

**WASTE IN THE LUMBER INDUSTRY.**

Among all the wastes of the lumbering interests there is perhaps none as important as the sawdust. The reasons for this assertion are more than one. The waste of lumber during its cutting is more apparent, undoubtedly, but less expensive, because it does not need any extra handling and transportation. Unless parts of the trees remain on the ground or are burned, if necessity requires it, but, at any rate, the labor involved in its riddance is comparatively small. With the sawdust it is entirely different. All the waste resulting from this source in the manufacture of lumber has been paid for more than once. As it formed part of the original tree, it was paid for in cutting, then in the various modes of transportation, and finally the time is coming when its removal has to be paid for again, unless somebody will devise ways and means for its economic transformation into something else. The manufacture of gas from sawdust will hardly meet with favor at present, because the larger saw mills are more or less remote from cities where the gas could be utilized, and the bulky form will exclude any distant transportation unless its volume can be reduced so that the transportation charges will compare favorably with those of coals for the gas industry. The very instability of the lumbering districts, which change from place to place as timber is cut, will exclude the erection of any costly establishments for the utilization of sawdust in the neighborhood of saw mills, and the question, what to do with it assumes larger and larger proportions, not only from a pecuniary, but also from a hygienic point of view. It is now believed that malaria on the banks of the streams where saw mills are located, is largely due to the decomposition of the sawdust and other wastes thrown into the water by the mills. Fishermen complain that fishes either die or forsake their home waters as soon as the streams are made the receptacles of saw mill waste. In New York State, we are told, a proposition is on foot to prohibit by law the throwing of wastes into the streams by mill owners. Public opinion, that all important factor in the formulation of laws, has had, by constant agitation and discussion, its attention directed to the subject, and saw mill owners will do well to act on the principle "forewarned is forearmed" and encourage the inventors of the country to exercise their genius towards an economical disposal of the sawdust. A prize, high enough to be worthy of competition, could easily be subscribed for by the large number of saw mill establishments, and the successful inventor would be the benefactor of a large community of people in more than one sense of the word.—*Buffalo Lumber World*.

**THE SAW AND ITS ORIGIN.**

The Phœnicians, says the *Miller and Manufacturer*, are among the earliest of the races credited with using the saw, for these skilful mechanics are supposed to have erected the temple of Solomon, "stone-sawed within and without." The wasp may be said to have been the first sawyer, and probably initiated his next of kin, the mosquito and bee, into the secrets of his trade. Grecian mythology tells us, that the inventor of a saw once found the jaw bone of a snake, and used it to cut through a piece of wood, then imitated it by jaggung an iron plate and thus made a saw. The uncle of the inventor became jealous, and is said to have murdered his nephew. It may have been that the uncle wanted to secure the patent exclusively for his own benefit. Saws of the bronze age have been discovered in Germany and Denmark, but not in Great Britain, the metal of which was cast thin, and probably serrated by chipping and grinding. In the stone age, obsidian was used in Mexico, a kind of glass produced by volcanoes, usually of black color and opaque, except in thin splinters. It was so named according to Pliny, after Obsidianus who discovered it in Ethiopia. Saws and knives of obsidian have been disinterred in the alluvial ground of New Jersey beneath the recent gravel. They are held to prove extensive coast-wise trade, as no obsidian has been found closer than Mexico. The ground referred to as alluvial, is made by deposits of sand, clay, or gravel, formed by river action or by sweeps of

waves over the land, and as no authority is given us to believe that obsidian saws were actually used except in Mexico, it is presumed they were swept to these shores by the action of the waves, being cast into the waters by accident or design.

The saws of Lacustrians, and other early inhabitants of Europe, were of jagged flint; those of the Caribs or West India Islands, of notched shell. Japanese saws are shaped like butcher cleavers, the handle flattish, as if whittled from a piece of inch board, and the shank of the saw driven into the handle, the whole secured, by being wrapped with fine split cane. The teeth are narrower than those of our saws, giving more of them to the inch, much longer and pointed toward the handle. A saw discovered by Mr. Burton, and now in the British Museum, represents a long thin blade, tapering slightly at the end, with a thick, short, and awkward handle, the blade rudely driven into the wooden hilt. It is supposed to be of Egyptian make, and was discovered in Thebes. The saw is an ancient device, and probably as old as a knife with a ragged edge; they are of various designs, and different material according to the use to be made of them, and have been improved upon and modernized with each succeeding age, until they have attained the acme of perfection; skill and ingenuity can hardly devise a finer implement than the modern saw, made of best tempered metal, light and easily handled, and of graceful workmanship.

Not least in the varied collection of saws, and one that has been most useful in ancient and modern times, is the stone saw. According to Manetho, Sesostris is credited with having introduced the art of building with heavy stone. Heavy masonry previous to his time, is supposed to have been cyclopean; that is, heavy blocks were fitted together by adapting to each other in the wall, such faces as they already possessed. In the sixteenth century, marble became common in English architecture. Pliny give an account of cutting marble with the saw, and states the different kind of sand used. "For it is the sand," he says, "that does the work, not the saw."

Oliver Evans, of Philadelphia, in 1803, had a double-acting high-pressure steam engine at work grinding plaster and sawing stone. He drove "twelve saws in heavy frames sawing one hundred feet in twelve hours."

**WOOD-CHOPPING IN RUSSIA.**

In some parts of Russia, a European exchange tells us, there exists a decided feeling against foreigners; or one is nearer the truth in saying that the Russians hate strangers, and with the dim idea they have of what is right and what is wrong, they consider it their duty to persecute them as much as ever lies in their power. Cunning and intrigue seeming to form their character, they can no doubt do a great deal of harm to any one coming down here who is unprepared, and not knowing what sort of people they are.

In the end of 1882 a wood-exporting firm in Finland made an agreement with a Count v. M., in St. Petersburg, who was the owner of a large estate with extensive forests in this neighborhood, to take out the value of the woods for joint account. The forests contained about a million of trees, ripe for cutting, and these were to be made into money in as short a time as possible. Plans were made; a saw-mill with six frames and a planing mill were to be built, and 80,000 trees were ordered to be felled the first year. The trees were felled, the saw-mill was built, workmen were collected from Sweden, Finland and Riga. Last summer the saw-mill was so far ready that sawing began, when the firm in Finland unexpectedly came into difficulties. Money was not sent to pay the workmen. Some time after the firm in Finland was made bankrupt, and the owner left for America. The Count v. M. stopped payment in the real sense of the word, and there the poor workmen were left with their wives and children in utter want of money, in an exceedingly dangerous climate, where fever and illness came more more regularly than the daily bread, without means to buy medicine and without a medical man to attend them. Death visited them through typhus, and they had to bury their dead themselves, the Roman Catholic clergyman

asking an impossible price to read the service.

To tell of all the intrigues, all the unfulfilled promises, and the mean behavior on the side of the Russians against these poor people would be of no use. Suffice it to say that by their mutual efforts they got over the first part of the winter, and now, through the help of the Swedish Ambassador and the Finnish authorities in St. Petersburg, they were sent home to their respective countries, penniless. The business is entirely wound up, and the very fine saw-mill with its first-rate machinery and every now improvement, is standing waiting for a new owner who may have sufficient means to make himself independent of Russian intrigues, and be able to continue a business which began so hopefully a little more than a year ago. Strangers should not try their luck in Russia without being backed by people whom they thoroughly know and can have entire confidence in.—*Buffalo Lumber World*.

**TREES IN THE SHETLAND ISLES.**

Efforts have been made at various times in England to grow tumber trees in the Shetland Islands, but the success which has so far attended these experiments is not very encouraging, certainly not sufficient to warrant any special effort in that direction. The plantation prospered in the beginning, being fenced in by high enclosures, but as soon as the trees grew above the fences, the cold and powerful gales blasted the larger number. The largest tree found is stated to be only three feet in circumference at the ground, while the tops are stunted. *Forestry* in an interesting account of the Island says:—"The prize plantations of Shetland are situated in a little valley, near Lerwick, whose Norse designation would sound strangely in southern ears, for Englishmen have forgotten the sound of their original language, though proud of their Scandinavian blood. On this spot there are two well-sheltered small groves, whose planter, Dr. Arthur Edmiston, received a premium adjudged by the Highland Society of Scotland in 1824, "for having planted the greatest number of trees on the largest extent of ground, between February 1st, 1822, and November 1st, 1824, of any proprietor or tenant in Zetland." The writer then informs us that these groves are entirely of sycamore and adds rather humorously, "I admired but did not measure the trees; they are probably as high as an undersized farm house, and equal in circumference to a benighted clergyman—that is, considerably beyond the girth of a curate, and less than that of a grazier in good times."

**A NEW BRANCH OF TRADE.**

The Postmaster-General has issued a notice to the public calling attention to the spring season and the growing custom of sending flowers, &c., by post. He points out that in all cases these flowers should be securely packed in boxes or cases of wood, and that boxes of pasteboard should not be used, owing to the liability of the wet flowers to reduce them to soft pulp in transit.

For boxes connected with the growing business of the letter and parcel post, pasteboard, although unsuitable and much disliked by the authorities, occupies a prominent position. This place bids fair to be usurped by wood; but a new branch of box making should be started for the purpose; by this we mean that light wood boxes should be placed at the disposal of the Post Office authorities and the public at a price that would compete with pasteboard. Such boxes, in our opinion, should be made to fit one in another, and be of stock sizes, such as perfect cubes, ranging by half lengths into double or treble cubes.

It would, perhaps, not be impossible, as the postal and railway authorities are anxious to increase the parcels business, to arrange with them to sell boxes to the public, as such a movement could not fail to prove profitable to them and a boon to tradesmen and private individuals. Failing this, the servants might be permitted to sell such boxes to the public on an agreed commission.

Take the case of a person in a strange town wishing to send flowers or fruit to his family at a distance, he cannot do so because of the difficulty presented by the box. He goes into the

market, where there are flowers and fruit galore; but he cannot purchase the necessary box. Again, take the private residents, they buy their flowers and fruit, and take them home, where they perforce remain, for they have no knowledge where to purchase a post-box, with which to send them to their friends. The same difficulty in some degree presents itself to the tradesman.

If post offices, parcels offices, railway parcel offices, or receiving offices were the depots of these wooden envelopes, the difficulty would at once be removed, and a great and lasting trade would, no doubt, spring up in this department.

Failing this the tradesmen themselves might become the custodians of these parcel boxes, as also stationers or dealers in post envelopes. If such dealers were to place notices like the following before the public:—"Flowers, fruit, and other damageable goods packed here and sent by post"—we have no doubt they would do a lucrative business.

To us it occurs that this box trade is a natural outgrowth of the development of the postal system in the direction of parcels. Compared with pasteboard, there is no reason why wood should not be freely used; it is cheap, and has the advantage over pasteboard of being more durable and being a favored material in every household, if for no other purpose than fire-wood.

As to the making of such parcel boxes, we can only suggest the free use of machinery. We believe it would be possible to dovetail the corner without adding to the cost of otherwise nailing them, and to lace or stitch them through the angles with soft wire.

Softened wire, such as that used in bottling aerated waters, might be freely used in connection with these boxes.—*Timber Trades Journal*.

**Wooden Pavements.**

It seems that European countries are experimenting with wood pavements. For instance, in France we are told that the wooden pavements laid down last winter by an English company and English workmen in the Champ Elysee, Paris, has given such satisfaction that the system is now being applied to the Avenue de l'Opera. In addition to this a report reaches us from England that at a special meeting of town Council at Norwich, a report was received from the Wood Pavement Committee, recommending that certain streets, roads, etc., be paved with wood, and that application be made to the local Government Board for sanction to borrow a sum not exceeding £20,000 for carrying out the work. The amended scheme included a number of streets, covering 54,475 yards super, at an estimate of 7s. a yard; total, £18,766 5s. After lengthy discussion, an amendment that further consideration be deferred for a month in order to ascertain the cost of maintaining the roads and streets during the past two years, for comparison with the probable cost of the same when paved with wood, was agreed to.

**The Southern Bald Cypress.**

The southern bald cypress is a remarkable tree in many respects. It is perfectly hardy to the north, and, although a conifer is not evergreen. The branches look peculiarly dead until late in the spring, not showing signs of life until most other trees are putting out leaves. In summer it is as beautiful as it is odd in winter. The tree often attains a great size and age. A section of a trunk in the botanical gardens at Cambridge shows the tree to have been 545 years old. The largest tree of the species known is in girth larger than the largest redwoods in California. It is only 120 feet high, however.

**A Large Apple Tree.**

On the farm of Delos Hotchkiss, Marion, Conn., is an apple tree, the largest we ever heard of. H. C. Hovey gives its measurement in the *Scientific American* as follows:—"Circumference near the ground, 15 feet 3 inches; at the fork, 16 feet 2 inches; height of tree top, 104 feet. A peculiarity of this tree is, that five limbs have borne one year and four limbs the next. The usual yield from five limbs is about 85 bushels, and the four limbs vary from 35 to 40 bushels. The age of this venerable tree is estimated at from 175 to 180 years."