

## Patent Protection & Registration

[Patents](#) grant property rights on new and useful inventions, allowing the patent holder to prevent others from using, making, or selling that invention without permission for a limited time. U.S. patents are permitted by the U.S. Constitution and are designed to promote scientific progress and invention. By allowing inventors to profit from licensing or selling their patent rights, inventors can recoup their research and development costs and benefit financially from their inventing efforts. There are three main types of patents utility, plant, and design. Utility and plant patents can last up to 20 years, while design patents can last up to 15 years. When a patent expires, the patented material enters the public domain, making it free to use by anyone without a license. U.S. patents are issued by the [United States Patent and Trademark Office \(USPTO\)](#).

[U.S. Patent No. 11,732,114](#) entitled “Rubber Compound for Tire Portions” issued August 22, 2023 to Bridgestone Europe NV/SA of Zaventem, Belgium. Invented by Gianpaolo Chieffi, Aya Saiki and Davide Privitera all of Roma, Italy. Abstract: A rubber compound for the production of tire portions comprising a polymer base with a cross-linkable unsaturated chain, a filler system and a vulcanization system. The filler system comprises (a) a quantity, greater than or equal to 25 phr, of a first carbon black having a surface area smaller than or equal to 170 m<sup>2</sup>/gr; (b) a second carbon black having a surface area greater than or equal to 300 m<sup>2</sup>/gr in a quantity that is such that the ratio between the quantity of said first carbon black and the quantity of said second carbon black is greater than or equal to 5 and smaller than or equal to 13; (c) a quantity ranging between 0.5 and 2.0 phr of a dispersant agent comprised in the class of aromatic amides and having an unsaturation suited to interact with the polymer base with a cross-linkable unsaturated chain.

[U.S. Patent No. 11,737,189](#) entitled “Startup Current Control Method for Flyback Converter” issued August 22, 2023 to Universal Lighting Technologies, Inc. of Madison, Alabama. Invented by Scott Price, Wei Xiong and Dane Sutherland all also of Madison, Alabama. Abstract: A two-stage driver supplies current to an LED load. A first stage of the driver generates a bulk voltage. A second stage has a flyback transformer with a primary winding and a secondary winding. The second stage generates an output voltage to cause LED load current. The primary winding is turned on and off by a gating signal. Control logic within the second stage is responsive to initially turning on the driver to perform a startup short circuit test of the output circuit by applying a gating signal with a short on-time and a low switching frequency. If the output circuit is not shorted, the control logic increases the on-time and the switching frequency to detect if an output current is excessive. If the output current is not excessive, the control logic adjusts the on-time and the frequency to provide sufficient current to illuminate the LED load.