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Discussion

O. W. BOSTON.⁴ The cost of inspection, as reported under the various classes A, B, and C, does not vary considerably one from another. The writer wonders, however, if in class C the cost of inspection for agricultural machinery is approximately the same as that for automobiles, gasoline engines, etc. In other words, it seems that classification B covering machine tools, electric motors, turbines, etc., would more logically include automobiles, gasoline engines, etc., of class C, and leave agricultural machinery alone in class C. Agricultural machinery is, by and large, machined less and to greater tolerances than those items mentioned in class B, and it might seem, therefore, that the cost of inspection for agricultural machinery would be different from machine tools, automobiles, etc.

The writer would like, also, to ask if any information was obtained as to the relative costs of materials used in the gages, compared to the cost of material inspected; this gage material cost to include such cost of measuring instruments and gages as are used. It would seem that the ratio of costs, of material in the gages, and the material inspected would give results quite different from the ratio of labor costs. Presumably with high production-material costs the cost of inspection gages would increase. On the other hand, the ratio might show a decrease in costs of inspection gages. It would be interesting to know these figures for the job-shop method of manufacture as compared to the mass production of a given industry such as machine tools, and also to know the value of this ratio for the different classes suggested. One can well appreciate the difficulty that the author has had in securing from a questionnaire positive and reliable data.

EDWIN SMITH.⁵ Has the author figures available to show the relation between the cost of inspection equipment and the cost of the labor involved in inspection work and also any information regarding the cost of the maintenance of inspection tools?

AUTHOR'S CLOSURE

In reply to Professor Boston, the author would call attention to the fact that machine tools, electric motors, and turbines are generally manufactured in lots of greater or lesser amounts, while automobiles, gasoline engines, and most agricultural machinery are generally carried through on a continuous production schedule. While it is true that agricultural machinery is generally machined less and to wider tolerances than the other items mentioned, the amount of inspection also becomes correspondingly reduced so that the percentage remains about the same.

In reply to the inquiries about the costs of gages, etc., the author's only information on this subject is given in the paper. In this case the initial cost of gages amounts to about \$10 per employee, while the cost of their maintenance amounts to about one-tenth of 1 per cent of the factory cost of production.

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⁵ United Chromium, Inc., New York, N. Y.