cap-plates at the top, and the archivolt rails at the bottom edge of each rib, the intermediate levers, or queen-bents, are wholly defended from any more pressure than is furnished by the action of their own gravity, in their station. We shall now treat on a mode of defence, provided against the pressure on the timber; which some of the theorists, of the present day, who understand the nature of timber best, by the fruit it bears, are so much alarmed about.

A kind of chymical process, or philosophy by fire, may be said to pass on the end-grain rests of the angular levers in each rib, on certain occasions; whereby a vast strength is added to the timber composing the arm of the Bridge.

If, in the erection of a Bridge of vast extent, the timber selected for the purpose should be what is termed green, or unseasoned, then, the iron resting-plates as described at I, on Plate 1, fig 3, for the end-grain rests, or tusks, (or some other single piece of iron made for that purpose) is made red hot, so as to scorch or burn up the sap or vegetable acid, in the said rest, to a certain amount, which will accomplish two valuable purposes; first, it will condense and harden the end-grain of the timber, whereby it will be better able to resist the pressure which the portion of the weight allotted it will furnish. Second, by the sap being dried out of these parts, the iron resting-plates will not be so liable to corrode. And as the author proposes to use sheet-iron, in general, for