Winter calculations for Farmers.—Every Farmer knows that a green stick of wood is heavier than a seasoned one. If a stick of maple or beech, or of any other wood used as fuel, be weighed when first cut, and again when thoroughly seasoned, it will be found to have lost about one-third of its weight, which is, of course, the water in the wood, evaporated by drying. How much water is there, then, in a single cord of wood? There are 128 cubic feet; deducting two-fifths for the interstices between the sticks, leaves 77 solid feet of wood. One-third, or 26 cubic feet of this is water, which is equal to more than six barrels—the quantity in every cord of green wood. The teamster, then, who draws in one winter one hundred cords of wood to market, loads, draws and unloads, more than 600 barrels of water, which he need not have done had the wood been cut a year sooner and properly seasoned.

Again—In burning green wood, the water therein, being cold, is heated from freezing to boiling. In the consumption of every cord of wood, therefore, six barrels of water are thus made to boil, the heat of the wood passing into the water, instead of being liberated and becoming available, as would be the case if the wood was dry, and no water to heat. Many of our villages, containing two or three thousand inhabitants, consume each year five thousand cords of wood, one-third of which, at least, or sixteen hundred, is green. Hence, the people of such village are at the needless expense of boiling about ten thousand barrels of cold water yearly.

Again—It is ascertained that the heat required to *evaporate* a barrel of water, *after* it is heated to boiling, is more than five times that required for the heating. That is,—if a vessel of cold water be placed over a fire, and a half hour be required to heat it from the freezing to the boiling point,—then it will be found to require five more half hours to evaporate all the water. Consequently, in burning a cord of green wood, the heat required to drive off the six barrels of water in steam, which must be done while the wood is burning, is five times as great as the mere boiling of the water, or equal to heating thirty barrels to boiling. Hence, the farmer who burns twenty cords of green wood in a winter, as many do, also performs the needless task of evaporating sixty barrels of water, which is equal to heating to the boiling point no less than six hundred barrels.

Is there any mistake or error in these calculations? Then let it be pointed out. The weight of water in a green stick, may be easily known by first weighing it, then seasoning it by the stove a few weeks, and weighing again. In this way the quantity of water in a cord may be determined without mistake. The heat required for evaporating can be ascertained by experiment. All the other calculations follow as a matter of course, and contain no material error. Wood should be cut in the Winter, and one year previous to being used, so that it may be properly seasoned.

Again—It has been found that in a common *fire-place*, the loss of heat which escapes through the chimney, is nine-tenths of the amount caused by the consumption of the wood; that is, nine-tenths are lost. This has been determined by comparing the quantity of wood needed to heat the same room equally, where a fire-place and a stove with forty feet