piece as the former, and being ·585 inch square, gave 9,860,000 as modulus of elasticity (equal to that of good cast iron). This shows that the iron is not wholly converted into malleable iron. A bar ·195 inch square, showed a tensile strength of 50,600 lbs. per square inch, nearly as much as good bar iron.

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*Gauging of Water by Triangular Notches.* By W. YEATES, C.E.

I was interested by the paper in the last number of your Journal, entitled " Experiments on Gauging of Water by Triangular Notches." On referring to page 361, vol. xxiv. of your Journal, there referred to, I observed that seven inches was the greatest depth on the notch in the angle; and that the only triangular notches experimented with were a right-angled triangle and a triangle with slopes of two to one. It appears to me that these experiments were too limited, and only of value as far as they go. Unless for admeasurement of small quantities of water, the triangular notch appears quite unfit for practical appli-cation, and any inferences made for long triangular notches from rectangular ones, of little practical value. Why not at once use the rectangular ones, on which the experiments are most extended? On looking at Mr. Neville's hydraulic formulæ and valuable collection of experiments, I find at page 55, second edition, that using the co-effi-cient ·617, his formulæ for triangular notches become, when reduced for a right-angled notch $D = ·317 \, h_{\frac{5}{2}}$, which corresponds with that given in the Journal; and he has pointed out the general approximate application of the co-efficient ·617 to all sorts of orifices in thin plates, whether at the surface, as notches, or as submerged orifices, triangu-lar, circular, polygonal, or mixed. The discovery of one general co-efficient of this kind is of great practical value, and supersedes any necessity for further experiments with small notches in thin plates.

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*Vanderlyn the Artist and the Commissioner of Patents; or the Fine Arts versus the Mechanic Arts.*

Shortly after the death of President Taylor, I spent an evening in Washington with Vanderlyn and the then Commissioner of Patents, at the house of a mutual friend. A portrait of the deceased President by V. had that day been disposed of by raffle. After expatiating awhile on Art and High Art, and giving incidents connected with the production of his famous pictures of Marius, Ariadne, Danae, Land-ing of Columbus, &c., the conversation slid into an amusing debate on the relative importance of the Mechanic and the Fine Arts, and on the social position of their professors. Vanderlyn was insulted at the com-parison, and poured out scalding remarks on the ignorance and pre-sumption that would raise the anvil and forge to a level with the pal-