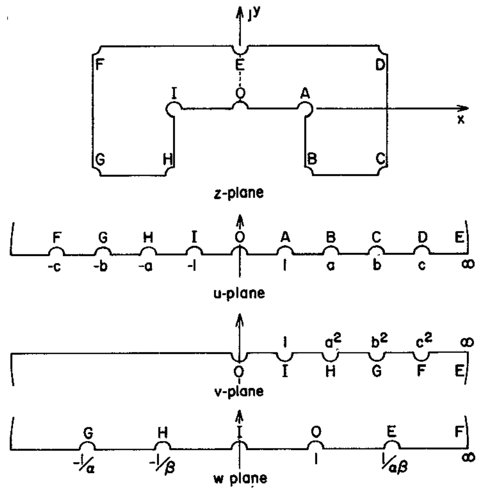

Fig. 1.

It is clear then that the dimensions of the U-shaped rectangular section of Fig. 1 are given in terms of α and β exactly as in footnote 1. We are now, however, in a position to determine the capacitances of certain asymmetrical arrangements where the U-shaped figure is bounded by electric and magnetic walls. Two of the many possible cases are considered as follows.

1) All the boundary walls are electric except for CD which is magnetic.

We are then concerned, in the u plane, with the capacitance of the line segment HB with respect to the line segment GD. As is well known, this capacitance is given by $K'(k_0)/K(k_0)$ where

$$k_0^2 = \frac{(c-a)(b-a)}{(c+a)(b+a)}$$

$$= \frac{[\beta^{1/2}(1+\alpha) - \alpha^{1/2}(1+\beta)][(1+\alpha)^{1/2} - \alpha^{1/2}(1+\beta)^{1/2}]}{[\beta^{1/2}(1+\alpha) + \alpha^{1/2}(1+\beta)][(1+\alpha)^{1/2} + \alpha^{1/2}(1+\beta)^{1/2}]}. \qquad (6)$$

2) All the boundary walls are electric except for CD and FD which are magnetic.

We are then concerned, in the u plane, with the capacitance of the line segment HB with respect to the line segment FG. This capacitance is given by $K(k_1)/K'(k_1)$ where

$$k_1^2 = \frac{2a(c-b)}{(a+b)(c-a)}$$

$$= \frac{[(1+\beta)^{1/2} - \beta^{1/2}(1+\alpha)^{1/2}]2\alpha^{1/2}(1+\beta)}{[(1+\alpha)^{1/2} - \alpha^{1/2}(1+\beta)^{1/2}][\alpha^{1/2}(1+\beta) + \beta^{1/2}(1+\alpha)]}. \qquad (7)$$

REFERENCES

[1] F. Bowman, "Notes on two-dimensional electric field problems," *Proc. London Math. Soc.*, vol. 39, no. 22, pp. 211–214, 1935.
[2] G. M. Anderson, "The calculation of the capacitance of coaxial cylinders of rectangular cross-section," *AIEE Trans.*, vol. 69, pt. II, pp. 728–731, 1950.
[3] S. Bergmann, "Über Die Berechnung Des Magnetischen Feldes In Einphasen-Transformator," *Z. Angew. Math. Mech.*, vol. 5, pp. 319–331, 1925.

Correction to "Fast Parameters Calculation of the Dielectric-Supported Air-Strip Transmission Line"

EUGENIO COSTAMAGNA

In the above letter,[1] on page 156, second column, line 1, the words "relative phase velocity" should read "phase velocity in m/s $\times 10^{-9}$."

Manuscript received November 26, 1973.
The author is with Marconi Italiana S.p.A., Genoa Cornigliano, Genoa, Italy.

[1] E. Costamagna, *IEEE Trans. Microwave Theory Tech.* (Lett.), vol. MTT-21, pp. 155–156, Mar. 1973