

monly used. Their capacity is generally from five to twenty barrels, and run through about double that quantity per day; that is, a twenty barrel still will run forty barrels of sap, producing six barrels of spirits of turpentine and twenty-three barrels of rosin. Except near the lines of communication, the rosin is not considered worth the cost of freight, and is left in congealed pools of thousands of barrels; but when the rosin is to be saved, it is drawn off into vats of water, by which the chips and rubbish contained in the crude turpentine are separated from the rosin, ere it is barrelled for market.

The turpentine business is considered favourable to health and longevity. The stills in North Carolina, of which there are about 150, cost on an average about \$1,500 each—a cost much larger than they could be erected for in Canada. The process of distillation has to be carried on with great caution, consequent on the inflammable nature of the article.

The *Scientific American* of July 9th contains an article and illustrations describing a new process of making turpentine, in which the whole of the wood is subjected to distillation, and a larger immediate yield is obtained. The wood is here cut into lengths of from twelve to eighteen inches, and split in pieces one and a-half to two inches square. An iron skeleton basket is filled with these pieces, and placed in a retort and closed by the cover—the joint being luted air-tight to prevent the escape of vapor. A moderate fire is kindled in the furnace, by which the oil is evaporated and passes out through a pipe into a cask, where it enters the gas-holder. The cask is supplied with a current of cold water which condenses the vapor, and the uncondensable gases are led by another pipe into the furnace, and burned as fuel. A pipe passes down from the lower end of the gas-holder down into the lower condenser, where it is coiled in the form of a worm, and surrounded with cold water, to complete the condensation. The main condenser extends below the furnace, and terminates in a cone, a pipe being provided from thence to lead off the melted rosin. After the fire has been continued from six to ten hours, certain stop cocks are closed and others opened; the heat is now increased, and the remaining pitch is expelled from the wood in the form of tar, leaving the wood charred. The illustrations require to be seen to be thoroughly understood. We shall be glad to hear from any correspondents who may be able to furnish practical information on this subject. The discovery of any new industrial product, or of a profitable mode of manufacturing our known native products, adds

real wealth and prosperity to the Province, and every available means should be used to this end.

BOARD OF ARTS EXAMINATIONS.

The last number of this journal contained a Report of the late FINAL EXAMINATIONS of the Board. The results are not all that we could desire, but still they shew an improvement on the past year, both as to numbers examined and the subjects taken up, and afford sufficient encouragement to the Board to persevere until success shall finally reward their efforts.

In 1863 there were but seven candidates, five subjects of examination, nine papers worked, and seven certificates awarded. This year the number of candidates is seventeen, and twelve subjects have been taken up for examination. The number of papers worked has been forty, of which thirty-six have been successful in obtaining certificates—six first class, eleven second class, and nineteen third class.

These examinations were established, as expressed in the printed programme, to “encourage, test, attest and reward efforts made by the industrial classes for self-improvement.” When a young man or young woman leaves school and enters upon the active duties of life, the studies previously engaged in are apt to be neglected, and finally forgotten, unless some stimulus to continuous exertion is provided; or the young person who has had no opportunities for early education, or, of the most rudimentary kind, needs some inducement to lead him to devote his spare moments—it may be after arduous and toilsome labour of the day—to the improvement of his mind, and to the acquirement of knowledge that shall be of practical value to him in after life. Here the Board steps in with its system of examinations, and through the medium of the Mechanics’ Institutes, indicates the studies to be pursued, obtains the services of competent examiners, who prepare the papers for working in each respective subject, and finally award to the candidates such certificates of “excellence,” “proficiency,” and “commendableness,” as the merits of their respective papers entitle them to; and so as to secure the utmost impartiality and fairness in making such awards, the examiners are in all cases entirely ignorant of the names, or residences of the candidates.

It is to be regretted that the financial circumstances of the Board do not allow of the awarding of prizes of an actual money value to the successful candidates, as is the case in connection with the examinations of the London Society of Arts, whose system is in other respects pretty closely followed.