manufacture of newsprint The paper begins with the tree, so that it is of the greatest importance to take good care of Canada's forests, whose spruce and fir form the foundation of the paper industry. When the wood arrives at the mill, either by floating down the rivers or hauled by rail, it must be sawed into blocks from two to four feet long, and the bark removed. For newsprint paper this is usually done by tumbling the blocks in huge barrels made of steel angle irons. Part of the barked blocks go to the groundwood mill and the rest to the sulphite mill, since newsprint paper contains approximately 80% of groundwood pulp and 20% of sulphite pulp.

Making Pulp on a Grindstone.

In the groundwood mill the blocks are held by hydraulic pressure flat against a revolving grindstone, and the fibres are rubbed off. Everything. that was in the wood — and often other things besides, remains in the The pulp from the grinders is pulp. water and mixed with screwed through strainers to remove big slivers, knots, etc., and most of the water is then removed to make less material to handle. In some plants the thick pulp is pumped directly to huge storage tanks in the paper mill or further dewatered and formed into sheets which are folded into bundles or "laps" containing about 35% fibre.

Wood is Cooked to Make Sulphite Pulp.

The first operation in the sulphite mill is to chip the blocks into small pieces to facilitate the penetration of the cooking liquor. The liquor is prepared by burning sulphur and dissolving gas in lime water or in water which is trickling over limestone in a tower. The solution is bi-sulphite of calcium, hence the name "sulphite" for this kind of pulp.

The chips and cooking liquor are fed into huge boilers or digesters. The cooking is done by steam for about eight to ten hours. By this process about one-half the solid matter in the wood is removed, leaving only the comparatively pure cellulose fibre. A cord of wood yields approximately one-half ton of sulphite pulp, while the same cord would yield about a ton of groundwood pulp.

When the cooking is complete the chips are blown from the digester to a blow-pit where they strike a plate and are broken down to a pulp form. The pulp is washed to free it from residues of the cooking liquor, and the non-cellulose constituents of the wood. After being washed, the processes of the coving, thickening, etc., are practically the same as for ground wood pulp.

The Paper Mill is an Interesting Place.

One would hesitate to believe that the milky-looking liquid passing the paper machine screens, through slats only ten thousandths of an inch wide, could possibly be formed into a product which could be used for printing the daily news or for wrapping a parcel. Yet such is the perfection of the paper machine and the skill of the paper maker that this wonderful result can be accomplished with individual fibres averaging only an eighth of an inch, or less, in length.

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the most modern mills, where In the production is kept high and manuare facturing costs low, the pulps simply run from the "slush" storage, in the proper proportions, into large mixing tanks, from which it goes to the paper machines. Many mills still use the original mixer, the beater, and necessarily so where the pulp is handled in laps. In the beater the befibres are brushed and rubbed tween a revolving roll and a station ary plate, a process which, besides their mixing the fibres, improves papermaking quality.

The mixed pulps or "stuff" is run into storage tanks, called stuff chests, in the machine room and pumped to a regulator which allows just the right amount to flow continually to the paper machine, the excess going back to the chest. Before the stuff