

## IDEAL CONTRACT-LETTING MADE PRACTICABLE

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IS it not obvious that anyone who lets a contract on the "cost-plus" basis places himself absolutely at the mercy of the contractor and the contractor's employees? It is true that the specifications often contain restrictions which tend to lessen the contractor's power to take advantage of the client; but their enforcement would be very troublesome, and would generally involve litigation with its attendant delay and expense.

Even if the contractor has every possible desire to expedite the work in the interest of the client, he cannot prevent his men from taking life easily and "soldiering" on the job. When they feel that their indolence or negligence will cost "the boss" nothing, but, on the contrary, will probably add to his profits, they cannot be induced to labor with the same amount of energy which they would employ if they knew that upon their efforts depends his success or failure.

Most people will acknowledge that the percentage of truly conscientious contractors is not as large as one hundred, . . . but how much smaller is that of truly conscientious workmen! I do not deny that there are workmen who always give a *quid pro quo* and who are upright and honorable in all their dealings; but alas! they are sadly in the minority. Their number is so small that they are unable to induce their co-laborers to exert themselves any more than they are compelled to, unless, perchance, they are paid by the job instead of by the day or hour.

By the way, when it is practicable, such a scheme of paying the workmen is an improvement on that of time-compensation, because it provides a great incentive to effort; but, at the same time, it also serves as a strong temptation to scamp the work. With close supervision, however, and a strict enforcement of the clause in the specifications relating to the taking out and replacing of defectively built work, the employees soon learn, through the fines and penalties enforced by the contractor, that scamping does not pay, and that the old adage of honesty being the best policy is just as applicable now as it was when first enunciated.

### Unsatisfactory Contract Forms

So much from the client's point of view, and now let us discuss the question from that of the contractor. In the days of hard times when contractors are willing to take work at low figures, and even below cost, in order to keep their force together, the public in general, especially as represented by companies and municipalities, is prone to take advantage of them by insisting that work be let by the lump sum, and by throwing upon the unfortunate "successful bidder" not only the risk of loss from rising prices of materials and labor and from unforeseen contingencies, but also, in many cases, from excess of quantities above those given in the specifications. This is accomplished by inserting in the latter a most unjust clause compelling each bidder to verify for himself both the quantities stated and the character of the conditions described. The bidders, hungry for work, accept this clause without comment, but with the mental reservation that, in case of hard luck, they will, by some means or other obtain extra compensation, even if they have to carry the controversy into the courts.

In nineteen cases out of twenty it is unjust to bidders to ask them to name a lump-sum compensation for doing the work, unless provision be made for a variation in the quantities of materials upon which they tender. If provision be arranged for such variation, the method of letting is no longer that of the "lump sum," but reduces to a modification of that of "unit prices."

The latter method is certainly the more logical, and yet it is far from being entirely fair to the contractor; because, while it provides against loss through excess in quantities of materials, it leaves him open to the possibility of still greater loss through changing prices, onerous unanticipated conditions, and disastrous happenings beyond his control.

The client is the proper party to assume the principal risks inherent to the work, provided that the adverse happenings be really unavoidable by the contractor, and that the latter take every reasonable precaution against disaster or loss.

### Principles of Satisfactory Forms

From the preceding it is evident that the "cost-plus," the "lump-sum," and the "unit-price" methods of letting contracts are not only faulty but also unjust to one or other of the two parties to the agreement; consequently, the question arises—"Is there not some method which will be just and fair to both?" That question, I claim, can truly be answered in the affirmative; and I shall now proceed to explain such a method in complete detail.

Let the specifications, which should invariably be drafted by an engineer who is acknowledged to be an expert in the class of work covered in the proposed contract, be complete and thorough in every detail, recording all that is known concerning the governing conditions; pointing out all features concerning which there is any uncertainty; tabulating

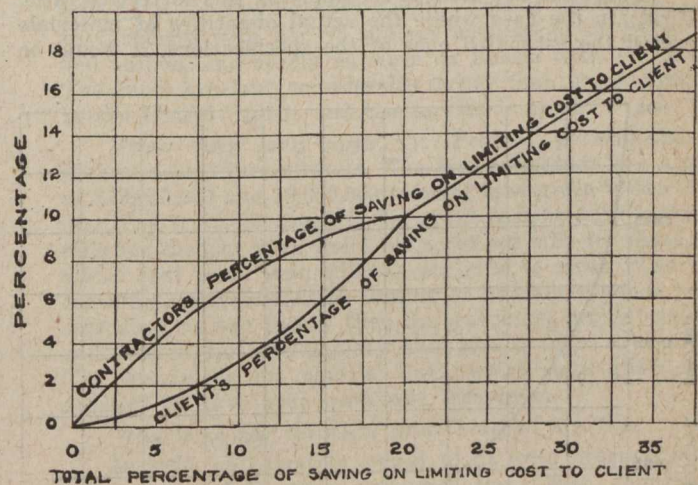


FIG. 1—DIAGRAM FOR PROFIT DIVISION

as accurately as possible the estimated quantities of all the materials that will probably enter the construction; providing a justly-drawn clause for unclassified work and the payment therefor; calling for each bidder to name a lump sum so much above his estimate of total cost that there is practically no danger of the actual cost exceeding it, which sum (after modification as hereinafter indicated) shall be the greatest that the client can be called upon to pay for the completed work; naming such properly balanced unit prices for all the materials that, when they are applied to the quantities thereof given in the specifications, the sum of the several ensuing estimates of cost shall exactly equal the limit of cost set in the contract, which unit prices are to be adopted when computing the final payment for the entire work; providing a surety-company bond for the faithful performance of the work and guaranteeing the client against having to pay more than the limiting sum agreed upon (as finally modified); and adopting the following method of profit-sharing between the contractor and the client.

### Method of Profit-Sharing

An accurate estimate of cost of every detail of the work from start to finish is to be kept by the contractor and verified by an accountant in the employ of the client, so that the total profit on the job may be ascertained by deducting this total cost from the maximum figure named in the contractor's tender and afterwards embodied in the contract (modified, however, as hereinafter described). This profit is to be shared between the contractor and the client as indicated in the profit diagram. It should be clearly understood that every direct and indirect expense to which the contractor is put in doing the work, after the contract is signed, is to be included in the cost—all overhead expenses of every kind, plant deterioration, traveling expenses, supervision, and salaries, excepting only that the contractor