Synapses, the pivotal junctions for brain communication, relay electrical impulses between neurons. Proper synapse function is vital for cognition, memory, and essential brain activities. Inhibitory synapses are important for regulating the timing of neuronal communication and preventing seizure-like behaviors. Despite the importance of inhibitory synapses, key structures in their anatomy known as synaptic spinules remain unexplored. Synaptic spinules are finger-like projections from one neuron that are embedded into the neurotransmitter-releasing end (presynaptic bouton) of another neuron. Spinules could enhance cortical synapse stability and potentially revolutionize our understanding of neuronal communication. As a first step in exploring these possibilities, we sought to quantify the presence and effect of spinules on inhibitory synapses within the CA1 hippocampus, the well-characterized memory formation center of the brain. To this end, we completed a morphometric analysis of 5 spinule-bearing inhibitory boutons (SBBs) and 5 non-spinule-bearing boutons (non-SBBs) surrounding a soma within a large electron microscopy image volume in CA1 hippocampus of an adult male mouse. We analyzed these boutons to quantify their surface area, volumes, and spinules. We discovered that 65% of perisomatic inhibitory boutons in our volume were SBBs, with 57% of SBBs containing a spinule from its postsynaptic soma partner, with smaller percentages coming from adjacent dendrites and other somas. Our results did not show a significant difference between the size of SBBs compared to non-SBBs. Yet, these analyses demonstrate that inhibitory SBBs represent a subset of inhibitory synapses in CA1 that may play a role in neuronal circuit stability.