treatments. Too high a temperature (over 100 deg. fahr.), combined with low relative humidity, may cause the book materials to become brittle. A temperature much below freezing (25 deg. fahr.) may cause permanent deterioration of the glue.

The relative humidity should be maintained between 40 per cent and 70 per cent, although these limits may be exceeded in either direction for short periods of time. If the relative humidity gets much below 40 per cent, first the glue and then the paper will tend to become brittle. This will not cause any permanent damage unless the book is used, or rather abused, while in this condition. Subsequent increase in humidity will bring the materials back to their normal condition. If the relative humidity gets much above 80 per cent, the growth of mildew may be expected.

The tendering, brittleness, and yellowing of books, which are usually looked upon as signs of age may be caused by oxygen plus moisture or by sulphuric acid. The effects can be diminished by using a grade of paper which is as nearly pure cellulose as practicable. The deterioration of the leather bindings can be retarded by occasional applications of neats-foot oil. Sometimes leather and paper contain small amounts of sulphuric acid, put in during the manufacturing process. Such leather or paper is not so suitable for book making as that which is entirely free from acid. The glue used in making books should contain a preservative to prevent any decomposition from the growth of bacteria or mildew. It should also contain some plasticizing agent, such as glycerol, to offset the effect of exposure to low humidity.

Books should be protected, as far as possible, from exposure to direct sunlight, since this accelerates the deteriorating action of other agencies.

CHAPTER 32

SUMMARY OF IMPORTANT SPECIFICATION ITEMS

THE purpose of this chapter is to provide a suggested list for checking heating and ventilating specifications so that the important items covering work to be done, will be included.

INSTRUCTIONS TO BIDDERS

Proposals

1. Date, time and place of receipt of bids.
2. Sealed and labeled on outside as to the work covered and whom bid is from.
3. Where plans and specifications may be secured and as to deposit required.
4. List of the separate branches of work upon which bids will be taken.
5. Bid form—to be copied by bidders.
6. Amount of certified check or bid bond required with bid; terms of liability if bidder refuses or neglects to enter into a contract and return of certified checks or bonds.
7. How bids are to be signed.
8. Time allowance and other arrangements for signing contracts.
9. Right to reject bids.

Bonds

1. Kinds of bonds required, *i.e.*, for the faithful performance of the work, maintenance, payment of bills, damages, suits and claims, patent infringement and guarantees.
2. Obligation of sureties.

GENERAL CONDITIONS

Special Notice to Contractors

In case the heating and ventilating specifications are attached to and made a part of a general specification where general conditions cover all or many of the following items the ones covered may be left out and the following clause be added at the head of the heating and ventilating specification.

"The general conditions written for the entire work and appearing in the forepart of this specification apply to each and every contract, contractor, sub-contractor or other person or persons supplying any material or labor entering into this building, directly or indirectly. These general conditions govern all parts of the work and are parts of and apply in full force to the heating and ventilating work and other items as herein specified. The contractor shall refer thereto as forming integral parts of his contract."

Specifications, etc. Part of Contract

Specifications, plans, instructions to bidders, advertisement and proposal declared and made a part of any and all contracts.

Application

Clause stating that general conditions refer and apply to each and every contract or sub-contract covered by the specification.