



The Engineer in Industry

By A.C. Cummins

The best opportunity to observe the operation of the many activities of the Association of Iron and Steel Electrical Engineers is undoubtedly reserved for those who have been given the honor of serving as its President. Each year sees expansion in the scope of the Association's activities. And as I review the accomplishments of the past, I cannot help but feel that the Association has been going through an evolution in its work, which is reflecting the greater consideration which has been given to the value of the engineer in industry. Since the very beginning, the

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American industrial machine has expanded quite rapidly. While there have been periods of depression, the development has been made in such an orderly manner that the demand for industrial products soon overtook the supply, and, therefore, such periods were of comparatively short duration. When the World War came along, this orderly industrial expansion changed to one of very extensive and rapid growth. A demand for industrial products was suddenly created, far in excess of anything hitherto anticipated. As a result, the capacity of our industrial machine was tremendously increased and its ability to produce became far greater than was necessary to supply the domestic demand. The conclusion of the World War eliminated the abnormal demand and manufacturers found themselves with modern plants equipped with expensive machinery, capable of producing a greater volume of product than would likely be required for a number of years. When the period of re-adjustment set in, keen competition for domestic busi-

ness resulted, and it was only the plants where the most modern labor-saving devices were in use and possessing a personnel trained in its efficient use, which were able to operate at a profit.

It has been through this period of depression that the engineer has been called upon to fill a more important role in the management of our manufacturing establishments. He has been required to design new devices for saving labor, new means of economizing in the use of raw materials and better methods of operating equipment already under his supervision. At the very outset of this period, executives discovered that fuel was rapidly assuming great importance in determining the cost of production. In some industries more money was spent for fuel than for all other raw materials combined. This was notably true in the metallurgical field and consequently all progressive plant managers were on the lookout for ways and means of economizing in its use. Before long the fuel engineer appeared on the horizon and he was so successful in as-



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sisting the metallurgical and central station industries in reducing their fuel costs that he is now firmly entrenched in every industrial organization where fuel is a factor in the cost of production.

During the past two years the steel industry has experienced strenuous competition. It is well known that in any industry only the plants which operate most economically carry full production schedules in periods of depression. It is interesting to note that during the periods of depression in the steel industry during the past few years, that the plants most completely equipped electrically are the ones operated at maximum producing schedules. Does this not demonstrate beyond all question that the claims

electrical engineers have made for the economy and reliability of universal electrification have stood the acid test of practice and have not been found wanting? Does it not reflect great credit on the electrical engineers of the steel industry, especially those who have been responsible for the general adoption of electricity throughout our mills?

The members of our Association are to be congratulated for their progressive attitude during the development of the use of electricity in our mills. They have seen the possibilities of greater responsibility for engineers in saving fuel, in designing equipment to save labor, and to improve operating methods. They have been quick to see the opportunities for improvement and to call upon their Association to serve them in a broader way in order that they might be fully equipped to carry on this enlargement of their work. One of the results of this foresight was the formation of our Fuel Saving Section. I feel it is filling a very great need for the membership by supplying a

better acquaintanceship with the fundamental problems of economy in the use of fuel. The Fuel Savings Conferences successfully introduced to many the details of the problem as well, and it is to the records of the activities of this Committee that all look for authoritative information on what is newest and best in this great field for saving money. A similar demand has been responsible for the activities of the Electric Heat Committee. Their accomplishments have been almost as comprehensive in their scope, as it is possible to find in their proceedings answers to many of the electric problems of the day. It will be found that there are new fields for effecting economies by adoption of electric heating in nearly every industry, which have not been previously appreciated, and that the possibilities for improvement in the quality of our products by its adoption may lead to many changes in industrial processes in the future. It is to be hoped that the Committee will continue in its work, and keep fully awake to the possibilities of achievement on this line.



One of the most difficult questions now facing our Association is the solution of the problem of standardization. Progress in the art of applying electricity to industry has advanced so rapidly that it is difficult to stop long enough to standardize on one class of equipment before a new development proves so vastly superior that all thought of standardization is dropped in the haste to install what is newer and better. However, I believe the possibilities in the field of standardization have been overlooked and the future will see standardization adopted in a way which will not handicap the development of still better and more economical equipment, yet accomplish much towards the goal of interchangeability

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and duplication for which all operating engineers so diligently strive.

All of these activities indicate that the engineers are becoming a greater factor in the management of our industries and well they might be, as their training has especially fitted them to analyze its problems, and to use common sense in applying what their analysis has determined. In the steel industry, particularly, engineers have been called upon to make accurate decisions quickly and the result has been that they are not only trained to analyze the problems of industry and to use common sense in applying the results of their analysis, but, also, in possessing the courage to proceed once their decision is made. Too often in the past the questions of management have not been solved on a careful and logical basis; and it is to be regretted that many of our industrial failures have been due to the lack of the proper method of procedure. One of the most encouraging signs of the times is to find that the men at the heads of our large enterprises are be-

coming more and more dependent upon the engineers of industry for consultation and advice before making important decisions of management. This policy cannot help but mean that our plants will be managed more economically, more logically, and more justly than in the past.

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