When the external loading is applied, the respective values of the loads in the redundant members become P_1 and P_2, which may be found from the equations

$$\partial U/\partial P_1 = \Sigma\,(l\beta/EA)\,(\alpha+\beta P_1+\gamma P_2)=\lambda_1 \quad . \quad . \quad . \quad (3)$$
$$\partial U/\partial P_2 = \Sigma\,(l\gamma/EA)\,(\alpha+\beta P_1+\gamma P_2)=\lambda_2 \quad . \quad . \quad . \quad (4)$$

Although the same general expression $\partial U/\partial P=x$ has been used twice over for each member, the particular form is different in each case. In the initial case, $\alpha=0$ and P_{01} and P_{02} are known; hence the values of λ are determined. In the final case, α is known and P_1 and P_2, which are unknown, can be found.

Instead of working out the values of λ from (1) and (2) and using these in (3) and (4), we can equate (1) to (3) and (2) to (4), giving

$$\Sigma\,(l\beta/EA)\,[\alpha+\beta\,(P_1-P_{01})+\gamma\,(P_2-P_{02})]=0$$
$$\text{and } \Sigma\,(l\gamma/EA)\,[\alpha+\beta\,(P_1-P_{01})+\gamma\,(P_2-P_{02})]=0$$

from which values of (P_1-P_{01}) and (P_2-P_{02}), and hence P_1 and P_2, can be found; and similarly for any number of redundant members. It will be seen that this simply amounts to another way of stating the method dealt with in remark (6), p. 655; *i.e.*, finding the loads due to the external loading by the method of Least Work, and adding the initial loads. Thus, unless the self-straining is given in the form of values of λ, there is no point in introducing λ into the calculation, though there is no difficulty in so doing if desired.

Yours faithfully,

FRANK G. EVANS.

To the Editor of the Journal of the R.Ae.S.

11th January, 1932.

Dear Sir,—I was interested to note in this month's issue of your journal the review of the second edition of my book on "Stainless Iron and Steel."

May I refer to the last paragraph of the review and suggest to the writer of it that if he will turn to pages 529 and 530 of the book he will find given thereon the information which he deems omitted? He will also find reference to this page number in the index under the word "Seizing." The data regarding seizing was placed in the position it occupies (namely, in that part of the book dealing with the engineering applications of stainless steels) because the phenomenon of seizing is not confined to high chromium steels as your review writer suggests, but is a characteristic of all types of stainless steel.

Yours faithfully,

J. H. G. MONYPENNY.