

J.

10/39

Coopers Hill is to be sold - i.e., a place called Coopers Hill in the County Clare (I believe). A Dundee paper saw this, took it up wrongly & spread the report with regard to us. Hence all this fuss.

I have 1200 South Kensington paper to examine!

The proofs of Blatier will be here in a few days. I want you to get a duplicate to glance at & suggest anything. Shall ~~send~~ have it sent to you.

It is hard to get examples of stresses & strains. I shall put in the following, if you find that they are right.

1. Resolve a small elongation ϵ in the direction (l, m, n) into its components along the axes.

Ans. $\epsilon l^2, \epsilon m^2, \epsilon n^2, 2\epsilon lm, 2\epsilon mn, 2\epsilon nl$.

2. Resolve a shear, $2s$, of the two rectangular lines $(l'mn), (l'n'm)$ into its components along the axes.

Ans. $2sl'l', 2sm'm', 2sn'n', 2s(l'm + l'n'm), \dots$

3. Find the conditions that the general small strain (a, b, c, s_1, s_2, s_3) should be a shear.

Ans. $a+b+c=0 \quad \& \quad \begin{vmatrix} a & s_3 & s_2 \\ s_3 & b & s_1 \\ s_2 & s_1 & c \end{vmatrix} = 0$

Are these all right?

I have treated the geometry of a shear differently from Thomson & Tait.

Tell me why on principles of energy a body expands by getting heat put into it.

Tell me on some elemⁿ? principles why bodies (~~can~~ India rubber bands, &c.) wh. contract with heat get heated if suddenly elongated.

I expect Master James here tomorrow.

M ~~3~~ ⁴ Write