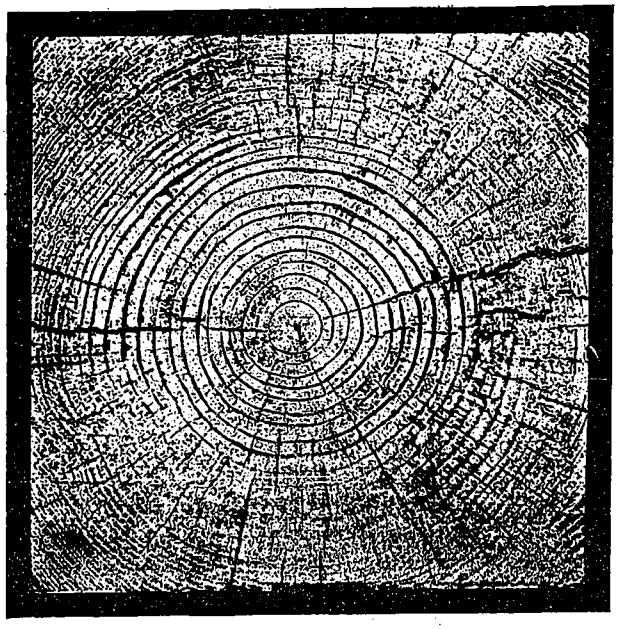

FIG. 1.

FIG. 2.

employed in several cases in Canada and the United States, known to the Laboratories, is mercuric chloride (corrosive sublimate). This preservative has been in commercial use to a rather limited extent for many years for the treatment of timber for various purposes both in Europe and on this continent and has given excellent results.

Before the war several concerns of which the writers have knowledge treated timber with mercuric chloride for use in their own mill buildings at a cost of about $3.00 per thousand feet B.M. The price of the preservative has since advanced so greatly, however, that it might in some cases prove prohibitive at the present time. Other less costly preservatives which might be used are zinc chloride and sodium fluoride. The Laboratories would be glad to furnish, on request, further particulars regarding the use of these materials for the treatment of timber for mill buildings. Timber to be treated with preservatives should always be thoroughly air-dry. Treating green or very wet wood is time and money wasted, as little or no penetration of the preservative can be secured. In the case of large structural timbers, which frequently take years to become seasoned, the outer inch at least should be reasonably dry before treatment.

In mill or factory buildings or parts of the same, where the operations carried on create very favorable conditions for the growth of fungi, the use of untreated timber, especially timber of low density, or timber containing much sapwood, is inviting disaster. If the timber be efficiently treated, however, there is no objection to the presence of a considerable proportion of sound sapwood or to the use of sound second quality or low density wood, provided that where necessary due allowance be made for the lower strength of the lighter material. The added cost of treatment could, therefore in some cases be partially offset by using less costly timber.

It must not be inferred that treatment of timber for mill construction is always necessary. It is only requisite where the conditions are especially exacting. In other cases the use of timber of the proper quality and the observance of certain precautions will give reasonable assurance of immunity from decay. The following precautions, some of which would require modification in individual cases, have been mentioned by the Laboratories on previous occasions but will bear repetition here.

(1) Only dense material of the more durable species should be used and the proportion of sapwood allowed should be small.

(2) The timber should be carefully inspected as to soundness, density and proportion of heartwood and material not up to specifications should be rejected.

(3) Planking should be thoroughly seasoned in all cases. In large timbers the outer inch at least should be reasonably dry.

(4) Timber delivered on the work should be piled out of contact with the soil and with any unsound wood.

(5) All reasonable and practicable precautions should be taken to keep the wood as dry as possible before and during construction.

(6) Laminated floors should not be built while the wood is wet. If this is unavoidable it is advisable to proceed as follows: As soon as the building is completed and the heating plant installed, close all doors and windows, raise the temperature inside the building to, say, 120 degrees Fahrenheit, or as near this as possible and maintain this condition for several days. If this can be done before building paper, pitch or