

above mentioned, carefully prepared records would probably be made during the process of the work, with the object of showing the different quantities, values, &c., to be considered; but no such practice was followed in the case of the Intercolonial Railway. On the Government side, it was apparently taken for granted that under the terms of the contract there could be no extras; and on the contractors, that every change gave a claim for extra pay, irrespective of the value of the work as it was first planned.

We have, therefore, had to form our conclusions concerning the comparative value of the first and later designs, upon evidence less circumstantial and much more indirect than if accounts had been kept with a view to such a comparison as we have pointed out. The consequence is, that we are not able to state accurately the difference in the cost to the contractor between the original and the executed designs; but the main question, that is, whether the first or the last plan was the less expensive, has not been involved in doubt. On that we have had no difficulty in reaching a conclusion.

The changes directed by the engineers in the cases investigated by us have, in our judgment, been of such a character as to leave them unquestionably within the fair meaning of the contract, and covered by the bulk price, except in a comparatively few instances, where work was supplied which we have considered altogether independent of the contract, and which we have allowed to the claimant as falling within class No. 1, already alluded to.

The most common demand arising out of a change of design is for alleged improvement in the quality of masonry, by using Portland cement, or by making some of the smaller culverts of larger stones or of more finished work than required by the specifications for second-class masonry, of which they were at first intended to be built, or in some other way; but it was generally shown that the engineers had earnestly tried, and had succeeded in the endeavor, to diminish the whole outlay on masonry, so that a comparison of the value of the quantity first planned, either according to the tender rates or its actual cost, with that of the quantity actually built, showed gain to the claimant.

The contractors, then, having contended that they are entitled to each saving by change of design as one of the contingent profits of their bargain, and that every instance of extra cost from a voluntary change of design is to be paid for as an extra, we have been obliged to disagree with them, except, in so far as this: that if, by setting off all the savings against all the losses due to voluntary changes of design, there is a decrease of the whole expenditure, the contractor is, nevertheless, entitled to his bulk price without deduction (this is, of course, irrespective of changes in grade or location, which are specially provided for), but we have held that a contractor is not entitled to recover the increased cost due to any one or more of such changes where all of them, taken together, have resulted in a saving to him; and we have followed this principle throughout.

But though our conclusions on this subject have been, as we think, based upon uniform principles, we have, in some of the special reports, passed to the credit of a contractor an amount claimed for extra work, similar to that upon which we have at other times decided against one. But we have done so only where the Government had overpaid the claimant more than enough to cover the item; and we were careful to explain that it was solely to show that the balance must still be against him, even if his interpretation of the contract were conceded.

4. "Work beyond that originally designed and caused, not by change in grade or location, nor by any desire on the part of the Government or its officers to depart from the original plan, but because the physical features in the locality (being different from those anticipated) made a change unavoidable, and work was therefore done of a kind or a quantity different from that of the first plan."

Work of this kind has come under our notice principally in foundations for structures, and in excavations for the road bed. The complaint about foundations has generally been that they were deeper than was expected, but occasionally, either with or without an additional depth, it has been necessary to resort to an artificial founda-