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THE RÔLE OF PHYSICS IN MODERN INDUSTRY

By Dr. L. O. GRONDAHL

UNION SWITCH AND SIGNAL COMPANY, SWISSVALE, PENNSYLVANIA

IN speaking of the rôle of physics in industry, I shall dwell on its accomplishments in the way of making itself useful to the engineer, to the factory operator and to the public generally. As I shall point out incidentally, the service is not one-sided, and an interesting chapter could be written on the service of industry to physics and to other sciences. It is hoped that this will be remembered if at some times I appear to get enthusiastic and to claim too much for the science which is my hobby. To give a glimpse of the other side of the picture, I shall first proceed to make an acknowledgment of the great debt that physics owes to industry and which was incurred before either industry or the science was organized.

Physics originated in the arts and crafts of prehistoric and early historic times. The students and philosophers of those days played no part in the beginnings of the science since they thought of their

activities as being on a different plane from the activities of those who labored with material things and were not inclined to interest themselves in anything of a physical nature except philosophically. They attempted to arrive at an understanding of nature by speculation. This attitude made it impossible for them to learn of the characteristics of things from experience. Soldiers, sailors, shepherds, craftsmen, builders and others who had to do with physical things were the ones who not only developed an acquaintance with physical characteristics, but who also learned to apply principles that were not formulated, but were useful, and that later became the foundation of physics.

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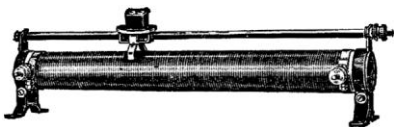
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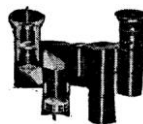
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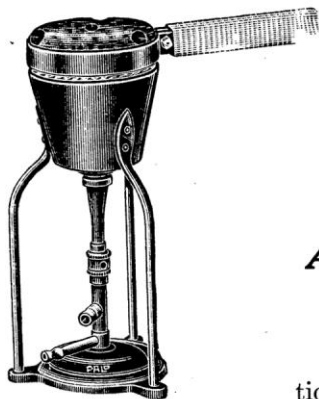
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