

For Coughs

Never hesitate to ask your doctor about Ayer's Cherry Pectoral. It is a regular medicine, a strong medicine, a doctor's medicine.

It would be very interesting to know how many years your family physician has prescribed Ayer's Cherry Pectoral for coughs, colds, and all forms of lung troubles. Ask him the next time you see him. We know physicians who have used it for over half a century.

INSTRUCTIONS BY THE FOREST SERVICE

What Wood Preservation Means.

The cost of wood is today a big item to every farmer, every railroad manager, every mine owner—to everyone, in fact, who must use lumber where it is likely to decay. To reduce the expense of fences, posts, railroad ties, mine timbers, telegraph poles, and other timbers which must constantly be replaced has become a vital problem. The kinds of timber used for these purposes are becoming scarcer and scarcer and their prices higher and higher. Long misuse of the forest has brought its sure result. Even with the most efficient management there would be a long time before the supply of the best timbers would increase in quantity or decrease in price.

There are two ways in which the situation may be met. One is to prolong the life of the forest by wise use; the other is to prolong the life of timbers in service by treating them with some preservative. It is the second of these methods of economy which is the subject of this circular.

It is easy to see that if the length of time timbers can be used is doubled, only half as much timber will be required as before and only one-half as much money will need to be spent in the purchase of timber. This is the chief gain in treating wood with preservatives. Yet there is another and important one. Many woods, which for a long time were considered almost worthless, can be treated and made to last as long as the scarcer and more expensive kinds. This of course means that the consumer will have the choice of a much greater number of woods than he had before and at less cost.

Wood preservation, then, prolongs the life of timbers in use, reduces their cost, and gives to the user a wider choice of woods than ever before.

Methods of preservation must be varied for different localities and different kinds of wood, and the Forest Service has issued several publications which deal with the problems presented in different regions. These publications and detailed information can be had upon application to the forester.

What Decay Is.

The decay of a plant body, such as wood, is not an inorganic process like the rusting of iron or the crumbling of stone, but is due to the activities of low forms of plant life called bacteria and fungi. Bacteria are among the simplest of all forms of life, often consisting of but a single cell, microscopic in size. Sometimes several such cells may be attached to each other, and so form a thread or filament. Usually they are colorless, and multiply by the division of the parent cell into other cells, which, in turn, divide again.

Fungi, although much more complicated than bacteria, are also low in the scale of creation when compared with familiar flowering plants and shrubs. They consist merely of tiny threads or hyphae, which are collectively known as the mycelium. In many of the higher forms of fungi the threads grow together to form compact masses to tissue. Familiar examples of these forms are the toadstools, which grow on damp, rotting logs, and the "punka," or "brackets," on the trunks of trees in the forest.

The causes of decay in wood, however, are not these fruiting bodies themselves. Spores, very primitive substitutes for seed, which are

born in the countless compartments into which the under surfaces of the fruiting bodies are sometimes divided, are produced in infinite number, and are so fine that they can be distinguished only by the microscope. When seen in bulk they appear as the finest dust. Like dust they are carried by the wind and strike all portions of the surrounding objects. Few species of fungi successfully attack healthy living trees, and only a comparatively small number can attack and destroy wood. Yet the spores of some find lodging in dead portions of a tree in cut timber, and, if the wood is moist and in the right condition for the spore to grow, it germinates and sends out a thin, filmlike structure of the wood. These are the real agents of decay.

This is not the only way that a fungus can enter a sound stick of timber; for if a good stick is lying close to a rotting one, the mycelium may grow over or through the moist ground and so reach the sound stick, which it immediately attacks. Sometimes, too, when a tree is cut it already has a fungus growing in its wood. If the fungus happens to be a true parasite—that is, if it can grow only in living tissues—it will die when the tree is felled; but if it has been accustomed to growing in the heartwood of the tree, which is practically dead, it may continue to live and develop even after the tree has been sawed into timber.

Wood is composed of minute cells. The chief material of the cell walls is a substance called cellulose, and around this there are incrustations of many different organic substances known collectively as lignin. Most of the wood-destroying fungi attack only the lignin; others attack the cellulose alone, while a third class destroy all parts of the wood structure. The lignin and the cellulose are dissolved by certain substances secreted in the fungi, and thus serve as food for the fungus growth. In this way the fungi can develop until they extend throughout every portion of the timber. After a time the amount of fiber changed into food and assimilated by the fungus causes the wood to become discolored. Discoloration may also be produced by pigments in the fungus or secreted by it. Finally so much of the wood fiber is eaten away or changed in composition that its strength is greatly diminished, the texture becomes brittle and disconnected, and the wood is said to be "rotten."

But food is not the only thing that a fungus requires for its growth and development. It must also have heat, air, and moisture. If any one of these is lacking the fungus can not develop. The necessary heat is supplied by almost every climate, and it is only in rare cases, as under water or deep under the surface of the ground, that air can be excluded from the timber. Of the four requirements, therefore, two are beyond control. It is only by depriving the fungi of food or moisture that the destruction they cause can be prevented.

How Decay Can Be Retarded.

The simplest way of prolonging the life of timber exposed to the attack of wood-destroying fungi is to reduce the moisture content of the wood. The amount of water in green timber varies according to the part of the tree from which the wood is cut. The outer layers of the trunk are composed of sapwood the cells of which contain large amounts of organic substances which serve excellently as food for the fungi. Moreover, sapwood always contains a large amount of

water. It is the portion of the tree, therefore most susceptible to attacks from fungi. Heartwood, which can usually be distinguished from sapwood by its darker or more reddish color, contains, on the other hand, much less moisture. It is therefore more durable than sapwood. But because its pores are stopped up by gums and resins it does not dry so rapidly than the more porous sapwood. In almost every case as much care should be taken thoroughly to dry out the heartwood as in the case of the moister sapwood.

By piling the timber so as to permit free access of air all around it the moisture content of timbers of certain sizes can be reduced to about 15 or 18 per cent. Of course the climate has a great influence on the rate at which the wood dries out and the total amount of moisture it loses. The moisture content of air-dry wood can be still further reduced by kiln-drying; and this is employed to a considerable extent, but usually for other purposes than increasing the durability of the wood. Moreover, either air-dry or kiln-dry wood has the power to reabsorb moisture when exposed to the atmosphere in damp situations, and so the benefits of drying, as far as durability is concerned, are only moderate. Yet the increased life which it gives is, in nearly all cases, more than sufficient to repay the added cost of seasoning.

The strength of partially seasoned timber, other things being equal, increases as the amount of moisture it contains decreases. Thoroughly seasoned timber of small sizes is sometimes three or even four times as strong as the same timber, when green. Moreover the process of drying out, important but little understood changes take place in the organic contents of the wood cells, by which the wood is not only rendered less attractive to fungi, but is made more permeable and so better prepared for preservative treatment. All timber should be thoroughly seasoned before being exposed to decay.

An exterior coating secured by dipping a post in a thin solution of cement or other material that will harden on the post is not an effective protection, because in shrinking or swelling the wood forms cracks through which decay enters.

By Chemical Impregnation.

By far the best method of checking the growth of fungi, however, is to deprive them of food. This can be done by injecting poisonous substances into the timber, and so changing the organic matter from foods suitable for fungi into powerful fungicides. It is a mistake to suppose that the germs of decay are inherent in the wood, and only need an opportunity for development to bring about its destruction. Several processes for the preservation of wood have been founded on the false assumption that it is necessary to destroy the "germs" in the interior of the timber. The impression doubtless arose from the fact that, after a stick of timber begins to rot, it is impossible to tell just where the fungus spores germinated and gained an entrance into the timber. Moreover, the fact that the interior of the wood may have reached an advanced stage of decay before there are any external evidences of the "fungi"—such as fruiting bodies, or films of mycelium—tends to convince the casual observer that decay starts from the interior. Yet the wood-destroying agencies start from the outside. This explains the efficacy of certain paints which merely form a superficial coating over the surface of the timber, but which are poisonous enough to prevent the spores from germinating, or the hyphae of most forms of wood-destroying fungi from penetrating into the unprotected wood in the habit of painting their statues with oily and bituminous preparations to preserve them from decay. The great wooden statue of Diana at Ephesus, which was supposed to have descended miraculously from heaven, was protected from earthly decay by oil of nard. Pettigrew extracted the preservative fluids from the heart of an Egyptian mummy that had resisted decay for over 3000 years, and found that decomposition immediately set in. This showed that it was the presence of the antiseptics which prevented decay, and not a chemical change of the tissues.

Aeronaut's Narrow Escape.

Oakland, Cal., June 22.—Joseph Randall, aeronaut at Idore park, is today being congratulated by his friends on a miraculous escape from death yesterday in a burning balloon. Randall's balloon caught at a height of 400 feet and the fire quickly opened a space large enough to let the gas. Randall fell with the big balloon smoldering on the roof of the theater at the park. He had presence of mind enough to swing himself and parachute clear of the theater and hung swinging in the air until he was rescued by men with a ladder. He escaped without a scratch.

Notice to Property Owners on Broadway Street.

Notice is hereby given that the owners of property to be benefited by the improvement of Broadway street in the city of Salem, Oregon, with creek or river gravel, between the north line of North Mill creek and the north line of Madison street, in said city, who desire to make said improvement in lieu of their assessment and in accordance with the plans and specifications now on file in the office of the city recorder of said city, shall file their written application therewith with said city recorder, on or before June 29, 1908. By order of the common council. W. A. MOORES, City Recorder.

WANT ADS--QUICK RETURNS

FOR SALE

For Sale—Good, almost new hay baler. Can be seen at Capital Soap Works, 1230 Ferry street. Will very cheap. 6-18-1mo

Automobile For Sale—First class, 35-horse power, 5 passenger Stoddard-Dayton touring car for sale cheap. Owner will guarantee car. Enquire at Journal office.

For Sale—First-class carpet paper at this office, 25c for a big roll.

Farm and City Property—Our lists of desirable properties is too large to specialize. Yerex Bros. Co., 373 State street. tf.

For Sale—New 6-room house on Market and Thirteenth. All conveniences. Will sell cheap. Address C. H., Journal office. * tf

There is a Demand—For properties conveniently located which may be purchased on installments. If you have one of merit, either city or country, to be sold in this manner at market value, let me know about it. Customers are now waiting to close deals. Paul M. Sims, Main 729, 222 N. Commercial.

For Sale—One model E Rambler runabout. Warranted first class condition. See Wilson & Maxner. 6-18-1mo

For Sale—A first class cow for sale cheap. Phone Farmers 24X *

FOR SALE.

640 Acres—Located 3 miles from good, thriving town, close to Salem. 240 acres under cultivation, 75 acres timber, balance pasture. 1 8-room house, 1 5-room house, barn 54x92, will hold sufficient feed for 2 years, other outbuildings; school house on the place. Stock consisting of 40 head good cattle, 5 head horses, 10 hogs, and wagons and implements goes with place, all for \$40 per acre. Good terms may be had.

15 Acres—Located in the famous Rosedale district, 11 acres under cultivation, 3 acres orchard consisting of prunes, pears, apples and cherries. Raspberries and strawberries. About 8 acres in oats and vetch, balance pasture. 5-room house and barn; price \$2250.

20 Acres—Located 6 1/2 miles from Salem, all under cultivation except a 1/2 acre of timber. Soil, a rich black loam, no gravel nor white land on place. A 20x26 house and a new 24x32 barn, also new granary 14x16. Good family orchard; price, \$2250. Good terms can be had. SALEM INVESTMENT CO., 432 State street.

FOR SALE.

Grain, Stock, Dairy and Fruit Farms—Some of the very best in the valley.

515 Acres—340 under cultivation in crop, balance timber and good pasture, spring water all year. An ideal stock or dairy farm; well fenced; good house, 9 rooms, barn and granary; good orchard. This is a snap, only \$37 per acre; adjoining land held at \$40 to \$50 per acre.

169 Acres—120 under cultivation, in crops wheat and oats, best in the valley; 10 acres of fine bearing orchard different varieties; balance oak timber and pasture, running water all year. House and barn, good roads, near Salem. Price \$100 per acre; adjoining land sold at \$125 per acre.

We Make a Specialty—Of Williamson Valley farms. List your farms with us.

BECHTEL & SCHULZ, 371 State St., in Ruel's Flower Store

LIVERY AND FEED STABLES

Livery and Feed Stables—Old Post office Stables, at 254 Ferry street, between Commercial and Front streets. Telephone 155. Some of the finest livery in the city can be found here. Dick Westcott proprietor. 10-1-1yr

SASH AND DOOR FACTORIES

Frank M. Brown—Manufacturer of sash, doors, mouldings. All kinds of house finish and hard wood work. Front street, between State and Court. Make all complaints at the office.

MADAME DEAN'S FRENCH FEMALE PILLS.

A Pure, Gentle Remedy for Irritation, Menstruation, NEVER KNOWN TO FAIL. Sold Everywhere. Beware of cheap imitations. Price 25c per box. Will send three on trial, no charge for postage. Sample Free. If you druggist does not have them send your order to the UNITED MEDICAL CO., 208 7/8, LANSING, MI.

MISCELLANEOUS

Louisa Noodle House—Ferry street, near High. 6-5-1mo.

Togo Noodle House—First class place to get bowl noodles. Fresh and well served 10c. 439 Ferry street. 6-5-1mo

Help Furnished Free of Charge—By Salem Employment Company, 478 State street, phone No. 149. Parties wanting help please call at office or phone us. Also have cows for sale.

Concrete Work—Get my prices on sidewalks, curbs, septic tanks and cement work of any kind. All work guaranteed first-class. Mr. Ward, 2375 Maple Ave., Highland. Phone 1569. July 24-1f

Veget Lumber and Fuel Co.—Lumber, shingles, building material, wood and coal. Low prices and prompt deliveries. One block east of S. P. passenger depot. Phone 198. 7-3-1f

Butte & Wenderoth—Fine wines, liquors and cigars. We handle the celebrated Kellogg and Castle whiskies. Cool and refreshing beer constantly on draught. South Commercial street. 9-3-1yr

Enlarged—Our meat market on East State street has been doubled in size and we are better prepared than ever to serve customers. Prompt service and the best of meats our motto. Call or phone 199. R. E. Edwards Meat Co.

PLUMBERS

Theo. M. Barr—Plumbing, hot water and steam heating and tinning. 164 Commercial street. Phone Main 192. 9-1-1yr

M. J. Petzel—Plumbing, steam and gas fitting. Successor to Knox & Murphy, 226 Commercial street. Phone Main 17.

WANTED

Wanted at Once—From \$100 to \$500, the best of collateral security to offer. Address G—10, Journal office. 6-11-1f

Wanted—Immediately six good carpenters. Salem Indian school. Phone Main 128. Apply to Edwin L. Chalcraft, Supt., Chemsaw, Or. 6-19-31.

LODGES.

Carpenters Union No. 1065—Local Union No. 1065 of Carpenters and Joiners of America meet every Saturday evening at 8:00 p. m. in Hearst hall, 420 State St. A. W. Dennis, Rec. Sec.

Foresters of America—Court Sherwood Foresters, No. 19. Meets Saturday night in Holman hall, State street Waldo Miller, C. R.; J. C. Perry, financial secretary.

Central Lodge No. 18, K. of P.—Castle Hall in Holman block, corner State and Liberty streets Tuesday of each week at 7:30 p. m. Oscar Johnson, C. C.; E. H. Anderson, K. of R. and S.

Modern Woodmen of America—Oregon Cedar Camp No. 5246. Meets every Thursday evening at 8 o'clock in Holman hall. W. W. Hill, V. C.; F. A. Turner, clerk

Woodmen of World—Meet every Friday night at 7:30, in Holman hall O. L. Darling, C. C.; P. L. Fraser, Clerk.

Lincoln Annuity Union.—Sick, accident and pension insurance; \$2,000,000 pledged; every claim paid Good agents wanted. J. H. C. Montgomery, supreme organizer Box 432 Salem, Oregon. R. R. Ryan, secretary, 546 State street

DRAYMEN.

Cummins Bros. Transfer Company—All kinds of transfer work done Furniture and pianos boxed ready for shipment. Prompt service is our motto. Stand and office at 258 South Commercial street. Phone 210. Residence Phone 958.

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375 acres 4 miles from Salem, good house and barn, 300 acres in cultivation. \$31,875.

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Modern 5-room cottage on Court street, city water, sewer, etc. Price \$1600.

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The White House Restaurant For a Regular 25c Dinner at 20c They can't be beat McGilchrist & Son Proprietors.

330 COURT STREET. Call and try them. Meals 15c. Board per week \$1.75, also furnished rooms very reasonable. AT THE Salem Restaurant MEALS 15c

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Cor Seventh and Stark Sts. Portland's New and Modern Hotel. Rates \$1 per day and up. European plan. Free Bus. WRIGHT-DICKINSON HOTEL CO. Proprietors

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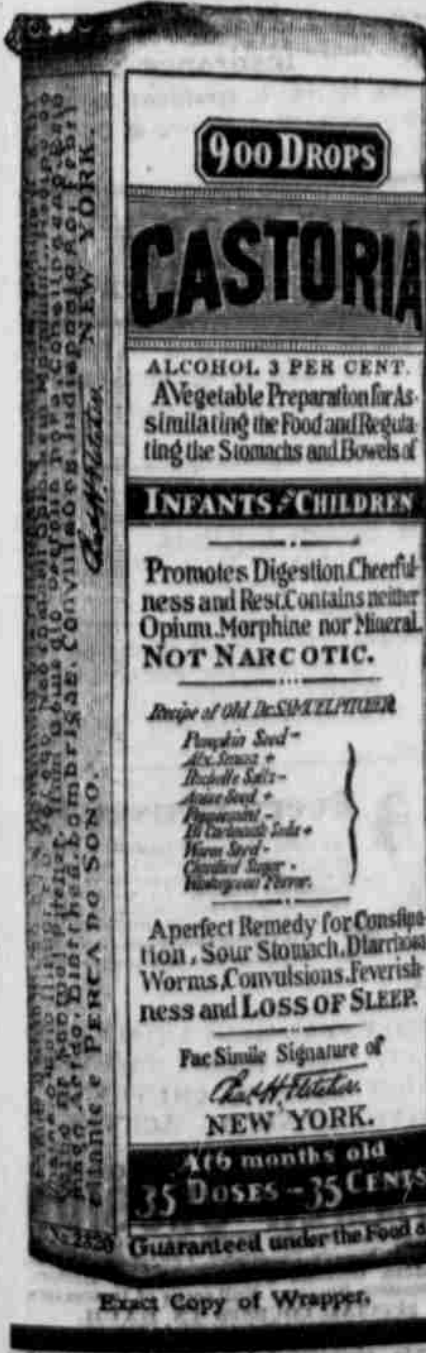
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