are ∞^1 such inscribed and circumscribed pyramids P the mapping upon (x) gives the following theorem.

THEOREM. *Let C_4' and C_4'' be two fixed symmetric quartics in (x). Construct a quartic $C_4^{(1)}$ with a sextuple contact with C_4'', cutting C_4' in two sextuples S_1 and S_2. Through S_2 draw another quartic $C_4^{(2)}$ with a sextuple contact with C_4'', which cuts C_4' in another sextuple S_3. Through S_3 draw similarly a third quartic $C_4^{(3)}$, cutting C_4' in a sextuple S_4, and so forth. Suppose that after drawing n such quartics, the last $C_4^{(n)}$ through S_n cuts C_4' in a sextuple S_{n+1} which coincides with S_1. If this happens once then there exists an infinite number of such series of quartics with the closure property.*

Moreover there exist two other fixed quartics D_4' and D_4'' which are related to these series in precisely the same manner as C_4' and C_4''.

THE UNIVERSITY OF ILLINOIS

CONGRUENCES OF LINES OF SPECIAL ORIENTATION RELATIVE TO A SURFACE OF REFERENCE*

BY M. C. FOSTER

1. *Introduction.* With each line l of a rectilinear congruence let us associate the point M in which l intersects a surface of reference S. We refer S to any orthogonal system. Let α, β, γ be the direction-cosines of l relative to the moving trihedral of S at M, the x-axis being chosen tangent to the curve $v = \text{const.}$ By congruences of special orientation relative to S, we shall mean those congruences for which the functions α, β, γ are of a special form. The present paper is concerned primarily with the case when α, β, γ are constant.

2. *Normal Congruences.* Relative to the moving trihedral the coordinates of any point P on l are

* Presented to the Society, December 28, 1926.