Straight lines l, m are in the three dimentional space.

$$\begin{cases} l; y = z = 0 \\ m; x = 0, z = 1 \end{cases}$$

Two points P and Q move in l and m respectively on the condition that PQ = 2. C is the surface produced by the segment PQ, as P and Q move. Find the volume of the solid space enclosed by C and planes z = 0, z = 1.

