tract price less the expense of supplying the omissions and defects. From a study of cases all over the country the following rule would seem practical for contracts under $25,000. Provided the contractor has honestly attempted to complete his contract, and particularly when he has followed the directions of the official or engineer, and when the omissions or defects do not pervade the whole work or make the object of the parties impossible or difficult of accomplishment, or when the usefulness or value of the construction is not materially impaired, and provided the cost or reasonable value of correcting such defects or omissions does not exceed 6% of the contract price, then there has been a substantial performance. No practical working rule can be given for contracts over $25,000. Substantial performance also excuses the production of an engineer's certificate.

In this connection it is important to note that in correcting defects, supplying omissions or completing a contract the state or municipality becomes bound by the terms of the contract and its plans and specifications. For example, if the contract permitted the use of native stone the state cannot use trap rock and expect to charge that against the contractor. In such instances a burden is imposed upon the official to complete the performance in good faith pursuant to all the contract provisions and with reasonable care and regard to the rights of the contractor. There seems to be a tendency on the part of some officials to make an example of a contractor who has defaulted. Their chief object often seems to be to spend all the retains and, if possible, all they think they can collect on the contractor's bond. This is neither legal nor honest. The completion work must be done diligently, and the damages mitigated as much as possible. High-priced men cannot be used for cheap labor, nor can completion be delayed until market prices have risen. Thus it has even been held that a municipality was bound by the date of completion when it assumed a contract.

If a contract calls for liquidated damages for delay after a specified date, such damages are waived or are not recoverable by the state or municipality where they render the contract incapable of performance within the specified time or where they assume as agents of the contractor to complete the contract. Similarly if the delay after a specified date is caused, both by the state or municipality and the contractor, the liquidated damages cannot be apportioned. It has been held that a city cannot retain a substantial sum under the guise of liquidated damages for delay when in fact only nominal damages have been sustained. Where the liquidated damage clause falls, then actual damages caused by the contractor must be proved as an offset. There is still one very important matter pertinent in this respect. Where a contractor follows detailed plans and specifications and the directions of the engineer and completes any part or all the work there should be no deductions for variations from the contract since the parties have practically construed the contract as one for work in accordance with the engineer's directions and such construction must prevail over the literal meaning of the contract. Also under these same conditions and circumstances a contractor is not responsible for a result nor is he responsible for any defects or repairs (except where there is a repair clause) beyond those required by the failure of the contractor's materials or by the contractor's own work. In other words, a road contractor usually does not warrant the road as capable of standing any particular traffic, etc., that should be determined by the plans and specifications.

Naturally the most important thing to the contractor is prompt payment, not only of his partial but also of his final payment. It is a general rule of law that a failure of a state or municipality to pay an instalment on the due date causes a breach of contract which relieves the contractor from further performance and enables him to collect the contract price or reasonable value of all work done to date. The failure of the engineer to make his estimate and issue his certificate may not excuse a failure to pay partial payments even if they are required to be made only upon engineer's certificates. The refusal of an engineer, under ordinary circumstances where there has been work done, to make his estimate and issue his certificate in time so that the contract payment can be made is of itself presumptively fraudulent. Again, it is often found to be the case that the engineer refuses to act upon the direction of the official, which, of course, is collusion, and which excuses the production of such certificate. It is a rule of law that an engineer's certificate will not be considered as a condition precedent to a partial or final payment unless it is definitely and distinctly stated so to be in the contract. The control of the money bag is often supreme and in this way engineers and officials have it in their power to make or break a contractor. A reputation of an engineer for prompt and fair estimates and of an official for prompt payments is sure to result in lower bids and better construction work.

Having considered these few most important matters and with an understanding of the legal principles involved cannot we in the future have justice and equity and not vengeance, spite or bossism in road construction work? The result of such a change, where it is necessary, cannot but be beneficial to all concerned.

Repairs.—There seems to be a tendency in some of the present day road contracts to require a contractor to maintain the road for a specified length of time, usually one to five years. Is that a good and economical requirement? Does it not, to a certain extent, restrict bidding and contracting to local parties? Are not the unit prices and hence the contract total largely increased to take care of an unknown amount of repairs? Is there not a gamble on that matter? The best of roads require constant inspection and repairing to keep them in shape. That work should be done either under a strictly repair contract or by the state or municipality itself. This criticism, of course, is more applicable to country roads as differentiated from city streets.

Summary.—In a late article of mine advising architects respecting employment by state or municipalities the following rules were formulated which would seem pertinent here:

(1) Know that the municipal corporation is acting pursuant to the law creating it.

(2) Know that your contract does not cause the indebtedness of the municipality to exceed its constitutional or statutory limit.

(3) Know that your contract does not exceed a limit above which advertisement and acceptance of the lowest bidder is required or that proper advertising, awarding, etc., has been done.

(4) Know that assessments or taxes to pay for public improvement work which include your compensation are valid.

(5) Know that the board or official employing you do so in the proper legal method required by the oct incorporating the body or by the charter or by the local rules governing such body.