

THE PRACTICE OF MANAGEMENT ENGINEERING IN THE STATE OF NEW YORK.

CHAPTER 581 of the Laws of New York became a law on May 5, 1921. It is entitled "An Act to amend the general business law, in relation to the licensing of professional engineers and land surveyors, generally." The essential points are as follows:

1. From and after May 5, 1923, ". . . any person practicing or offering to practice professional engineering or land surveying in this state shall hereafter be required to submit evidence that he or she is qualified so to practice, and shall be licensed as hereafter provided. . . ." (Paragraph 37.)

2. ". . . the following facts established in the application shall be regarded as prima facie evidence, satisfactory to the board, that the applicant is fully qualified to practice professional engineering. . . ." (Paragraph 39e)

(a) "Six or more years of active engagement in professional engineering work, one of which shall have been in responsible charge of work. . . ."

(b) "Graduation, after a course of not less than four years in engineering from a school or college approved by the regents as of satisfactory standing, and an additional four years of active engagement in professional engineering, one of which shall have been in responsible charge of work. . . ."

(The above seem to be the essential points, but interested persons are advised to read the act carefully.)

For the benefit of the members of the Taylor Society the following correspondence is called to their attention:

TAYLOR SOCIETY
A SOCIETY TO PROMOTE THE SCIENCE AND THE
ART OF ADMINISTRATION AND OF MANAGEMENT
29 West 39th St.
NEW YORK

April twenty-seven
1 9 2 2

State Board of Licensing for
Professional Engineers and Land Surveyors,
State Education Building,
Albany, N. Y.

Gentlemen:

It is one responsibility of this Society to inform its members through its Bulletin, concerning matters of professional interest. Among such matters is Chapter 581 of the laws of New York entitled "An Act to amend the general business law in relation to the licensing of professional engineers and land surveyors, generally." There are certain possible applications of this law which are not definitely clear in the wording of the act itself, and on behalf of our membership I take the liberty to ask you for certain interpretations.

1. Throughout the act the term "professional engineer" is of great importance, for instance in paragraph 37 we find

"any person practicing or offering to practice professional engineering," and in paragraph 39-e we find "a person practices professional engineering . . . who holds himself out as able to do, or who does, the work that an engineer does. . . ."

Question 1. Does the term engineering as used in this act comprehend such professional activity as is described by the terms industrial engineer, management engineer, consultant in management engineering, methods engineer, etc.; and is it necessary that individuals who offer professional service under the above designations be licensed by your Board?

Question 2. Assuming that the answer to the above question is yes, would the same requirements apply to individuals who offer a similar service, but who do not use the word engineering indicating such service; for instance to individuals who offer their service under such designations as consultant in management, industrial counsellors, etc.

2. In various paragraphs of the act we find as a qualification for securing a license, graduation from or attendance at an engineering school: for instance in paragraph 39-e 1 (b) the following: "four years in engineering from a school or college approved by the regents as of satisfactory standing. . . ."

Question 3. Assuming that question one above has been answered affirmatively and that industrial engineers must be licensed, must such industrial engineers be graduates of engineering schools in the strict and generally accepted meaning of the term engineering schools: for instance such schools as Massachusetts Institute of Technology, Stevens Institute, The Engineering School of Cornell University, the Schools of Mines, Engineering and Chemistry of Columbia University, etc.?

Question 4. If question three is answered affirmatively what avenue to the practice of industrial engineering would be available to students of such schools as the Graduate School of Business Administration at Harvard University, The Amos Tuck School at Dartmouth College, The Wharton School of Business at the University of Pennsylvania, the School of Business at Columbia University, and New York University?

3. It should be observed that the above questions concern a class of professional men who use the term engineering in announcing their service, but who may not practice civil engineering, mechanical engineering, electrical engineering, ventilating engineering, or any of the old line types of engineering; and who are not graduates of regular engineering schools. The questions are pertinent for the reason that professional training for what might be called business engineering is being provided by such institutions as are mentioned in question four rather than by regular engineering schools.

Very truly yours,
(Signed) H. S. PERSON,
Managing Director.

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE DEPARTMENT OF EDUCATION
ALBANY

Mr. H. S. Person,
Managing Director,
Taylor Society,
29 West 39th St.,
New York City.

Dear Sir:

Your letter of April 27th has been referred to me for reply, and I answer your questions seriatim:

1. Persons using the word engineering with such modifying adjectives as industrial, management, methods, etc., in my judgment are making an unwarranted use of the word engineer.

2. You have the solution of the matter. Such persons should cease to use the word engineer and offer their services as consultant in management, industrial counsellors, etc.
3. Having answered No. 1, No. 3 is also answered.
4. Graduates of such schools as you mention are not engineers within the meaning of the term.

Cordially yours,
(Signed) AUGUSTUS S. DOWNING.

THE FACTOR OF TIME IN DEVELOPING SCIENTIFIC MANAGEMENT

I MUST take very strenuous exception to the statement in the editorial "Now Is the Time," in the April BULLETIN, that results from scientific management are slow of attainment.

If the writer of the editorial is comparing scientific management with the spectacular "efficiency" plan of running through a plant and suggesting changes that can be wrought in a minute, no doubt this allegation is correct. But only an extremely poorly managed plant is susceptible to "efficiency" treatment.

Let us consider the facts first from the broad standpoint. A few plants throughout the country stand out and are referred to widely in press and platform as examples of good management, of satisfactory labor conditions, of successful operations. Examine these plants and you will find literally without exception that they have attained this position through scientific methods of development.

Just now we are not interested, however, in these more perfected results. What the manufacturer of 1922 and of 1923 must consider is the development of plants in his industry and in his own plant that will get the immediate results.

Is there any plan under the sun that can attain results so quickly as the scientific method of attack and development? By "results" we do not mean moving a machine here and there because we can see by superficial examination that it will save labor, nor do we mean the speeding up of operatives by direct or indirect threat of discharge. We mean the really permanent results which accrue from methods that eliminate unnecessary labor, reduce waste, aid the flow of work and materials, balance operations, eliminate internal labor friction, that in fact actually reduce costs and increase production per man in a large measure. All of these can be brought about quickly only by a scientific method of attack and by scientific development.

A few minutes' thought will show why this is true. Scientific attack means a definite study to determine

the operations needing attention, leading frequently to an entirely different selection from that first thought of. Next, there is direct concentration by skilled analysts on these vital problems. In the third place, developments can be made with the aid of experienced engineers that have been proved out elsewhere as satisfactory and require no experimenting. Taking special operations or individual departments or even the entire plant, it is a matter of weeks instead of months, or months instead of years, or years instead of centuries, as compared with the haphazard methods of cut and try selection.

In these statements we are not decrying the necessity for thoroughness. We indeed are emphasizing it. We are not disputing the fact that in many operations, such as certain processes in a machine shop, it may take many months or even years to approach thorough development by any method in the world. But even here the scientific method is the quickest one, in fact in such cases as these often no other method will produce real results in decades of operation.

However, in such cases, requiring the most fundamental treatment, it is possible to find certain vital points where scientific analysis and concentrated study can show how to effect unthought-of improvements resulting quickly in effective savings and reductions in cost.

In one way the haphazard method can get there more quickly. This is in the setting of piece rates by snap judgment based on past records. If one wants to set piece rates over night, he has no time for scientific management. But quickly set, quickly thrown down! More and more the manufacturers and workmen are realizing that such haphazard work always results very quickly in dissatisfaction and injustice, and should not even be thought of, in fact cannot be considered as permanent development. Even here, however, the scientific method will find means of improving methods quickly and getting definite results while the more thorough studies are being made. Case after case can be cited where this plan has worked out.

Finally, we must not forget that the scientific method is the only one that produces permanent and accelerating results which lead to the development of a spirit and an organization within the plant that learns how to attack problems quickly, to find the cause, and to effect the remedy.

SANFORD E. THOMPSON.¹

¹The Thompson & Lichtner Company, Boston.