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THE WORK OF JOSEPH HENRY IN RELATION TO APPLIED SCIENCE AND ENGINEERING[1]

By Professor ARTHUR E. KENNELLY

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THE pioneer work of Joseph Henry in physics, and especially in its department of electromagnetics, has justly claimed the principal attention of his biographers and students. Certain aspects of Henry's work in the physics of electromagnetic induction were the theme of that fine presentation last year by President J. S. Ames, of the Johns Hopkins University, in the first Joseph Henry lecture of this series. Henry also accomplished, however, so much in applied physics that without detracting in the least from his fame as a pure scientist and researcher in basic physics, it seems proper to consider, in this second Joseph Henry lecture, his achievements in relation to applied science and engineering.

[1] The second Joseph Henry Lecture, delivered before the Philosophical Society of Washington on April 23, 1932. The lecture was illustrated by lantern slides showing Henry's apparatus, as taken from authentic sources.

As it is sometimes difficult to distinguish between basic and applied science, when considering the manifold occupations and accomplishments of a scientific pioneer like Henry, we may be permitted to consider as basic those scientific studies directed to the development of a field of knowledge *per se;* and as applied science or engineering, those studies directed to utilities, as well as to the field itself. So interwoven, however, are basic and applied science, and especially in physics, that the distinction between them may sometimes be reduced to mere differences in the attitude of the researcher's mind. One and the same piece of scientific research may be regarded as either basic, or applied, or both, according as the researcher directed his mind to the field of knowledge itself or to its utilization, or to both.

Henry's accomplishments in applied science are notable in the following fields:

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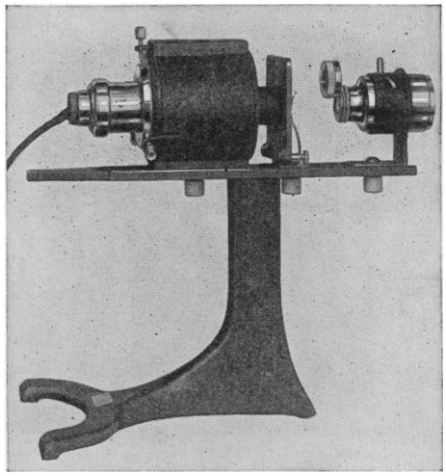

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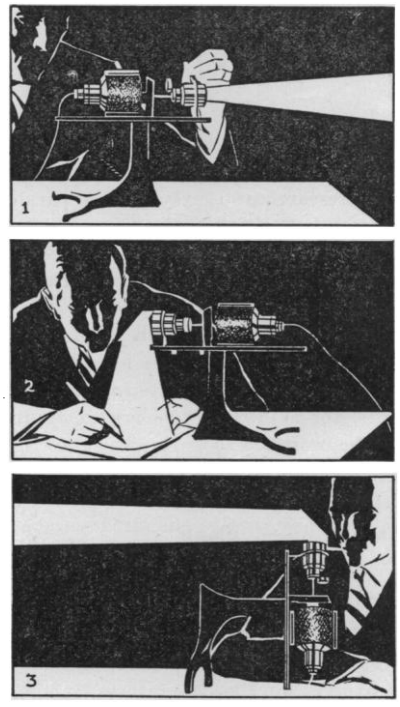

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