New Silver From Old Stumps

By James Lawler

How Canadian Investigators in Forest Products Gave a New Lease of Life to Cobalt.

Most people are familiar with the saying of a great English Chemist that he owed his success to his practice of examining the waste materials left after his experiments were over. But this work of supererogation on the part of the old-time chemist has become the regular business of the chemist, the physicist, and the experimenter of today. Everywhere these men are being asked to make bricks without straw—and it is a poor day when they do not return to their taskmasters a better brick than was made under the old conditions. Why does the paper on which this article is printed cost so much more than the common news-print paper? Because half of the material in the tree from which the pulp was made by the chemical process went out into the Ottawa river, or the St. Lawrence river, or the Welland canal in the "waste liquor." Why does not somebody get busy in the work of recovering some of this wood material? Somebody is busy. The Forest Products Laboratories of Canada, under the Forestry Branch of the Department of the Interior have a staff of men at work on this very problem, and as they make an advance toward its solution the results will be made public for the benefit of the people of Canada. This is one of the ways in which the Dominion Government is trying to link up science and industry for the good of the nation.

Pine Oil Flotation

That, however, is another story. What this article endeavors to show is how the waste wood material which is usually left to rot, or which is thrown away or destroyed in the process of manufacture is being used to aid the mining industry. There seems no connection between stumps and mining, but when some unconquerable chemist found that the best means of extracting many of the ores was the "pine oil flotation" process, the stumps and waste wood began to have a new value in the eyes of mining men.

Pine oil is a product secured through the re-distillation of turpentine which, in its turn, is produced commercially chiefly from the "hard" pines of the southern United States. Pine oil forms a very small proportion of the oils produced from the pine tree. It would be costly under any conditions, but when the discovery was made that, in some cases, 20 per cent. more metal could be extracted from the ores by the oil flotation process than by any other method the price of pine oil went up to ten or fifteen times its original price, and, as the United States reduction companies contracted for practically all that was being made in the United States, Canadian miners had either to give up the process or get pine oil somewhere else.

Oils in Pines

Northern pines, generally speaking, are not high in their turpentine content. In the Southern States turpentine is gathered from the living tree much as we gather maple sap. but this method cannot be used on Canadian trees. The only other way is to get the turpentine out of the wood by a process of distillation, and, as this turns the wood to charcoal, it is clear that the chemist must look for his turpentine, not in the log piles of the lumberman, but in the stumps and waste wood left after the body