

**Cultivation and Preparation of Cotton.**

Land intended to be planted in cotton should be bedded up as early in winter as possible, to allow the freezing to pulverize the soil thoroughly and the land to settle immediately under the tap root. The plowing should be done with the best turning plows, as deeply as the nature and depth will admit, and in the most thorough manner. Especial care should be taken to leave no land unbroken between the furrows. If the soil is stiff and deep, two-horse plowing, to a depth commensurate with that of the soil and ease to the team, is infinitely preferable; this secures a more thorough drainage and greater and freer penetration of the roots of the plant to the moist subsoil in either wet or dry summers. The rows should be laid off with a scooter plow, at distances suitable to the strength of the plow, say five and a half feet to six feet on bottom land, and four to five feet on upland, or even less than four if the soil is thin. Stubble land to go in cotton (which should always follow corn, small grain, or fallow land,) should be broken or bedded up very early in the winter, to allow time for grass seeds and stalks to rot, and the frosts to integrate furrow slices and clods. A good plan on stubble, corn, or fallow land to go in cotton, is to lay off the rows with a scooter plow; enlarge the furrow with a shovel plow; drag all the grass weeds or stalks into the furrows, and then list two furrows of a two-horse plow upon the soil of vegetable matter, leaving the balks to be well plowed out with a turning plow about a fortnight before planting. This puts all trash out of the way in chopping out, and provides an absorbent, for moisture, and a bulk of manure beneath each bed. If a heavy rain or baking wind should run the land together and form a crust upon the bed, a one-horse harrow run over the bed will pulverize the crust and put the land in good tilth. Cotton should be planted from the 15th of March to the 10th of April, as the season or sort of land warrants. Seed should be well saved, and if kept over one year for planting, will ensure a better stand and more vigorous plants, as the imperfect seed perish by keeping over. They should be sown at the rate of one and a half to two bushels to the acre, in direct proportion to the width of the rows (narrow rows requiring more seed) and the stiffness of the soil; the latter case demanding also more seed. Seed on light land may be covered with a board, with a notch in it, attached to a scooter stock. But stiff lands should always be covered with a harrow or two small scooter furrows. The ridge, in the latter case, over the seed, to be scraped off with a board, with a notch in it, as soon as the seed cracks the ground in germinating. The board is useful in scraping off the first coat of grass; the first plowing of cotton should begin when the third leaf appears on the young plant, and be done with a sweep, Mississippi scraper, or some similar implement, as no roots are lacerated by this process and the plant suffers no check in growth; chopping should begin in from four to seven days after running round, and be done with hoes of as nearly equal size as possible, the stand being more uniform in consequence. From one to four stalks should be made in a stand at this time, and the distances between stands governed by the strength of the soil; though thick planting in moderation on all soils—say six feet by eighteen inches on bottom land, and four feet by twelve inches on good upland—will be found the most productive in an average of years. The second plowing should be done with a sweep next to the bottom, with a mould board next to the plant, to dirt the young cotton, and the balance of the row plowed out with a turning plow to keep up the bed. The stand should then be thinned to one stalk in a place on strong land, but from two to four may be left on being thinned to supply limbs by stalks; all subsequent plowing in ordinary seasons should be done with sweeps, with the mould board to keep up the bed. But in laying by, one or two furrows should be run with a turning plow to drain off the surplus water by heavy rains: bottoms should be plowed every twenty days, and hoed immediately to keep it constantly growing, the earth light and pervious to sun, air, and dews. In very wet seasons, recourse may be had to turning plows with benefit, provided they do not penetrate deeply

near the plant; for this checks the plant if it turns off dry by breaking the roots, and causes it to shed, and forces it too much in growth if rain follows speedily. It is doubtful whether topping cotton is beneficial in the average of years, sometimes doing well and at others failing in nearly similar circumstances.

Picking should begin as soon as a hand can gather fifty pounds in a day, as the oil is soon evaporated by the sun, wind, and rain, and a large per cent. of weight is thereby lost. In full crop years, cotton should be picked as free from leaf as is consistent with good work. But in short crop seasons, too much pains should not be taken with the leaf, as the difference in number of pounds will greatly overbalance that of loss of price per pound, and discrimination does not prevail in the market to any extent, comparable with that of the large crop years. Planting seed should be saved from the second picking in general, and from cotton picked from mid-day till night, or that seemed well for the purpose. All other cotton should never be sunned, unless wet by rain; but packed in close bulk from four to eight weeks, to allow it to heat, care being taken not to allow it to heat too much, and the oil from the seed to diffuse through the lint, imparting to it the cream tinge so admired by buyers and manufacturers. Ginning should be carefully done at moderate speed. Packing should never be done in very dry or windy weather, but always in damp and moderate rainy days, as it packs better, and weighs heavier, from the absorption from the air and retention of the oil latent in the lint. The bagging should always be put on loosely, to allow for the swelling of the bale, and completely envelop the cotton. The ropes should be put on tightly, to prevent undue expansion of the bale, and be at least six in number.

[The above is from a correspondent of "The Soil of the South" newspaper. We publish it because it is a subject of great interest to a large number of our subscribers who may not have had an opportunity of seeing it in the paper referred to.

**The Fire Annihilator Again.**

In our last number we had only time to make a small note of the Annihilator Experiment, which took place at Melrose on the 9th inst. The Journal of Commerce says,—

"The building was two stories high, built of dry pine, with a pine floor on each story; but the door and windows were all on one side, so that there could be no draught through the house. Mr. Phillips made a little speech, in which he disclaimed the expectation that his invention would supersede the use of water, yet he thought that the late fire in Liberty street would have been subdued by a few of his machines, after it had reached such a height that water was of no avail except to protect the buildings yet unkindled."

There were three experiments made, the Journal of Commerce thus describes the second,—

"This fire took a speedy hold of the charred pieces of board, and made more smoke than the first, but not so much heat, as there were fewer shavings. Two Annihilators were applied to it, and their vapor, together with its own smoke, seemed for a while to have completely smothered it. The first man who entered bore a mop and pail of water, and we followed, half suffocated. The brands used in the first experiment had fallen into a heap, which was still briskly burning, with flames about two feet high, while the longer pieces, placed last, remained leaning against each other, much charred, and in a few spots on fire. The mop-man found plenty to do, and a second person coming in, took one of the machines and upset it upon the top of the burning heap. The smoke was so dense that we could not be certain whether all the water run out of the machine, or whether a pail was used also. Wherever it came from, there was water enough on the floor after the fire was extinguished, to have extinguished it. At this stage of the proceedings, a gentleman interested in the invention, proposed to the company to vote that in their opinion half of the fires that occur in New York, could be extinguished by the Annihilator at the time of their discovery. Nearly all voted aye, and none said no. It was evident that the experiments, so far, had produced a favorable im-

pression; yet not all were satisfied. After the experiments were concluded, two of the Annihilators were set on, out of doors, for the amusement of the company. We placed a hand in the vapor, and drew it back, wet and dirty. Again we inserted it, shielded by a woolen glove, and the exposed part of the glove has since changed its color. We noticed also that when the machines were inclined from the perpendicular, a good deal of muddy water was thrown out with the vapor.

These things show that property may be damaged by the Annihilators as well as by Croton water; and we suppose that the vapor would be very injurious to the stock of a cutlery store, and probably to many descriptions of dry goods."

The New York Times says:—

"A pile of pieces of boards stood in the centre of the room, and around these was strewed a quantity of shavings. The latter were set on fire, and then the door was closed. Through the window we could see the shavings burning somewhat rapidly, and in about fifteen seconds one of the machines (the largest on the ground, a No. 3) was fired and taken into the room, the door being closed after the man that took it in. In a short time it was announced that the fire was extinguished, and an examination showed that but little damage had been done to the solid wood. Those interested pronounced the experiment satisfactory; but there were some who did not so consider it. When the Annihilator was applied, the flames had almost died out for want of air."

This is an account of the first experiment; it sums up as follows:—

"A close examination of the experiments made yesterday, satisfies us that, for practical purposes, the Annihilator is not of any importance. If you cage a fire in a close room, and apply them, they will undoubtedly do the work; but unless you can so confine the flames, the Annihilator is powerless. Let the fire get fairly through the room, and have free vent, and it could not be controlled by any apparatus exhibited on Monday."

The Tribune thus describes the third experiment:—

"It was then proposed to make a more extensive conflagration, which was done by piling the dry stuff against the walls of the building, leaving doors and windows open, and kindling it. It blazed instantly, and after about two minutes, two of the Annihilators, No. 4, we believe, were introduced, and the flames subdued. Before the party left the spot two of the machines were put in operation in the open air. The gas rushes out with a roar like steam and forms a thick white vapor. No further trial took place. There was much satisfaction and a good deal of doubt expressed among the gentlemen present. One thing however was demonstrated, we believe, to general satisfaction, namely, that a prompt application of the Annihilator to a kindling fire would immediately subdue it. For our own part, we doubted if the first fire made in the building could not have been extinguished by a half dozen pails of water, had they been at hand as was the machine. But even in that case the machine is more convenient. We do not believe that the second fire would have been arrested in the same time, except by a very considerable stream of water, and to obtain that, a quarter of an hour or so is always necessary. But the difficulty at the experiment, on Monday, was the very brief start allowed the fire. If a flame were discovered within the first minute or two, and an Annihilator were at hand, ready for use, the fire might be subdued. But it was impossible to conclude from the experiment, that a fire vigorously under way, and nursed by all kinds of drafts, would be extinguished by the Annihilator, on account of the escape of the gas and diffusion in the air. We do not say it could not be so extinguished, but it was not proved on Monday."

Other papers speak nearly in the same strain. We have to say that we were there also, and the remarks made by the Journal of Commerce, Times, and Tribune, express our ideas so clearly that we have but little more to add. We have no prejudice against the Annihilator; why should we? We have no interest in it to blind us to its defects, and none to speak against its merits. After witnessing the experiment spoken of, we must say, with-

out qualification, as we have said before, that it is an inefficient invention for the extinguishment of fires. We certainly wish it could do what it was pretended it would do. It will be observed that the vote taken was coming down quite a number of notches from the claims first set up for the Annihilator. The circulars of the Company stated,—"An end must be put at once to every serious conflagration in America." This statement has not been fulfilled in a solitary instance.

During the experiments, great care was taken to prevent the boards of the house burning on the outside. Some of the boards caught fire which was put out with wet swabs. Three or four men were stationed on the outside to keep the flames from getting vent, to keep out the oxygen from supporting the combustion. Holes were burned on the back part of the building, by the second experiment, and before the third was made new pieces of boards were carefully fitted over the said holes. The experiments were not such as could justify any acute minded reflecting man, to come to any other conclusion than this, "they were made under favorable conditions to the success of the Annihilator; and under no conditions like those by which ninety-nine out of every hundred conflagrations take place and are consummated in this city, and elsewhere."

In all probability the Fire Annihilator Co will organize upon a new basis, and the experiments at Melrose, all the conditions of which were planned by the patentee, will be used under the halo of respectable names to advance the character of the annihilator. Let us say here, that where water is thrown upon fire, the gases that are generated are the very same as those used in the annihilator. We defy any one to contradict this. Ninety-nine fires out of every hundred originate from carelessness or incendiarism, and are too far advanced when discovered to be vanquished by any other force than our fire brigades.

**Dangers of Gas.**

A whole family, by the name of Sauerbier, died at St. Louis, recently, from inhaling coal gas while asleep. Some persons finding the house closed late in the day, forced the doors, and on entering found a journeyman in the employ of Sauerbier, in bed, pale, panting, and unconscious, as if on the point of death. The party immediately opened every door and window to admit as much air as possible, and then proceeded to the room over-head. There the smell of gas was even more overpowering than below. Having opened the windows, they witnessed a sight sufficient to curdle the blood. A bed in one corner contained four persons—Sauerbier, his wife, and two children. The woman was quite dead, with her limbs cramped and her face swollen, and holding to her breast a child aged about eighteen months, also dead. The husband lay alongside, with a boy aged four years, both unconscious and apparently breathing their last. Measures were taken for the relief of those of the sufferers who were yet living, but with little prospect of success. It is a very singular thing that people will go to bed, or stay in a close room, in which gas from a charcoal or other fire is being emitted. Everybody knows the danger attendant on the inhaling of carbonic acid gas, and yet there is not a week passes over our heads but we hear of deaths occasioned by this gas. When will people learn to be as careful of the air they breathe as the water they drink? In our cities, where gas is used for artificial light, we are afraid that many diseases are caused by inhaling gas that escapes from leaky pipes. The above accident was caused by a leak in the pipes. Let people beware of these things.

**Disastrous Flood.**

A disastrous flood occurred at Burlington, Vt., on the 11th inst., at North Village, in consequence of the breaking away of the great dam above the railroad. The flood was very sudden; the people had only time to run out of their houses. Richardson & Jones large batting factory was totally destroyed. Every bridge in the vicinity was carried away. A machine of Messrs. Richardson and Co., was illustrated in volume 6, Sci. Am.

The propeller steamship Glasgow, from Glasgow to New York, put back to Clyde on her last voyage, in distress.