Independence of two events $A$ and $B$ is defined as $\mathbb{P}(A \cap B) = \mathbb{P}(A) \cdot \mathbb{P}(B)$

$A$ and $B$ are disjoint if $\mathbb{P}(A \cap B) = 0$.

Hence, the events $A$ and $B$ can only be independent and disjoint at the same, if either $\mathbb{P}(A)$ or $\mathbb{P}(B)$ or both at the same time is 0.