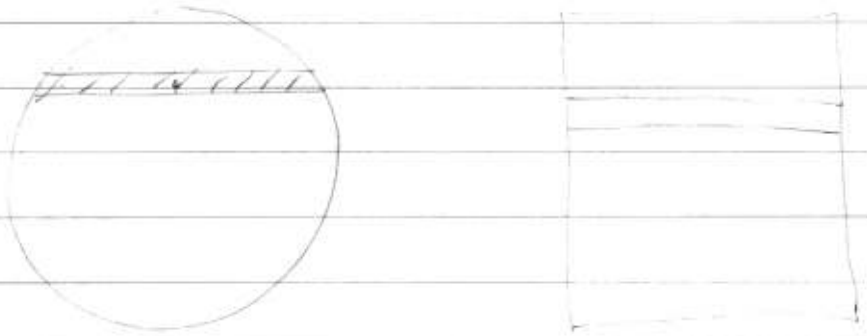
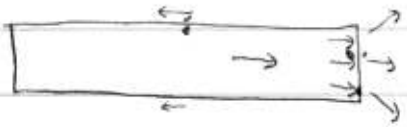


$$\Phi = A \cdot \sum_i B_{x,i\text{"eff"}}$$



different C for bar magnet & electromagnet

0.8 0.56

$$\mathcal{E} = \frac{\Delta \Phi_{tot}}{\Delta t} = N \cdot \frac{\Delta \Phi_1}{\Delta t}$$

$$\Phi_1 = \int \vec{B} \cdot d\vec{A}$$

$$\vec{B}_0(r) \sin(\omega t + \varphi)$$

$$\mathcal{E} = N \frac{d}{dt} \sin(\omega t + \varphi) \int \vec{B}_0 \cdot d\vec{A}$$

$$\boxed{\mathcal{E} = N \omega \cos(\omega t + \varphi) \cdot \int \vec{B}_0 \cdot d\vec{A}}$$