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PRIME FACTS

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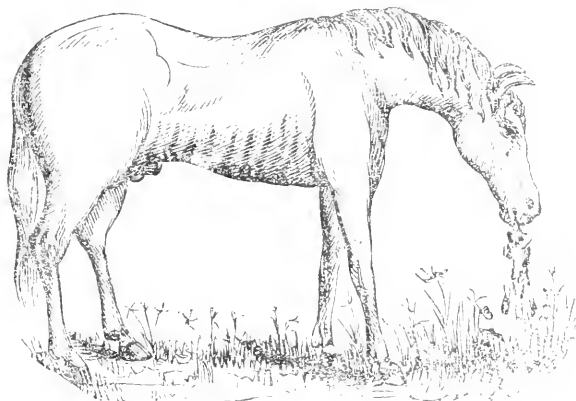
FARMER,

THE

FRUIT GROWER,

AND THE

PUBLIC.



The Horse in the Clover Grass.

FURNISHED BY JOHN FORBES, ESQ. FARMER AND NURSERY-
MAN, WESTERN NEW-YORK.

BY M. R. BARTLETT.

NEW-YORK :

PUBLISHED FOR THE PROPRIETOR BY NAFIS & CORNISH, 278 PEARL-ST.

PHILADELPHIA : JOHN B. FERRY, 78 1-2 NORTH SECOND-ST.

BOSTON : LEWIS & SAMPSON, WASHINGTON-ST.

1843.

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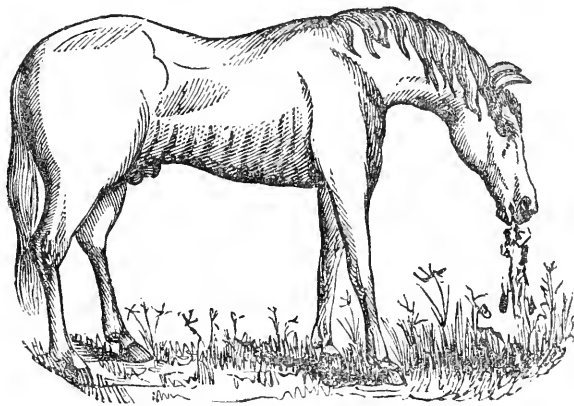
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1843.

Entered according to Act of Congress, in the year 1843,
By M. R. BARTLETT,
in the Clerk's Office of the District Court of the United States, for the
Southern District of New-York.

TO WHOM THIS MAY COME.

WE the undersigned, citizens of the State of New-York, do hereby CERTIFY that we have been personally acquainted with JOHN FORMAN, Esqr. of Onondaga Hollow, West New-York, for the last *thirty years*, and that we know him to have been a most ingenious and critically exact FARMER,—the first detector of the CAUSE of the *Horse Slobber*, &c. and a greatly successful FRUIT GROWER :—having, some *forty years* since, first introduced into these parts, many of the most choice and valuable kinds of fruit in the country, and subsequently supplied our northern and western inhabitants with nearly all of their present stock of trees.

New-York, November 20, 1842.

J. L. Richardson,	B. D. Nexen,
Willet Raynor,	L. H. Redfield,
Elam Lynds,	M. D. Burnet,
C. A. Baker,	J. Fleming,
A. Northam,	E. Phillips,
R. Woolworth,	F. Benson, (Sheriff)
H. F. Fellows,	J. J. Hopper,
Thomas B. Fitch,	Hiram Putnam,
William Downs,	M. Williams, M. D.
John Lave,	H. W. Dunford,
John Dunford, (20 years)	D. C. Lansing. D. D.
A. J. Butler, (13 years)	Samuel Eager,
William Barker, (30 years)	John C. Brown,
Henry Van Keeser, (20 years)	John P. King.
L. O. Phinney,	Samuel Larned,
Joseph Knight, (15 years)	H. A. Perkins,
John Leslie,	George N. Germell,
Ezra Town, (17 years)	Daniel Dana,
Stephen Porter, (12 years)	Isaac Rawn.
Z. W. Cagswell, (good)	P. N. Rust,
R. Raynor, (20 years)	William Malcolm,
A. Phillips,	William B. Kirk,
S. House,	Luther Marsh.



DEDICATION.

This little work, prepared in behalf of the great and growing interests of the country, is most respectfully dedicated to the various AGRICULTURAL SOCIETIES of the United States of America, by a devoted friend to the perpetual prosperity of the whole UNION,—“ONE AND UNDIVIDED.”

M. R. BARTLETT.

*City of New-York, }
Jan. 1, 1843. }*

P R E F A C E .

THE FEW PRIME FACTS, submitted to the Public in the following pages, are gathered from patient observation and carefully conducted experiments, through many years of practical enquiry and close investigation ; not, however, by a mere book man,—a vague theoriest, but a PRACTICAL FARMER, and most successful FRUIT GROWER.

He sensibly felt the evils to which these Facts refer, and early sat himself down in an absolute wilderness of conjecture, to discover the causes of them. The progress was slow ; but the end was sure ; and each cause, as it became fairly developed, almost invariably pointed out a remedy for the evil which it inflicted.

He now comes, at his earliest convenience, to place both the cause of these evils, and the cure of them before his countrymen ; and he does it, not in abstruce technicalities and erudite phrases, but in plain, farmer-like language, and in terms suited to common capacities.

He indulges the hope that his brief statements will prompt to further and more scientific investigation, and that they may finally lead to a high degree of perfection, in the preservation of the horse and the cow, and in the cultivation of fruit trees.

He here takes the freedom of saying, should this labor of his hands be kindly received and honestly rewarded, he has some other facts with respect to the Bee, the Bee-house, &c. which shall be given in a future number.

AUTHOR.

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NOTE.—*Publishers of Papers, &c. who may feel disposed to notice these "PRIME FACTS," are respectfully requested not to make extracts from the work and thereby harm the sale.*

PROPRIETOR.

A FEW PRIME FACTS.

CHAPTER I.

THE HORSE AND THE COW.

FACT NUMBER ONE.

THE DISEASE OF THE HORSE.

SECTION I.

THE CAUSE OF THE SLOBBERS.

It is a fact, generally known, and known too by dear-bought experience, that, in this country, and probably in most others, the horse kept in the summer season on ordinary grass feed, contracts a disease called the SLOBBERS, the cause of which has utterly baffled the enquiry of many a farmer and horse grower for nearly the whole of the last half century. For many years the complaint was regarded as inflicting nothing more than a little inconvenience, a disagreeable drool, &c. ; but experience soon proved that it plants other diseases which, like the "jaw bone," have slain their thousands.

The cause of the Slobbers has been attributed to the *Canada Thistle* by one set of farmers ; to Dr. Thompson's cure-all, the *Lobelia*, by another ; one says it is the after growth of *Clover*, called *Rowen*, or fall feed, and another knows it to be *Spider-webs* suspended on the grass feed, and

by the help of the dew is rendered quite conspicuous during the morning hours ; but more recently, it has been said, the *Slobbers* are caused by the *Spur* found on the wire or wild *Indian Grass*, which is said to be a native of the country.

But all these, and in fact all else, if else has even been stated, were mere conjectures, or what the Yankees call "*guess-work*." Every thing known as to the REAL cause of the complaint, was altogether blind uncertainty, up to the period of the month of *August, eighteen hundred and thirty-eight*. At that time a farmer by the name of JOHN FORMAN, one of the early settlers in ONONDAGA HOLLOW, West New-York, had a highly valuable and favorite cow come to her milk, or rather *was* to have come to it, but when delivered of her calf, she had no milk whatever, nor had she any *udder* to hold the milky secretions.

The wonder was great and pretty general ; and no little solicitude was felt for the animal, and the preservation of the little stranger, who prompted by instinct, acted as one laboring under the weight of Nature's left-hand cuff.

The farmer concluded there must be a *cause* for a phenomenon so singular and unexpected, and sat himself down to investigate the matter. Upon a little enquiry, he found six cases of a similar character in his own neighborhood, and therefore concluded the occurrence was not so very strange as he at first supposed. However, he pursued the enquiry with his own cow, and after close examination found the beast affected very much as man is, after being freely dosed with mercury.

He turned from his cow to his horse, then staggering under

the effects of the *Slobbers*, and saw at once the animal was *salivated*, and that both cow and horse, were diseased alike, though the glandular affection was not so strongly apparent in the former as in the latter. Both however were sensibly relieved, temporarily, by a mess of wheat bran, and hence the direct intimation of the propriety of a change of feed.

A few experiments satisfied the enquirer, that whatever the *cause* might be, the disease was destruction to both animals; if not directly so, as by poison, then by the induction of other diseases. By a course of experiments made upon the horse, it was found the animal lost his flesh, his strength, his spirits, and his ambition; dropping successively into the *Scowers*,—then the *Yellow Water*, and, lastly, to death. Yet in the worst stages of the complaint, he could be brought back and built up in a short period, by a course of *dry feed*, oats, shorts, bran, &c., in the place of *pasture* or *grass feed*.

The next advance in the enquiry went to prove that there were kinds of *grass feed* or pasture, which did not inflict the disease at any time, and that the commencement of the complaint, was about the period of the full blooming of the chestnut-tree; while its end was, at latitude 43 north. late in October. Yet a few cases of the disease were found to have been known while feeding on dry hay in the winter season, but they were not very violent nor of long duration.

Following the horse from one day to another, and from one pasture to another, and watching the effect of each move, the long sought cause was finally discovered, and it was also discovered, at the same time, to be more abundant in certain

places than any other kind of feed. The observer had seen it before some hundreds of times; it had been about him, and about others for many years, and yet had not been once suspected; nay, it had long been regarded as appropriate and wholesome fodder, both for summer and winter

This discovery is deemed a great public benefit,—a national blessing; and it claims to merit the consideration and gratitude, not of the farmer simply, but of every member of the household of man. Aside from the misery which it imposes upon the poor horse and other animals, which every humane mind must feel and regret, the loss to the owner, in behalf of labor and property, and the aggregate loss to the country, in point of general prosperity and wealth, must be immense; and without the knowledge of this discovery, it must have increased in the ratio of the increase of horses, &c., and of our population.

Any further detail with respect to the manner in which the *cause* of the Slobbers was discovered, or the experiments made in this behalf, need not now be stated; though it is but just to observe that the discovery has been withheld from the public up to this period, for the purpose of making what appeared very sure, positively certain, and thereby place the whole matter on tangible premises and above the reach of doubt.

Now, then,—the **CAUSE** of the **HORSE SLOBBER**, is a **WILD GRASS**, a native of our soil, and wonderfully prolific. It was first found in and about *old Indian reservations*, and it still grows about those regions in the greatest abundance and to much the greatest perfection. But it is by no means

confined to such grounds, nor indeed to any particular soil or climate yet known. It is found to some extent in all parts of the country ; it grows on the lowest and highest points of land, and even in the streets of our great cities. It is wonderfully tenacious of life, and to destroy it out of the land, would prove more difficult probably than the destruction of the Canada Thistle.

With respect to the character of this poison grass, it may be well to observe that, in point of height, it has been found to vary from three inches, at maturity, to thirty inches ; and where the soil is very favorable, it sometimes rises to three feet. Where it has free scope, it branches out from the root and strays off in almost every direction, something like the garden pursley, but in every few inches, it penetrates the earth, and throws its roots downward and its stems upward. Hence, the main or primitive root, has been known to send up from one to three hundred stems or stalks, while the average branches on a healthy stem ranges from ten to twelve which form heads, and the seeds in each head run from four to seven hundred. From these premises some notion may be formed of the manner in which this troublesome grass is propagated.

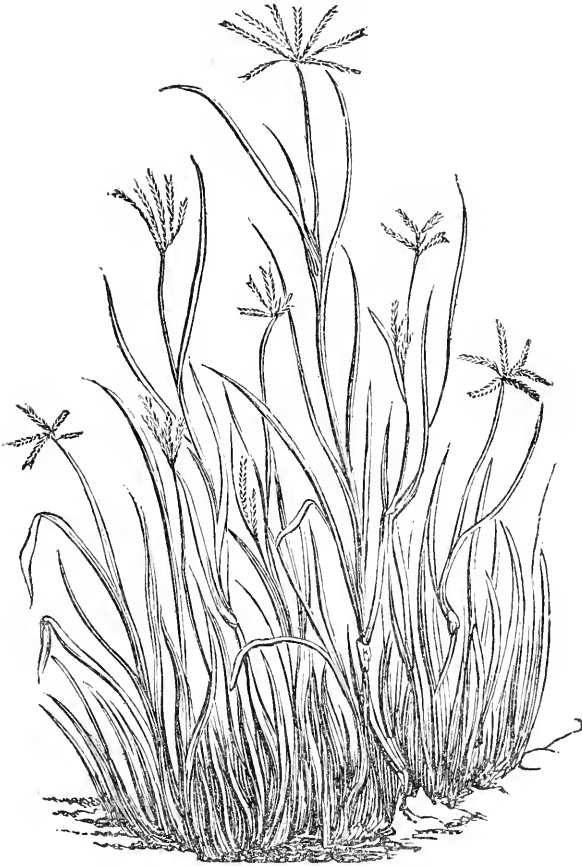
The discoverer of the effects of this grass upon the horse, &c., knowing no name for the plant, took the freedom of calling it SLOBBER GRASS ; nor has this appellation been found to militate with any previous name ; for no one seems to have known any term by which it was designated. The Indians, so far as the Six Nations are concerned, have had no name for it ; though some of them claim to have known it

longer and better than any body else. Mr. Chilton, an eminent Chemist and Botanist of the city of New-York, when shown the grass, said it was a species of *Dog Grass*; but of what kind he was not then able to determine. Chilton's remark is probably correct; for observation proves that the *Dog* does in fact eat it, instinctively, though very sparingly, and that it acts on him as a medicine.

Professor Gray of Boston, a gentleman who enjoys the reputation of being one of the most accomplished Botanists of this or any other country, said, when a stem of this grass was presented to him, "the Botanical name of the plant is *DIGITARIA SANGUINALIS*," but he had no common name for it. In the absence, however, of a traditionary cognomen, we venture to christen it *SLOBBER GRASS*, and under that denomination, we represent it, at full length and perfection, in the opposite cut, by which we presume it may be very easily identified.

The name of the grass is of but little moment compared with its perfect identity, and the wide spread evils with which it is visiting our whole country.

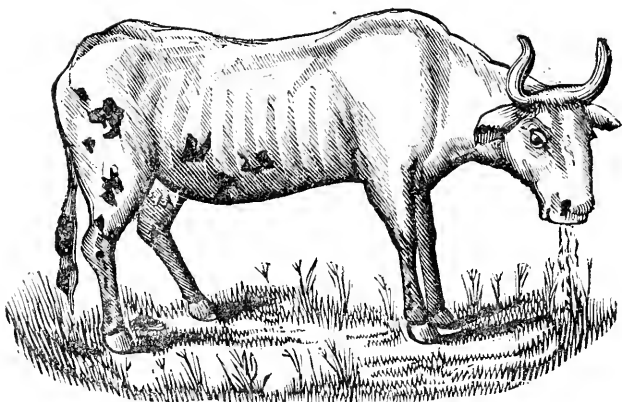
The mere slobbering or salivation of the horse, is, with respect to this noble animal, only the beginning of trouble; for when the slobbering is suffered to run on for twelve or fourteen weeks in the year, without a check, it almost invariably passes into a disease commonly called the *SCOWERS*, or a kind of *Flux*, that sometimes proves fatal. If however this complaint is survived, a vitiated state of the blood ensues which generally brings on the *YELLOW WATER*, or a kind of *Dropsy*, which, in hard weather, almost always carries the animal off.



SLOBBER GRASS PLANT.

As to the actual amount of loss in the property of the horse either to the farmer or the country, no estimate is here attempted, simply because the proper data are not at hand. Could the amount, however, be honestly reached it would probably surprise the most incredulous.

NOTE.—There is a harmless kind of wild grass which somewhat resembles the above; its leaf however is broader and perfectly smooth, whereas, the Slobber Grass leaf is stoutly coated with fuze, not to say beardy.



THE COW TWO WEEKS AFTER EATING THE SLOBBER GRASS.

FACT NUMBER ONE.

THE DAIRY COW.

SECTION II.

THE CAUSE OF THE FALLING OFF IN THE MILK OF THE COW.

WE have already observed that the *Slobber Grass* disease, visits the MILCH Cow with great severity; and we now say, that, the evils resulting from the disease of the horse, in this respect, bear no proportion to those arising from the salivation of this animal while in a state either of coming in, as it is called, or of giving milk. In the cow, these evils have been seen and felt, especially in the old states, for more than half a century; and they have generally been regarded as a matter of course,—a visitation in-

separable from the nature of things and the relation of the animal system to the earth.

Where any doubt has existed, or where thought has been exerted on the subject, all has been referred to some peculiarity in the character of our country,—the nature of our soil or our climate,—the breed of our milch stock, or the immediate effect of sin in our world; and, therefore, in any case there could be no remedy except patient endurance and becoming submission.

In the end, however, observation first opened the way to enquiry; this led to experiment, and experiment soon trampled all vague suppositions under foot, placing the whole subject under the easy and absolute control of every man who sees fit to exert his senses or employ his wits.

Experiments have proved, beyond all controversy, that the Slobber Grass acts upon the cow very much as calomel operates upon the human system, though the slobbering does not appear so abundant as in the case of the horse. It is found to create a fever, followed by a loss of energy; to vitiate the blood; diminish the quantity and debase the quality of the milk; run into the butter, giving it the appearance and even the taste of hog's lard; and into the butter-milk, giving it a watery consistency and an impoverished taste. It is also believed to sensibly impair the health of those who, in that condition of the cow, use her milk in any way, inducing probably the disease called the *Milk Sickness*.

At all events, the disease soon runs the animal into the *Scowers*, the same as the horse, and then into the *Yellow Water*, or the overflow of the gaul, which generally termi-

nates in death. But if she chance to survive all these, she is soon taken with the hollow-horn, or the hoof-ail ; and should she wade through the whole, the inference is, she has been favored with mild weather and a good nurse.

Then another evil, consequent on this disease, is the scarcity of milk and butter, and the extravagantly high price of the latter, notwithstanding its poverty, not to say its poison, at a season of the year when it should be most abundant and most perfect in quality.

The falling off in the milk, in point of quantity, has been known to exceed one half, and the difference in respect to purity and richness, is probably still greater. In latitude 40 north, and so on to 46, these deficiencies have been observed to commence, where the Slobber Grass flourishes freely, about the first, or during the first half of July ; and although, in ordinary seasons, they may be partly regained, as this grass dies away in the frosts of the declining year, yet, should the cow live through the disease, the effect continues to a great extent until she comes to a renewal of her milk. Well tested experiments sufficiently prove that a cow, coming to her milk, where she has had a free use of this grass, in the month of August or September—may not have one gill ; though previously eminent for a rich and large supply of this needful nourishment.

All these afflictions, and inflictions, have been charged, from time immemorable, to the account of the bad seasons,—the want of rain, or the excess of rain ; the dirth of feed, or the poverty of feed ; the influence of the climate, or the presence of the dog-star ; the heat of the weather, the change

in the moon, the place of the planets, or something beyond the knowledge of created intelligence. But we are now prepared, to say, and to prove what we say; that the loss of the milk arises entirely and exclusively from the Slobber Grass. Yet it is fair to suppose the extent of the loss, as well as the degree of the disease, may be found subject to some slight modifications from other causes.

We here beg leave to observe that further and more scientific experiments in this behalf, are now in progress, the results of which will be made known in due season.

With respect to the effects of the grass on other animals, it has already been ascertained that it is dangerous to the goose and fatal to the gosling. It is the poison PALLY WOG which has so often swept off many an entire brood of these web-footed younglings. This grass, to the goslings, is a powerful physic; it soon turns the bill, the legs, and the feet, a pale ash color, and in a few hours, fairly scowers the fowl out of the world. This was the case with some ten or twelve, upon which experiments were made in 1840. They were placed where this grass flourished richly, and shut out the growth of all other kinds of feed, and no one of them survived the third day.

Other experiments satisfactorily proved that the hog, probably the least dainty of all the four-legged tribe, shuns this grass instinctively, as if it were really known to be a certain death-dose. He will famish with hunger rather than taste either root or branch of it; though by breaking up the ground, he multiplies the growth of it at a wonderful rate.

The hog is also known to avoid the *Tobacco* plant very

much in the same way ; may not man, therefore, an animal, not quite so delicate, in this respect, as Master Grunt, substitute this grass for that weed and gain something by the exchange ? The enquiry is made merely to elicit experiment.

Sheep are observed to eat the Slobber Grass freely, though it is believed to be injurious to their milk and to the growth of their young. It has been found by careful comparison, that lambs, where this grass prevails to the exclusion of more healthy and nutritious feed, do not attain the weight of lambs in regions where the grass is not known, by something more than thirty per cent. A course of experiments, however, is now in progress which will probably determine with more accuracy the effects of this grass upon sheep and several other animals.

No attempt is here made to exhibit the precise qualities or properties of the Slobber Grass, for the simple reason that no fair test of its component parts has yet been obtained. The plant has not been honestly submitted to a chemical analysis ; the first and great object has been to say to the world the *cause* of the Slobbers has been discovered and a remedy found.

Preparations however are now in progress and are nearly completed, for ascertaining its qualities and developing its whole character by a scientific examination.

But without any character, and even without a name, it has long been a prevailing plant in this, and probably in many other countries, and has never been regarded as any thing more than a harmless wild grass—a coarse pasture feed. Mixed with other grasses, it has long been cut and

cured as appropriate winter fodder without once exciting suspicion or waking enquiry. The entire loss of the milk and the bag of an elegant and valuable cow, in the midst of summer and fine feed, first roused attention, and patient investigation has fully proved all and even more than all that we have here stated.

FACT NUMBER ONE.

SECTION III.

REMEDY FOR THE HORSE SLOBBERS, &c.

It has already been observed, that the Slobbers in the horse, may be cured in a few hours by the use of dry feed, and it may now be added, that wheat bran is believed to be the most immediate as well as the most effectual temporary cure. In some parts of the country, the laboring horse, to avoid the effects of this disease, is regularly shut up and fed on various kinds of dry fodder, during the whole slobber season. A somewhat similar change of feed, provided for the cow, will, if seasonably given, protect her also, or partially restore her after she has been afflicted, from the effects of this grass. But a more effectual remedy may be found by adopting a regular and systematic course of pasturage, something after the following order:—

1st. The Slobber Grass, like Indian Corn, will not thrive in the shade; in order, therefore, to smother its growth, keep the ground, when suitable, heavily stocked with herds-grass, or what is called fox-tail, with clover, or with something that will afford a thick, strong sward. Then, to preserve this sward, and leave no opening for the Slobber Grass to sprout, the HOG should be carefully shut out from the pasture; for where this animal breaks the ground, the poison grass springs up with wonderful celerity, scatters its seeds, and destroys the wholesome feed.

2d. The earliest spring feeding, should be taken from

those lots or portions of ground, destined to be broken up for the *Summer Crop*, and here the Hog may run and root to his fill, without doing much mischief in the way of propagating the Slobber Grass.

3d. The next feeding should be taken from what is intended to constitute the main *Summer Pasture*, where the Hog must not be suffered to run on any account whatever, nor must the horse or cow remain there for any great length of time; because, the object is merely to crop off the first growth a little, so as to cause the grass to spread, become thick, retard the period of its coming to maturity, and hold the Slobber Grass in check.

4th. In the third place, the feeding may be taken from what is reserved as *Fallow Ground*, where the Hog may also run without damage. Here the horse and the cow may remain until the grass in the principal summer pasture shall have attained a rich growth, in the shade and unbroken sward of which, little or no Slobber Grass will be found. Or they may remain on the fallow ground until the *Chestnut-tree* comes out in full blossom, at which time the Slobber Grass will have become dangerous to the horse and cow, and they must be provided for forthwith in the main summer pasture. In this pasture they may remain with perfect safety, until the after growth of the herds-grass and red-top meadows are ready for feeding.

5th. The Hog and the sheep too, if need be, may remain on the fallow ground to advantage until seed time, when the former may go to the apple or peach orchard to pick up the windfalls; and the sheep may go into the principal summer

pasture, to feed every thing off close, and they may remain there until the heavy frosts check the Slobber Grass and leave the wholesome grass feed, young and tender, and in good order for the *Fall Pasture* of the cow. The working horse, at the same time, should be housed, at least, during the night, and carefully prepared for the winter service.

6th. It may here be observed, that the aftergrowth of clover *simply*, should be carefully avoided, because it is liable to be mixed up with the Slobber Grass. Clear clover does not form a fairly combined sward, nor a perfect shade, and therefore the bad grass will creep in, and taint the feed. It has been known to be so heavily mixed with clover rowen as to inflict the Slobbers in the dead of winter.

7 Here we will also remark, that herds-grass is sometimes called *timothy*, as well as *fox-tail*; and in some places it appears to be confounded with *red-top*; but this latter is a totally different species of grass, it thrives best in low, moist ground, where it comes to maturity rather late in the season.

Now, the Slobber Grass will not thrive with heavily stock-ed timothy, or red-top; nor will it grow freely with clover, springing from a thick herds-grass sward.

This poison grass, in order to reach its greatest perfection, demands the sun-light in rich perfusion, and a rich cultivated soil. This fact gives the farmer a partial control over its effects upon his stock by carefully adopting and carrying out the plan of pasturing which is above described.

This plan has been fully tested and successfully followed for the last three or four years, and is, without doubt, the safest course so long as the poison grass is suffered to grow.

It is believed however, that not only this grass, but every other noxious grass and weed, may be easily and very advantageously eradicated from the soil, and all expences thus incurred fully paid by the increase and superior quality of the productions of the ground the first year. The manner of accomplishing this important object is laid down in the following section.

FACT NUMBER ONE.

SECTION IV.

DESTRUCTION OF THE SLOBBER GRASS, &c.

By the destruction of the *Slobber Grass*, &c., we mean the destruction also of the Canada Thistle, the John Wort, the Stean Crout, Daisey, Cockle, Tare, and all other hurtfull weeds and plants, which prey upon the farmer's labor and destroy his substance. When this is once effected, and experience proves it all perfectly feasible, the soil will be left to bring forth, from good seed, not only clean and wholesome grass and grain, but the richest and largest amount of both.

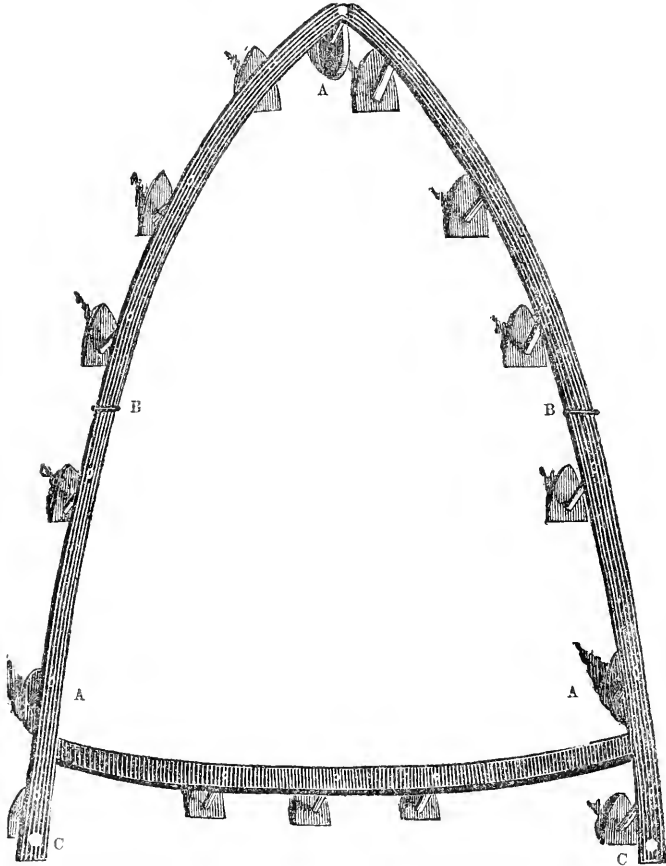
This important object may be attained by means of a simple machine, called the SLOBBER GRASS DRAG, which is of easy construction, and of cheap use ; for it may be drawn by a single horse, and tended by a boy.

This *Drag*, a diagram of which stands opposite, has something of the form of the old-fashioned heater ; it covers more ground than the ordinary harrow, and is comparatively lighter. Its length may be rated at eight or nine feet and its greatest width at six or seven feet ; and it may be formed either of iron and steel or wood and steel. It is jointed near the middle, for the purpose of fitting uneven or rough surface, and its pitch or track is measured as to depth by three iron revolving wheels or pullies.

This *Drag* is armed with thirteen, (the number may be varied) spoon-bowl shaped shavers or knives, made of well

tempered steel and designed to be kept sharp. Each knife is about ten inches in length and eight wide at the head, and it is made fast to an iron shank, fitted to the timber or beam of the Drag, and dropping about six inches in the clear, by a screw

PATENT SLOBBER GRASS DRAG.



A. A. A. Iron wheels. B. B. The two joints. C. C. Places for handles.

and nut, planted three inches from the heel. These knives enter the ground about one inch and scrape over the whole surface, cutting up the grass and weeds the entire width of the Drag.

The Slobber Grass Drag, is designed to be employed on the *fallow ground*; and for the purpose of destroying that grass, the thistle, &c.—this ground must be broken up soon after these poison plants make their appearance, which in 40°, and upwards is about the 1st of May. This ploughing, if well done, effectually covers up and desiroys the first or spring growth of the grass, &c., and converts it to compost.

The ploughing should be followed, forthwith, by a harrow, for the purpose of levelling down the inequalities and smoothing the surface for the knives of the Slobber Grass Drag. Then the Drag is to follow the harrow immediately after the offensive weeds make their appearances and while they are yet tender and most easily destroyed.

Now, it must be observed, that the ploughing, in ordinary grounds, should be done, for several reasons, while the earth is moist, but the Drag should be used only in dry, warm weather, that the sun may wither up all that the knives shear off; and this shearing off should be repeated as often as the young Slobber Grass, thistles, &c., start up and coat the ground. In the mean time, the ploughing and harrowing should be repeated three times at least, before seeding, and if the fourth time is added, the benefit will be palpable to common observation.

This kind of dressing, honestly and judiciously conducted, will secure the field against all kinds of poison grass and

weeds, even if heavily charged with either the grass or the thistle, or with any other poison vegetable, for four or five years, and all the increase of labor and extra expence, and will be more than counterbalanced in the quantity and quality of the crop even of the first year's produce.

When the land thus dressed, is designed either for mowing or pasturage, the *timothy* seed should be scattered immediately after the last harrowing; for it will then take early root, form an early sward, and help to smother all bad weeds; forming, at the same time, a protection to the young clover stocking, sown in the spring of the year, both from the sun and the frost.

CHAPTER II.

THE PLUM TREE.

FACT NUMBER TWO.

SECTION I.

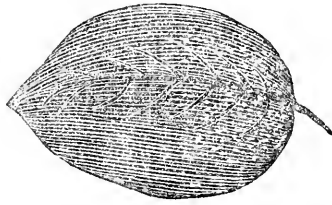
FORMATION OF THE BLACK BUNCH.

THE Plum is a beautiful and delicious fruit. Some kinds are known to be of very high antiquity, and have long been esteemed, in all civilized countries, as a choice table dish, as a rich preserve, and as applicable to many other delicate purposes of food. Many kinds of plum trees grow richly in nearly almost all parts of our country, and great pains have been taken to bring the fruit to some good degree of perfection, but for the most part the success has been very limited.

For the last forty or fifty years, the tree, in the old settled parts of the Union, especially, has encountered almost insuperable difficulties, and these have really discouraged thousands even from attempting to cultivate the fruit. The most formidable of these evils is a species of **BLACK ROT** which invariably induces premature decay. From this cause the fruit has not only been poor in point of quality, but the supply has been scanty and uncertain.

One special design of this little work, is to trace out the cause of this *Black Rot*, or **BLACK BUNCH**, as it is called,—the foundation of the *Decay*, and thus provide a remedy by which the *rot*, and the evils resulting from it, may be avoid-

ed, and that too, without the loss of the tree, or even an entire suspension of its fruit.



A BRANCH OF THE DISEASED PLUM TREE.

The CAUSE of the premature decay of this tree, is an insect, called the PLUM TREE LOUSE; for, strange as the fact may appear, trees have *Lice* as well as man and beast. This insect makes its appearance about the time the tree begins to bloom, and it then has the form of a small, green mite,

lodged, by myriads, on the under side of the leaves and about the blossoms. But in due time, this green mite becomes a winged insect, and passes from one branch of the tree to another. It visits the fruit after it has become fairly formed; feeds on the tender skin, and not only stints the growth of the plum, but mars its beauty and vitiates its quality. The leaves and the fruit thus wounded by the louse and the fly, or the winged louse, as it is called, shrivel up, turn yellowish, and generally drop off at an early period of the season. This is the beginning of the evil.

Now, it is a well known fact, that the leaves perform the same office in the vegetable world, which the lungs perform in the animal world; they are the means of sustaining respiration,—the channel through which the tree breathes. If, therefore, these have been wounded, and have dropped to the ground, during the breathing or growing season, it is evident, that so far, at least, the growth of the *Spring Shoot*, is actually stifled.

What then is the natural consequence? Does the shoot or tender sprout instantly die? No;—but it has a death stab which it will not survive. By this stab, the sap, the life of the sprout, becomes vitiated, and that portion of it which should have gone to feed the decayed leaves and fruit, not only remains in the newly formed spring shoot, but falls back to the point where the sprig or shoot first took its vernal start, and there forms an irregular bunch under the bark, and upon one side of the shoot. This bunch, though small at first, soon becomes perceptible; it presents a wood-like appearance, yet without any regular grains or lairs, but

granulated and soft, or rather spongy. In the end, however, as it continues to accumulate in matter and increase in bulk, it becomes more porous, and in the course of two or three years, generally bursts the bark, when the vitiated matter runs out and turns to a dingy black. This therefore is commonly called the **BLACK BUNCH** on the Plum Tree.

But should the increasing matter at the diseased point, be retained within the bark, it nevertheless continues to corode, and finally turns black, forming a kind of punky substance which in the end destroys the limb, and in due course of time, the whole tree, branch, body, and root.

Aside from this insect, the plum tree has another enemy to contend with, which, though less formidable, in point of numbers, is sometimes quite as fatal. This is a species of **BLACK BUG**, which springs from a darkish, grub-like-worm, and is somewhere called the **CARCULA**. It generally makes its appearance about the time the fruit is one fourth or one third formed, and though its tarry is not very long, it does a good deal of mischief. It preys upon the fruit; perforates the delicate pulp covering, and propagates its species by depositing its eggs in the fleshy parts of the plum. The fruit thus poisoned, soon feels the wound, and begins to wilt; then comes the rot, and the promised bounty finally falls to the ground. During the progress of this untimely decay, the egg becomes a worm which winters in and about the root of the tree, and finally forms the following year's *Black Bug*. But the ravages of this enemy, is not confined exclusively to the fruit of the tree; for, while in the form of a worm, he often finds his way into the body or stem of the tree, rankling at

the very heart some two or three feet above the root. In this operation, he not only breaks the bark and lets out the gum, forming, of the life of the tree, fit habitations for various other irritating and cankering insects, but leaves the road open for the approach of the auger-worm, whose tooth, like the waste of time, soon or late, perfects a total ruin of the tree.

Two or three modes of avoiding the evils inflicted by this insect, both in its worm and bug form, and even before it has assumed either form, will be given in the third chapter while providing for the preservation of the Peach Tree.

THE PLUM TREE.

SECTION II.

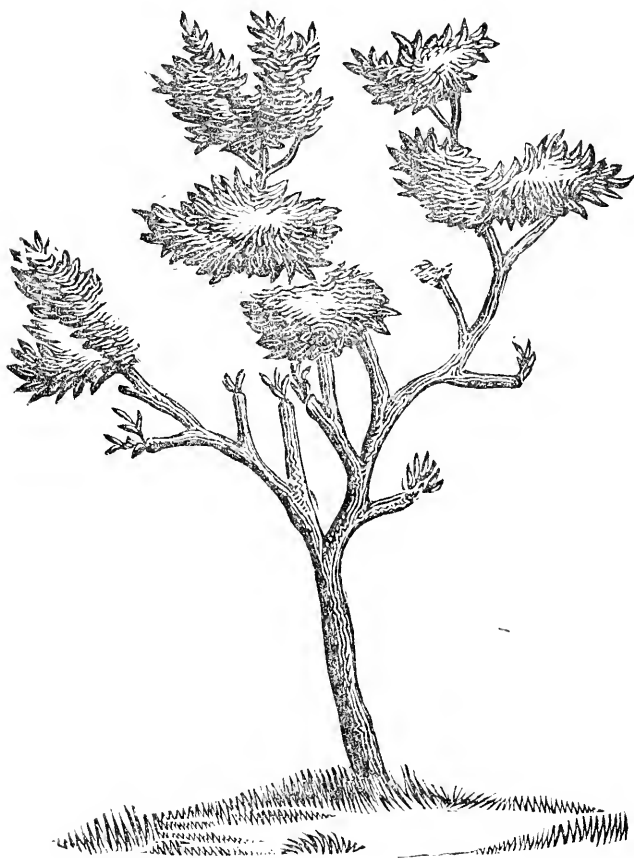
THE REMEDY FOR THE PLUM TREE.

EXPERIENCE has shown that, where there are no plum trees, there are no plum tree insects; therefore, to effect a radical cure of the Black Bunch, the present stock of plum trees, now rendered almost valueless, should be taken, by common consent and simultaneous action, and cast into the fire, root and branch.

The surviving insects, if any, will perish in the course of a year or two; hence, eighteen months after the destruction, a new stock may be planted from choice seed, which will not be troubled with lice until the country shall be again infected with them through the importation of trees from the old world. The whole process may occupy some six or seven years; and the new stock of trees may thrive and bear fruit for half a century; for we have now many aged persons among us who remember when the lice, the Black Bunch, and the premature decay of the plum tree, were things altogether unknown, and such may again be the case if all the people, as one man, shall see fit to will it. Actual experiments abundantly prove that the plum tree cannot be raised, even from the seed, in the immediate vicinity of old diseased trees, without subjecting it to the visitation of this Black Bunch at a very early age.

Now, as this mode of destroying the Black Bunch, may

not be deemed strictly feasible, inasmuch as the will of all may not be readily obtained, it may be proper therefore that each man should have his own remedy.



PLUM TREE WITH BREATHERS.

From long and patiently tested experiments, it has been found that the plum tree, infected with the Black Bunch, which is nothing more nor less than the *Plum Tree Scrofula*, will again thrive and bear fruit, if not too far gone to throw shoots, after the diseased branches have been trimmed off; provided there are six or eight healthy branches left for the purpose of furnishing leaves or lungs through which the tree may breathe. And while these branches sustain the tree, they will also use up the sap from the roots, and supply a goodly share of fair and wholesome fruit.

This trimming should be performed in the dead of winter, for then the sap is at the root, and the branches should be sawed off some two or three feet from the body of the trunk, or main stem, thereby leaving full room for fresh shoots to branch out which are to be the future bearing plum tree.

The limbs thus lopped off, with all the trees past bearing, and all the sprouts or suckers, which should be taken up, root and branch, should be forthwith burned up; and no useless appendage of a plum tree, capable of harboring insects should be left on the premises.

In the next place, the six or eight healthy branches, left for breathers, should be carefully examined and guarded for two distinct purposes:—The first of which is, to protect them against the ravages of the lice; and for this protection, the lopping off of all the other branches from the tree affords ample elbow room. Should lice make their appearance on these branches, they must be destroyed by water and dry lime, or house ashes.

The water is first thrown upon the under side of the leaf by means of a syringe or other instrument, and the lime, dust or ashes must be faithfully sprinkled on immediately after, and either will destroy the lice and check the ravages of the insect on the leaf. This washing and dusting must be repeated two or three times during the early part of the season. The new shoots will have fruit, fair and abundant, on the second or third year. Should it turn out that some or all of the six or eight healthy branches, reserved as breathers, are really sickly, they must be lopped off also and burned up while the sap is at the root of the tree; otherwise decay soon follows.

The other object for which the breathing branches should be carefully watched, is, to save them from being broken down by the increased growth of the shoots, and the excessive weight of the fruit, acted upon by the wind or the rain. This is done by furnishing props on which the branches may rest until the fruit matures.

It may also be proper to observe here that the tree furnishing the egg plum, bears up against the ravages of these insects much longer than any other kind of plum tree. The reason probably is, the leaves of this tree are much larger and thicker than the leaves of other plum trees, they are therefore not marred so much but that they remain on the tree and act as breathers through the bearing season.

The Marilla cherry tree is also visited by insects which produce the Black Bunch similar to that on the plum tree, and it may be cured in the same way if taken in proper season.

A like course may also be pursued with the pear or the apple tree, when either, by continued bearing, has destroyed its energies, and rendered its fruit valueless. The branches left to support the tree, will yield fine fruit the first season, and the new shoots the second or third season, and all of prime size and rich flavor like the fruit of a young tree.

CHAPTER III.

THE PEACH TREE.

FACT NUMBER THREE.

SECTION I.

DISEASES OF THE PEACH TREE.

IF the PLUM, the fruit of the tree just under consideration, is a rich and dainty morsel, the PEACH, the produce of the tree of which we now intend to speak, is altogether more so. It is much larger,—much richer,—more healthful, and more universally esteemed. As a table dish, it ranks foremost, and as a preserve, it is said to be more delicate and nutritious than the quince.

The tree however which furnishes this delicious fruit, has, in these latter days, become extremely frail and strangely perishing; and its fruit also has grown impoverished in point of quality, and greatly narrowed down as to quantity;—the stock has fallen off, within the last forty years, probably more than fifty per cent.

Great labor has been given and expense incurred to get at the cause of the evils which light on the PEACH TREE and its fruit, and to bring both back to their pristine beauty and perfection, but all labor, all enquiry, seems to have proved utterly abortive, until efforts in that behalf have generally been abandoned as altogether hopeless.

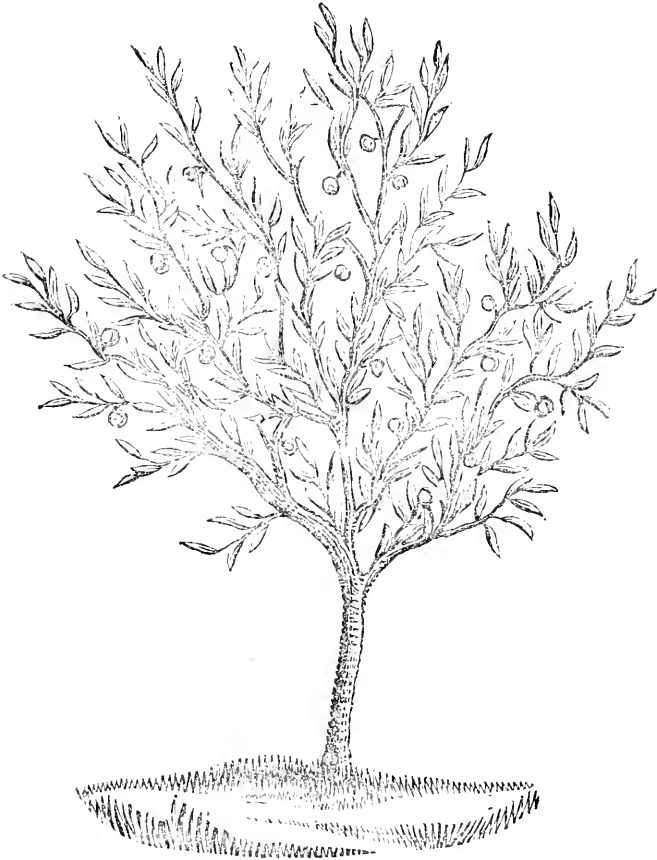
In one quarter, however, enquiry was not dropped, nor was labor given over. This point was in the Sunny Hollow of Onondaga, near the confines of the old Indian reservation. Here, after a series of patient and close observations, and carefully conducted practical experiments, extending through a period of more than *thirty years*, it was finally discovered that the PEACH TREE may be easily and safely reared, and made to yield prime fruit for forty or fifty years, and probably a hundred, as well as for four or five; and that too, at less expense of ground, as well as time and labor, than is consumed by the mode of culture now generally adopted.

It has been satisfactorily proved that the premature *decay* of the *Peach Tree*, springs from one or more of the three following causes, viz. :

1st. *The want of a proper choice of ground for the SEEDLING PLANT.* If the seed be planted in damp, cold ground, or in soil covered with sand, resting immediately on a compact, clayey sub-stratum, the seed may indeed spring up and grow, but the plant will be unhealthy;—the root will soon take the *Consumption*, and then transplant the sickly thing to any kind of soil, and look for *thrift*, and behold nothing but disappointment will come. When the *canker* has once taken hold of the young stock, no sunny nook of earth, no kindly kindling soil, can ever afterward remove the disease, or renovate the tree. Close inspection will show that the heart has grown *black* and is virtually dead; and although the *sap* may circulate for a while, its energies are wholly lost in throwing out a mass of *little needle shoots*,

which not only yield no fruit, but probably never show a blossom. So much for the growth of the *Seedling Plant*.

2nd. *The present improper mode of culture.* That is to say:—the tree is trained to grow, like the apple tree, and



THE DISEASED PEACH TREE.

some other kinds of fruit trees, in one body or stem, to the height of several feet. The growth of this stem is generally very rapid, consequently, the texture of the timber is coarse and poor, or what is called *brush*; hence easily broken by a little access of fruit, or a fall of damp snow, or even a brisk wind.

The quick growth of this tree, resulting from the concentration of a large supply of sap from the roots, especially where the soil is rich and genial, generally causes the smooth and delicate exterior covering of the bark to burst and form cavities and ridges in the rind, leaving the inner bark, or wood coating, to perish in the atmosphere, at once opening the way for the fatal *auger worm*, whose tooth carries him to the very heart of the tree.

The inequalities in the bark, especially where they have an inclining, or horizontal position, catch and retain the wet and sleet of the winter storms, which, being immediately followed by severe frost, are soon frozen up and thereby destroy the bark, leaving the tree exposed, not only to the loss of its gum, which is its very life, but to the free action of the wire and the post worm; either of which inflicts a death-blow to the tree, even while the roots are yet green and healthy—and able to send forth fresh and fair shoots and new hopes.

From this *one-stem* mode of cultivation, there is also a special evil resulting also to the *fruit* of this tree. It is this:—the superabundant mass of sap, passing up the *single stem*, proceeds, when the other parts of the tree cease to take it up, directly to the **BLOW BUD**, as it is called, and,

in the mild weather of Autumn, more especially where the tree is protected from the cool winds, swells it to actual bursting and frequently to full bloom.

This enlarged bud, being subsequently exposed to the rains and frosts of the season, which frequently succeed each other in almost the same hour, is frozen up, and the germ of the future fruit perishes in the icy embrace. This dead germ, turns black immediately, and thereby proclaims to every close observer, and almost upon the very heel of the first exposure, the extent of the ravages committed in this behalf on the next year's supply of the peach crop.

3d. *The Peach Tree Insect.* This is a species of WORM, which somewhat resembles a small, *White Grub*. It is probably known among fruit growers generally as the PEACH TREE WORM, for it has long been felt through all the old States of the Union, as a deadly despoiler of the fair promise of the peach orchard.

Close observation has discovered that this worm comes from an *Egg* deposited both at the root of the tree and in the fruit of the tree, during the Summer season ; not by a fly, as was long supposed, nor by a large, glossy, black and tittering *Wasp*, as many have imagined, but from a longish, black BUG, the last change which the *little White Grub*,—the Peach Tree Worm,—undergoes, and in which stage, it is evidently well prepared to do its mischief and propagate its species.

In the *grub* form, however, it is as far from being harmless as it is from being idle. It has been caught a thousand times, girdling the tender *seedling stock*, and rioting in

the *alburnum*, or sap, as early as the first Autumn after the seed has sprouted. It also feeds on the roots of the young tree, saps their energies, imparts to the leaf a decaying cast, called the **YELLOWS**, and often destroys the hope of life before the seedling has attained a single year's growth.

Observation proves that this worm winters in the tree near the root, and that in the Spring, it forsakes its burrow in the form of the aforementioned *Bug*, and is prepared to traverse both the earth and the air. In this form, it reaches the fruit of the tree, where it not only perforates the tender skin,—stinting the growth and marring the beauty of the peach, and often causing it to die and drop to the ground, but there deposits an *egg*, which in time becomes a *grub*, and the grub again becomes a *bug*, and so the plague is perpetuated as a primeval cause. After the dead peach has lain on the ground a short period, the *white grub* has been found full of life and with instinct sufficient to leave its decaying habitation, and make its way through the grass, &c., to the root of the tree from which the fruit fell, with the view no doubt of finding safe winter quarters. Here, burrowed with the little *wire worm*, a native of the soil, in the gum which has oozed from the tree, it passes the cold season, chafing and irritating the tree, as best the torpid state will admit, until the whole plant perishes both root and branch.

The *bug*, too, after having stung the fruit and destroyed its life, has been found to go back to the root of the tree also, where it deposits other eggs, which subsequently multiply the army of worms and bugs, which in their turn make war upon this frail tree and its fruit if they have any thing left to

war upon, and rendering the existence of the one extremely precarious,—and the flavor of the other poor and nearly tasteless.

In view of all the evils which are found to beset this beautiful fruit tree and its productions. it can hardly be a matter of surprise that the peaches of our country are so meager and scanty. In fact, the wonder might more justly arise, that we have either peaches or peach trees in the land. And this wonder might well be increased when another and a still more dangerous evil to the fruit of the tree, is taken into the account; I here mean the ROSE BUG, which, in truth, seems to threaten the annihilation of almost every kind of fruit. But this evil is of very recent appearance and not as yet of universal spread. So far, it has been felt principally along the sea board, reaching annually, however, further and further into the interior, and apparently forbidding the hope of ever again enjoying a full supply of rich and wholesome peaches or of any other species of fruit.

We venture to add however, that, formidable as these evils appear, each and all that beset the *Peach Tree*, except the visit of an untimely frost, (which is not here counted among the ordinary Peach Tree enemy,) may be effectually overcome. Indeed, they *have* been overcome! and rich, and rare peaches, have been taken this season, (1842) in latitude 43 and odd, from trees which have borne steadily for nearly forty years. We will explain the whys and wherefores in a very few words, and point out the ways and means by which every man may preserve his Peach Trees and enjoy their fruit through a long life.™

THE PEACH TREE.

SECTION II.

REMEDIES FOR THE PEACH TREE, &c.

THE remedies for the diseases of the PEACH TREE, and the evils which generally befall its fruit, here submitted to the public, may not all, indeed, prove the very best under the sun, nor may they all prove to have attained their highest degree of perfection, or the most advantageous mode of application. Yet we are free to say they are the best and most perfect, in all respects, which patient observation and long experience, have yet been able to suggest.

It may well be expected, nay, it is confidently hoped, that future experiments, (and here we take the freedom of saying they are daily and even hourly progressing,) may yet point out important improvements, in some of them at least, and in the mode of applying them, and in the end, open the way to a more extended and more accurate knowledge of the culture not only of this tree, but of our whole stock of fruit trees.

In almost every department of agriculture, our whole country is in a state of comparative infancy; and it must remain so, to a great extent, until we become content to cultivate less space, and to exert in the premises more practical science and experimental knowledge.

In this respect, something of the proper principle begins to appear about our large towns and cities, where, as the

ground becomes valuable, it is generally made to yield a pretty good share of its full strength,—its exhaustless riches.

With the true principle of agriculture, however, we also need, above all things, the adoption of another principle, still more important, more vital, both to individual and national prosperity,—to true greatness and true happiness. We here mean the principle of COMMON HONESTY!—of fair, open-handed, every day dealing, as between man and man, and between man and his final accountability. The beauty of this essential principle of life, we are pained to say, has been most fearfully marred of late years by the poor, debasing spirit of SPECULATION—the wild, bewitching wish for instant wealth,—the reckless rush to excessive fortune—the cankering lust of gold! This spirit is daily seen and felt, here at home, by every one who, with half an eye, measures life and the things of life by the honest standard of time's allotments, while abroad, it is seen and felt, and held as our most innate and closely besetting sin,—our broadest national blot. In the presence of this spirit, the ties of nature, the pride of country, the hope of heaven, all fade away, and even love and law lose all their force. The fatal example, once put forth by a bold spirit, high in power, setting plighted faith and sacred rule at noon-day defiance, and daring all consequences, has worked a lamentable waste in the world of moral obligation, and by the mass it is now claimed as a LETTER PATENT under the seal of a demi-god, for the commission of any crime,—the infliction of any wrong,—the utter disregard of all public and all private faith.

Who, at this day, abides his word or his bond as in days

past? Who honors moral worth or commercial integrity as both were once honored? Where is the sanctity of a promise, the steadfast confiding, the holy keeping, which were once our honest boast,—our glory at home and our passport abroad? Into what profession, avocation, or calling, has not bold, open-day cheat, blink-eyed duplicity, and unblushing fraud, dexterously crept, as if they were all so many white winged angels nestling in the bosom of Eve-like innocence! Even in the cultivation and sale of the humble plant whose name adorns the heading of this chapter,—the generous fruit-giving Peach Tree, the most villainous deceptions and coolly contrived frauds, have just been detected, and in various quarters they now exhibit strong proofs of extensive prevalence and long standing. Our NURSERYMEN, from the mass of whom however, we are happy in being able to make some worthy exceptions, have taken the RESPONSIBILITY of carrying on, and carrying out a series of preconcerted knaveries which merit the severest reprehension,—the rod of just retribution. But as this subject will be briefly stated in another place, we now waive further comment, and proceed forthwith to the consideration of the cure of the Peach Tree and the preservation of its fruit. And

1st. *The choice of ground, &c.* In the planting out of the nursery seed or peach-pitt, as it is called, care should be taken that the seeds are strewed along in the drill or furrow about *four inches* apart. This distance affords fair room to dress out the plant, and it particularly favors an early inoculation, say the first Summer after planting the seed; this too, by consequence, will greatly favor an early transplanting to

the orchard plat, especially if the enoculation be made close to the ground, which should always be the case with a healthy seedling plant.

Then the Peach Tree seed demands, invariably, *a dry, warm, and strong soil, free of stones, weeds, and grass*, and smally declining in some direction, so as to avoid standing pools of water. From this ground, which should be located quite remote from all *old and sickly peach trees*, the weeds, &c. should be carefully dressed out two or three times during each season, and all cob-web nests, and the homes of insects, should be thoroughly brushed away. Any other course than this, may possibly save labor, but it inevitably leaves the infant tree exposed to incurable disease and early decay.

In the next place, in order to preserve the nursery plant from the visitation of the *white grub-like worm* and all other unfriendly insects, the earth immediately about the root of each plant, must be effectually drenched with stale *chamber lye*, and this must be followed up faithfully during the months of August, September and October of each year of the seedling's nursery growth. The free application of this *lye* to the ground about the plant, has been found effectual in keeping every kind of noxious insect out of the way, and preserving the plant not only in a healthy state, but in a fair and thrifty condition for the orchard.

It will probably be said that this mode of preserving the seedling plant against the inroads of the worm, &c., imposes a great deal of labor. The objection has some weight; but it is all much more than counterbalanced by the consideration

that no part is lost;—by the consideration that one seedling plant thus watched and reared for the orchard, is worth more money to any man who wants good fruit, than a whole wagon load of diseased roots, dug up from among wild hedges and wet waste lands, grafted and planted in mellow nursery ground, to cheat the honest, confiding purchaser, first, out of his money; next, out of his labor, and lastly, out of all hope of raising fruit.

But let it be remembered that the labor bestowed on the nursery plant, large as it may appear, *is all irrecoverably lost, unless proper ground be selected for planting out the Peach Orchard.* This fact has been long since abundantly proved by the utter failure of thousands who have attempted to rear this fruit, even from the best of seedling stock, planted in unfriendly soil. Well tested experiments effectually show that dry, elevated, and rolling ground, is not only the most inviting, but the most safe and the most certain. And should the surface chance to be quite broken and quite rocky, these form no serious objections.

Much of the success in the cultivation of this fruit, is generally supposed to depend upon the direction of the descent of the ground of the Peach Orchard; but the point of declination, is not in fact of any great moment. Experience proves that the *north* and *west* pitch, will, in ordinary seasons, produce the greatest amount of fruit; while the *southern* and *eastern* pitch, bring the earliest and richest flavored fruit. Deep valley grounds should be avoided by every possible means as damp and unhealthy, but elevated sites may range from fifty to two hundred and fifty feet above the fair level

of the surrounding country, and do well in almost any climate, provided the soil be dry, warm, and quick.

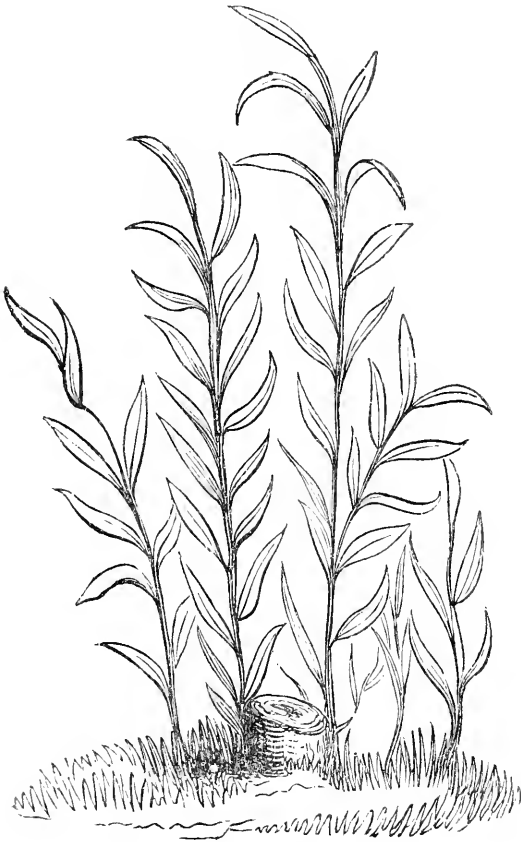
2nd. *The training of the Peach Tree in a single stem, &c.* The evils arising from this mode of culture, may be all easily and effectually remedied by substituting the following course of cultivation, viz.

1. In planting the young trees in the orchard, say about one year after the ingraft, care must be taken, in the first place, to *set them some ten or twelve feet apart*; this distance will admit a free team passage about the orchard. Then, in the next place, further care must be taken to *plant the roots of each seedling full eight inches lower in the earth than the depth at which it stood in the nursery.* This distance down places the roots quite out of the reach of the bug and the worm, and gives them a fair hold upon the earth and the nutriment which it furnishes. Then, if it should so happen that the worm or other insect, bark the tree and bore it, and even kill it at the ground, new shoots will immediately spring up from the safely bedded root, strong and full of health, and thus keep the orchard stock in good condition.

2. In the spring, next following the planting of the orchard, each tree must be cut off at the ground. Then, from the root or stump thus left in the earth, fresh sprouts will soon shoot up, as in the subjoined cut, and *these are to form the future peach tree.*

The thrifty stems severed from the stump, may, if taken off at the swell of the *leaf bud*, be separated into *slips* of about ten or twelve inches in length, and *planted some eight*

or ten inches deep in the earth, leaving simply a fair sprouting space above the surface. These slips, if the ground be rich, fine, compact, and kindly disposed, will also sprout and grow, forming roots downward, and shoots upward, and this too, as experience teaches, in six or eight cases, as an average, in every ten.



THE RENOVATED PEACH TREE.

The same course has been pursued with strongly thriving branches, or suckers, taken from *any healthy peach tree*, and fine fruit has been thus propagated at a very rapid rate, and small expense. But let it be observed, that, in all cases of this kind, much of the chance of success, depends on the season, the condition of the slip as to the state of the sap, &c., and the care and judgment employed in the operation of planting, &c., for it must be remembered, that *the Peach Tree is one of the most delicate and difficult plants to manage that belongs to our list of fruit trees*; in fact its true character and true training, seem to have baffled all common place philosophy.

3. The sprouts springing from the deeply grounded root, and forming the *Peach Tree*, are all held in an upright and family-like position, by the body of earth which surrounds them; and although the ground in which they stand may be extremely rich, and full of appropriate nourishment,—and the sap very profuse, yet, being divided among so many suckers, it affords to each but a moderate share of nutriment; and that share may be easily regulated to suit any quality of ground by increasing or diminishing the number of sprouts.

One great object in this mode of culture, is to secure, *not a rapid, but a very moderate, not to say, slow growth of the tree, and at the same time, a sound and durable quality of timber, with a smooth and safe bark into which the rain and sleet will not penetrate, nor will the frost or post-worm find a ready entrance.*

4th. But should the *White Grub*, in his rambles, or the *Black Bug*, in his flights, chance to reach one or two of these sprouts, or even all of them at a single visit, which in fact would be a very rare occurrence, and prey upon them, they would all die as a matter of course; but then the *root* is safe; it has felt neither the sting of the one nor the tooth

of the other ; and it will soon send up new and healthy shoots,—*an entire healthy and graceful Peach Tree.*

Experience has proved all this, and it has also proved, that, in such cases, an excess of shoots will often spring up, and make a too minute division of the sap, thereby endangering the health of the whole family of sprouts ; therefore, *these sprouts must be trimmed out and the number graduated to the condition of the soil.* In this trimming however, some thought must be had as to the nature and state of the ground, its location, pitch, &c. In *poor land* some three or four shoots are enough, and six or eight in *rich soil.* Then, as to the relative position and promise of the plants,—division is one object, the preservation of the largest and most thrifty, is another, and both, and all demand the exercise of *judgment.* But let it be borne in mind, that this surplusage of shoots, let them come whence and when they may, *must be removed only at early trimming time.*

These thrifty sprouts, whether from the root of the nursery tree, or from one killed by the grub, will begin to bear fruit the second or third year ; and by the sixth or seventh year, they become extremely prolific and elegant. In this way, the stock of peach trees may be preserved in a perfectly healthy state, secure from all ordinary casualties, the late Spring frosts excepted, for many years ; ay, for whole generations, and rarely show the symptoms of the *YELLOWS*, as the sickly foliage is generally designated, or the decay of a root or a stem.

It may here be observed that, in order to promote the *purity of the peach orchard*, and preserve the beauty and quantity of the fruit, the *HOG* should be allowed the free range of the whole ground, from early grass time up to the ripening of the choice peach ; and when he is restrained from this range, all exposures of the roots of trees, to the ravages of insects, &c., should be carefully covered up, and the

ground left somewhat rounding or rising rather than hollow ; for standing water is a deadly foe to the Peach Tree.

This plan of cultivation, if faithfully pursued, will, if there is any truth to be drawn from experience founded on experiments, ensure the permanent growth of the Peach Tree, and also a permanent supply of peaches, provided there were no voracious bugs in the world or in the way. But as these frightful despoilers of the growth and beauty of the peach, and almost every other fruit, are actually among us, and threaten uncompromising devastation, it may be proper, in the next place, to see what may be done with them, for the time being, at least, and for the protection of the fruit against their ravages.

We have already referred to the *Black Bug* which comes from the little grub-like worm, and perforates and poisons the peach ; and now, in respect to this insect, we will further observe that three different modes have been adopted to get rid of him, and the seed which he plants to propagate his species. Each of these modes, (though neither, nor, indeed, all united, has effected an entire extermination,) has, in fact, proved greatly beneficial to the growth and beauty as well as the perfection of this fruit.

The first and probably the most effectual mode of destruction, is, as we have before observed, that of giving the *Hog* the free and full range of the orchard ground. This animal urged by a ravenous appetite, is very prompt to gather up all the wounded peaches which fall to the ground, and he is not less prompt to devour them, and so far he effectually devours the seed of the *bug*, whether in the form of an egg, or the more advanced form of a worm. Here the hog should remain, gathering his daily grub, so long as his presence does not interfere with the perfect fruit of the orchard.

In the next place ;—as the period of the existence of this bug, is very brief, and as he traverses the air on the wing

during the warm evenings of mid-summer; and, furthermore, as he is always attracted in the dark, toward a bright blaze; torches, therefore, have been provided for the purpose, and carried through the orchard immediately after dark, and the bug has been caught by thousands and bagged up for subsequent destruction.

Lastly;—Small fires have been built at several points near the orchard ground, which have in a little time drawn nearly all these insects from their lurking places about the trees and the fruit, directly into the fire. This precaution, followed up nightly for a few weeks, has been known to save the fruit effectually for the whole season.

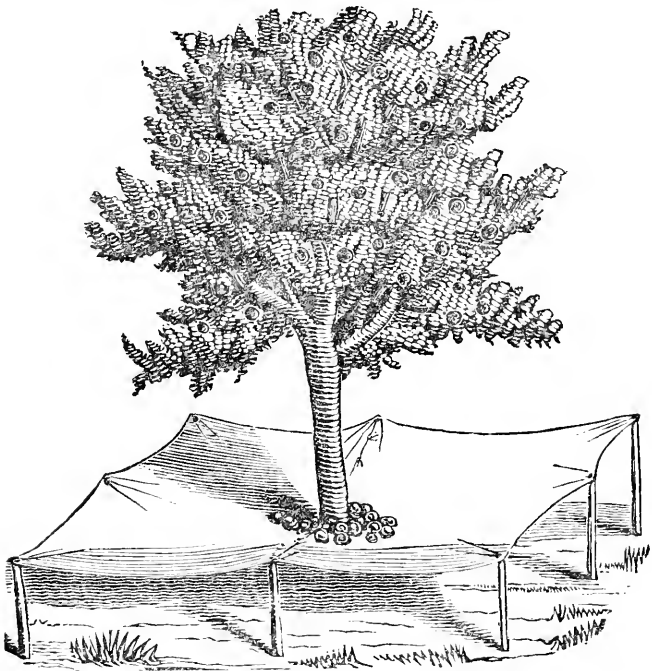
As to the *Rose Bug*, the fruit spoiler from the “Queen of Flowers,” we are not, in truth, familiar with his habits, nor with the extent of his ravages. We have been told, however, that he is from the *Dog Rose*, generally, and makes his flights only in dry, warm sun-light. If this be true, we desire, as an appropriate means of effecting his capture and destruction, to recommend a machine, which was primarily constructed for another purpose.

This is a great sheet,—cheap cotton factory cloth, formed so as to be spread out, on all sides, beneath the boughs of the fruit tree, and something beyond the extremity of the outer limbs; then, if sprinkled moderately with water, and the bugs shaken from the tree into the sheet, they will remain until they may be gathered up for destruction.

The same sheet may be used, as long experience proves, without the trouble of sprinkling, to gather the destructive worm called the *caterpillar* and hold him for extermination; but then he must be taken before he forms his net-work nest on the tree, otherwise it is no easy matter to dislodge him by a simple shake of the boughs. If however it should so happen that he escape attention until he gets housed about by his silken web, bidding defiance to the jostlings of the hand or the winds, and the peltings of the rains, then he must be

taken by a more direct and sturdy assault, or he soon endangers the life both of the fruit and the tree.

If the hands be well guarded by stout buck-skin mitts, and a light ladder be employed to reach his castle, fatal battle is soon waged. True, he is not, indeed, the most delicate thing in the world to handle whether with or without mittens, but then the labor of an utter annihilation, both of house and tenant, is not very great nor very dangerous; and then, if the wounded tree be rubbed over with a little soap or candle grease, none will return to build up the ruin.



THE SHEET AND EARLY FRUIT TREE.

'The first idea of this *Great Sheet*, was suggested by a sense of the want of some safe and easy means by which early fruit might be gathered and secured without subject-

ing it to severe bruises and consequent decay. At the outset, it was a long and narrow web, attached to the tree by a loop, and carried round by the hand; but when it was made a depository for the worm, it was constructed after the manner represented in the opposite cut.

When this sheet is designed for a very large tree, it may be made thirty feet square; but one of half that size will answer for the peach or ordinary apple tree. Its construction is very simple and cheap, and being of two equal parts, may be easily preserved, by being rolled up like a flag, round the pole or rope attached to the border of each, and placed under cover.

Though *Winter Fruit* should always be gathered by the hand, individually, and with more care and tenderness in the handling than so many hen's eggs, yet the ordinary *Fall Fruit* as well as the *Rare Ripe*, may be gathered by this sheet, and, if need be, piled at the root of the tree, which greatly expedites the operation of picking fruit. In connection with the treatment of the Peach Tree, there is another FACT which was originally intended to form the closing part of this work, but which, from circumstances beyond our present control, cannot now be broached. The Fact here referred to, relates principally to a new and improved mode of *Ingrafting*, *Inoculating* and *Pruning* fruit trees in general,—a mode which experience proves to be an important step gained in the art of cultivating fruit.

Now, as we are not able to speak on this point, it remains only to treat of the frauds which have crept into the business of the nurserymen and which seem to threaten both a dirth of fruit, and the destruction of the character of our country in her ability to grow fruit. We refer to this matter in no other spirit than that of regret,—a painful duty; we shall therefore be as brief as possible.

It has already been observed that, in order to procure safe and healthy *seedling stock* of any kind, and above all of the Peach Tree kind, the *ground for the nursery plants*,

should be of a choice character ;—dry, warm, and quick, and free from stone, grass, shade and harbors for insects. But why demand such select and rare quality of ground ? Because this is the soil which receives the *seed* of the future tree ;—the soil which, by a secret process of nature, unwraps the sleeping germ and wakes the tender shoot to life. In this soft and vivifying mold, the *stem* is formed and thrown upward to be nursed in the air by the kiss of the breeze and the sun-beam, and the *root* is drawn downward to extract its nutriment as a child draws its life from the breast of the mother. Now, if that soil be cold, or wet, or barren,—if it be a sour clay, or a sterile sand-bank,—if it lie in the shade of the forest, the hedge-row, or the wild grass, what must be the nature of the nourishment afforded to the young plant ? What would be said of a mother's designs upon her child, who, in calling in the aid of a wet nurse, should advertise for one with a *cankered breast* ! Would she intend for the young sprout of humanity, a fair and healthy growth, and a long and happy life, or would she not purposely entail a sickly existence and a premature grave ? If, then, foul intent would lie against the mother, with what design shall the nurseryman be charged, who, year in and year out, and for whole lustrums of years, coolly prepares and deliberately vends to an unsuspecting and honestly confiding community, many thousands of *nursery fruit trees* formed on *seedling plants* which have been nourished from the seed upward only at the **CANKERED BREAST** !—seedling plants, gathered from all the winds of heaven, and all the bogs and waste lands of the earth !—sick at heart and eaten up by vermin at the root ! The simple idea of such plants, brings to mind the enquiry of the Prophet at the valley of dry bones :—Neighbor, *can such seedling plants live ?* Nurseryman, *thou knowest that each and every hope of life must perish !*

We speak advisedly and within the bounds of fact, when we say that the business of digging seedling roots, employs

for a part of the year at least, more than one thousand hands, and that more than ONE HUNDRED THOUSAND of these wild and diseased roots, come to the New-York market annually, and are re-planted in the neighboring nurseries! From these places, they are subsequently sold out, and sent to every part of the continent! If it be asked how this traffic is conducted, the question, as to the general operation, is easily answered. The nurseryman employs laborers who go out into the fields, among hedges, and over waste grounds, and redeem this kind of stock from pasture lands and waste places, and, having cast the poor, unsightly upper portion away, make prize of the root as so much gain. This root is adopted into the warm and kindling soil of the nursery ground, where the stump, thus reclaimed from the fens and bogs of waste lands, receives a graft from some well conditioned fruit tree, and then, to an unschooled eye, all looks fair and of a fair promise. But what is the true state of the case? Just below the "beautiful cion," there remains, covered up with earth, the sickly seedling root,—worm-eaten, canker-smitten, and heart-wasted, beyond the reach of art,—the healing touch of nature,—and the world of hope. To say that each and every root thus reclaimed, is necessarily sick and worthless, is saying too much; it is possible and even probable that among so many thousand, a few may be found sound and healthy; and it is possible also that a selection is made, and the actually decayed roots are thrown away. Yet many of our nurserymen know, we presume, and if they do not, we can tell them, that, if all this care in the selection be made, their grounds are charged yearly, with perfectly dead seedling stumps, grafts and all, which, when first planted, were too far gone either to sprout of themselves, or give nourishment to the adopted cion.

To an individual familiar with the nature and due health of seedling plants, this base botch-work is, in fact, no cheat whatever; for with him, the very gloss of the bark, the tinge of the leaf, or the leaf-bud, the simple blush of the plant,

proclaims its condition, and every attempt at deception, lies as open to his eye as a noon-tide sunbeam. It is the want of knowledge in this behalf, among the great mass of mankind, who are the buyers, not the raisers, of fruit trees, that has opened the way to the practice of impositions; and though it may add something to the credit and standing of the American bred citizen, to say the frauds lie at the door of the nurseryman from abroad more generally than at his, still they are none the less reprehensible,—none the less disastrous both to the propagation of good fruit and the moral character of our country. “I bought those trees,” (pointing to a yard of stunted saplings,) “of neighbor” ——, (said a gentleman of fortune, a few days since,) “and I gave him a round price for them, for he pronounced them the best fruit in his nursery; but, I hardly know how it is, my ground I fear is not of the right kind to grow fruit, for I have nursed them with unwearied care for more than five years, yet they have never shown me a blossom! They have really become an eye-sore to me, and I am resolved to have them removed out of sight.”

In a few minutes, the *jack-knife* related the whole history of the *scrawny fruit trees*; every one of them was canker eaten at the root, and as black as the ace of spades at the heart, and they had all been death smitten long before they left Mr. ——’s nursery!

Look into the towns and villages of the whole western country, and the complaint will be found almost universal. Choice fruit trees, as they were called, have been taken from some of our far famed neighboring nurseries to the distances of two, three, and even four thousand miles, at a most grievous outlay of time and money, with the hope of enjoying the luxury of rich and elegant table fruit, but in the end, every prospect built upon the boasted purity and excellence of the stock, has utterly perished. Such has been the frauds on one side and the disappointments on the other, that, in some of the

western states companies have been formed, who have planted nurseries, and divided an interest of 30 per cent. There is one of this kind in the vicinity of St. Louis which will compare to advantage, if not in point of extent, at least in respect to the purity and healthiness of stock and the variety and richness of fruit, with the best nurseries in the old states. An interest is now forming to introduce an establishment of this kind in East Florida, for the express purpose of supplying our market with healthy fruit trees. Here, then, the evil so wantonly inflicted, will be found, as it ever has been found, to recoil in the end, upon the heads of the evil doers. These frauds, these cunningly devised cheats, are wrong;—wrong in any state, and doubly wrong in a young and growing state like ours, where every false step carries us back toward the corrupt and rotten condition of the old countries of the East,—a condition to which no true son of America, will ever feel ambitious of being immediately promoted.

We are not ignorant of the fact that the profession of propagating and training nursery trees for the purposes of fruit, has become a very widely spread business in our young confederacy, and that large estates are embarked in that pursuit. Nor are we ignorant of the fact that some of those estates, are conducted with the utmost fairness, and with all due respect to the character and standing of the profession, and the just expectations of the public in behalf of fair and wholesome fruit. That all of them are not so conducted, is the evil of which we complain,—the evil which we aim to cure. How far we shall succeed in effecting a remedy, time only will determine.

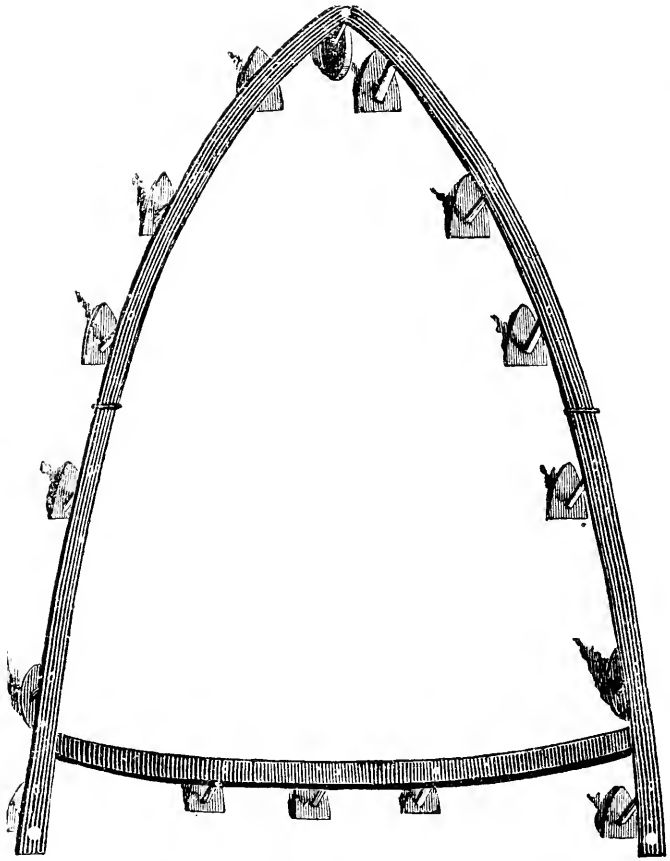
We are fully aware, that in making our statements, we are stepping on the toes of those who have corns, and therefore, we feel bound, for the present, to tread lightly. Though to this widely sweeping charge, we are able to make some honorable exceptions, we deem it prudent to let distinctions rest

where they are until we see the effect of this general accusation.

Our object in this matter is merely a reformation ; we ask for it without delay, and we indulge the hope that what we have now said in the premises, will accomplish that object. If, however, we find our just expectations denied, and these frauds continued, we have some *other facts* for the public, and with them we have also a list of names and places, and shall feel bound to speak out in terms that will not be misunderstood. We can disclose some transactions in the way of nursery dealing, which will not bear the light and leave their authors to bask in the sunshine of public favor.

In concluding our labor, we desire to say that, in stating our "PRIME FACTS" we have adopted such language only as will be readily understood by the plain man and the Farmer. At the same time, however, we have endeavored to place the subject in a form not altogether below the attention or the interest of more learned individuals ; we therefore venture a hope that the discoveries here put forth by our worthy citizen, to whose ideas we have merely given form, will not disappoint public expectation.





PATENT SLOBBER GRASS DRAG.

