in character, although, as may naturally be supposed, the cost of the iron is increased from ten to fifteen dollars per ton. This iron is known as "Best Best" iron. Uniformity of material is of very great importance in bridge-building—that is, if parties desire their bridges to be as strong in one part as another; and from what has preceded, it will be at once seen that this desirable end can not be obtained by open purchases in the market—that is to say, buying some bars here, and others there, wherever the different sizes can be obtained the cheapest. The temptation to such a manner of purchasing is great, in times of close competition among bridge-builders, particularly when, in nine cases out of ten, the successful bidder is such simply from being the lowest in price. We come now to speak of the distinctive physical properties of iron, and firstly of

WROUGHT-IRON.

Take a number of miscellaneous bars of best merchant iron, fracture them short off, and there will be exhibited probably as many different appearances of the fracture as there are bars. Some specimens will present coarse crystals, whitish in color, others very fine ones, of a dark gray appearance, in some lights almost black, and in others lustrous like satin. Some specimens, again, may expose a fracture wherein coarse crystals are mingled with fine. Now, what does all this express? It tells the expert that one iron is poor in quality, that it is hard, brittle, or weak, while he reads the second fracture