This paper discusses the construction of a new longitudinal database tracking inventors and patent-owning firms over time. We match granted patents between 2000 and 2011 to administrative databases of firms and workers housed at the U.S. Census Bureau. We use inventor information in addition to the patent assignee firm name to and improve on previous efforts linking patents to firms. The triangulated database allows us to maximize match rates and provide validation for a large fraction of matches. In this paper, we describe the construction of the database and explore basic features of the data. We find patenting firms, particularly young patenting firms, disproportionally contribute jobs to the U.S. economy. We find patenting is a relatively rare event among small firms but that most patenting firms are nevertheless small, and that patenting is not as rare an event for the youngest firms compared to the oldest firms. While manufacturing firms are more likely to patent than firms in other sectors, we find most patenting firms are in the services and wholesale sectors. These new data are a product of collaboration within the U.S. Department of Commerce, between the U.S. Census Bureau and the U.S. Patent and Trademark Office.