This historic book may have numerous typos and missing text. Purchasers can download a free scanned copy of the original book (without typos) from the publisher. Not indexed. Not illustrated. 1876 edition. Excerpt: ...Any ordinate of the circle, as DG, will intersect the ellipse at some point, H; the points G and H are called corresponding points, and the ordinates, DG and DH, are called corresponding ordinates. The equation of the ellipse when referred to its centre may be written under the form,? = (1) If we denote the ordinates of the circle by y, to distinguish them from the ordinates of the ellipse, the equation of the circumscribing circle may be placed under the form, y2 = a2-x (2) If we make the values of x equal, in (1) and (2), the values of y and y will represent corresponding ordinates. Dividing (1) by (2), member by member, we have, y-, = h-(3) y a Forming a proportion from (3), we have, y: y:: a: b (4) That is, any ordinate of the circumscribing circle is to the corresponding ordinate of the ellipse, as the semitransverse, is to the semi-conjugate axis. If a, circle be described on the conjugate axis ss a diameter, it is said to be inscribed in the ellipse. In this case the corresponding points are those that have equal ordinates; the abscissas of these points are corresponding abscissas. It may be shown, as before, that any abscissa of the inscribed circle is to the corresponding abscissa of the ellipse, as the semi-conjugate, is to the semi-transverse axis. The principle demonstrated in this article enables us to construct the curve by points. Let AB and CD be the axes A of an ellipse. On these, as diameters, describe two circles; at any point of AB, as B, erect a perpendicular, EK, and join K with 0; through the point L, in which this line intersects the smaller circle, draw a parallel to AB, cutting EK in P; then is P a point of the ellipse. For, we have, EK: EP:: OK: OL, or, y:EP::a:b (5).Comparing (4) and (5), we see that EP = y,...