easy fusibility, to withstand that degree of heat to which they are necessarily exposed in many of the economical uses to which they are applied?

There remains to be considered one property of metals with respect to their fusibility, which is of the highest practical importance; for on this property depends the possibility of uniting together portions of the same, or of different metals, without fusion of the metals themselves. If two metals be melted into one uniform mass, the compound is called an *alloy*; and in the greater number of instances, if not in all, the alloy is more readily fusible than either of the component metals: and hence it easily becomes a bond of union between the two metals, or different portions of either of them. Such an alloy, when so employed, is called a *solder*. In considering the present subject, we cannot overlook a remarkable analogy between metallic substances and building stones, with reference to one mode in which they may respectively be united to each other, so as to form one solid mass; mortar being to stones what solder is to metals. Thus, in uniting two metallic surfaces by means of solder, it is requisite that the latter should be in a fluid state, or melted; and, in uniting the surfaces of two bricks or stones by means of mortar, the latter must be, if not in absolutely a fluid, yet in a soft and yielding state: and the final hardening of each is the efficient