Management and Precise Value of Peat Fuel.

The following communication from one of the largest wire manufacturers in the country, contains very full and valuable information with regard to the actual amount of heat developed by the combustion of this too much neglected fuel, and proves pretty plainly, by the extensive experience of this concern—the reputation of whose wire stands, we think, considerably higher than that of any other house—that peat may prove an excellent substitute for coal, on account of its freedom from sulphur and any other element injurious to the strength and toughness of iron.

MESSRS. EDITORS—We noticed in your last paper your remarks on peat, a subject which has interested us very much, and about which we have had more experience than any other concern within our knowledge, and which we suppose may not be uninteresting to the public. We will, therefore, give you the result of our experience, that you may make such a disposition of it as you may deem best.

Peat is far more abundant throughout all of the New England States than it is generally supposed to be. In most of our towns there is more or less of it, and we may say many of our farmers have peat without even suspecting it. Some three years since our consumption of wood had become so great (1,200 cords annually) that we were induced to see if we could not obtain a less expensive fuel as a substitute, one that would be equally good for the iron, which we were obliged to anneal frequently in the process of manufacture, when our attention was accidentally called to a load of peat. We hardly knew what it was or where it came from, but on inquiry we ascertained for the first time that we had any quantity of peat in our own city. This led to the purchase of a single cord, which was our first experiment upon what looked to us more like a heap of mud than a cord of fuel. Much to our surprise, when it was put into the furnace, where we had a strong draft, it produced a beautiful white heat, and blazed up nearly as much as seasoned hard wood, a heat constant and intense to a degree which made it look like a coal fire. This induced us to purchase a quantity of peat meadow, to which we have since added, paying at first $50 and now $100 per acre. On this we have erected suitable buildings to contain the peat, and have taken out and burnt nearly two thousand cords, which has been used for annealing our fine card wire, and such other wire as requires the best metal which can be obtained. The effect of this kind of fuel on the iron, we have fancied, has been to improve the quality; of this, however, we cannot speak with entire confidence. We have found by a careful comparison that a cord of well seasoned peat will produce as much heat as a cord of dry oak wood; also that a cord and a half of peat will generate as much steam as a tun of anthracite coal. The cost of cutting out, turning, and putting into the peat houses is $2 a cord—which includes only the labor—being done with a peat knife, which is the most expeditious way. There are some peat meadows where the peat is equally good, but is so free from fibers that the only way is to shovel it out, mix it up like mortar, and make it into any convenient form by moulding; in doing so it will cost nearly twice as much, and is worth one-third more. We find that in our meadows the best of the peat extends down only about four feet, while the whole depth is from four to twenty-five feet, and even more in some cases; below four feet it is without fiber or solidity.

The best season to commence drying is the first of June—it can be continued until the first of September. This will be quite a sufficient time to get off two crops or cuttings if the meadow is pretty dry and the weather not unusually wet.

In most localities peat may be used to good advantage for many kinds of manufacturing purposes, at a saving of from 33 1-3 to 50 per cent over any other kind of fuel, depending very much on the locality. For culinary purposes it is very doubtful whether it will come into general use. It is, however, used in this city by some families in cooking-stoves and grates, and by many much liked, especially as a substitute for charcoal, to kindle with. It has the remarkable property of keeping fire a very long time; we often find it burning a week under our furnaces after the fire has gone down. It is of the highest importance that it should be very dry that it may burn economically.

ICHABOD WASHBURN & Co.

Worcester, Mass., July, 1857.

The National Exhibition of Agricultural Machines.

MESSRS. EDITORS—You request of me a history or statement of the trial of reapers and mowers at Syracuse, had from the 13th to the 22d ult., but as member *ex-officio* of the "Board of Judges." I have no right to speak *comparatively* of the different machines, or indicate my own preferences, or those of any other members of the board, till the full report is ready for the public, and the time (Sept. 1st., 1857, at Louisville, Ky.,) arrives for promulgating the award. I have found for years in the management of exhibitions of this kind, that when I pleased myself with my own efforts and action, that the exhibitors and the public have also been gratified, and their approbation has followed my own convictions of what was just and proper.

In this last effort I have not fully pleased myself, and I shall bear quietly any note of censure interested or disinterested observers may feel disposed to award, as I certainly am responsible for any lack of system in carrying forward the trial.

You, like me, repudiate the mixing up of military parade and show with civic and particularly with agricultural gatherings and processions, and I believe you and your readers generally will sympathise with my griefs when I attribute all the confusion and irregularities that delayed and spoiled our first two day's operations to the appearance and interference of certain military operations in the shape of big guns, swords, blue coats, epaulets, &c., without any notice or consultation with me, and entirely breaking up and counteracting the plans I had laid for opening the trial, and all the apologies I have to make to exhibitors for submitting to it is that the whole came so suddenly upon us that I had no time to counteract the movements, and not the patience to submit quietly to the intrusion.

I have no right to make your paper the channel for a personal outburst of spleen against the military of Syracuse for their misplaced and misteimed parade on the 14th inst., but I wish you aid me in warning committees of arrangement, wherever they may be located, that by placing the military at the head of mechanical and agricultural processions and exhibitions, they disgust and alienate the men to whom they are indebted for the true glory and advancements of the arts of peace. The pecuniary failure of the New York Crystal Palace enterprise was due in a great degree to neglecting in the same manner the mechanics who were to support it.

The trial of the machines was less satisfactory during the sweepstakes or trial against time than on the trials singly with the dynamometer. Most unfortunately, I think, for the exhibitors generally, they strove to make good time at the expense of good work, and some of our most popular and valuable machines may find that less haste would have worked to their advantage in the final result, as the judges must take the work done at the trial as the standard, instead of what they know many of the machines capable of doing under other circumstances.

I have no doubt that the report will be more extensively noticed and read than any other ever made on kindred subjects. Our means of obtaining the direct and side draught or resistance, were better, without doubt, than ever before applied, and we feel that the application has been fully and honestly made and recorded, and that the public for once will have true mathematical results to guide in the selection of machines, on the publication of which you will be able to select all information you may wish for your journal.

I should have mentioned that Col. Wilder and the officers of the United States Agricultural Society repudiated the military parade alluded to, Col. Wilder himself declining to move with the procession and riding by himself to the fair grounds. His address was emphatic and well timed, and the farmers and artizans who have jointly produced and introduced these important aids in the harvest field had full measure of the honors deserved.

JOSEPH E. HOLMES.

Syracuse, July 25, 1857.

Husking Thimble—Small Inventions and Large Profits.

MESSRS. EDITORS—We are happy to state that we have been very successful thus far in introducing the Husking Thimble, for which you obtained Letters Patent for us on the 13th of May, 1856. In looking over our books, we find that we have sold 75 300, exclusive of those retailed. We have sold these at a price which affords us a profit, over and above the cost of manufacture, of $1600. Judging from present appearances, we expect to have orders for not less than 200,000 this season. You are at liberty to use this as you may think proper.

We have also received $20 in premiums.

J. H. GOULD & Co.

Alliance, Ohio, July, 1857.

[On page 302, volume 11, SCIENTIFIC AMERICAN, may be found an engraving of the invention above referred to, which is simply a thimble with a projection or nail cast on one end. It is one of the most simple inventions we have ever patented—so simple, in fact, that we were in doubt as to advising the inventor to apply for a patent at the time he first submitted his model to us, fearing the Patent Office might consider it lacking in sufficient novelty to warrant its issuing a patent. The sequel is given above over the inventors' signature. They applied for a patent, and obtained it; have already sold over 75,000 of the implements, and the patent has nearly thirteen years yet to run. The owners will no doubt reap a large fortune out of so small an article as a Patent Husking Thimble, which is not much larger than a walnut.

Such testimony of the value of patents is encouraging to inventors, and those who have obtained Letters Patent or contemplate applying for them.

United States Mails very Uncertain.

MESSRS. EDITORS—Can anything be done to remedy my case? I am a subscriber to the SCIENTIFIC AMERICAN, value it highly, and wish to preserve all the papers; but for the past six months I have generally got two numbers and lost one. It comes properly directed and carefully wrapped.

P. J. CASWELL, Supt. Dorn Mines.

Abbeville District, S. C., July, 1857.

[The fault complained of above is wholly due to the mails, and it is certainly very aggravating, not only to the publishers, but also to the subscribers. We are very particular in our mailing department that every paper is regularly sent, and cheerfully supply our subscribers with any numbers that may be lost through the mails, upon being notified. Our ricketty postal system needs revamping, and we hope Postmaster-General Brown will look sharp after it.

Cost of Gumming Saws.

MESSRS. EDITORS—Will you be so kind as to inform me where I can get the best gummer for mill circle saws? It costs me no less than three hundred dollars to get my saw gummed. J. S. WESTBROOK.

Zebulon, Ga., July, 1857.

[It is very evident from the above that the blessings of modern saw-gumming have never reached so far as Zebulon. We have no doubt Mr. Westbrook will speedily hear of several cheap machines for this purpose.

The Scientific Press of Paris.

We learn from our spirited French exchange, *L'Invention*, that the editors and chief contributors of the scientific and medical journals in Paris have commenced a series of monthly dinners. The chief toast at the last was, "The scientific press—and may the extension of its influence spread more and more among the public the taste for scientific pursuits."

Agricultural Machinery and its Results.

Six years since, in Ohio, there were very few agricultural machines—now there are an immense number. The effect of machines in doing the work of men it is hardly possible to estimate.

A mower with two horses, two men, and a boy, must accomplish the work of at least twelve men. If so, it must save the labor of five men at least. Now, we know of one county which has three hundred and fifty mowers and reapers, and they must save the labor of about 1600 men! In the State at large, there must be about eight thousand of these machines, thus saving the labor of 40,000 able-bodied men. Supposing that they are employed only two months in the year, for harvest only, they will save, in money paid for labor, about $2,500,000 per annum. The interest on their cost will be about $70,000 only; so that there will be a net absolute gain on them of more than two millions per annum. If we look to the prairie States, the saving will be much greater. In the United States at large, probably the labor of 3,000,000 able-bodied men is saved during two months in the year. This is equal in money to twenty millions of dollars per annum. This saving, too, is made in the last five years. But the saving of money is by no means the most part of the saving. The economy of labor is, in our modern civilization, of the highest value, without reference to the money or the market value. We have already referred, as our readers will remember, to the tendencies of our present civilization towards centralization in cities and towns. This is really, and without theory, drawing large portions of our rural or country population to the towns. This is diminishing the agricultural laborers while it increases the towns. The consequence is that, both in America and Europe, the relative proportion of cultivators is continually diminished. If we suppose this process to go on like a mathematical series, without arrest, the consequence would be ultimate starvation; but, of course, the preliminary symptoms of such a calamity would be sufficient to drive many from the cities to the country, and thus change the current. Still, we must regard the invention and success of this agricultural machinery as a providential interference to avert for a time the alternative of starving in cities or returning to the country.—*Railroad Record.*

New Lines of Steamers.

The Washington correspondents of the daily papers announce that the Postmaster General is making arrangements for the conveyance of the mail between San Francisco and Puget's Sound in a line of steamers. This line will extend along almost the whole of the Pacific coast of the United States. A mail contract by the Isthmus of Tehuantepec will, it is also reported, be given to the Le Sere Company as soon as the route shall be practicable. This will give employment to a number of steamers to communicate with the Pacific coast through this channel. The line through Nicaragua, which has been stopped by the war in that region, will also probably be soon restored, and a number of steamers will then be again employed on each ocean to keep up this communication.

Fall of a Tunnel.

The Broadtree Tunnel near Bettsville, Va., thirty-seven miles east of Wheeling, and upon the line of the Baltimore and Ohio Railroad, recently fell in for a considerable distance, burying the track beneath tuns of earth. This tunnel (nearly 2,700 feet, or over half a mile in length) is, we think, the one which caused such an immense amount of trouble and expense in its construction, in consequence of the looseness of the earth, which fell in at two points, so as to make large natural shafts or craters, and finally required the whole tunnel to be arched over very thickly with brick. The opinion is quite general with many that the expense of a tunnel depends on the hardness of the earth, but so far is this from the fact, that the very hardest and soundest rock is far preferable to quicksand or treacherous stone. The roof of this tunnel fell in immediately after a train backed out of it.