

## High Grade Paper From Wood

High grade bond and permanent record papers, where permanence and durability are essential, have always been made from cotton rag fibers. As a result of an investigation by the U. S. Bureau of Standards, however, it is indicated that certain types of highly purified wood fibers are suitable for conversion into such papers. This will effect considerable saving since the wood fibers are much less expensive than cotton fibers.

Papers carefully prepared from high grade cotton rags have always been used exclusively where permanence extending over hundreds of years was desired. The cotton fiber is the purest form of cellulose found in nature, and cellulose, commonly called alpha cellulose, has a high degree of permanency.

Ordinary wood fibers, on the other hand, have impurities which seriously affect their permanence. By a series of chemical treatments these impurities can be removed, according to the Bureau of Standards, leaving a fiber similar in its chemical composition to

### Makes Work for Heart

A meal that is high in protein content, one that contains a large amount of meat, makes more work for the heart, Dr. R. M. Moore, Harvard University physiologist, has found.

In experiments in which the effect of muscular exertion, emotional excitement and temperature were carefully excluded, Dr. Moore found that after a meal of meat the heart rate of the experimental subject was increased by one-fourth or one-half of what it had been while fasting. That is, if the subject's heart had a fasting rate of 80 beats per minute, the meat meal increased it to 100 or 120 beats per minute.

This effect persisted for from 15 to 20 hours, during which time a total of many thousands of extra heart beats was reached. The extra burden of work thrown on the heart by a protein meal, if other factors than the rate remain unchanged, is about equal to the total amount of work done by the heart during three or four hours under fasting conditions. Obviously, Dr. Moore pointed out, it is not possible to give the heart a rest, as is desirable in certain diseases, when a diet high in protein is being followed.

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the cotton fiber and having the desired paper-making characteristics.

Tests are being made at the Bureau of Standards of the various types of paper-making wood fibers and of several grades of rag fibers. The tests include purity, strength, and whiteness.

Complete information cannot be obtained by analysis alone. For this reason an accelerated aging test is considered a valuable supplementary test. This is made by heating the paper and finding the degree of deterioration of its physical and chemical properties. This treatment is presumed to simulate the chemical effect of many years of natural aging.

The fibers are baked in dry form at a temperature of 212 degrees Fahrenheit, then they are cooked with steam, and are exposed to intense light rays from a carbon-arc lamp which acts as an artificial sun. After such severe treatment, the fibers are subjected to searching tests to find out how much they have deteriorated both chemically and physically.

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### Urges Nature Study

Increased possibilities of getting enjoyment out of the Sunday afternoon family automobile ride were stressed by Mrs. Thomas A. Edison in a paper prepared for the National Recreation Congress. The wife of the famous inventor declared that her major interest for some years has been to promote play and recreation.

"The automobile is doing much to bring families into closer contact with the outdoors," she pointed out. "We should teach our children, and grown-ups as well, to love the things of nature, to study them with the eagerness of the scientist or the artist, and the automobile trip will become an Open Sesame to many real delights. The children will take an interest in trees and stones and flowers they see along the way. Instead of whining to stop at every roadside stand for a 'hot wienie' or an ice cream cone, they will want to stop to watch the habits of a bird, squirrels, and other animal life, or to see the sunset fading over the hill."

Recreation should not be taken in scattered, intensive doses but should be a part of everyday life, and should serve the purpose of relaxation, Mrs. Edison stated.

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## "Viosterol" Now Official

Viosterol is the name now officially approved by the Council on Pharmacy and Chemistry of the American Medical Association for preparations of irradiated ergosterol, the powerful substance that will prevent or cure rickets. Preparations of this substance sold under any other name have not been accepted by the Council as meeting its standards. Irradiated ergosterol is the substance responsible for the vitamin D of cod liver oil.

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