

Carteret, La Tuque; manager and secretary, H. Sorgius, Three Rivers.

One of the successful features of the gathering was the banquet at the Place Viger Hotel when about twenty-five gentlemen, members of the association or interested in the work, discussed an excellent menu and afterwards listened to a few pithy speeches.

UTILIZING SAWDUST.

By C. W. R. Eichoff, M.E.

The inconvenient process of burning this valuable waste, taking into consideration the fact that this sawdust, when moderately dry, has the same heat value as the wood from which it originates, has led to the design and construction of many different styles of furnace, which in some cases have brought a betterment and in others failure. Furnaces of the "Dutch oven" style are mostly used in this connection, and especially with boilers. But there are other convenient constructions now in existence. In all these furnaces the main effort was directed to a better distribution of the air necessary for a successful combustion of the material.

Abroad, where conservation of the natural resources has been practised to a greater extent than on this continent, experiments have been made to form this dust into briquettes. At present a number of briquetting plants are in successful operation across the Atlantic, and of later years lumbermen and other mill-owners on this side of the Atlantic have become interested in the briquetting of such sawdust. But the American has not looked favorably on this utilization. The large lumber concerns considered it more profitable not to bother with such a process, claiming that these briquettes can be used only to a small extent and could not compete with other fuels in which this continent is so rich. More interest in the matter was shown by the smaller concerns, where the loss of such valuable wood wastes demands serious consideration. Many owners took up the proposal, but dropped it when they learned the cost of such sawdust briquetting plants. Considering that a product has to be manufactured which requires for its fabrication either a suitable binder or great pressure not using a binder, it is essential that every part of such a plant be designed and constructed with the utmost care and skill in all its details.

Suitable binders are water-gas, pitch, tar, rosin, flour, water-glass and others of the same nature as used in the briquetting of coal. As these binders materially increase the cost of manufacture, their use was found prohibitive, and machines are now used that deliver the goods without the application of a binding material.

The sawdust in this process has to be perfectly dry before being put into the press. From the press the briquettes are transported automatically into a cooling room, and when cool they are hard and ready for transportation. Such briquettes are an excellent fuel for residence use in fireplaces and stoves, do not corrode, and leave very little ashes and soot. The cleanliness, rapid ignition, intense heat and odorless combustion make them a fuel preferable to the best wood. They are also the most convenient fuel for power house use in saw-mills and in logging locomotives, replacing coal or sawdust, which latter would take considerable space. They are also very convenient as a kindling material. The briquettes are of oval form, to facilitate ventilation when piled up.

Presses are built with a capacity of 24 briquettes a minute, giving 14,400 briquettes in ten hours, each briquette weighing about half a pound, which would be equivalent to a

daily output of 3.6 tons. The power required for the driers and this press amounts to about sixteen horse-power. Another press has a capacity of nine tons a day, requiring 45 horse-power for the machine.

Use for Dry Distillation.—A very attractive process is the charring of sawdust and subjecting it to a process of dry distillation. The remaining charred material (charcoal) is then briquetted and yields a briquette of very high heat value, equivalent to the best anthracite coal. The process is practically the same as that used in the distillation of wood. The resulting by-products are an illuminating gas, which can be used to light up the mill, wood vinegar or pyroligneous acid, wood spirits or methyl alcohol and wood tar. The wood tar can be subjected to further treatment and yields creosote, benzol, naphthalin, paraffin, etc.

Sawdust has been used for the operation of gas producers for power purposes, in which cases it can be handled either in the loose form or in the form of briquettes.

Related to the briquetting of sawdust is the manufacture of artificial wood. This material is of great tenacity and strength, does not decay and is less susceptible to the action of the atmosphere than is natural wood. All this artificial wood can be sawed, planed and cut, but not split. The manufacture of it has become quite an industry abroad. Decorations for walls, ceilings and furniture are manufactured from mixtures the essential part of which is sawdust. These ornaments rival carved work and are a great deal cheaper, replacing those made of zinc, papiermache and artificial stone or cement.

Sawdust is the essential part of a stone-like material used for building purposes and also for paving blocks. These paving blocks are said to outlast the regular creosoted wood blocks.

Sawdust is pulverized and used instead of sand. In this state it can be colored, perfumed and used for many purposes, such as for sachet bags and the like.

Miscellaneous Uses.—The writer remembers the time when this fine sawdust was used in offices instead of sand and blotters. Its polishing qualities in the pulverized state for gold and silverware are well known. Further, from fine dust of colored wood, such as mahogany, etc., stains can be made to be used in imitating other woods. With linseed oils one can make a filler. The material for this filler is best obtained from the kind of wood on which it is to be used.

Sawdust and shavings are used for packing glassware, porcelain and other ceramic articles. In this state it must be dry, so as not to have a detrimental effect, especially on ceramic goods.

The use of sawdust for cleaning floors is too well known to need mention; not so generally known is its property of preserving eggs.

Any person handling oily and painty tinware should know that it is an excellent means for cleaning fresh paint from such tinware, rendering the vessels perfectly dry and clean.

Sawdust is used in the manufacture of insulating material for steam boilers and steam piping, and as insulating filler in fireless cookers, ice boxes, walls, etc.

It can be laid in cement floors instead of sand, rendering these floors warmer and more porous. It is used for roofing material instead of sand, making roofing paper lighter for transportation and so reducing cost.

Charred sawdust is an excellent means for filtration of liquids and has disinfecting qualities, making it more suitable for this purpose than ordinary charcoal. Added to brick it makes a more porous brick. Mixed with clay it can be used for the manufacture of filtering articles; this has proved to be an attractive process.