The successive substitution into Eq. (21) of Eqs. (20), (1), (17), and (19) gives after simplification

$$z_1 = x_1 + iy_1 = \frac{\epsilon}{2c(1+\epsilon)^2}\tan\tfrac{1}{2}\phi + i\,\frac{1}{4c(1+\epsilon)^2}\tan^2\tfrac{1}{2}\phi. \tag{22}$$

This is the parabola

$$y_1 = c\epsilon^{-2}(1+\epsilon)^2 x_1^2. \tag{23}$$

Since a change in the value of c, effects only a change of scale in the ζ-plane, c may be taken without loss of generality as

$$c = \tfrac{1}{2}\epsilon^2(1+\epsilon)^{-2}, \tag{24}$$

and this parabola becomes the one considered in Eq. (2). Setting this value of c in (19) yields

$$b = \tfrac{1}{2}(1+2\epsilon)\epsilon^{-2}. \tag{25}$$

Hence, by Eqs. (7) and (14),

$$\sigma_1^2 = (1+2\epsilon)^2/(1+\epsilon)(1+3\epsilon), \qquad \sigma_2^2 = 1/(1-\epsilon^2), \qquad g = \epsilon/(1+\epsilon). \tag{26}$$

Formulae (15) and (16) are valid for $\sigma_1 > 0$, $\sigma_2 > 0$, i.e., for $\epsilon < 1$ and thus include those profiles whose thicknesses is less than about 4/5 of their lengths.

It may also be noted that in terms of the variable γ, the slope, $\theta(\gamma)$, and the curvature, $d\theta(\gamma)/ds$, for the symmetrical profile may be written as

$$\theta(\gamma) = \gamma - \arctan\left\{\frac{4\tan\gamma(\tan^2\gamma + (1+2\epsilon)/\epsilon^2)}{4\tan^2\gamma - [\tan^2\gamma + (1+2\epsilon)/\epsilon^2]^2}\right\}, \tag{27}$$

$$\frac{d\theta(\gamma)}{ds} = \frac{\sec\gamma}{8c}\left[(1+3\epsilon)(1-\epsilon)\epsilon^{-2}\cos^4\gamma + 6\cos^2\gamma - 3\epsilon^2/(1+\epsilon)^2\right]. \tag{28}$$

CORRECTION AND SUPPLEMENT TO OUR PAPER

THE CYLINDRICAL ANTENNA: CURRENT AND IMPEDANCE*

QUARTERLY OF APPLIED MATHEMATICS 3, 302–335 (1946)

BY RONOLD KING AND DAVID MIDDLETON (*Harvard University*)

Equation (58) should be written as follows:

$$\psi \equiv \overline{\Psi} = \begin{cases} |\Psi_{K1}(0)| = |\psi_1(0)|/\sin\beta h; & \beta h \leqq \pi/2 \\ |\Psi_{K1}(h-\lambda/4)| = |\psi_1(h-\lambda/4)|; & \beta h \geqq \pi/2. \end{cases} \tag{58}$$

Two lines before this equation $|\psi_1(0)|/\sin\beta h$ should be written instead of $|\psi_1(0)|$.

These changes involve no alternations in the figures. However, the function $|\psi(0)|$ plotted in Fig. 11 to the left of $\beta h = \pi/2$ is not the parameter of expansion ψ defined by (58) as modified above and as indicated in the caption. The parameter of expansion ψ as defined in (58) is plotted in Fig. 11a where the part to the right of $\beta h = \pi/2$ is the same as in Fig. 11, the part to the left of $\beta h = \pi/2$ is obtained from the curves in Fig. 11 by dividing by sin βh.

* Received Jan. 25, 1946.

For small values of βh a convenient approximate formula is

$$\Psi_{K1}(0) = \Omega - 2 - j\beta h; \qquad \beta h < 0.5$$

so that

$$|\Psi_{K1}(0)| = \sqrt{(\Omega - 2)^2 + \beta^2 h^2} \doteq \Omega - 2 + \tfrac{1}{2}\beta^2 h^2/(\Omega - 2).$$

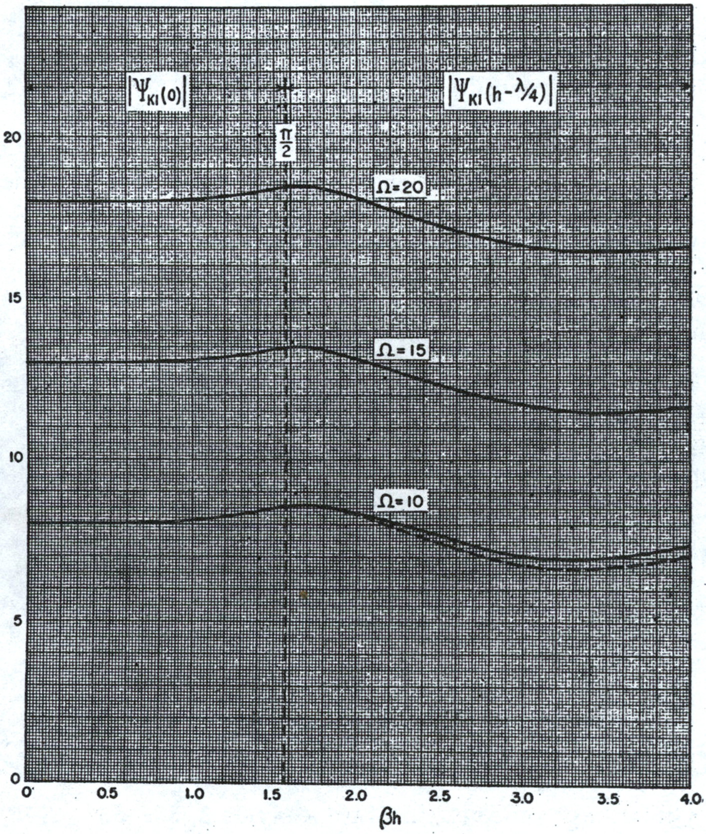

FIG. 11a. The expansion parameter ψ as defined in the corrected equation (58).

The following minor errors and misprints have been called to our attention:
page 312, Eq. (43) change Ψ to ψ,
page 319, Eqs. (59) and 62), change $\Psi_{K1}(z)$ to ψ; line following Eq. (61), delete the following: $\gamma(z)=0$ and
page 320, Eqs. (69) and (70), change b to Ω; Eq. (76), insert $1/(n-1)!$ after the first equality sign,
page 323, Eq. (77b), change 4 to ψ,
page 324, Eq. (79), insert ψ after R_c,
page 329, Eq. (19), third line, change $(R_{2h}+u_2)$ to $(R_{2h}-u_2)$,
page 330, Eqs. (23) and (27), page 335 Eqs. (45) and (46), and in the integral preceding Eq. (45), change R_{2h} to u_2, R_{1h} to u_1, throughout,
page 330, Eq. (24) replace by: $u_2=(h+z)$; $u_1=(h-z)$,
page 332, Eq. (43), add superscript bar over first three symbols Ci.