surface continues as described in case (A). Therefore, from this moment the following equations are effective:

$$z = R_1 e^{-t/2T_0} \sin (\beta_1 + t/T_1) \qquad (65)$$

$$s = \frac{R_1}{T} e^{-t/2T_0} \sin (\gamma - \beta_1 - t/T_1) \qquad (66)$$ (see equations 32 and 35).

$$R_1 \sin \beta_1 = z_T$$

$$R_1 \cos \beta_1 = \left(s_T + \frac{z_T}{2\,T_0}\right)$$

where z_T and s_T are limiting values of the first period.

The demonstration of the movement may be developed according to the same method as in case (A). For the computation of the value of the most practical importance (the maximum elevation), we get

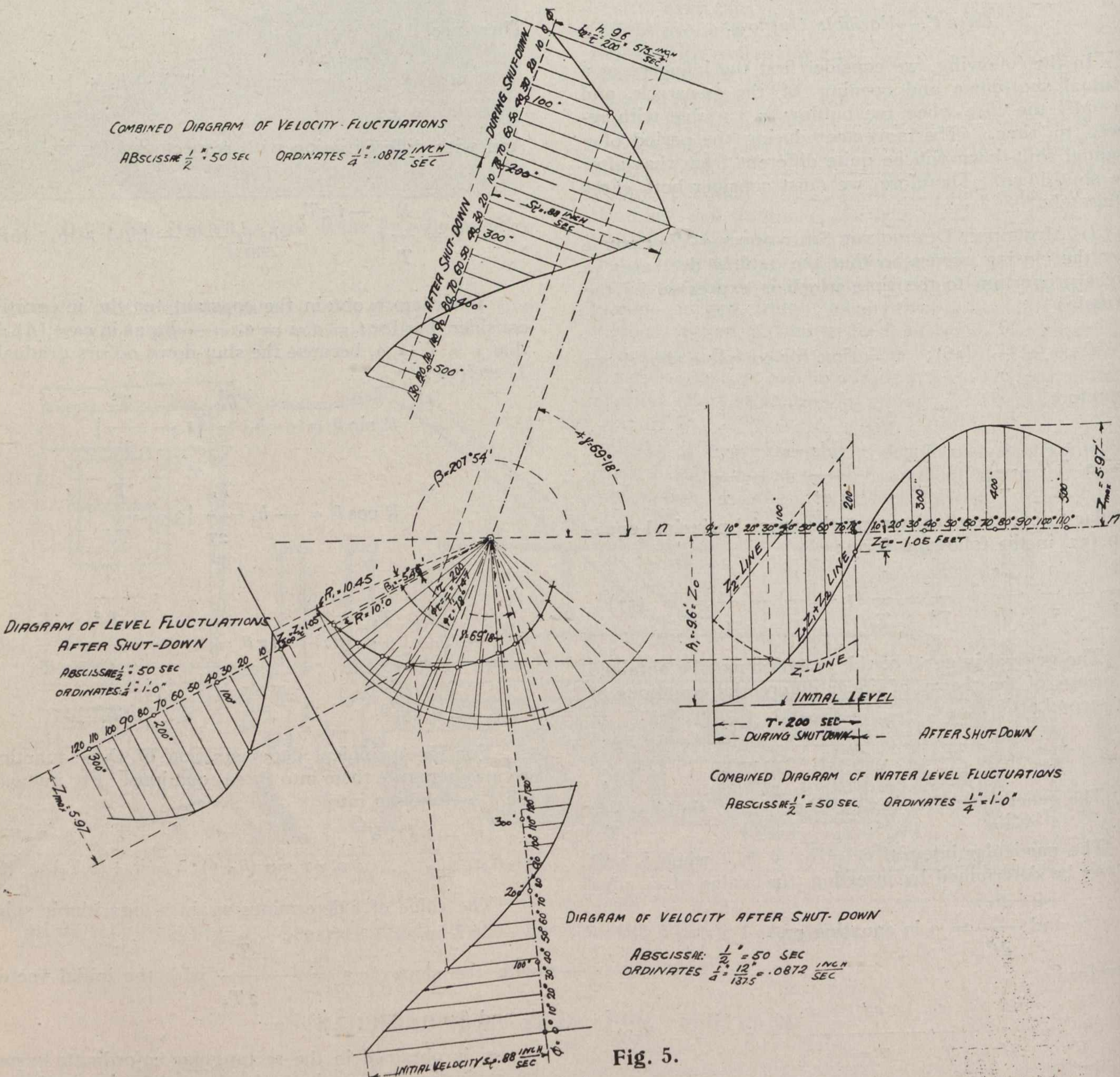

Fig. 5.

Where $tg\ \gamma = \dfrac{2\,T_0}{T_1}$

The constants R_1 and β_1 have to be determined from the value of z and s computed for $t = T$. In order to obtain an easier computation, we measure the time for the second period from the moment of the completed shut-down, so that the following equations for the determination of the constants R_1 and β_1 are in effect:

$$z \max = R_1 e^{-\frac{T_1}{2\,T_0}(\gamma - \beta_1)} \sin \gamma \qquad (67)$$

(3) Practical Example.—The computation in connection with the preceding example follows for a shut-down in 10, 100 and 200 seconds, with a discharge of 530 cubic feet per second.