(which includes, for example, the case of a single angle under tension riveted by one leg, and probably, as will be seen later, many cases of built up members where the load is apparently in a plane of symmetry) seems to be little known in this country, although it has been investigated thoroughly by many German writers. The only complete account in English, known to the writer, is in a paper by L. J. Johnson, Trans. Am. Soc. Civil Eng., Vol. 56, 1906*. The full development of the formulæ is considered in Appendix I, and only an outline of the method and the details of actual calculation will be given here.

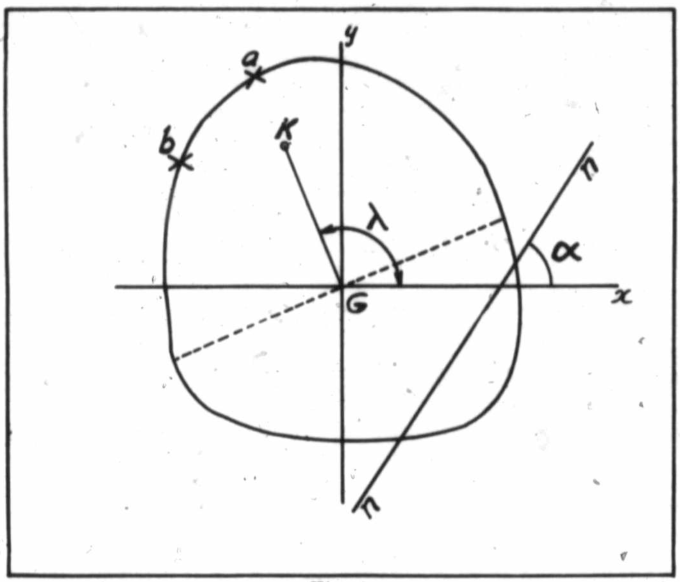

Fig. 1.

Consider a straight bar of uniform cross-section subjected to a load N, parallel to the axis of the bar, but which does not pass through the centre of gravity of the section. Let K (Fig. 1) be the loading point and G the centre of gravity of the cross-section. If KG is an axis of symmetry of the cross-section, the case will be that considered above, bending will take place about an axis in the plane perpendicular to KG and the maximum stress will be at a. If, however, K does not lie on an axis of symmetry, the neutral axis

*See Appendix I.