Mr. Wake—We find that the finer we try to get the records the more inaccurate they are. If you give the contractor too much to keep track of he cannot, or will not, do it.

Mr. Wemlinger—The object of cost keeping is not like that of book-keeping, to itemize everything to cents, but to get an approximate idea of the various costs. That is what we aim to do.

Mr. Wake—A contractor could not afford to keep these records if we go into too much detail.

Mr. Wemlinger—The large organization can afford to keep them, but we want to devise blank forms for the fellow that cannot afford to keep a man busy keeping track of all these details. We want something for the contractor who may have to do all this work himself.

Mr. Watson—The efficiency of any system of cost analysis depends, in the first place, on the accuracy of cost

FRONT OF FORM REINFORCEMENT

COST-ANALYSIS.

JOB	LOCATION						
Period19							
Item.	Rate	No. days or quantity	Total amount	Class of u it	Unit	% total	
Cutting and Bending— Foreman Labor							
				Lb.			
Placing— Foreman Labor							
				Lb.			
Materials— Steel, f.o.b " Freight " Unload'g & cart's			5	- 0			
Wire			3 A	Lb. Lb.			
Total Materials Tools* Repairs*				Lb. Lb.			
Grand total				Lb.		100.0	

*The total cost of Tools and Repairs for the entire job is to be entered in the third column and is distributed on the total weight of the reinforcement placed, so that the cost of these items is given per pound of reinforcement in the fifth column.

records. To serve the purpose well these must be clear and reliable and the conditions of the work concisely explained. Furthermore, the items of cost should be kept in accordance with some uniform system, so that records of different jobs may be compared intelligently and used advantageously in the analysis of costs for future estimates.

To get costs and to make the proper distribution on the records should be the duty of one man alone. If this man is shown what to do and how to do it, where and what changes to make, and is on the job all the time, keeping a journal and photographs as well, then at the end of a job these records are worth something; but ordinarily the time-keeper simply makes the easiest distribution he can and gives no details.

By watching the reports I myself know what job needs my attention most and when. Some contractors say: "The job is not large enough to pay the costs of a clerk." This is the biggest mistake possible, for every job will pay a clerk's wages. If you are losing money have him more than ever, for the records will show what the loss is and the reason why, and you can avoid making the same mistake again. My experience is that foremen and assistant superintendents who keep good cost records are not fit for anything else, as a rule, and could not get the work done for the estimated cost. For that reason, I say emphatically, have a cost clerk on every job; the better the man the more money you will make in the end.

In a discussion by the Indianapolis section of the report of the Committee on Uniform System of Cost Analysis considerable time was devoted to discussing the possibility of utilizing the facts obtained by such analysis in preventing

BACK OF FORM REINFORCEMENT-2 COST-ANALYSIS.

STYLE OF REINFORCEMENT				REMARKS	
State whether wire mesh, expanded metal or bars, deformed or plain	No. of mesh, or sizes of bars.	Area of mesh or lengths of bars.	Weight, lbs.	Give reasons for using style of rein- forcem't sel.	
	-	-			
3		1	-		
			TEAT.	THE PARTY OF THE P	
	Tot	lal weight."			

If cost of Cutting and Bending or of Placing is high or low, give reasons why...
Suggestions that will improve the conditions under which the work may be done again, and that will reduce the cost if this was high

the recognized evil of the low bids submitted by inexperienced contractors, which bids are too often accepted to the injury of both the contractor and the city or other party for whom the work is done.

The distinction between productive and non-productive labor and material was made a point of discussion also. In connection with the discussion DeWitt D. Moore, chairman of the committee, called attention to the committee's chart wherein it was endeavored to classify the several items of cost in a general way, this having formed a part of the report of the committee at the first meeting in 1911.

Mr. C. Brown said:

As a result of the speaker's experience in keeping final records of costs of additions to existing plants, such as sew-