

difficulty to the imagination as their affinity is a natural one, but to look at a spruce tree to-day growing in a forest and to think that in a few days it will come to us as the wrapping of a parcel or as a newspaper, it is indeed hard to realize.

There are two kinds of wood pulp, one called mechanical which is produced by grinding the wood between stones, the other is called chemical which is produced by cooking in large boilers under heavy steam pressure. There are two ways of producing, one called the soda, and the other the acid process, the wood fibre being cut into chips is cooked in liquor of either alkali or sulphate of lime.

The market value of mechanical is \$20 per ton, and chemical  $2\frac{3}{4}$  to 5 cents per pound according to quality of fibre. Mechanical pulp is used generally wherever a very cheap paper is required, and is used to the extent of 80\* to 90 per cent of the ordinary daily papers, whereas the chemical having strong fibre is used for the better grades of paper, calling for strength and cleanliness, such as book and writing. By the use of the two articles the price of paper is greatly reduced, as they have brought down the price of rags to one-third of their former value before these substitutes were introduced. From the nature of the ground wood, exposure to the sun, indeed to the atmosphere of a room, changes its colour to a dirty yellow, and this to a limited extent also applies to the acid chemical pulp. So that in cases where a paper is wanted to keep its colour no acid pulp is used on account of the extreme difficulty of eliminating traces of sulphur from the paper. Soda chemical fibre pulp on the other hand being naturally free from the encrusting material, contains nothing but pure fibre, and consequently is available for the manufacture of any papers of a better quality. There was at first great difficulty in introducing these pulps to paper-makers, and to get paper buyers to take paper containing any portion of them. But the trade has so far changed that realizing the public appreciated cheap and good paper, which can be made from wood pulp, they have brought it largely into use. The manufacture is pursued at East Angus and other places in Canada. The firm who introduced the process—Messrs. Angus and Logan—continued this manufacture alone for 10 years, and during that time they converted all the pulp they made into paper at their mills. A number of paper mills in Canada make their own wood pulp. Other mills make both chemical and mechanical ground wood pulp for sale to paper mills in Canada, and for export to the United States and Great Britain. The duty on this article in the States is, as we said last week, almost prohibitive—10 per cent on mechanical and \$6 to \$8 per ton on chemical. A cord of wood produces about 900 lbs. of chemical and about 1,400 lbs. ground wood or mechanical. In the Dominion there is now made about 50 tons of sulphite or acid pulp, 50 tons of soda pulp and 100 tons ground wood pulp per day. In order to produce this quantity of sulphite and soda pulp about 225 cords of wood are required daily or 70,000 cords per year, and to produce ground wood manufactured about 160 cords daily or 32,000 cords a year.

It depends on the quality and weight of paper required to determine how much pulp is required per ton. The making and use of chemical and mechanical fibre in the United States is enormous as compared to Canadian production, and our neighbours across the line are finding themselves very short of spruce wood to make pulp. In consequence the large United States mill-owners and capitalists have been buying up large tracts of woodland in Canada to get the control of growing wood thereon, as well as buying all the cut wood they can lay their hands on. As the matter now stands the United States come into Canada and take out our logs free of export duty in large quantities. All that short-sighted improvident Canada gets in the transaction is the cost of the stumpage. If Canadians want to send a ton of pulp into the United States they are charged duty, or if Canadians want to send in sawn spruce lumber \$2 per 1,000 feet is exacted. The net result is that the Government of Canada offer a premium to the United States manufacturer of wood pulp or sawn lumber, as the case may be, and in proportion handicaps the native industry. The saw-mill owners and the pulp makers have interviewed the government repeatedly and have pointed out the injustice of the position. The position can be stated in a few words. Canada owns raw material required for a large manufacturing industry. She has the men, the skill, the capital, needed for converting that raw material into one of great value. The United

\*This percentage 80, of mechanical pulp is stated too high.