Colorless crystals of the new thiostannate $\text{Rb}_6\text{Sn}_2\text{S}_7$ were obtained by reacting a stoichiometric melt of $\text{Rb}_2\text{S}$, $\text{Sn}$ and $\text{S}$ at 700°C. The compound is orthorhombic, $\alpha P60$, s.g. $P2_12_12_1$ (No.19) with $a = 9.982(4)$, $b = 13.45(1)$, $c = 15.20(1)$ Å; $Z = 4$. The crystal structure was determined from diffractometer data and refined to a conventional $R$ of 0.043 (1380 Fo's, 137 variables). The crystal structure contains dimeric anions, $[\text{Sn}_2\text{S}_7]^{2-}$, which are built up by slightly distorted $\text{SnS}_4$ tetrahedra sharing a common sulfur atom. The mean Sn-S bond length calculates as 2.384 Å, the bond angle on the bridging S is 110.4°. The structure contains six independent Rb-cations which are coordinated to 5-6 sulfur atoms in irregular configurations.