

THE STRENGTH AND PROPORTIONS OF RIVETED JOINTS

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The Strength and Proportions of Riveted Joints by Bindon B. Stoney

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BINDON B. STONEY

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BY
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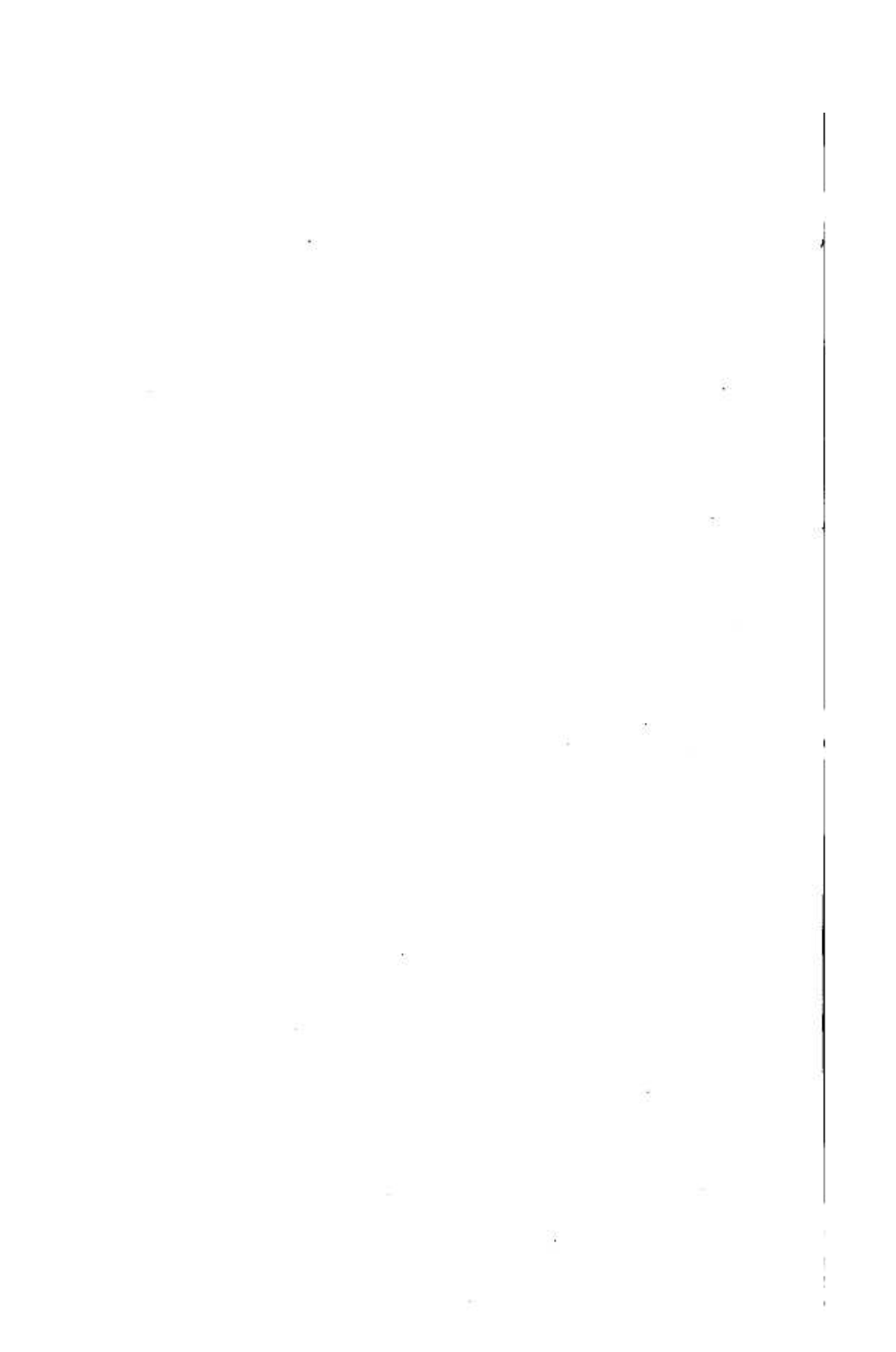
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PREFACE.

THE subject of riveting is by no means so simple as might at first sight be supposed, and the author, having had much trouble in collecting and arranging the various experiments which have been published on the subject and drawing thence practical conclusions for his own guidance, thinks that other Engineers, who have neither time nor opportunity for traversing the same ground, may, perhaps, find the following paper a useful *résumé* of our present knowledge on the subject of riveting. It was originally read at the Institution of Civil Engineers in Ireland, and the author is indebted to the Council of the Institution for their kind permission to publish the paper in a separate form from the "Transactions."



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PART I.

IRON PLATES AND IRON RIVETS.

1. *Shearing Strength of Bar Iron.*—On the subject of shearing, Professor Unwin makes the following remarks:—
“In Wöhler’s researches (in 1870) the shearing strength of iron was found to be $\frac{2}{3}$ of the tenacity. Later researches of Bauschinger confirm this result generally, but they show that for iron the ratio of the shearing resistance and tenacity depends on the direction of the stress relatively to the direction of rolling. The above ratio is valid only if the shear is in a plane perpendicular to the direction of rolling, and if the tension is applied parallel to the direction of rolling. The shearing resistance in a plane parallel to the direction of rolling is different from that in a plane perpendicular to that direction, and again differs according as the plane of shear is perpendicular or parallel to the breadth of the bar. In the former case the resistance is 18 to 20 per cent. greater than in a plane perpendicular to the fibres, or is

* Proc. I. M. E., 1881, p. 327.