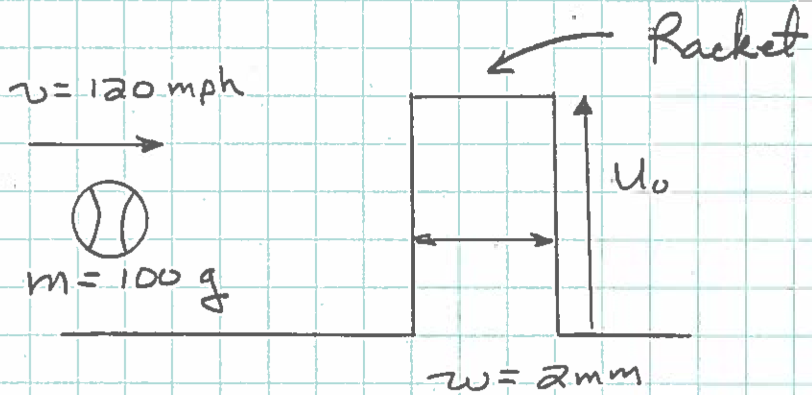

We can estimate U_0 as the KE that the ball has to just break the strings.

$$v_{max} = 200 \text{ mph} \left(\frac{.447 \text{ m/s}}{1 \text{ mph}} \right) = 89.4 \text{ m/s}$$

$$v = 120 \text{ mph} \left(\frac{.447 \text{ m/s}}{1 \text{ mph}} \right) = 53.6 \text{ m/s}$$

So:

$$U_0 = \frac{1}{2} m v_{max}^2 = 400 \text{ J}$$

and,

$$E = K = \frac{1}{2} m v^2 = 144 \text{ J}$$

Penetration depth: $$\eta = \frac{\hbar}{\sqrt{2m(U_0 - E)}} = 1.47 \times 10^{-35} \text{ m}$$

Tunneling probability:

$$P_t = e^{-\frac{2w}{\eta}} = e^{-2.72 \times 10^{32}}$$

Or, $$\log_{10} P_t = (-2.72 \times 10^{32}) \log_{10} e = -1.18 \times 10^{32}$$

$$\therefore \quad \underline{P_t = 10^{-1.18 \times 10^{32}}}$$

Don't wait around for this to happen!