem that thereafter every phase of progress and every bit of development in all departments of the railway institution took place only to further in some way this feature of the establishment. Whether the strong desires and peculiar ambitions of the distinguished engineers and managers who gave their lives to railroading, or the demands of a progressive and wideawake public which were always understood and were sometimes imperative, had most to do with rendering this feature attractive to the developers, it is hard to tell, and perhaps these influences may have been equal in their operation, but the fact is patent enough.

The scientific schemers and workers who have always insisted that trains might be run even at a marvellously high rate of speed upon the railways have been equally strenuous in their insistence that this result could be attained with safety to all concerned, or, at least, that the element of safety might exist in as great degree under conditions of fast as of slow running. Of course these claims were never made without qualification; and the apostles and prophets were not ambiguous in setting forth the standards that must be set up in every department of the railroad establishment before this result could be completely attained. But they were practical men, these engineers and constructors, and their "ifs" and "buts" were never of the kind that present an insurmountable barrier to the carrying out of a proposition or suggestion. It was because they were certain that all the conditions necessary to rapid transit and safety combined were attainable that they spoke with so great surety in the matter. Within the past quarter century, and especially within the past 10 years, their theories and statements of possibilities have been demonstrated until their vindication should become absolute, and to-day it is hardly an exaggeration to say that the swiftest running trains are unquestionably the safest.

AN INCREDULOUS PUBLIC.

When the British Parliament was discussing George Stephenson's proposed railroad between Liverpool and Manchester, this engineer was called before a a special committee of that body for examination (the Liverpool & Manchester was finished in 1830). A member of the committee proceeded to confound Mr. Stephenson and render his position ridiculous, and this is how he did it:

"Well, Mr. Stephenson, perhaps you could go 17 miles an hour."

"Yes."

"Perhaps some 20 miles might be reached."

"Yes, certainly."

"Twenty-five, I daresay, you do not think impossible."

"Certainly, not impossible."

"Dangerous?"

"Certainly not."

"Now tell me Mr. Stephenson, will you say that you can go 30 miles?"

"Certainly."

A roar of incredulous and contemptuous laughter, in which every member of the committee participated, was the only reply to this confident announcement. But as set forth in the foregoing, on the first day of the running of the Liverpool road, Mr. Stephenson made 36 miles an hour, whereupon, let us suppose, the committee did not laugh.

All this is amusing enough, as well as illustrative now; but what if Mr. Stephenson, with his far, keen gaze into the future, had emptied his mind of the matter at that time, and told the committee that within the life experience of some of its members they would find themselves whisked through the air upon railroads at the rate of 40, even 50 miles an hour as an ordinary everyday performance, while upon special occasions they might travel at 60 miles an hour. This was doubtless within his belief and expectation; but who can suppose otherwise than that he would not at that time have been allowed to build his railroad, had he so presumptuously flown in the face of the established order of things.

RECENT VICTORIES IN SPEEDING.

In September of last year, with a view of testing the ability of the new standard passenger engineer of the New York Central & Hudson River railroad to make long runs at high speed, a party of officials of that railroad system entered a private train at the Grand Central station of New York city prepared to make the runs from that point to Buffalo, a distance of 436½ miles. The run was made, and in complete safety too, and at such speed as attracted the attention, if it did not astonish, the reading public on both sides the Atlantic. The trip was made in 425¾ minutes, and upon the following schedule: From New York to Albany without a stop, 143 miles in 140 minutes; from Albany to Syracuse, 148 miles in 146 minutes; from Syracuse to East Buffalo, 146 miles in 147 minutes and 34 seconds. The change of engines at Albany and Syracuse required 6 minutes and 26 seconds, and the train was delayed by a hot box at one point for 7 minutes and 50 seconds. The actual running time, exclusive of stops, was 425 minutes and 44 seconds.

ESTABLISHED CONDITION.

So much for the historic extremes of running upon railroads since their establishment—but the end is by no means yet in sight. It must be remembered that the performance above given is not an isolated instance, experimental or accidental in character of what the railroads of the world are doing at the present time in this department, but is representative of an actual state of things under which similar events are all the time taking place. In the account above given of the run between New York and Buffalo, only the aggregate or average speed is given; but special runs have been made of late years, and are making all the time, where a far greater speed is attained than is here represented. Under favorable circumstances very many of the railroad systems of this country are now making every day, with perfect ease and safety, time that may well be denominated "fast" in certain portions of their express train runs. Thus the Philadelphia & Reading road has attained a speed of 90 miles per hour; the Chicago, Burlington & Quincy line has reached 88 2-10 miles per hour, and the instances are more numerous than can be here detailed where a rate of speed of one mile per minute and upward is an ordinary part of the running in certain portions, longer or shorter, of daily express trips. The Dude Train of the Old Colony railroad makes every day a distance of about a dozen consecutive miles in its trip to Woods Holl at the rate of a mile a minute, and sometimes at a still better average. A very large part of the long run of the New York Central above given was made at a rate of 70 miles an hour. The Scotch express of the London & North Western Railway of England made the run from London to Edinburgh, a distance of 400 miles, with a train weighing 90 tons without the locomotive, at an average speed of 55 4-10 miles per hour.

THE STOREHOUSE OF THE FUTURE.

So much in illustration of the fact that swiftness and safety can be combined in the running of railway trains. To use an old saw, the best way to do a thing is to do it. The railway engineers and department officials of this country and the States have not spent much money, or wasted many words, in trying to convince people that trains may run rapidly and swiftly, but have simply done the thing. Not one of them claims for a moment that the limit of performance in these directions has been reached, or that the possibilities for the future are not comparatively as great as they were for the past. With them, as the case stands, it is: Given a perfect road-bed, with equipment, appliances, locomotives and rolling stock to match, with locomotive engineers, who like poets were born and not made, and the astonishments for the public will be greater in the future than has been the case in the past, and their thought and labor are expended in bringing about these combinations of perfect things. There would not be so much safety in fast running if the whole thing rested upon a basis of experiment first, and then the profiting by errors and the terrible experience of mistakes. The word "perfection" has been used in this article simply with reference to a standard; but it is a standard which has tremendous meaning and most substantial place in the physical department of railroads. The time will never come when, if a cow gets before the locomotive of a moving train it will not be "very awkward, indeed, for the coo." Daily instances prove that it is not absolutely safe for one to ride in his carriage along a highway at a snail's pace even; but the statistics of every year show us that the element of safety is far more present with the swiftest moving express trains of the railroads than with the ordinary slow coaches of the country roads. The combination of swiftness and safety has been already attained. The continuance of the conservative, scientific and reasonable methods that have thus far secured it will ensure it for the marvellous development of rapid transit that awaits in the near future.

Great Men's Fathers.

Homer was a farmer's son.
Pope's father was a merchant.
Milton was the son of a copyist.
Mozart's father was a bookbinder.
Charles Lamb was a servant's son.
The father of Cowley was a grocer.
Talma, the actor, was a dentist's son.
Socrates was the son of a day laborer.
Oliver Cromwell's father was a brewer.
The father of James Mill was a cobbler.
Powers, the sculptor, was a farmer's boy.
The father of Samuel Peppys was a tailor.
The father of Dr. Rush was a farm laborer.
The father of Burns was a peasant farmer.
Shakespeare's father was a wool merchant.
The father of Goethe was the son of a tailor.
Wagner's father was clerk in a police court.
Sir Isaac Newton's father was a poor farmer.
John Wesley's father was a country clergyman.
Cardinal Antonelli's father was an Italian bandit.
The father of the historian Rollin was a knifemaker.
The composer Gluck was the son of a gamekeeper.

At the foot of a cliff under the windows of the Castle of Misamar, formerly the residence of the Mexican Emperor Maximilian, at a depth of 80 feet below the surface of the clear waters of the Adriatic, is a kind of cage fastened by divers in the face of the rock. In that cage are some of the most magnificent pearls in existence. They belong to the Archduchess Rainer. Having been left unworn for a long time the gems lost their colour and became "sick," and the experts were unanimous in declaring that the only means by which they could be restored to their original brilliancy was by submitting them to a prolonged immersion in the depth of the sea. They have been lying there for a number of years, and are gradually, but very slowly, regaining their former unrivalled orient.

AGRICULTURAL.

About Dairy Stock.

It requires considerable tact and a fair amount of skill in judging animals to select and purchase cows for the dairy. One difficulty is to find the right kind of cows for sale, for no good calculator will sell his best cows. For this and other reasons there are many advantages in raising one's own dairy stock, when it can be consistently done. I know that many dairymen think that it is cheaper to buy their stock than to raise it, and some claim that the better way is to buy cows in the spring—when summer dairying is the main feature—and milk them through the summer and sell again in the fall. By this method they thereby save the labor and expense of providing feed through the cold season.

Where the associated system of butter and cheese making prevails, and the main object of keeping cows is to supply milk or cream for the factory during the warm months, I am not sure but such a course may be an economical one, but in many sections of New England, at least, the winter cow can be made to pay quite as well, or better, than the same cow will do in summer. For this reason, and for others fully as clear. I am confident it is the better way to hold on to the good cows and keep the ranks full by breeding from the best, using sires which have proved their rights to patronage in this line. For it is obvious that if one has a good cow, and she is not past her prime, it is better to winter her than to take the chances of making her place good by purchasing.

There are other considerations which should not be overlooked in this matter of dairy cows. By wintering our cows, and carefully saving and applying the dressing they make, we have the means not only of maintaining but improving the fertility of our farms, while by selling off our dairy stock, unless provision is made to winter other kinds of stock sufficient to use up the forage the farm produces, deterioration of the soil must be the result.

Again, there is a strong tendency among farmers where hay shipped to city markets brings a high price to sell the hay, trusting to the purchase of manufactured fertilizers to replace the drain upon the farm by selling off the hay. There are cases where, by good judgment and wise management, the practice may be successful; but, as a rule, the practice will prove ruinous in the end. The forage of the farm fed upon the farm to neat stock consisting of good dairy cows, proper precaution being taken and arrangements made to make the most of the dressing for the farm and of the hay crop and other crops the farm produces, and then saving it after it is made, is the best disposal that can be made of the fodder crop the farm produces.

Another point having little weight, I am well aware, with many dairymen, but a fact nevertheless, as I am well convinced, is that from the cow's strong attachment to the farm and surroundings where she was raised, if the care and training she has received is of the right kind, those traits of gentleness and docility, so essential in the good milker that she may do her best, become fixed and intensified in her future progeny.

A good plan is to raise some of the best and most promising heifer calves each year; these from a line of good milkers on the side of both sire and dam. By so doing and by selecting only the best to keep from the heifers raised, it is only a question of a few years' time when one can have a better paying herd of cows than can be readily bought.

The question of breeding it will not be amiss to discuss at this point. We know that there is a strong feeling among dairymen and farmers generally against in-breeding of neat stock. It is true that the experiment should be connected with caution and the exercise of much good judgment? When that is the case, good results have been obtained, by a judicious amount of in-breeding. By it traits, be they good or bad, are intensified, and if the lucky nick is made the best results are obtained.

Incestuous breeding to the extent of crossing a strong healthy male upon his equally strong and healthy daughters will bring about results both surprising and satisfactory. Starting with remote ancestry of sire and dam, selecting those animals strong in the qualities of the first-quality dairy animal and butter makers, let the likeliest of the heifers produced by such a male be bred back to him but continue the cross no further. The producer in the female line of such a union should have, and most likely will have her milking qualities largely developed, and an out-cross on her progeny of a male in no wise related to either ancestor will be likely to result in further development in dairy qualities.

In rearing cows for the dairy, through all the stages of their growth it is important to keep them in thrifty condition. Smith or Jones may have an abnormal experience in a stunted, half-starved heifer after coming to the dairy do wonderful things and make a phenomenal cow, in spite of all her bad usage, which only goes to show that the material was there to build upon, and they never will know how much better cow she would have proved had she been properly fed and cared for in her first years. Such cases do occur, but it would be a rather risky rule to follow out in general practice.

As calf, heifer and cow, the animals should be petted and kindly used: by so doing, in nine cases out of ten, they will be quiet, orderly cows when they come into their places in the dairy. A gentle disposition is a great desideratum in the dairy cow, and this point should never be overlooked or omitted in the care and training of animals for the dairy.

A heifer which has been well kept is of good size and correspondingly well developed, may profitably be allowed to come into milk at two years of age. This will apply, however, more particularly to the distinctively dairy breeds, and more especially to the Jerseys. Good dairymen differ on this point, some preferring to have their heifers, of whatever breed, go to nearly or quite three years of age before having their first calf. On the other hand it is thought when a heifer comes in young, say at two years of age, it forms an early habit of giving milk, by early enlarging and expanding the organs of milk secretion.

A greater mistake is frequently made by farmers having the young heifers come into milk too early in the season. A heifer having her first calf in June, or when the grass plenty and sweet, has the chances in her favor of making a better milking than one that calves in the winter or early spring. The grass being then in the best condition to produce a good flow of milk, the lacteal organs are more active, and the tendency is to fuller development.

It is true that the trouble is more likely to arise from swollen udder and other troubles incident to parturition when the weather is warm and food succulent and milk-producing. But these troubles are liable to arise at any season, and can usually be prevented or cured by proper care before and after calving.

It is best not to let the heifer gorge herself or to eat too freely for a day or two before, and certainly not for a few days after calving. There is no provision in nature for an extra supply of food to the mother after parturition, and it is fair to presume that a cow, if she has a fair pasture, or food liberally supplied otherwise, has stored away strength enough to carry her through parturition, and for some hours afterwards; and it is more than likely that she requires rest and quiet more than food.

Cows which are to come in late in the season, and especially those predisposed to trouble with the udder, should be kept in the stable, out of the hot sun, during the daytime for a week or ten days before calving. Such cows should be allowed to have the calves run with them a day or two, and have the milk drawn entirely clean three or four times a day, by hand, and if inflammation at the udder or teats manifests itself, wash the udder often with tepid sand and water.

A cow liable to trouble with the secretory organs, coming in at any season of the year, should not be fed roots of any kind, neither corn meal. The latter is of too heating a nature, and induces a feverish state, the very thing it is the main object to avoid. Buckwheat, rye and barley meals, oats and peas and a few beans ground together, with one-fourth the bulk of wheat bran added, makes a good ground feed for cows during the period of gestation and afterwards.

Pithy Points.

A permanent pasture, to be of the most value must be even. To secure this, the droppings of the cattle should be spread about, and extra manure and seed put upon such spots as have not a good sod.

Unless the field which you are seeding down to pasture is reasonably rich, it will pay to give a good dressing of manure or else apply 200 pounds high grade fertilizer per acre. Much of your success will depend on giving the grass a good start.

An application of lime is beneficial to most soils, but it should be finely pulverized so as to be evenly spread. As we have seen it used—large lumps thrown here and there—it is nearly useless.

Horticulture.

In order to have fine peaches, which will bring a high price in the market, thin them so they will be from four to six inches apart on the tree. The crop will bring more money than if all that set are allowed to grow.

We have been in peach orchards where every tree, and with some trees every limb, was propped up. A man who does that is not a horticulturist. A tree should never be permitted to bear more fruit than it can hold up unaided.

Cultivate the peach orchard thoroughly after the leaves have fallen, and sow rye. Next spring cultivate again, plowing the rye under to feed the soil.

Neglectful culture and slip-shod management will enable any man to fail in fruit growing; but energy, skill, intelligence and business ability will almost always make a success of it.

Forty feet apart is not two great a distance at which to plant apple trees. They should have so much room that they will not touch when fully grown. No branches should be permitted so low that a man cannot walk under them standing upright.

The most profitable purpose for which we can grow winter apples is for the export trade. Bear this in mind when planting the orchard, and select varieties adapted to that use.

It is just as cheap to grow the best varieties of fruits as to grow poorer sorts. Before you place your order for trees study and compare the catalogues of different dealers, make your selections carefully, and then order from a reliable dealer, and have it understood there shall be no substituting.

Novelties in fruits are rarely worth the extra price asked for them. As a rule they disappear from the catalogues in a year or two. There are plenty of good proven varieties, and if you get the best of these you will not go far wrong.

An Armless Artist.

Physical misfortune in itself is bad enough, but when it attracts the attention of the vulgar and the thoughtless is far worse. For instance, Charles Felu, the singularly gifted and unfortunate artist of Antwerp, has had to give up painting on the free days of the museum owing to the curious sight-seers that surround him and interfere with his work. Born without arms in 1830, at Waimaerede, in Flanders, his natural instincts led him to throw over his employment and to take to painting as the serious object of his life. Overcoming with the greatest perseverence the enormous difficulty of his wants of arms, at the present day he may be seen painting the most delicate subject with Dutch-like detail, with his feet. Standing, he is helpless; but sitting on a stool in his studio, his easel grasped by the left big toe, and the right toes holding the brush, just as the right hand does, it is difficult to realize that Charles Felu is not as other men. Tall in statue, and with a clean-shaven intelligent face, the painter, strikes one as a man of rare sympathetic feeling and considerable education. His intimate friends will tell you that a kinder and more affectionate man lives not. He wears slippers, and immediately on entering his house, which is kept spotlessly clean, changing his out-door shoes in the hall. Gray woolen socks partially cover his feet, leaving his toes free to act as gloveless hands. Reversing the usual order, he stands in the hall to take off his shoes and sits in his studio to take off his hat. A stool about two feet and a half high, placed outside each door of his house, enables him to shut and open them. He has, beside copying the old masters in the museum, painted many portraits, and several of noted Englishmen.

The longest canal in the world is the one which extends from the frontier of China to St. Petersburg; it measures in all 4,472 miles. There is another canal running from Astrachan to St. Petersburg, which is 1,434 miles long. Both of these were begun by Peter the Great.

THEY WERE ALL SHOEMAKERS.

Sir Cloudesly Shovel, the noted English admiral.

Ebenezer Sibley, English Physician and astrologer.

Robert Morrison, English missionary and orientalist.

William Sturgeon, English electrician and inventor.

George Fox, English founder of the Society of Friends.

Hans Sachs, German poet; Jacob Bohme, German mystic.

James Woodhouse, English bookseller and minor poet.

John Partridge, English astrologer and almanac maker.

Robert Bloomfield, the well-known English pastoral poet.

Anthony Purver, English linguist and Biblical translator.

William Carney, English orientalist and Baptist missionary.

Samuel Bradburn, English Wesleyan Methodist preacher.

Henry Wilson, eighteenth Vice President of the United States.

Monoah Sibly, English orientalist and Swedenborgian preacher.

Francesco Brizzi, Italian painter; Ludolf De Jong, Flemish painter.

Noah Webster, lexicographer, and John Greenleaf Whittier, poet.

John Pounds, English philanthropist and founder of ragged schools.

William Gifford, English journalist and critic, editor of Quarterly Review.

Roger Sherman, statesman and one of the signers of the Declaration of Independence.

James Lackington, English bookseller and author of "Autobiography and Confessions."

Post Office Don'ts.

Don't fail to place the stamp in the upper right-hand corner.

Don't fail to notify your postmaster of any change in your address.

Don't mail any letter until you are sure that it is properly stamped.

Don't place the address so that there will be no room for the postmark.

Don't delay the delivery of any mail matter that you may take out for another.

Don't mail any letter until you are sure that it is completely and properly addressed.

Don't mail a parcel without previously weighing it to ascertain the proper amount of postage.

Don't write on the envelope "In haste," "Care of postmaster," etc. It does no good, and tends to confusion in the rapid handling of mail matter.

Don't trust to the fact that you are an "old resident" or "well-known citizen," but have your letter addressed in full.

Don't fail to sign your letters in full, so that if they reach the Dead Letter Office they may be promptly returned.

Don't, when you fail to receive an expected letter, charge the postal service with its loss, until you have learned from your correspondent all the facts in regard to its mailing.

Don't wrap a parcel in such manner that the wrapper may become separated from the contents.

Don't seal or wrap parcels in such manner that their contents may not be easily examined.

Not in Society.

Mrs. Amelia E. Barr, in the North American Review for September, has an interesting article on "Not in Society." She discourses somewhat severely on society people and their ways. "Every community," she says, "now has a goodly number of these social dissenters—men and women who are 'not in society,' and who are neither pained nor shamed by the fact, but rather avow it with the complaisance of clever people who have found out a fraud. These social dissenters are by no means from the unknown or unimportant classes. They are usually people of distinction, who live well, dress fashionably, pay their bills, are blameless in character, courteous, hospitable, and with no taint of cynicism in their nature; yet they save themselves' from their fellows, and, without explanations or regrets, refuse to add one more to the hundreds of persons leading a life that has no attraction for them. But as a rule there are few conditions in life which are not many-sided and capable of being defended on every side. And we must first notice that social secessionists are expecting society to be what society never purposes or wishes to be, and that therefore they might as justly complain that a man is a hedger or ditcher when he might be a poet or a preacher. Society never yet set itself to be good or great. It has no higher mission than to promote social pleasure and order, and the qualifications it requires are not piety or intellect but the ability to dress well, to say a great deal about nothing, to lead a dance, to keep every tittle of the rigid traditional law of uniformities, and in all disputed questions, or doubtful positions to imitate that truly and wise man, the Levite, rather than the officious, demonstrative Samaritan. We must, of course, admit that this is a low moral and intellectual plane, but it is a plane which satisfies the aspirations and capabilities of the majority who tarry there; and all things in life are not equally happy and justifiable."

This is rather a sweeping assertion. There are, in every community, society people and society people. There are those of whom the pen-photograph given by the writer is correct in every particular. They are social busybodies, who do little else than talk about frivolous matters and dabble, as far as they can safely do it, in petty scandals. On the other hand there are estimable men and women who mix freely with their fellows, and thoroughly enjoy social intercourse on the higher intellectual plane. They may not be so numerous as the class criticised by Mrs. Barr, "A saving remnant" may be the best title to apply to them. But who can doubt that their influence, properly exerted, is great? Happy the man who can find time and opportunity and disposition to enjoy social intercourse on this higher plane. It is in pleasant contrast to the life of the society moths and butterflies who misspend so much of their lifetime, while obtaining no lasting benefits from their trifling. That "A little nonsense now and then is relished by the wisest men" is a truism few will care to gainsay. What we need to strike is the happy medium. There is altogether too much trifling, squandering of valuable time, even in our methods of social enjoyment. We do not by any means make the most of our opportunities.