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THE

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### Trees on Farms.

Those parts of our country which were first settled, were originally covered with dense and noble forests. These had to be laid low with the woodman's axe, and consumed in his log fires, in order to reclaim the land for the plow, and fit it for receiving "the seed of the sower." The very superabundance of timber rendered it of no value, but for building houses, making a few implements, and for burning as fuel. To clear the soil of timber was the great object of the pioneer farmer, and trees were regarded by him as an incumbrance. Before such a spirit great forests have disappeared without a thought having been exercised, as to the natural uses of trees in the economy of nature.

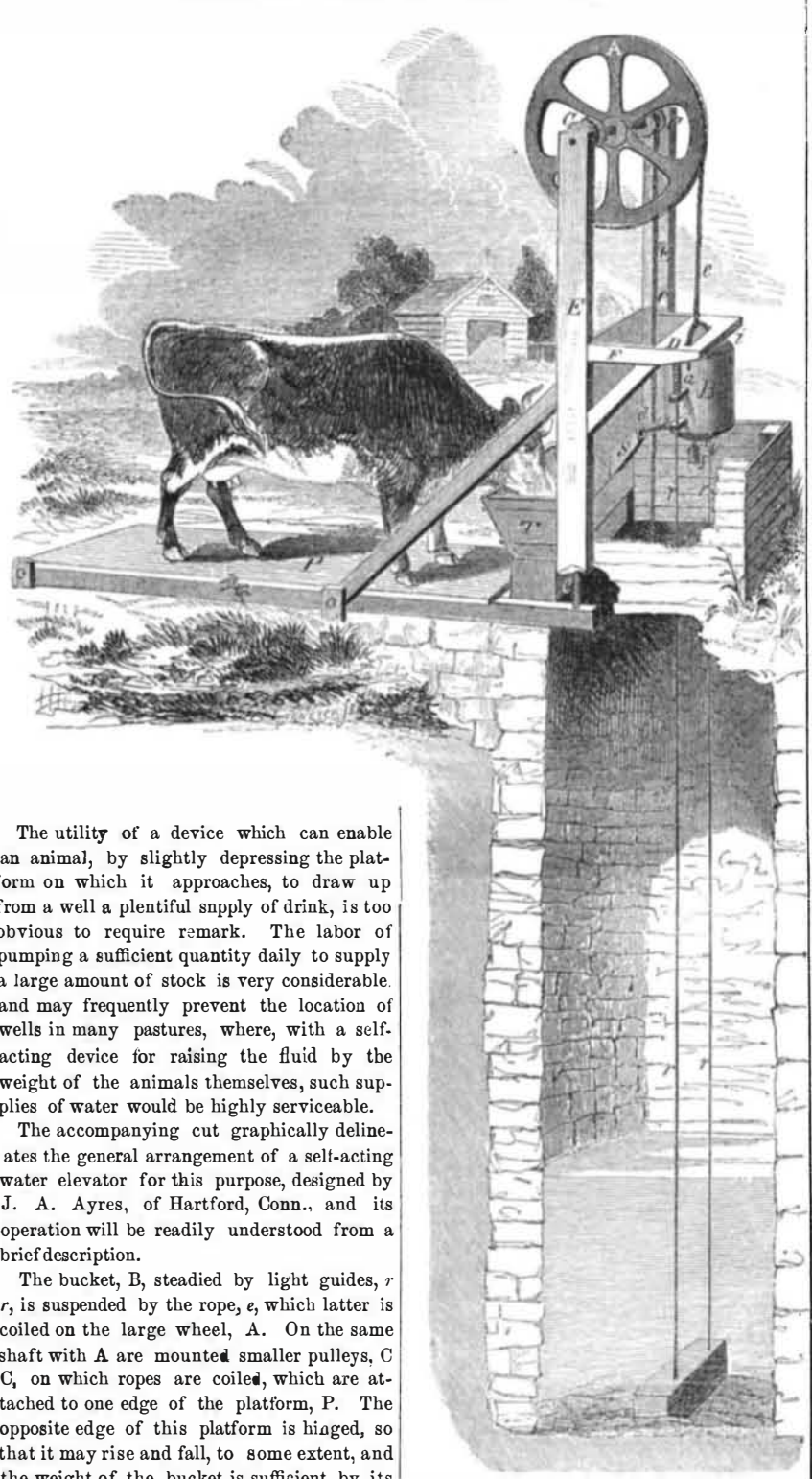
Trees, like mountain ranges, attract clouds and promote rains, without which the most fertile lands become barren wastes.

There are some parts of our country—especially western New York—that are now often visited with long summer droughts, where fifty years ago showers of refreshing rain were more frequent and regular; as a consequence the soil does not now yield so abundantly. Some streams that once rolled along in full swelling currents, driving busy mills throughout the entire year, are now almost dry water-worn courses during a number of months, at least, and the mills on their banks have fallen to decay. This has been caused by the destruction of the forests. They acted the part of reservoirs (by preventing evaporation) to the streams, and as conductors to the rain clouds.

In some parts of Asia and Africa the ruins of large ancient cities are found covered with the sands of the desert; around them there once bloomed fruitful fields. To those farmers who reside in districts and on farms where the timber has been almost annihilated, now is the season to put in practice a useful lesson, viz., to plant beltings of beautiful and useful trees around their farms. Trees equalize the temperature of climates, by attracting clouds in hot weather, to cool the atmosphere with showers; and they shelter houses and crops from high and cold dry winds. And this advice is not only useful for those residing in regions denuded of their forests, but more useful still for our farmers residing on the broad rich prairies of our Western States.

And trees are not only useful as agents of refreshing rains, but they promote health and beautify the landscape. It is a settled question, we believe, that they absorb miasma from the atmosphere; and certainly a treeless landscape is as dull as a tenantless house. Many of our farmers have an eye to the beautiful in the selection of trees for the grounds around their houses, but few of them seem to have paid proper attention to the laying out of their farms. In directing their minds to this subject at the present time, we hope that considerable good will be the result. We do not mean to suggest what kind of trees they should plant, as these should be varied for the locality, soil and climate, but we advise them not to fail in planting some kind.

## AYRES' WATER ELEVATOR.




The utility of a device which can enable an animal, by slightly depressing the platform on which it approaches, to draw up from a well a plentiful supply of drink, is too obvious to require remark. The labor of pumping a sufficient quantity daily to supply a large amount of stock is very considerable, and may frequently prevent the location of wells in many pastures, where, with a self-acting device for raising the fluid by the weight of the animals themselves, such supplies of water would be highly serviceable.

The accompanying cut graphically delineates the general arrangement of a self-acting water elevator for this purpose, designed by J. A. Ayres, of Hartford, Conn., and its operation will be readily understood from a brief description.

The bucket, B, steadied by light guides, *r r*, is suspended by the rope, *e*, which latter is coiled on the large wheel, A. On the same shaft with A are mounted smaller pulleys, C C, on which ropes are coiled, which are attached to one edge of the platform, P. The opposite edge of this platform is hinged, so that it may rise and fall, to some extent, and the weight of the bucket is sufficient, by its descent, to raise the platform when unloaded, but when a large animal steps on P its weight is sufficient to revolve the wheel and raise the bucket, bringing up considerably more water than it can consume, and keeping the trough always full and running over, unless sheep, or other very light animals are supplied in addition.

The coiled spring, *a*, is provided as represented to check the ascent of the bucket, which might otherwise rise too suddenly against the frame, F, under the violent and irregular movement of heavy cattle. It is well also to place elastic material, such as turf, old straw, brushwood, or the like, under the platform, with a view partially to check its descent. We have represented the device in its simplest form, a small spout, *d*, being permanently open to admit the entrance and escape of the water, the flow being inward to fill the bucket when at the bottom, and outward into the spout, S, leading to the trough, T, when at the top of the well; but this arrangement allows the vigorous escape of the water through all the intermediate hights, so that much is necessarily lost; and Mr. Ayres' invention provides a self-acting faucet, (not represented) which is always open when at either the top or the bottom, but which remains closed in moving through the intermediate points. For this purpose the pipe, *d*, is made very short, or removed altogether, and a lever hung on a pin by its side, so that when freely suspended it will assume a nearly horizontal position, so as to stand across the mouth of the opening, and check the escape. This lever, pivoted in the middle, has affixed to one extremity a buoy of wood or cork, so that on dashing into the water in its descent, it will be raised at that end and uncoving the aperture will allow the bucket to be filled. The other extremity of the lever comes into play when the bucket is raised to the full hight required, as it then comes into contact with a fixed pin on the framing, and inclining the lever to the same extent as at the bottom, uncovers the orifice to allow the free discharge. By this simple device all the ends to be desired are effectually attained, so far as certainty of action by the weight of heavy animals can do this; and it will be seen, on a little further thought, than even an animal too light to raise the full bucket, will, by inducing a considerable pull on the bucket, and by consequently raising it a trifle in the water, induce the contents to escape freely through the open hole until it becomes light enough to rise rapidly to the top.

Farmers and others wishing further particulars can obtain circulars, etc., by addressing the proprietor of the invention, Henry A. Dyer, Hartford, Conn. The patent was dated April 15th, 1856.

### Restoring Oxydized Bronze Figures.

Some ancient bronze statuettes, and other works of art, have become so oxydized as to be perfectly brittle, like the rotten brass sheathing of ships. Chevreul, the eminent French chemist, has succeeded in restoring such works to their original malleable condition, and has communicated an account of his experiments in a paper to the Paris Academy of Sciences. He placed a small but completely oxydized statuette in a porcelain tube filled with hydrogen gas, then raised it to a dull red heat, and took out the figure. It was found to be completely revived—the oxygen expelled, and the figure reduced to solid metal.

Some ivory figures obtained by Layard in old Ninevah were found to be brittle, (rotten) but in perfect form. They were sent to Prof. Owen, in England, who revived them by immersion, and then boiling in gelatine. The ingenious discovery of Chevreul reminds us of the important one of the English Professor.

### Evaporation of Salt and Fresh Water.

Prof. Chapman, of Toronto, Canada, has made experiments on the evaporation of salt and fresh water, and has come to the conclusion that the great object of salt in the sea, is to regulate the amount of evaporation. He says:—"If any temporary cause render the amount of saline matter in the sea above its nominal value, evaporation goes on more and more slowly. If this value be depreciated by the addition of fresh water in undue excess, the evaporating power is the more and more increased. The experiments were made on weighed quantities of ordinary rain water and water holding in solution 2·6 per cent. of salt. The excess of loss of the rain water compared with the salt solution was, for the first twenty-four hours, 0·54 per cent.; at the close of forty-eight hours, 1·04 per cent.; after seventy-two hours, 1·46 per cent.; and so on in increasing ratio."

### Wall Paper Poisonous.

Dr. Hinds, of Birmingham, Eng., has lately called attention, through the London *Lancet*, to a method of accidental arsenical poisoning which should be generally known, and from which he was himself the sufferer. He chanced to select, for the adornment of his study, a particularly bright tinted wall paper, the pattern of which was confined to two shades of green. About two days after it had been applied he first used the room in the evening, sitting there and reading by a gas light.—Whilst thus engaged he was seized with severe depression, nausea, abdominal pain, and prostration. The same chain of symptoms ensued on every subsequent evening when he occupied the room. This led to an inquiry into the cause. He scraped off a little of the bright coloring matter from his pretty green paper, and, by sublimation, produced abundant crystals of arsenious acid. The paper was colored with arsenite of copper (Scheele's green). Dr. Hinds remarks that the presence of the arsenical pigment may be recognised by its brilliant and beautiful hue, and by a little running of the color at the edges of the pattern, as though it did not take freely to the paper.