

HOME AND FARM.

Farmers' Declaration of Independence.

When in the course of human events, it becomes necessary for a class of people, suffering from long continued systems of oppression and abuse, to rouse themselves from an apathetic indifference to their own interests, which has become habitual; to assume among their fellow citizens that equal station, and demand from the government they support, those equal rights to which the laws of nature, and of nature's God entitles them; a decent respect for the opinions of mankind requires that they declare the cause that impel them to a course so necessary to their own protection.

We hold these truths to be self evident, that all men are created equal, that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness. That to secure these rights governments are instituted among men, deriving their just powers from the consent of the governed, that whenever the powers of a government become destructive of these, either through the injustice or inefficiency of its laws, or through the corruption of its administrators, it is the right of the people to abolish such laws, and institute such reforms as to them shall seem most likely to effect their safety and happiness. Prudence indeed will dictate that laws long established shall not be changed for light and trifling causes, and accordingly, all experience hath shown that mankind are more disposed to suffer while evils are sufferable, than to right themselves by abolishing the laws to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a desire to reduce a people under the absolute despotism of combinations, that, under the fostering care of government, and with wealth wrung from the people, have grown to such gigantic proportions as to overshadow all the land, and wield an almost irresistible influence for their own selfish purposes, in all its halls of legislation, it is their right—it is their duty to throw off such tyranny, and provide new guards for their future security.

Such has been the patient sufferance of the producing classes of these states, and such is now the necessity which compels them to declare that they will use every means to a resort to arms to overthrow this despotism of monopoly, and to reduce all men claiming the protection of American laws to an equality before those laws, making the owner of a railroad as amenable thereto as the "veriest beggar that walks the streets, the sun and air his sole inheritance."

The history of the present railway monopoly is a history of repeated injuries and oppression, all having in direct object the establishment of an absolute tyranny over the people of these states unequalled in any monarchy of the Old World, and having its only parallel in the history of the Medieval ages, when the strong hand was the only law, and the highways of commerce were taxed by the Fendal Barons, who from their strongholds, surrounded by their armies of vassals, could levy such tribute upon the traveler as their own will alone should dictate. To prove this, let fact be submitted to a candid world:

They have influenced our executive officers, to refuse their assent to laws the most wholesome and necessary for the public good, and when such laws have been passed they have utterly refused to obey them.

They have procured the passage of other laws for their own benefit alone, by which they have put untold millions into their own coffers, to the injury of the entire commercial and industrial interests of the country.

They have influenced legislation to suit themselves, by bribing venal legislators to betray the true interests of their constituents, while others have been kept quiet by the compliment of free passes.

They have repeatedly prevented the re-election of representatives, for opposing with manly firmness, their invasion of the people's rights.

They have by false representations and subterfuge induced the people to subscribe funds to build roads, whose rates, when built, arose exorbitant, that in many instances transportation by private conveyance is less burdensome.

They have procured charters by which they condemn and appropriate our lands without adequate compensation therefor, and arrogantly claim that by virtue of these charters they are absolutely above the control of legal enactments.

They have procured a law of congress by which they have dispossessed hundreds of farmers of the homes that by years of toil they have built up; have induced others to mortgage their farms for roads never intended to be built, and after squandering the money thus obtained, have left their victims to the mercy of courts over which they held absolute sway.

They have obstructed the administration of justice by injunctions procured from venal judges, by legal quibbles and appeals from court to court, with intent to wear out or ruin the prosecutor, openly avowing their determination to make it so terrible for the public to prosecute them that they will not dare undertake it.

They have virtually made judges dependent on their will alone, and have procured their appointment for the express purpose of reversing a decision of the highest court of the nation, by which millions were gained to them, to the injury of the holders of the bonds and the breaking down this last safeguard of American freedom.

They have affected to render themselves independent of and superior to the civil power, by ordering large bodies of hirelings to enforce their unlawful exactions, and have protected them from punishment for an injury they might inflict upon peaceful citizens, while ejecting them from their conveyances for refusing to pay more than the rate of fare prescribed by law.

They have arrested and summoned from their homes for trial, at distant points, other citizens for the same offence of refusing to pay more than the legal fare, putting them to as great inconvenience and expense as possible, and still further evincing their determination to make it too terrible for the people to dare engage in any legal conflict with them.

They have combined together to destroy competition and to practice an unjust discrimination, contrary to the expressed provisions of our constitution and the spirit of our law.

They have virtually cut off our trade with distant parts of the world by their unjust discriminations and by their exorbitant rates of freight, forcing upon us the alternative of accumulating upon our hands a worthless surplus, or of giving three-fourths of the price our customers pay for our products for their transportation.

Under the false and specious pretence of developing the country, they have obtained enormous grants of public lands from Congress, and now retard rather than develop its settlement, by the high prices charged for such land.

They have converted the bonds fraudulently

obtained from the government, into a great corruption fund, with which they are enabled to bribe and control legislatures, and subvert every branch of government to their own base and sordid purpose.

They have increased the already intolerable burden of taxation, which the people have to endure, compared with which the tea and stamp tax which precipitated the war of the revolution, seems utterly insignificant, by the appropriation of money from the public treasury, while they have escaped taxation themselves by evading and violating the expressed provisions of their charters.

In every stage of these oppressions we have petitioned our legislatures for redress in the most humble terms. Our repeated petitions have been answered only by silence, or by attempts to frame laws that shall seem to meet our wants, but that are, in fact, only a legal snare for courts to disagree upon and for corporations to disobey.

Nor have we been wanting in attempts to obtain redress through Congress. We have warned them from time to time of these various and repeated encroachments upon our rights; we have reminded them of the circumstances of our emigration and settlement here; we have appealed to them as the administrators of a free and impartial government, to protect us from these encroachments, which, if continued, would inevitably end in the utter destruction of those liberties for which our fathers gave their lives, and the reinstatement of privileged classes and an aristocracy of wealth, worse than that from which the war of the revolution freed us. They too have been deaf to the voice of justice and of duty. We must therefore acquiesce in the necessity which compels us to denounce their criminal indifference to our wrongs, and hold them as we hold our legislature—enemies to the producer—to the monopolist friends.

We, therefore, the producers of this State in our several counties assembled, on this the anniversary of that day that gave birth to a nation of freemen and to a government of which, despite the corruption of its officers, we are still so justly proud, appealing to the Supreme Judge of the world for the rectitude of our intentions, do solemnly declare that we will use all lawful and peaceable means to free ourselves from the tyranny of monopoly, and that we will never cease our efforts for reform until every department of our government gives token that the reign of licentious extravagance is over, and something of the purity, honesty and frugality with which our fathers inaugurated it has taken its place.

That to this end we hereby declare ourselves absolutely free and independent of all past political connections, and that we will give our suffrage only to such men for office, from the lowest officer in the State to the President of the United States, as we have good reason to believe will use their best endeavors to the promotion of these ends; and for the support of this declaration, with a firm reliance on Divine Providence, we mutually pledge to each other our lives, our fortunes and our sacred honor.

Raspberries After Bearing.

Our raspberries have yielded up all of their sweet, juicy berries for this season, excepting the ever bearing, and we have already commenced cutting out the old, and now useless canes, to facilitate plowing among the new ones, to break up the earth, hardened by the numerous feet that have trodden upon it in gathering the fruit. We have another object in plowing among the Black-Caps, viz: To fit the ground for layering the tips of the canes, which will be ready to commence in a few days.

We have no faith in the doctrine, advanced two or three years since, by S. E. Todd, "that the old canes should be allowed to stand while to admit of the sap's returning to the earth." We do not believe that any appreciable amount would ever return to the earth, but that whatever did not evaporate would remain in the canes.

We find a sharp sickle the best implement for cutting out the old canes. They generally incline to one side, while the new ones stand more upright, and in most cases one clip will sever an entire stool, when they may be laid in gables, and carried off with four-tined forks.

The layering of the tips of the canes is a work requiring considerable experience to insure the most perfect success. When they have sent out a long, wire-like growth without leaves, and that growth has assumed a purple hue, they are in the best condition to layer. We take some of our most worn hoes, and saw off the handle to about a foot in length, and use them for layering. With the right hand we strike the hoe, obliquely, into the earth to the depth of nearly two inches, with the left hand place the tip in position, and then dropping the earth, lifted up by the hoe upon the tip and compressing it with the back of the hoe, the work is accomplished. As they ripen up gradually, it is necessary to go several times over a plantation to layer all, and great care is necessary to prevent tearing out with the feet those that have been layered.

Those layered before the 20th of August will generally be in proper condition to transplant by the middle of October, by which time they ought to be good, strong roots, with a brownish hue, and considerable solidity of texture. Very young roots of a pale, water-color, brittle, unsubstantial, are unfit for transplanting.

What we have written thus far applies mainly to those varieties that are propagated from the tips. If we cultivate red, sprouting sorts after the bearing season, we do it to keep the ground clear, and promote the further growth of the canes. We question the policy of cultivating for the latter purpose. If the ground is free of grass and weeds, we are of the opinion that the canes would ripen better, and be better prepared to endure the rigors of winter, if not cultivated at all after the fruit is gathered. This is not mere theory with us, but is the result of observations of the effects of the two systems for years. We have seen the tender varieties of *Rubus idaeus*, when cultivated in the early part of the season, only, stand through the winter unscathed, while those receiving mellow culture, all through the season, were winter killed.—*Rural Home.*

THE POTTERY TREE.—Among the many wonderful vegetable products of Brazil, the pottery tree of Para is not the least worthy of note. This tree, the *Mesquitea utilis* of botanists, attains a height of one hundred feet before sending out branches. The stem is very slender, seldom much exceeding one foot in diameter at the base. The wood is very hard and contains a very large amount of silica—not so much, however, as the bark, which is largely employed as a source of silica in the manufacture of pottery. In preparing the bark for the potter's use, it is first burned, and the residue is then pulverized and mixed with clay in varying proportions. With an equal quantity of the two ingredients a superior quality of ware is produced. It is very durable, and will bear almost any manner of heat. The natives employ it for all manner of culinary purposes.

When fresh the bark cuts like soft sandstone, and the presence of the silica may be readily ascertained by grinding a piece of the bark between the teeth. When dry it is generally brittle, though sometimes hard to break. After being burned, if of good quality it cannot be broken up between the fingers, a pestle and mortar being required to crush it.

The Banana.

F. Curtis, of Longview, St. James, La., in a letter to the *Prairie Farmer*, says:

The banana is not properly a tree, but a plant of leafy, succulent growth, of the genus *Musa*. The stalk is formed of the stems of the leaves in concentric layers, reaching with its leaves, a height of 15 or 20 feet, and eight or ten inches in thickness, and contains no woody fibre. From the center comes the first bearing stem, which turns and grows downwards. The end of it has the appearance of an ear of corn, with purple sheath. This unfolds one leaf at a time displaying two rows—eight to twelve of tiny little fruit, with its delicate blossoms, until it attains a length of two or three feet, covered with fruit. The leaves are a marvel for size and appearance, sometimes reaching a length of six feet and 18 inches in width, of a glossy green. The root is perennial. It is large and fleshy—sometimes of the size of half a bushel measure, from which put forth numerous rootlets, half an inch in diameter. From the main root are constantly springing numerous suckers, which go to form new plants. This being its mode of propagation, they can be taken off to form new plantations, or remain, as may be wanted.

In a suitable soil, which should be rich and moist, and tropical climate, it requires about one year to mature its fruit, from the first appearance of the plant. Each stalk bears but one bunch of fruit. When it is gathered the stalk is cut down. Ten feet apart is a good distance to plant them. This gives over 400 per acre, and the second year, there will be 10 or 12 plants to each hill, and soon will occupy most of the ground. After the first year they require but little cultivation, the old stalks and leaves acting as mulch and manure. Under favorable conditions, there is no cessation of growth. New plants and ripe fruit are found at all times, and a plantation once started lasts for years.

It is probable that no plant was ever cultivated that will yield more food per acre, or result in greater profit to the owner, where there is a market for it. It is easily and cheaply gathered, requiring no packages, and bears handling and transportation well. Ten bunches a year per hill is a fair estimate for the yield of a good plantation. This would give over 4,000 bunches per acre. Many of these will contain over 100 fruit. It is a favorite food in tropical countries, and always in demand at the seaport towns for shipment. There are some people, no doubt, who live on bananas alone; but it is not probable that any great amount of work can be got out of a dozen of that fruit a day.

The banana is a native of the islands of the Southern Florida and some of the islands on its coast have proved to be suitable and profitable for the culture of the banana, and instances are mentioned where the receipts have been over \$3,000 per year from a single acre, including some plants sold. The southern part of California is also said to be well suited to its growth. These are the only parts of the United States where it can be grown successfully.

Here it requires two years to perfect itself, and without winter protection, seldom matures its fruit.

Diseases in Hogs.

A correspondent of the *Southern Planter* says there are but three diseases in hogs requiring treatment, which are mange, cholera and worms in the kidneys, commonly called breaking down in the loins. For mange wash well with lye soap, and then put liquor. For cholera, if you know the disease, as soon as you see the hog begin to droop and try to vomit, gag him, and give him twenty grains of calomel made into a pill. If you have been in the habit of giving your hogs spirits of turpentine, at the rate of one teaspoonful to the hog, put in corn; you will be rarely troubled with this fatal disease.

If the first dose of calomel does not relieve in twenty-four hours, repeat the dose. I rarely have to repeat it if administered in time. We sometimes see hogs dragging their hind legs. This is caused by worms in the kidney, and may be easily cured by giving a teaspoonful of turpentine every morning for three or four days mixed with corn. Hogs that have been feeding on acorns are most subject to this disease, and should have the turpentine at least twice a week while feeding on this mash. Every hog feeder should keep a bottle of the spirits of turpentine, and give it occasionally through the year; he will find it a great benefit to the hogs. I have practiced this for twenty years successfully. It seems to be a specific cure for all hog diseases.

THE KANGAROO VINE OF AUSTRALIA.—The habits of this giant climber (*Cissus antarctica*) are graphically described by a writer in the "Gardener's Monthly." He saw one of these vines, which was almost seven hundred feet in length and measured three feet and nine inches in girth at the base. It had first unfolded in its deadly embrace a tree of considerable size, but this support had died and disappeared, and nothing remained but a spiral column of vine nearly two hundred feet in height, from the summit of which the huge climber had sent out its continuations in a horizontal line for more than one hundred and thirty feet, until it reached an eucalyptus tree. It was the opinion of our author's guide that the trees which had perished by strangulation. He named the vine "the devil's corker." Around the eucalyptus the vine had wound in several coils, and then thrown out a number of stems, which were grasping all the trees in the neighborhood of its line of march.

ONE'S HAND.—It is a profound study. No instrument devised by man compares with it for complication. It is a hammer, a vice, a forceps, a hook, a spring, a weight; it pushes, draws in, and the fingers alone contain elements of chisels, gonges, and all the tools a sculptor requires in modeling. From the elbow to the digital extremities its movements are produced by nearly fifty muscles. So complicated is the cordage of a human hand, expert anatomists can hardly keep in remembrance its intricate mechanism. With it all the emotions of the mind may be both manifested and intensified. How could a Frenchman talk with his hands tied? The hand is the prime minister of the brain. It is the soul's agent in the accomplishment of its designs. It is a wonder of wonders.

DISEASES OF SHEEP.—A correspondent asks for the best works on diseases of sheep as adapted to this climate. We know of no work of the kind especially applicable to our Pacific coast climates; but one of the best we are acquainted with, is *The Practical Shepherd*, by H. S. Randall. It can be obtained of D. D. T. Moore, Rochester, N. Y.; J. B. Lippincott & Co., Philadelphia, and probably of book sellers in San Francisco.

COTTONWOOD SUGAR BARRELS.—The Sacramento Valley Beet Sugar Company are having the barrels to hold this year's product of sugar manufactured in this city from native cottonwood timber. The barrels present a most pleasing appearance, the wood being white and firm and without any odor of any kind that can be imparted to the sugar.—*Record.*

MISCELLANEOUS.

Narrow Gauge Vindicated.

For the past few years no subject, perhaps, has excited more discussion in engineering circles than this vexed one of the proper width of railroad tracks. Arguments have been advanced on either side, broad and narrow, in overwhelming profusion, without leading to conviction in case of a member of the opposing faction, so far as we know. The narrow gauge party, on the one hand, have succeeded in proving to their own satisfaction at least that the general system and rolling stock of the majority of existing roads are cumbersome, expensive and obsolete; while the wide gauge advocates have decided the revolutionary system to be slow, insecure and perilous in character. But actual experiment is what has been needed, to prove comparative merits and demerits, and experiment on a large scale, in order that deductions made from it may be general. This practical experience has at least been had in the case of the Festiniog railway in Wales and the Denver and Rio Grande R. R. of our own country. Several less important lines have been constructed on the narrow gauge plan; we propose now to consider only the questions involved and points demonstrated in the very successful running of the Denver and Rio Grande road, as collected from the late most interesting report.

The company saved about 37 1/2 per cent. in the first cost of construction and equipment of its road by reason of the adoption of a gauge of 3 feet instead of 4 feet 8 1/2 inches. This is a clear saving, because the 3 feet is equally well built in every respect and its capacity as great as though it had been of the wider gauge. The passenger cars have proven comfortable and at least as steady in riding as those on the wider roads, and the freight cars have carried satisfactorily all classes of traffic, bulky and concentrated. There has been no accident on the road, and the centre of gravity of the cars is so much lowered that one could hardly occur that would be traceable to the gauge. In addition to first and second class passengers, the road has carried during the past year freight of great variety in character. Besides heavy articles—coal, ore, stone, lumber, iron, hardware, grain, etc.—it has carried wool, furniture, hay, wagons, and other freight of the lightest and most bulky nature; while, of course, on this last class, the benefit derived from the gauge by the saving in dead car weight has not been so great, yet there is no class of freight upon which the proportion of paying to non-paying weight has not been in favor of the narrow gauge as compared with the wide.

Freight Cars.

With concentrated or heavy freight, which constitutes on this, as on nearly all railroads, the great bulk of the tonnage to be transported, the advantage realized has been 35 per cent. That is to say, thirty-five hundredths more freight has been regularly carried on the narrow-gauge rolling stock, with the same total weight of cars and load as on the broad-gauge. This can be most readily seen by observing a train of 16 loaded cars (which weigh 8 1/2 tons each when empty) arriving at Denver on the broad-gauge roads, and their contents transferred to the Denver and Rio Grande Railway. The same freight is placed in 20 narrow-gauge cars, the empty freight of which is somewhat less than 3 tons each. But it very often happens in the ordinary course of railroad business that cars are very frequently not loaded to their capacity, in which event the narrow-gauge receives a proportionately greater benefit. For instance: if from any station there was a load of but 5 1/2 tons to carry, the narrow-gauge car would weigh no more with this load than the broad-gauge car would, entirely empty.

The narrow-gauge cars are not too light to stand the rough usage for any length of time; because, as all the other cars on the road are likewise light, they are not subjected to any more momentum or crushing force in proportion to their strength than a wide-gauge car is where all are heavy; and further, it is a well known fact in mechanics, that small structures are much stronger in proportion to their weight than large ones. The cars have proved large enough to carry even the most bulky kinds of freight, such as wool, furniture, etc. Cattle and horses can be carried and although the road is not yet constructed sufficiently far south to obtain much cattle business, yet in time this may be looked for as furnishing a large traffic, and the road is preparing for it. The stock cars already built are 6 1/2 feet wide, 28 feet long, weigh 8500 pounds, and carry nine head of cattle. The animals stand lengthwise with the car, which is better for them than sideways, as they can steady themselves more readily. The dead weight of car to an animal is in the case of the wide-gauge, 1357 lbs., and narrow-gauge, 844 lbs.

But for short cattle the cars are wide enough to carry the cattle in the usual way, in which case the narrow-gauge car carries 13 head of cattle, or within one of as many as the broad-gauge.

Passenger Cars.

The cars are comfortable, well ventilated, handsomely fitted up, and the 25,000 passengers who passed over the road last year certainly rode as steadily, and as far as could be judged, altogether as satisfactorily as on any wide-gauge road. As far as space is concerned, the whole passenger travel of Europe is carried in compartment cars, practically less roomy and not nearly so well ventilated. The first-class cars seat 3 passengers across the width of the cars,—two on one side of the aisle and one on the other,—an arrangement which, by increasing the proportion of passengers who can have seats by themselves and adjoining the window, makes it much easier to fill all the seats.

Even three seats are not occupied on the average in wide-gauge cars. A certain number of passengers are acquainted, and wish to sit side by side; others prefer to be alone. It is difficult by supervision to stow away passengers as one would freight; the traveler taking one seat, and his carpet-bag the other, thus preventing intrusion. The car adopted by the company appears to suit the average conditions of travel better than one of either two seats or four.

The first-class narrow-gauge car is 7 feet 2 1/2 inches wide inside; 35 feet 4 1/2 inches long, weighs 7 1/2 tons net, and seats 36 passengers,—an average of 417 pounds of car-weight to one passenger. The broad-gauge day-car weighs 19 1/2 tons, and can seat 56 passengers,—an average of 696 pounds of car-weight to one person.

Sleeping Cars.

Sleeping cars are used with much greater advantage than on the wide gauge, because although people unknown to each other can generally with some effort be made to sit on the same seat, they cannot well be made to sleep in the same bed. The practical result is that the traveler pays for two beds and the railways carry the extra weight and width for

two beds to one person. So it happens that while the present Pullman car weighs from 25 to 30 tons, it carries on an average but 15 customers. The Denver and Rio Grande Company has not a length of road sufficient to require night travel, but when it has, sleeping cars will be introduced which will weigh less than 10 tons and accommodate 20 travelers. The coaches will not be so wide as to allow the sleeper to roll uneasily with the movement of the train, but instead of paying for two berths he will pay for but one. They will be every whit as comfortable as those on the wider gauge, and still leave ample space for the aisle. When a single person wishes, as frequently happens,—especially in the case of ladies,—to take an entire section, he will pay for two berths only, instead of four, as at present.

Speed and Safety.

It is to be hoped the good sense of the lines will prevent any general increase in their speed, at least to any extent; but trains have been run during the past year on the Denver and Rio Grande Railroad at 30 and even 40 miles per hour, and it is impossible to see why they cannot, if it becomes necessary, increase their present rates as readily as on the wide gauge.

As regards safety, the cars are no more likely to upset than on the wide gauge, because the centre of gravity has been greatly lowered. This is confirmed by the year's experience on the road. A car on the wide gauge road, it is true, is made considerably wider than it commonly is without this danger, but that would require a broader and costlier road, and in the practical transaction of the carrying trade the unit of the gross business, the car-load, has proven to be already to large. It wants to be reduced rather than enlarged. There is one respect in which the narrow-gauge car is undoubtedly safer to travel in than the wide gauge,—that is, in the reduction of the difficulty of stopping its headway in case of danger, as well as the concussion in case of collision or being thrown from the track. To carry 100 passengers on a narrow-gauge road, the weight of the cars alone would be 18 tons, instead of about 36 tons as on the broad gauge, consequently the momentum at the same speed would be but little over one-half.

A positive advantage is claimed from the reduction of the carrying capacity of a car below what it now is on wide-gauge roads. It so frequently has to go partially loaded in the practical, everyday working of the business that it would be better if it were smaller. It is well known how rarely a passenger car is full; although capable of seating 56, the cars probably do not average in the United States over 25 passengers to the car. In the heavy Pullman car it is but 15. It is the same with freight to some extent. The railroads in the United States carry at least four times as much total weight yearly as of freight load. If the car unit were smaller, much unnecessary handling would be saved. For local trade especially, which constitutes the bulk of business on almost every American railroad, a great advantage would be gained, saving time, side-track room, besides dead weight. The capacity of the narrow-gauge car even exceeds the average actual load of the broad-gauge car.

[To be continued.]

Dried Fruits in New York.

Here is what Davis & Sutton, commission merchants, 75 Warren street, New York, say about dried fruits, under date of Aug. 9th:

Dried apples are very firm; sliced are higher, and choice Western and Southern quarters have also favored the seller; the demand is partly from exporters and partly speculative. There is no stock of peeled peaches offering, but our quotations, which are higher, could doubtless be obtained and perhaps @2c more for desirable stock; still, as the figures given for them are not based upon recent sales, they may be considered nominal. Unpeeled peaches are decidedly higher; 8 1/2c is freely offered for prime halves. Quarters are salable at 7c. Cherries are scarce and higher. Plums are decidedly higher. There is no business in raspberries. The cause of the strength of the market is the general prospect of a light crop of domestic fruits, together with the high rates for prunes.

Table listing prices for various dried fruits like Apples, Peaches, Cherries, Plums, Raspberries, etc.

Now, what is there to prevent California sending a large surplus of these fruits to a New York market, but our inability or neglect to dry them? We certainly have the fruits, and it only needs the enterprise to put them upon the market. If not in New York then in all that vast region between the Missouri River and the Pacific Coast, besides supplying the commerce of the seas.

Steam on Common Roads.

The whole future of the application of steam to common roads clearly lies in the improvement, not of the engine, but of the road. In the same way as rails must be laid down before running the locomotive, so most common roads are rendered able to bear heavy weights, and have given them a hard, level surface, one approaching as near as possible that of the rail table. The nearer this condition of hardness is approached, the more extended will be the use of steam on common roads.

These premises being granted, the solution of the old problem of applying steam to common roads is simply to be found in the general use of the steam road roller. The steam roller must precede the steam traction engine. Experience shows that the process of road making and maintenance gives us a hard, level surface, not liable to sink and take ruts under the wheels, and affording more than sufficient adhesion for propulsion with smooth wheels. The possibility of applying steam in this way would give us what might be termed a universal tramroad, rendering available for steam-power over 200,000 miles of macadamized roads. Much in this sense was a passage in the late public speech of such an experienced engineer as Sir Joseph Whitworth, in which he pointed to the improvement of common roads rather than the extension of tramways. The roads are there, and their improvement by the process, involving an outlay of capital, actually greatly reduces the cost of their maintenance. In our special case, the employment of an engine on common roads, able to move about with facility, also means the application of steam to the conveyance of stone from the various deposits along the road; to break it up and taking it to its required destination before rolling down.—*American Engineer.*