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AN ESSAY

ON RAISING

ORCHARDS AND FRUIT

IN THE NORTH-WEST,

—BY—

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NURSERYMAN OF DUBUQUE;

With an introductory chapter upon the same subject, from the
able pen of DR. J. M. SHAFFER, Secretary of
Iowa State Agricultural Society.

FRUIT CAN BE EASILY RAISED IN THIS CLIMATE.

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TO THE READER.

IOWA STATE AGRICULTURAL SOCIETY,
SECRETARY'S OFFICE,
FAIRFIELD, IOWA, April 8th, 1864. }

The treatise on fruit, to which this is introductory, was prepared at my earnest solicitation, to form a part of the Volume of Transactions of the Iowa State Agricultural Society for 1863. Having read it to some friends, and they commending it very highly for its eminently practical teachings, its sound reasoning and its excellent qualities in all respects, I suggested to Mr. Beebee that it would be well to have some extra copies published in this present form, for distribution over the State. In a volume of transactions alone, its usefulness would be greatly limited; reproduced in this convenient form, its benefits would be very widely extended.

It seems but reasonable that Iowa farmers, Iowa stock-growers, Iowa nurserymen, etc., in the candid detail of their several experiences, should establish principles of higher value, facts of more certain application to the wants of Iowa, and which should have superior claims to attention, than those, who without practical knowledge of the peculiarities of our soil, climate, etc., write to inform the husbandry of the age. The entire volume of transactions, of which this is a part, is the result of the observations of our own citizens upon our own soil; and the perusal of the several articles on fruit—some written at the extreme North, others at the extreme South—will illustrate the idea of the importance and value of home thought, and home experiences, and that too much attention cannot be paid to the varied influences of soil, climate, exposure, etc., even in our own State, in the successful growing of fruit.

The essay of Mr. Beebee is especially valuable, because it is the result of *practical experience upon our own soil*. A long residence and extended series of intelligent observation, have enabled the author to present facts of great interest and value to the people of the State. While it may not be applicable in its teachings to other regions of country, and while some of its positions may seem untenable, some of its recommendations novel and perhaps injudicious, to those who have grown fruit under different circumstances of location, yet, that it has been successful here, and can be made so at all times, there is no question.

It has been said, and perhaps with truth, that the National Department of Agriculture cannot accomplish the wise designs of its friends and advocates, because the country is too diversified in climate and soil, to make such a distribution of seeds, plants, etc., as will be suitable to that diversity.

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But many interesting and valuable results have already followed the labors of that Department. Many years may be spent in determining what particular plants, fruits, grains, etc., may be suitable for the different parts of our wide domain; but a spirit of enquiry will be evoked, and the result will at last depend upon the recorded observation and experience of the people. In no way can we learn so rapidly, in no way can we be so certain of results, as to depend upon the labors, thoughts and teachings, of those occupying the same relative position as to soil and climate.

This principle finds an easy illustration in the history of fruit-growing in Iowa. In early days, our people depended for their supply of fruit-trees, upon the Eastern Nurseries. Immense sums of money and great labor were expended; much precious time was lost in the introduction and cultivation of trees from Eastern growers. Instead of a return in money, in pleasure, and in enjoyment, there were sad disappointments. The trees had often a sickly life and untimely death; no fruit rejoiced the heart; and what was infinitely more damaging than all these merely physical considerations, the conviction was well-nigh formed, that "Fruit could never be grown in Iowa." At first, and quite naturally, upon these failures, the nursery-man received all the censure. He was frequently denounced as a cheat, a fraud and an imposter, and his trees as worthless, and the refuse of what he could not sell at home to his more-"knowing" neighbors, while, in truth, the tree-merchant may have been entirely honest, and the tree perfectly sound and healthy; but the tree was not suited to our soil and climate,—and in this fact may be discerned all, or nearly all, the disappointment which followed the efforts of the pioneer tree-planter.

Mr. Beebe has rendered us an invaluable service in his treatise, by telling us plainly, what kind of trees to plant, how and when to plant them, how to cultivate, how and when to prune, and how to protect from climate, insects and animals. But is that all? These doubtless are a most important series of facts, but they are second to his teachings on "*How to prepare the ground for an orchard.*" Good soil, good trees, good planting, good seasons—all these you may have, and still may be the unfortunate possessor of frightful, misshapen, unfruitful trees in the end. Good seed, good soil, good seasons, good everything; but if the ground be not properly prepared, there may be a bad crop. It is the almost divine province of husbandry to combat and conquer the elements that threaten to overthrow our labors in disaster. Toil, labor, care, the "sweat of the face"—these are the capital to be employed against the "thorns and thistles," the injurious influences that oppose our progress. "*How to prepare the ground*"—how to lay the foundation—how to begin aright—how to take the first step—how to ensure a certain, much desired end of profit and pleasure,—*that is*

the important and valuable part of the work. It does not require herculean labor to study every part of his theory and practice ; nor are his words multiplied by technicalities ; neither are you asked to follow for yourself the long turnings and windings of experience. At a glance, in a moment, you see his path. Plain, easy, graceful, you see the results of his labor, the rewards of his diligence,—and he “that runneth may read.”

It is gratifying to record that fruit in Iowa has, notwithstanding the serious drawbacks which have hitherto attended the introduction and cultivation of improved varieties, kept pace with the development of our State in other respects. I transfer some figures from late official sources, that may not have attracted general attention. In 1850, the total value of the orchard products of the State was but \$8,434. This was increased in 1860 to \$131,234, and it is safe to say that last year the value was double that sum. In 1863, there were fruit trees in orchard bearing 503,043, and trees in orchard not bearing, 1,833,651, or in all 2,337,594 trees in orchards—or about three fruit trees to each inhabitant. Yet there is room for more orchards ; there are mouths for more fruit.

The cultivation of fruit has received additional attention of late years, from the introduction of economical and certain measures for its preservation. Canned fruit is no longer a luxury of the rich, no longer a choice and costly confection to be indulged in by the sick and feeble, but a necessity—a habit, if you choose, of all classes of people. A vast amount of capital is invested in the manufacture of cans, jars, etc., for the artificial preservation of fruit ; and the glass blower, the potter, the tinner have received an impulse to their trade from the enormous demand thereby created for their wares.

But there are higher motives to prompt men to plant an orchard, with intelligence, than the paltry enjoyment of dollars and cents. With intelligence ? Yes ; because planted ignorantly, it is time and labor worse than lost. Fruit is generally conducive to health, easily digested, and an important adjurant in the process of assimilation. Health is the greatest blessing of life. “Wealth without health is splendid poverty.”

Fruit is beautiful to look upon. “A thing of beauty is a joy forever.”—The charming divinity of colors, of shape—the grateful odor—the pleasant flavor of the fruit—the majesty of the tree—the greenness of the leaf—the aroma and delicate tints of the blossom,—all these are added as the free gift of a beneficent God. All these might have been repellant to our senses ; the fruit distorted by unseemly growths ; the tree dwarfed and scraggy ; the flowers emitting disgusting odors ; the greenness of the leaves turned to

scarlet, to dazzle and perplex the eye, and still the tree might *live and bear fruit*. And this should be an especial cause of thankfulness in us, that God has so clothed the elements of growth and vegetation about us, for our life, our comfort and enjoyment, that He has *added* beauty—beauty, an element which is not necessary to their existence.

An orchard, from its beauty in the bloom, its growing at maturity, its fruit on the tree, on the table, in the well-kept cellar, is an element of attractiveness to home. It gives a charm to the dear delights that cluster around the sunny circle of home. When the boy, grown to be a man, leaves the scenes of his youth, his thoughts will recur with a thrill of pleasure to the favorite tree in the orchard, when the burssels carpet, the luxurious divans of the parlor, the ornaments of the sitting room, the downy bed of the chamber are forgotten. Who knows but what the much-loved apple tree, planted by a kind father's hand, cultivated with an indulgent father's care, its fruit dispensed with prodigality by a patient mother's hand, with a loving mother's smile—who knows but that a thought of such a time and scene, may restrain the son from evil, guide him to virtue and lead him to usefulness and honor. And should the son be forgetful of the lessons of home, and wander away in the career of vice and crime, who knows but what the orchard, with its fragrant blossoms, its luscious fruit, its cooling shade, the happy circle with its fruit and its smiles and its love, of which he was once a member, may recall him from his error, and reclaim him to virtue? As long as the recollection of the orchard remains—as long as he remembers its associations—the man is safe. He will love his home; he will cherish its memories; he will do it honor.

I can but join in the exhortation of Mr. Beebee, urging upon all the importance of planting fruit trees. I add to this, *plant intelligently*. Select the proper spot for the orchard; *prepare the ground*; select trees suited to locality; and cultivate with skill. Until a better plan, based upon experience and observation, is discovered, adopt the views and follow the practice of Mr. Beebee. He is well known as a gentleman of intelligence and integrity. He would not advise or recommend a course while doubting its correctness. He would give no counsel but what would add to the profit and pleasure of the people.

The results of his work are before us. We have seen his fruits; we have seen his orchards, as well as those of other successful fruit-growers in Iowa. Seeing, let us believe; and believing, let us *act*.

J. M. SHAFFER.

ESSAY ON FRUIT CULTURE.

The complaining or earnest enquiry still comes up from many quarters, "why cannot we raise successfully here in Iowa, those fruits with which we were so abundantly blessed in our Eastern homes?" And while a crowning success has attended well directed efforts to grow fruit, it has also become patent to every one, that from some cause, thousands of our more or less recently planted fruit trees do die every year, in our young and fast growing State; and consequently it is quite natural that such inquiries should continue to be made, and that many fears of a failure in fruit growing should still be seriously entertained. The causes and prevention of these losses are therefore the more interesting and important.

Permit me to premise what I shall write upon this subject, by saying that my remarks are designed to be adapted to *Iowa*, with its dry and windy climate, its extreme and sudden changes, as well as its usually light, deep, friable and comparatively timberless soil. Reared in Ontario county, New York, and for some years a resident of central Ohio, I know that much of what I shall communicate upon this subject will appear very inapplicable to those localities, and doubtless equally so to the East in general.

The causes of the destruction of fruit trees above referred to, are usually one or more of the four following, viz :

1st. No suitable preparation of the orchard grounds, but only a shallow culture and planting which has caused the horizontal tree roots to grow and remain so near the surface that they have often been killed by hard freezing during some of our dry and nearly snowless winters. The planting of unacclimated trees, or unadapted varieties that have died either quickly or by slow degrees. The killing of the fibrous roots by freezing, or excessive drying while being transplanted. The starving of the trees, by permitting the more rampant and exhausting crops of grass, grain, or weeds, to occupy and possess the orchard grounds, after the trees were planted.

But, as I wish to give my views in a more extended form, I will pursue the general subject in the following order, namely :

1st. How to prepare the ground for an orchard.

2d. What kinds of trees to plant.

3d. How to plant and when.

4th. How to cultivate, and what crops may be safely grown in the orchard.

5th. How and when to prune.

6th. How to protect from climate, insects and animals.

HOW TO PREPARE THE GROUND.

The most indispensable part of this work is, to loosen deeply by plowing or spading the entire plat designed for an orchard. This is very easily and cheaply done by using a subsoil plow to follow a common one which has already passed as deep as a good team could run it. In the absence of a subsoil, a common plow can be made to run the second time in the same furrow, and thereby mellow the soil to the depth of from twelve to fifteen or even eighteen inches. This same form of deep culture is also quite essential to permanent success in growing all kinds of fruit bearing vines and plants.

The benefits secured by such deep culture are chiefly the more safe hibernation or self protection of all deeply imbedded roots during some of our frequently open and changeable winters; the efficient drainage thereby provided for an excessively wet time; and an unfailing reservoir of moisture and nutrition, which are constantly furnished by the circulation and condensation of the atmosphere for the timely supply of trees and plants in a soil so deeply mellowed, during our frequent and long continued seasons of drouth. Indeed, so true is this, that on all ordinarily rolling and friable lands, no artificial drainage or watering will at all compare in efficiency and value with the spontaneous workings of kind Nature herself in a soil kept mellowed deep enough to give sufficient space for her faithful performances. A severe drouth therefore is a fearful foe to none but the shallow cultivator of the deep soil that God has given to him for a better "occupying" than he has ever yet made available.

MANURING OF LANDS DESIGNED FOR AN ORCHARD.—It is a well attested fact that tree roots will the most rapidly extend themselves in any direction where a good supply of tree-food can be obtained. In order, therefore, to encourage the rapid extension of the roots, which shall give both growth and firmness of base to the tree, a

liberal quantity of well decomposed or fermented barn yard manure should be worked into the entire orchard ground. This is usually deferred until the tree is planted or afterwards, and then the manure is either inserted with the tree, or piled up in a heap about its body. By this pernicious practice, the roots are not induced to push out in quest of food, but rather are enticed backwards toward the tree, and our heavy winds find it an easy and pleasant pastime to secure its ready obeisance in any desired direction. Besides this, unfermented horse or other manure, by heating after being thus stacked about the tree, will often kill it, root and branch. But to bank up with common soil around the trunk of a newly planted tree in the fall of the year is a highly beneficial practice, it being an entirely safe covering for the trunk, and when frozen, it becomes a firm prop upon every side during the winter.

If trees grow as thriftily as they should after planting, in three or four years their roots will have extended to a distance of some eight or twelve feet in all directions from the tree.

A minute examination also shows that the small fibrous extremities of the roots are abundantly supplied with absorbents called spongioles. It should be known and remembered that the tree draws almost its entire nourishment through these spongioles—they are the myriad mouths by which it obtains its food.

The large roots hold the tree in position, and convey to it the food which is obtained by these feeders. How ridiculous, then, is the practice of placing all the fertilizing material in so close proximity to the tree and its larger roots. It is like tying the horse very tightly to the manger, and then carefully packing away his food against the side of the stable, behind him!! Therefore, it will be found best to mingle the manure with the deeply broken up and well mellowed soil before the trees are planted. It, however, can be applied and ploughed in afterward, if circumstances make it necessary.

DRAINING.—The orchard, if a success, is designed to be a permanent institution. If its convenient location near the dwelling, or for any other good cause, it must needs be planted upon land naturally too level, it should be raised by plowing into ridges, and upon them the trees should be set. By plowing towards the trees after planting, the facilities for easy and rapid surface drainage, can

be considerably increased. If "spouty" or springy land is to be used, a thorough under-draining will alone secure the requisite dryness of soil, that is indispensable to a healthful and fruitful orchard. No one, therefore, should waste his money for fruit trees, to plant upon lands so entirely unprepared, as to render his cost and labor at best a doubtful experiment. For, to set trees like so many posts, into a soil without any suitable preparation, is but mocking a kind Providence, and securing an inglorious and unfruitful defeat. The very evident fact, that the elements for tree growth, are not as plentiful in our prairie soil as in that of the heavily timbered lands of our Eastern homes, should lead to an entirely different and more thorough preparation of our grounds for orchards and fruit gardens.

EXAMPLES.—In my own vicinity, and in Northeastern Iowa generally, in which I have traveled extensively, I have closely observed the results of different preparations and after-treatment of orchards and orchard lands; and, aside from the losses caused by planting unacclimated trees, and unadapted varieties, I have found the chief causes of failures, in attempts to raise good and fruitful orchards, to be the results of a premature planting in an unprepared soil, and a starving neglect of them after they had made an attempt to survive the transplanting.

My own orchard, planted with a hundred Eastern trees in 1856, on elevated land, deeply plowed and highly manured, was replanted in 1858 with my own grown trees, (all but ten of the first planting having gradually died out,) is now as healthy and vigorously growing, as any orchard I ever saw East or West.

It is but slightly protected from the fierce winds that come upon it over miles of uninterrupted prairie, the manuring of the entire ground having been often repeated and no manure being placed at any time near the trees, except by its broad-cast scattering. It is now becoming as fruitful as is desirable at its present age, and not a borer, or other destructive insect has come nigh them.

No washing of the trees, or extra care of any sort, has been bestowed upon them, except a vigorous cultivation of the land—raising strawberries with other small fruits and garden vegetables thereon—and giving the trees a very limited amount of pruning. Indeed, in that last regard, they have had the benefit a very thorough "letting alone!" But one solitary case of failure has

occurred since the replanting. One tree, broken more than half off, eighteen inches from the ground in the spring of 1857, by a badly driven team, so that the top rested upon the ground, was spliced up like a broken limb, using wet compost and splinters, and wrapping it tightly—has entirely healed over, and in 1861 and 1862, it bore one bushel of excellent and beautiful apples, each year, which was increased this season to nearly two bushels. I have mentioned the particulars of this case, for the purpose of saying that no such results could possibly have attended similar appliances upon a half-starved or feebly growing tree. And at the time of the casualty, that tree was depending almost entirely upon the preparation and manuring given to the soil, before its planting. The success of the orchard as a whole, I believe is chiefly attributable to the same cause, in connection with the continual good cultivation, and repeated enriching of the soil.

KINDS OF TREES TO PLANT.

If the lamented Dr. Kennicott, of Chicago, that noble pioneer nurseryman of the North-West, thought a few years ago, that "ten years' more experience is required in Northern Illinois to determine what varieties are best suited to cultivation there," certainly in Iowa we should have a little indulgence, being confident that we can prescribe in that regard for her, far more understandingly after a few more years' of acclimating and experimenting experience.

And, indeed, so many lists of hardy varieties of the various kinds of fruit have been so frequently given by nurserymen and fruit committees, that it would seem nearly useless to repeat them. Besides this, so great diversity exists in different parts of our State that for one's own particular vicinity, it is really safest to obtain information as near home as possible. Some old standard varieties of apples, as yellow Bellflower, Talman Sweet, Red Astrachen, Rawle's Jennet, and Wine Sap, are all right, in all places; while the Baldwin, Rhode Island Greening, Rambo and Porter—great Eastern favorites—seem to be more or less hardy and useful in different localities. In searching for light as to best varieties, let the amateur refer to the pioneer in his own vicinity, and he will obtain a better guidance than from any other source.

NORTHERN SPY.—The very name of *Northern Spy* is usually taken as a warrant for its hardiness, in any cold climate. As I

happen to know the origin of that name, I will give it in this connection, for the benefit of the curious, as well as for the satisfaction of all who may wish to know "what is in a name." The Northern Spy was first discovered about forty-five years ago, in the oldest orchard of Oliver Chapin in East Bloomfield, Ontario County, N. Y. The old brown framed school house, where the writer learned a little of the English language, was located on the north-east corner of that same orchard, and its south windows and roof were richly shaded and made cozy, by the well loaded apple trees, whose pendant branches, held a window-view of fruitful promise to our school-boy eye, and in due time showered their luxuriance upon the ground, for our noon-time enjoyment. "*Stealing apples*" was not once named, as becoming school boys, in those glorious times of plenty; "Uncle Oliver" generously gave us the freedom of that corner of the orchard.

After using the newly found apples for a few seasons, and finding them a very excellent and long keeping kind, "Uncle Oliver" called upon his tree-top-grafter, Mr. Frisbie, one day in the fall of year, to come and give a name to those apples, then hanging in bounteous profusion on that noble upright tree. "Uncle O." and Mr. F. walked up upon the north side of the tree, and stood there admiring those splendid apples. Says Mr. F., "As we behold that fruit, now looking toward it from the north, I will name it the *Northern Spy!*" "So mote it be," said Uncle Oliver. While Mr. Frisbie was top-grafting some scions from the same tree, for my father in the following season, he told him these facts in my hearing, and, although a young lad at the time, I very well remember them. So much for the origin of a very hardy name for a very superior apple. A good grower in almost all parts of our country, the Northern Spy is not a young producer, but a delicious long-keeping apple, and a profuse bearer, when a suitable age has been attained.

DWARF TREES.—For those who wish a little fruit in the shortest time, and have but small space in which to plant anything, as well as for those who wish to ornament their grounds, with beautiful little Tom Thumb fruit-bearing trees, the planting of dwarf apples and pears is an appropriate work, and the object sought, will doubtless be obtained. But, those who desire in planting trees to lay a broad foundation, for a long continued abundance of fruit, should

plant those trees that have taken the form and size that nature has designed for them. Dwarfs being produced by a diversion of nature's well established laws, are exceedingly uncertain and very liable to diseases and premature decay. Unremitting care and extraordinary efforts, alone seem to be the requisites for their continued living and fruitfulness.

FOREIGN OR EASTERN TREES.—The experience of thousands in Northern Iowa will full fully confirm the declarations I shall make on this subject. With few and far between exceptions, Eastern trees, (if we except a few of those varieties that in all tried localities are hardy as oaks,) have died by slow degrees, and become miserably less, while even the exceptions have continued for a much longer time unfruitful, than our home-grown trees. It is a fact generally admitted, and well established, too, that trees grown in the damp atmosphere adjoining lakes or other large bodies of water, are illy prepared for the searching dryness of our cold and vaporless winds, whose sweeping power is exceedingly unlike the humid breezes that so gently fanned their younger life. Eastern tree peddlers, who come by chance—not being sent by those worthy nurserymen—in their deep anxiety for us, and with their ever-ready promptitude, are wont to recommend dwarf apple trees for our orchards,—and their equally useful wooden pumpkin seeds for our corn-fields. If aught is wanted from those excellent and reliable nurseries, let an order be sent direct to headquarters, and inaccuracies or unfairness will be only the exceptions to their invariable rule of reliable and honorable dealing.

But so important is the matter of procuring acclimated trees, that too much attention to this subject cannot well be given. Even trees from well sheltered or low land nurseries in our own vicinity, ought never to be planted upon open or exposed localities, but only a limited number of the most hardy varieties should be bought from well exposed nurseries, to be set in those unprotected situations. Time will prove that the shortest road to plenty and profit in fruit growing, is found by “pushing” a few well known hardy and productive varieties, and not in the untried paths of doubtful experiments.

HOW AND WHEN TO TRANSPLANT FRUIT TREES.

Much has been written upon this subject, and very little heeded.

Almost every one is opinionated in the matter, and some particularly regard "the mint, the annis and cummin, and neglect the weightier matters" upon which the lives and usefulness of their trees depend. To all such, it would seem almost a waste of time and space to give further counsel. The best mode is a very easy one, and none need fail in the undertaking. But many labor hard to carry out their own whims, and then wonder that their trees do not live and grow.

SELECTION OF TREES.—The best form of trees to plant, depends much upon their prospective exposure. If to be planted in a timbered or well protected situation, trees that branch tolerably high may be planted with comparative safety. But for all open prairie or other exposed locations, only the low branching trees should be chosen. The inconvenience of cultivating around the latter kind of trees is rather unpleasant, but no one who desires fruit should for a moment regard it.

DIGGING AND PROTECTING THE ROOTS.—In digging the trees, secure with as little damaging as possible all the roots that can be kept free from injury by bruising or breaking while being transplanted. For, to set out a tree with a large supply of roots that are mutilated and spoiled, is but laying the foundation for a sickly existence, and a long continued unfruitfulness. The last thing before re-setting, all the badly bruised and damaged roots should be cut away, and all the ends of roots cut off roughly by the spade, should be smoothly cut anew by a sharp knife. In removing trees from the place of digging to that of planting, too much care cannot be given, for upon the protection of their roots at that time more than all else depends the lives of the trees.

EXAMPLE.—A friend wrote me that himself and men went one morning to digging young cotton wood trees to set for a hedge. About the middle of the forenoon, having finished digging, they commenced planting the hedge. At noon they went to dinner, leaving about half the dug trees lying on the ground in the drying sun. After dinner they resumed and finished their work. The result was that all planted before dinner lived, and with scarcely an exception those planted after dinner died.

Now this was not owing to a "change of the moon," or to less care in setting, but to the simple fact that the fibrous roots were so parched by the scorching sun and drying wind, that they were

dead past recovery. Had those trees been "heeled in" (roots set into the damp soil) while "waiting their turn," they would all have lived without an exception or a doubt.

In a damp day, less care is requisite, but the fibrous roots must be saved from drying up, or the tree is "as good as dead," even when otherwise carefully planted. The mode of conveyance from the nursery to the orchard, is therefore, of the utmost importance.

Large trees, (and small ones too) can be best carried in a wagon, with capacious hay rack, or box so high that the trees can be set therein leaning backward, thus giving a chance to cover the roots, while being loaded, with well dampened straw, saw-dust or other light and good material for retaining dampness, which should be kept well watered till the trees arrive at their destination; and then "heeled in" at once, as fast as unloaded, if a cold night, or a drying day must intervene between that time and their planting.

I know a widow, who went to a nursery and was very exacting as to the particular form and the digging of her trees, and then took them home, and set them on the dry ground leaning up against the south side of her house, where they remained for two of the hottest days in the fore part of May. Some six weeks afterwards, astonished at finding that the trees had actually died, she hailed the nurseryman, whom she saw riding past, and wanted him to agree to give her other trees in the stead of those that had failed to live after such a thorough killing!

For shipping to a distance by the ordinary methods, a careful boxing or baling with moss or other substance that will hold moisture, is found necessary. "Puddling," or coating the roots with mud is a tolerably good substitute, for a moisture-retaining material in packing trees.

But distance, and probable delays are matters worthy of serious consideration, and if the risk is taken, the cost of suitable packing should not be regarded.

DRIED UP OR FROZEN TREES.—If by delays on the road, bad packing or other cause, the trees from far or near come to hand in a dried up or frozen state, they should be immediately laid flat down and entirely covered root and branch with mellow soil, and the whole ground well watered. Let them remain in that condition (with occasional watering,) some eight to twelve days, or until the top limbs are plump, and the buds are well swollen, then take them

up and set them out on a damp day, or in the evening or morning if only dry weather occurs.

When planted, water the tops by a thorough sprinkling at night, and provide a slight shading by day for a few days, with a liberal mulching or frequent spading around the tree. By this means thousands of valuable trees will be saved, that by the usual process of immediate planting out, are yearly and unnecessarily numbered with the missing, the dying, and the dead.

DIGGING THE HOLES AND PLANTING.—If the land has been well and deeply subsoiled, as already advised, the digging of pits for the planting will be a small affair. The whole soil being deeply dug, no more ground need be moved than is necessary to give ample room for the tree with its well expanded roots. Set the tree more or less deep, according to the nature of the soil and the make of the land. If clayey, or too level, not so deep, but if very friable and rolling, then set them deeper, even to one foot lower than they stood in the nursery, for in the latter soil, the washing away of the land, and the effects of hard freezings upon the roots in an open winter, are indeed very important matters, and should be duly regarded. In such soil too, firmness of base for the tree is of the first importance.

SET THE TREES LEANING.—Our hardest winds usually come from the South-West, and our trees are often injured on that side by the clear shining sun, reflected too by the oft glazed snow, after a hard freezing, causing the bark to come off in many instances, and the more so, as the surfaces of the trunks are yearly increased. To guard against this, I would lean the trees in setting them, a good deal in that direction, so as to stand up against the winds, and to cause the sun's rays to fall more obliquely upon their bodies, and at the same time aid their shadowing by the overhauling limbs on that side of the tree.

DISTANCE APART TO SET THE TREES.—For mutual protection, and to induce the more entire giving up of the orchard ground to the trees, I advise that in our bleak and exposed lands, we set our trees one rod apart each way, and in some cases a less rather than a greater distance. If in the hopeful future the trees should become too closely connected, it will be far better to cut out every other tree in every other row—they having already well accomplished their mission—rather than to endure the long continued, unsocial, bean-

pole neglect, that gives character to very many of our wide-planted, unprotected crop-growing, but usually fruitless excuses for orchards. In well-protected locations, and when a larger area will be sacredly devoted to the orchard, the trees should be set from twenty to twenty-five or even thirty feet apart. But one hundred apple trees well cultivated upon one-half acre, entirely given up to them, will produce far more fruit, and satisfaction too, than were they set in such bleak isolation as to occupy an acre or an acre and a half, amid starvation, caused by fasting upon the half rations left them by other crops.

WHEN TO PLANT TREES.—Whether it is best to plant in the fall or in the spring, must depend very greatly upon the character of the winter that succeeds or precedes the performance. Fall planted trees, if living in spring, have the advantage of an undisturbed opportunity to become established, and their roots more intimately connected with the soil, as the absenting frost gives the ground leave to settle around them. A plenteous mulching should always accompany fall planting. I have planted apple trees with entire success while in full leaf in September, but very large trees are best transplanted by removing them so late in fall, or early in spring, as that a quantity of frozen earth can be taken along undisturbed with the roots. But, taking all seasons as they occur, and the general practices of tree planters as we find them, spring planting is usually attended with the most uniform success. Trees dug early in spring and carefully heeled in, will thereby be kept from getting too much in leaf, and can therefore be planted with safety at a later date than otherwise.

I planted nearly two thousand such trees about the middle of May last, many of them quite large ones, they having been dug where too numerous in the nursery, and being the cullings of my entire spring and fall sales—many of them being often pulled out by customers, and re-heeled in, because of too short roots, or some other fancied reason for rejection. I set them in well sub-soiled lands, by first taking a team and opening deep ditches, in which they were planted in every three feet, in rows six to eight feet apart, and with a spade throwing back the soil from the place for the next tree, to pack about the roots of the one being planted, and then turning back to the trees with a horse and plow, the soil first removed by the team. In that way two hands set out several

hundred trees in a day. A fearful drouth immediately followed, continuing through June and a part of July. "Now came the tug of war." If those trees were any of them to survive such a trial, something must be done in their behalf. With horse and plow at one time and cultivator the next, in every ten days or thereabouts, I stirred to a good depth the entire soil, giving no sort of chance for weeds. That was the way I watered those trees, and that is the way for every man to "work out the salvation" of his trees, and thus *warrant them himself* instead of getting up a paper contract to that effect with his nursery man. Now for the result. Some two hundred of the lot died, being chiefly those left of the fall sales that had very carelessly heeled in before winter. The remaining nearly eighteen hundred lived, commenced growing, a few of them blooming, some earlier some later, and two trees actually bearing apples, that were well ripened, though of only a medium size.

Besides, this experiment proved fully that large trees without improper exposure, will live as well as smaller ones, for I planted all sizes, and the results in that instance—all being equal—were rather adverse to the smallest trees. I will here state that no land I have ever tilled, will equal the friable soil of Iowa, in ability to endure a severe drouth, if oft and deeply cultivated during its continuance.

If, therefore, such treatment will secure so large success, under such adverse circumstances, in our deep soil, what can we not safely depend upon, when the earlier planting of carefully protected trees, is followed by a favorable and fine growing season? *Let every tree planter henceforth warrant his own trees!*

HOW TO CULTIVATE THE ORCHARD AND WHAT CROPS ARE LEAST INJURIOUS TO IT.

Land has not yet become so scarce in Iowa as to make it necessary to raise any other crop at all in the orchard. Every thing should be made subservient to the one object of that small enclosure, and it should be sacredly devoted to the yearly production of abundant crops of luscious fruits. Any production therefore that would lessen the growth or fruitfulness of the orchard trees should in every case be raised elsewhere.

The most injurious crops for the orchard trees, are those that

draw their chief nutriment from the soil, during the last half of May, all of June, and the first half of July. Grass, oats, wheat, rye and weeds are of this class, and admit of no cultivating process during their growth and the ripening of their seed. Added to this is the fact that in the very midst of the season when this greatest exhaustion of the soil occurs, then also do our most severe times of drouth usually come upon us. How exceedingly unwise then to require our far less rampant fruit trees to compete with such succulent crops for their subsistence and fruit bearing support during the very season so precious to the success of the tree and its production, and that too, often in the midst of a parching drouth, and upon a shallowly cultivated soil. He who has continued to manage his orchard in that manner, is the very man who has declaimed most loudly against "ever trying again to raise fruit in Iowa."

Root crops, potatoes and corn are less exhausting so early in the season, and as they require a frequent cultivation, are usually less disastrous to an orchard. Any crop is least injurious that is grown later in the season, as it will not rob the trees at the time of their greatest need.

But after all, why not give up the land to the orchard and grow all other crops in other fields? Then cultivate with a plow the whole surface, turning the soil to and from the trees, and using the spade or hoe to complete the work about them. This should be done every ten days or two weeks from the beginning of growth in spring, till the middle of July, and the dryer the season the oftener and deeper should it be plowed and spaded. After July, it is found best to cease all cultivation, as the new growth of wood will be the sooner checked, and begin to ripen up earlier, be better prepared for winter, and for a more healthful and vigorous starting in spring. I will here add, that from experiments made under my own observation, I am confident that a well manured soil will promote a good growth earlier in the season than the natural soil. Besides this, who does not know that unlike the East, our natural soil seems to push forward our trees and plants at a rapid rate in the fall, so that even weeds will often grow up and ripen their seeds in October, in much less time than in July and August? It will also be found true in every case, that other things being equal, a tree that in spring is not sadly checked in its vigor by a hard winter upon unripe or late growing branches, but is vigorous and starts

out with a healthful growth, will send forth its timely blossoms, and its well set fruit to be nourished and ripened in their season, while the late fall growth followed as is usual, by a benumbed feebleness in spring will the more surely prove unfruitful. In cultivating orchard grounds great care should be exercised to avoid maiming or barking the trees. To prevent this, I use a short single-tree, with the ends and hooks well wrapped with cloths or other soft covering. When using two horses, and while passing near the trees, I have a man or lively boy to hasten from tree to tree, and raise the single-tree and let it safely pass by.

WHEN AND HOW TO PRUNE FRUIT TREES.

A tree has ever been looked upon as a fit emblem of enduring life. Would that those who assume the responsibilities of training and trimming fruit trees at the present day, could be led to feel that they were dealing with things of life, not only, but with *live things*, and shape their acts accordingly. Those familiar with budding young seedlings, know very well that if they need any trimming, it must be done at the time, or but a few moments before the bud is inserted. If performed two or three hours beforehand, a reaction will have taken place in the usual quiet growth of the tree, and the bark will not so easily separate from the wood to receive the bud. If trimmed a few days before the time of budding, the living action will be found again ascendant, and the budding can be performed with the same ease as if done before being effected by the maiming. And who does not know, that the proper time for depletion, if unavoidable, is during the most vigorous and elastic life actions? This principle applied to trimming fruit trees, would put a stop to the severe practice of pruning them during the time of dormancy, and cause that work to be done when the entire tide of vitality and growth is at its highest ebb, and at its fullest flow.

Our Eastern friends for many years in the past, have recommended to trim in February and March, while the trees were in the dormant state, and just before they start into the new life of early spring. Now, however, their best writers unite in condemning that practice, and advise to prune during the growing season only. If in a comparatively damp climate their counsel is correct, how much more so, in our exceedingly dry and more exhausting atmosphere? The chief objections to late fall, and early spring pruning,

are, the drying out of the wounded parts or points, before the circulation commences anew, and the escaping of the sap for a time after it begins to flow. Consequently, such wounds are very slow to heal over, and the exuding sap makes the tree look black and unsightly, for some distance beneath those wounded parts. On the contrary, if the pruning is delayed till the leaves have obtained their full size and power, the drying out and bleeding are prevented, and wounds made at that time very quickly heal over; for then, nature stands ready to administer from the tree's vitality the needed succor with its fast healing properties.

My own experience, drawn from close observation, and the light shed by excellent writers upon this subject, has led me to adopt the practice of pruning only from the middle of June, to the first of September, and to trim but little at a time. If a severe cutting away is actually needed in one season, I should divide the infliction into three or four parts, at intervals of two or three weeks. Besides, I am thoroughly convinced, that the knife is used far too freely, and nature's laws are ruthlessly violated, by the thoughtless and inexperienced, who too often cut and maim their choicest fruit trees, without mercy or discretion.

We should rather behold in the noble, and gloriously growing fruit tree, an exhibition of its own nature, and reflect that in its developments, as in social life, this

"is nature's plan,
And following nature, is the march of man—
Firm on its fabric," let your fruit trees rise,
While songs of plenty gladden earth and skies.

PRUNING WHEN TRANSPLANTING.—I come now to the generally adopted, but most abusive practice of cutting off the tops of trees at the time of transplanting. In condemning this long established custom, I know that I necessarily meet the disapproval of many very eminent fruit growers, for whose opinions I have the highest respect. But, my most careful observation *in our dry climate*, has compelled me, if I would follow the light thereby afforded, to take a decided stand against such decapitation, at such a time. Fruit trees should be brought into a suitable form, and proportion, by the nurseryman, by the necessary pinching and pruning, in suitable seasons and times, before they are to be transplanted. Then, cut nothing away at the time of removal, but most carefully guard their

roots from exposure. Plant the trees as soon as possible after being taken from their native soil.

But why not cut off the tops, so as to balance the loss of so many roots? I reply, the law of "demand and supply" is no where in nature more evidently established, or more fully developed than by the assimilating efforts of a newly and well planted fruit tree. If more roots are to be supplied, there must be a cause or demand for their growth. Then why cut away the very points most efficient for the purpose? The terminal buds with their exceedingly large leaves, exert a far greater power upon the tree to promote vitality, than any or all other parts combined. If this is so, why cut them off and rob the tree of its best God-given powers, to resist the ruinous effects of the casualties that befall it? I am not speaking of trees whose tops have been dried up, by a long exposure of the roots. Such trees should never be planted at all, at least, not in that condition. If trees come to hand, so dead that only a resurrection can save them, even then the terminals should not be cut from them, but the directions given under the head of "transplanting" should be followed, or else burn up the trees at once, and save yourself the annoyance their unsightly presence will surely produce. The fruit grower who does not believe in the truthfulness of the principles and practice I herein advance, will please dig about and examine the new roots being sent out by his recently planted trees, and he will find in every case that they bear an exact proportion, both in quantity, size and extent, to the live branches of the tree. And why should it not be so? Nature is true to herself. Let us regard her laws, rather than our own preconceived opinions, and thus be equally true to ourselves and nature too. My own experience in this matter may be thought of some importance in this connection. I have transplanted trees of both a small, and a very large amount of tops or branches, and with an equal quantity of roots belonging to each, and time and circumstances alike in all particulars, and I have invariably found that the tree of largest top is equally well supplied and as vigorous in every part, in the first and after years as the one of lesser top, and very far in advance of the maimed ones. Again, I have cut back very thoroughly, and at one time, in July, the tops of some fast and slim growing Talman Sweet trees, (than which none are healthier or hardier in our climate,) that had never been transplanted, but

were fast becoming too tall and unsightly. The consequences of denuding the trees so largely of their foliage or lungs, at one time, were, that some died outright, and others lingered awhile upon the dividing line between life and death, looking so sadly distressed as to make the latter seem a chosen release. Being remediless, they were all dug up and given to the flames. "If they do these things in a green tree, what shall be done in the" newly planted one?

And so far from its being a reason for cutting off the points of vitality above ground, because those below are gone, I think we should not light the candle at both ends at once, but "strengthen the things that remain that are ready to die," by saving the large buds and forthcoming lungs so full of energy and power, as are those found at the highest points of the tree. That a far more intimate and life-giving connection exists between the terminals of both roots and branches, than between other parts of a tree, must be apparent to every thoughtful cultivator. When, therefore, we decide to clip the fins of the fish, to enable him to swim the faster, or the wings of the dove, that she may fly the higher, then let us cut off the very sources of life, the living top branches of our transplanted fruit trees, that they may the more surely live. Nature herself prunes off the lower branches that have done their appointed work, but man, more wise, begins with the topmost ones laying bare to the atmosphere ^{the} action and exhausting power, those efficient pores or arteries so carefully covered and protected by the Author of tree life from such depleting intrusions; and then vainly flatters himself that he is assisting Nature instead of violating her laws!" Sometimes, owing to improper exposure of the roots after digging, the long continued dryness of the atmosphere, or the robbing of all nutriment from the trees, by weeds &c. around them after planting, the top limbs will die and should then be cut off, of course. But really, such trees are of very little value, and in most cases, I should dig them up at once, go and get a new lot of trees, and take better care of them both before and after planting. If the tops die first when badly treated, so if well managed the terminals are the first to bring their potent openings to aid the circulation and promote the vitality of the entire tree, and to extend and enervate its rootlets. The concert of action between buds, leaflets, and leaves, and the spongioles or rootlets is so exceedingly constant and powerful, that he who hopes for success in rearing fruit trees, should

not neglect the lessons they give so promptly to every careful observer.

If, therefore, to bring our too tall growing trees into a form more to our taste, we must needs violate nature's well established laws, let the shock and reaction be lessened as much as may be, by amputating their tops as little at a time as we consistently can. The "pinching-back" process, i e. applying the thumb and finger to the growing point of the branches in the summer, while the trees are small, and so pinching them that they stop extending beyond the height we may desire, is the best of all methods for preventing too tall a growth. By so doing, no reaction of consequence will take place, and no waste of grown wood is permitted to occur.

HOW TO PROTECT FROM CLIMATE, INSECTS AND ANIMALS.

Our climate is in some respects a peculiar one, and yet our efforts to guard against its injurious effects need not be either difficult or arduous. The location of our orchards and fruit gardens is the first thing to be considered, though possessing really far less importance than many imagine. Every one would like both for convenience and safety, to have the orchard near their dwellings, but many suppose that the position of the land must be just according to their own ideal, or all hopes of raising fruit may as well be abandoned. No fears are really more groundless or conclusions more erroneous.

If practicable, a naturally well drained location should be chosen, but if that cannot well be done, then prepare to protect the best otherwise suitable and convenient ground against excessive wetness, by underdraining or so ridging it as already stated, as that a rapid drainage can be safely depended upon. The particular slope of the ground is not as essential as is often supposed, for on lands declining towards every point of the compass, blessed with any sort of proper cultivation, I have seen good orchard trees growing and bearing bountifully in all the settled portions of Northern Iowa.

Other things being equal, I should choose a gradual eastern slope for the sake of protection against the usually hard west winds, and also to secure the benefit of the sun's earliest morning rays. If not naturally sheltered by the shape of the land, or by groves of trees on the west, north-west and southwest, then plant a good supply of the best rapid-growing, low-branching forest trees upon those sides, and that too without at all delaying the planting of the or-

chard, after the land is properly prepared. The forest trees if of a good size will at once begin to spread their protecting wings, and with the mutual aid secured by not planting the orchard itself too sparsely, all the requisite protection will be promptly and easily provided.

A good mulching during open winters is of great importance to all fruit trees whose surface roots are liable to be killed or seriously injured by hard freezing in our light and porous soil. Even the slightest covering with leaves or late grown weeds will astonishingly protect surface roots from injury. These and other ways of protecting from climate injuries have been incidentally referred to under different headings in the preceding pages.

PROTECTION AGAINST INSECTS.—As good feeding will usually shield the animal creation against vermin, so by a similar process are our fruit trees best protected from the injurious ravages of all insects of the creeping sort, or the sad effects of eggs deposited upon them by those of the winged kind. And in this as in all other cases, “an ounce of prevention is worth a pound of cure.” But to guard against the depredations of the curculio and other flying pests upon our fruit, is not so easy a task. Still, the remedies are various and more or less efficient. But as the birds are kindly invited to aid me, I have never in Iowa had occasion to put in practice any of the specifics against the borer, or others of the tree or fruit venomous tribe. I can give no experimental advice upon the subject.

PROTECTION AGAINST ANIMALS.—A good board or picket fence will usually keep all farm stock out of the orchard and garden, and for all common sized enclosures the addition of from ten to twenty dollars in its cost and construction would exclude the rabbits also. Pouched gophers and meadow mice are not so easily turned away. For the former, a thorough cultivation,* planting the castor bean, and giving a liberal supply of strychnine, are the best remedies known to the writer. Meadow mice being the most delicious food of the striped ground squirrel (or striped gopher) are not usually numerous or troublesome in Iowa, where the latter largely abound. Keep away from near the trees all straw or manure of any sort; cast up a cone of earth around the trunks, or tramp the first deep snow closely about them, and in all ordinary cases very little damage from mice need be apprehended.

CONCLUSION.

The results of even mistaken but persevering efforts tending fruitwards in Iowa, have been truly surprising. The exhibitions at our recent State and County Fairs, as well as the healthful and beautiful young orchards springing up here and there, with their unexpected young fruit bearing, actually astonish all beholders. Truly the hey-day of fruit-raising in Iowa now draweth near. A joy-giving change is coming over us, for the ladies of our enterprising State are taking hold in much earnestness to cultivate, not the flower circle only, but the fruit garden also; and to preserve in nature's true simplicity, for future need, the fruits that so bountifully crown their health giving labors. Let us, therefore, thank God and take courage. Who knoweth whether a laudable emulation for fruit growing, shall not soon so possess the women of Iowa, as will cause our homes to be the same in kind, with those that blessed our own childhood's years? So shall the attractions that cluster about those homes, bind each of our youth with the "sweet home" cords, so easily furnished, only by an enchanting bower, amid those fruitful grounds, where, within the chosen limits devoted to the special care and culture of each, they shall vie with all others in the glory and splendor of their own productions. Who will forego the blessings, that would surely flow from provisions so wise and beneficent, and from auxiliaries so quick and powerful, in preparing our children for the true labors of earth, and the higher glory of Heaven! Time that changes all things, is on the wing, and its flight is rapid.

Men and women of this State, so highly exalted in the exemption of our home surroundings from the desolating ravages of war—plant trees! plant them for yourselves; plant them for a nation that shall yet arise and call you blessed; yea, teach your children to love trees, and with joy to plant them.

FALL TRANS-PLANTING.

As the issuing of the foregoing essay in this form has been so long delayed, I embrace the opportunity thus afforded to give the results of planting some over a thousand large sized apple trees in the fall of '63, in the same manner as those planted in the spring of the same year, as set forth on 11th and 12th pages of this essay. The past winter having been quite favorable, I find that the fall-planted trees have all lived, without a single case of failure among them.

I have transplanted apple trees in the first ten days of September that grew and did well. But trees moved at any time in the fall while in green leaf should be carefully protected from all exposure of the roots to the dry air or sun, and so covered that they will surely keep damp while in transit. The usually good roads in the fall should especially be improved at any time from the 1st of October to the 15th of November, by those at a greater or less distance from the nursery who wish to transplant large or bearing trees. A good preparation to carry such trees without injury, is more than half that is requisite to entire success in the undertaking. This by many is thought of the last importance, and "splendid failures" being in such cases the too frequent result, fall planting is henceforth by them condemned. But none need fail, and few comparatively do fail who purpose and execute at all commensurate to the importance of the object sought to be attained.

W. W. BEEBEE.

DUBUQUE, IOWA, June 10th, 1864.

WESTERN TREES FOR WESTERN ORCHARDS.

The Proprietor of Beebee's Nurseries solicits a continuance of the liberal patronage hitherto bestowed, and hopes by assiduous attention to the wants of all his customers to merit their continued confidence.

His stock of hardy grafted apple trees, suitable for transplanting, is large and well tested. Also Pears, Plums, Cherries, Grapes, Blackberries, Raspberries, Gooseberries and Strawberries of the best varieties for the Northwest.

Bearing Currants of all kinds, very fine and cheap.

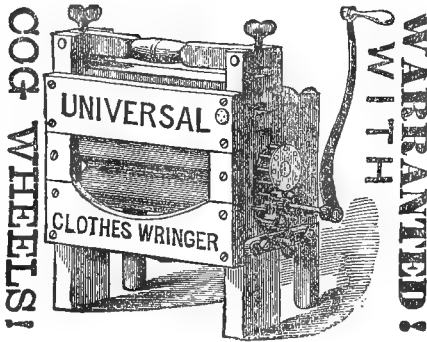
Evergreens, and all hardy ornamentals, as Roses, Paeonies, Dahlias, and Climbers of various kinds.

All orders will be promptly filled, and teams coming for trees will be loaded with as little delay as possible.

Why not plant out the orchard and ornament our homes now, that we may enjoy those luscious fruits, and "things of beauty," the sooner and the longer?

LABOR AND CLOTHES SAVER.

No Iron Frame to Break or Rust,
and Spoil the Clothes.



No Breaking, or Twisting on the
Shaft,

SELF-ADJUSTING AND ADJUSTABLE.

Without the Cog Wheels, the whole strain of forcing the cloth through the Machine is put upon the lower roll, causing three times as much strain upon the lower roll as when Cog Wheels with our Patent Regulator are used, besides the extra strain upon the cloth. Experience shows that Clothes wringers without Cog Wheels cannot be depended on.

In reply to the question, "How Long will it last?" we can only say, "As long as a wash tub, cooking stove, or any other family utensil."

IT SAVES TIME, LABOR, CLOTHES AND MONEY.

It is easily and firmly secured to the tub or washing machine, and will fit tubs of any size or shape.

It is not only a perfect Wringer, but the cog wheels give it a power which renders it a most

EXCELLENT WASHER,

pressing and separating as it does the dirt with the water from the clothes. It will pay its cost every six months in the saving of clothes. The ordinary family sizes are Nos. 1, 1½ and 2. These have.

COG WHEELS, AND ARE WARRANTED

in every particular. This means, especially, that after a few months' use, the lower roll WILL NOT TWIST ON THE SHAFT and tear the clothing, as is the case with all other wringers without cog wheels. In our monthly sales of over 5,000 only from one to two dozen are without cogs. In our retail sales we have not sold one in nearly two years. This shows which style is appreciated by the public. This is the only wringer with the patent

COG WHEEL REGULATOR,

And though other wringer-makers are licensed to use our rubber rolls, yet none are ever licensed to use the Cog Wheel Regulator. Therefore for cheapness and durability buy only the UNIVERSAL CLOTHES WRINGER. What we especially want is a good canvasser in every town. We offer liberal inducements and guarantee the exclusive sale.

R. C. BROWNING,
347 Broadway, New York.

TESTIMONIALS.

—:o:—

We select the following from many we have received, not so much to show the value of the Wringer as a GREAT ECONOMIZER—for of this every one is convinced—but to give to the public the experience and testimony of a few who have used "THE UNIVERSAL" almost from its first introduction, and who can speak knowingly of its

UNPARALLELED DURABILITY AND EFFICIENCY.

From the "American Agriculturist."

"From several years' experience with it in our family; from the testimony of hundreds who have used it; and from the construction of the implement itself—we feel certain that it is worthy a place in every family where the washing is done at home. A child can readily wring out a tubful of clothes in a few minutes. It is in reality a **Clothes Saver! a Time Saver! and a Strength Saver!** We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments. There are several kinds, nearly alike in general construction, but we consider it important that the wringer be fitted with Cogs, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS CONSTANT USE."

Letter from Mrs. Henry Ward Beecher, in 1861.

I am most happy to speak in the very highest terms of the "UNIVERSAL CLOTHES WRINGER." The hardest part of "washing-day" work is, in my opinion, the wringing; and the inventor of this machine may have the satisfaction of feeling that he has changed one of the most toilsome parts of women's work into a very attractive amusement.

MRS. HENRY WARD BEECHER.

BROOKLYN, October, 1861.

ALL CLOTHES WRINGERS HAVE ADVANCED IN PRICE.

At a meeting of the manufacturers of all wringers, held on the 18th of May, 1864, at the Astor House, N. Y., it was unanimously agreed to advance the prices in proportion, to \$1.50 upon the common sizes. Some of the reasons for the advance on the Universal Clothes Wringer are set forth by R. C. Browning, Gen'l Agent, as follows:

"For nearly two years all possible efforts have been made to avoid any change, but without success. A steady advance in the price of everything has continued, and the experience of the manufacturers shows an insignificant profit, and for the few months past AN ACTUAL LOSS. The advance in the price of wringers is trifling compared with the increased cost of everything connected with their production. One or two of the principal articles used will suffice to illustrate. Iron, for instance, has risen from \$57 per ton, in 1861, to \$160, in 1864. India Rubber has advanced in about the same proportion. These are imported, (we use the best English iron,) and have to be paid for in GOLD. The duties also are paid in GOLD, with the high premium of which every one is fully acquainted. Mechanics' labor it is almost impossible to obtain, and only at about double former rates."

The only price at which the Universal Clothes Wringer can now be sold, are as follows: No. 1, \$13; No. 1½, \$10; No. 2, (which is the usual family size,) \$8.50; No. 3, (Hotel size,) \$15. If paid in gold, the ruling premium will be allowed. Indeed, at the advance prices of produce and labor it is easier paying present prices now than those of '61 and '62 at that time.

W. W. BEEBEE, Nurseryman of Dubuque, Iowa,

is Agent for their sale in Dubuque and its immediate vicinity.

Save the clothing by buying immediately a wringer of the Warranted kind.

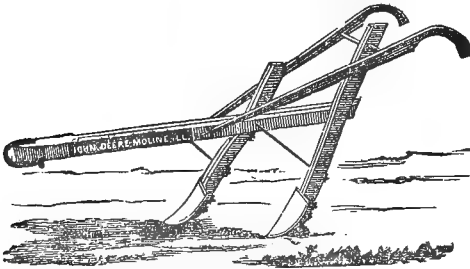
FARMERS' HEADQUARTERS IN DUBUQUE
 AT
 WM. C. CHAMBERLAIN'S
AGRICULTURAL WAREHOUSE
 AND
SEED STORE,

No. 64. Main Street, bet. 3d & 4th.

Here is the place to find all the improvements in **AGRICULTURAL MACHINERY AND TOOLS**, and here is the place to find reliable Garden, Flower and Field **SEEDS** of every description.

Anything the farmer needs to carry on the operations of the farm or dairy, can be supplied by this establishment of the best quality and lowest prices.

PLOWS: PLOWS:: PLOWS:::



DOUBLE SHOVEL PLOW.

Always come here for a good Plow. Every description of plows used in this region sold, and from at least half a dozen different makers. The celebrated

CAST CAST STEEL PLOW!

Every Plow sold fully warranted. A great variety of **Cultivators, Shovel Plow Blades, Cultivator and Harrow Teeth.** Harrows ready made.

HAYING AND HARVESTING TOOLS

OF ALL KINDS.

The Red Jacket Mowing Scythes & Batchelor's Hay Forks

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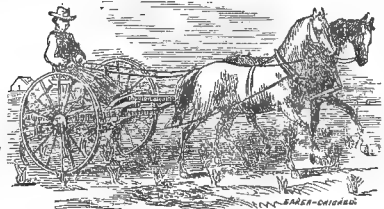
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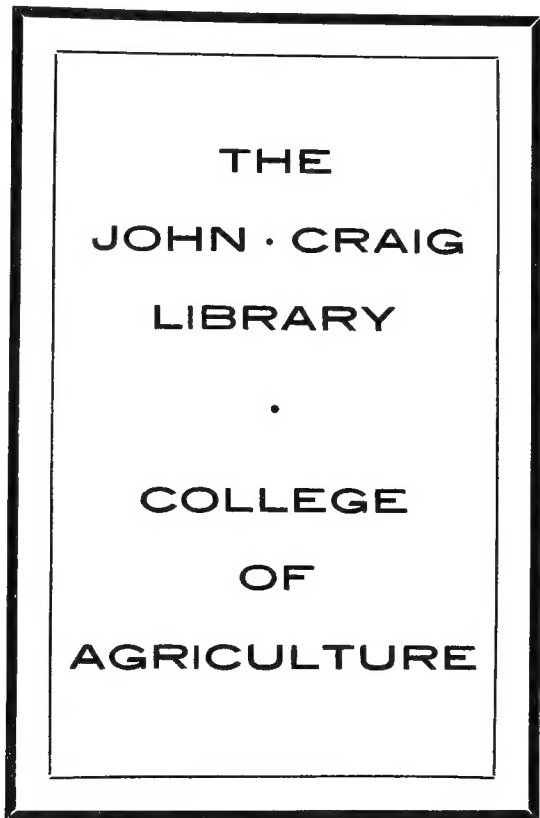
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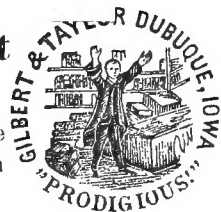
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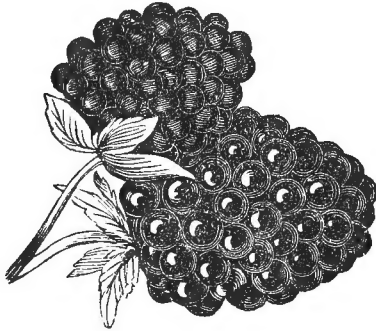
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