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### Ohio State Engineer

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#### MILLION-VOLT INDUSTRIAL X-RAY

Million-volt X-ray equipment has examined castings as much as eight inches thick. Among the faults revealed by the X-rays have been blow holes, tears, shrinkage cavities, inclusions, and cracks—faults which would not be detected by the keenest of eyes and which could not be tolerated in high pressure turbine casings, or ordnance equipment. Steels and ferrous alloys of many kinds were inspected, as were welded structures and thick aluminum alloys. While X-rays at considerably lower voltage could have been used for these aluminum parts, use of 1,000,000 volts has given better pictures, especially in the case of castings of irregular shape and variable thickness. In addition, the higher penetrating power makes it possible to increase the distance between the object and the tube and so reduce geometrical distortion resulting from the spreading of the rays. From a greater distance, the rays are more nearly parallel.

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