

## 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 14 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. 11,096,253](#) entitled “Method and circuitry to configure multiple drivers simultaneously” issued August 17, 2021. Invented by Stephen D. Mays, II of Madison, Alabama, John J. Dernovsek of Madison, Alabama, Scott Price of Madison, Alabama, and Dane Sutherland of Madison, Alabama. Abstract: Multi-driver configuration apparatuses, systems, and methods are provided. Apparatuses, systems, and methods are provided for multi-driver configuration of a plurality of light emitting diode (LED) drivers. The system includes a plurality of LED drivers having a transformer, an input interface coupleable to the configuration device via a common communication medium, a microcontroller, a direct current (DC) sensing section to detect at least a portion of a tuning signal received at the input interface and to transmit a driver control input signal corresponding to the at least a portion of the tuning signal to the microcontroller, and a transmit switch configured to receive a driver control output signal from the microcontroller and to cause at least one output signal to be output from the LED driver via the input interface. A configuration device transmits the tuning signal to at least one LED driver.

[U.S. Patent No. 11,091,959](#) entitled “Downhole oscillation apparatus” issued August 17, 2021. Invented by Joshua Alan Sicilian of Houston, Texas, Faraz Ali of Friendswood, Texas, and Avinash Cuddapah of Pearland, Texas. Abstract: A downhole oscillation tool includes a Moineau-type positive displacement pulse motor and a valve assembly for use in a drill string. The pulse motor includes a rotor configured to nutate within the bore of a stator. The rotor has at least two helical lobes that extend the length of the rotor, and the stator bore defines at least three helical lobes that extend the length of the stator. The valve assembly includes a first valve plate connected to the bottom end of the rotor and abuts the second valve plate to form a sliding seal. The second valve plate is fixedly coupled to the stator and remains stationary. First valve ports extend axially through the first valve plate, and second valve ports extend axially through the second valve plate. The first valve ports and second valve ports intermittently overlap as the first valve plate slides across the second valve plate to create pulses in the drilling fluid which is pumped through the tool to power the motor and valve assembly.



The tool can generate pulses of different amplitudes and different wavelengths in each rotational cycle. The tool further includes a drop ball assembly configured to activate and deactivate the tool.

[U.S. Patent No. 11,091,207](#) entitled “Aerodynamic mud flap for motor vehicle” issued August 17, 2021. Invented by Darron Ming of Van Buren, Arkansas, Asa Hazelwood of Nashville, Tennessee, Eric Richard Larson of Spring Valley, Ohio, Kevin Paul Shatzer of Fairfield, Ohio, and James Dow Smith of West Chester, Ohio. Abstract: A mud flap for a wheeled vehicle includes an upper mounting portion and an extended protection portion. The extended protection portion includes at least two areas with slotted air flow openings. An upper slot area includes rows of elongated slots with the slots arranged in columns in each row. A lower slot area includes rows of elongated slots with the slots arranged in columns in each row. The slots in the upper slot area have heights that are greater than the heights of slots in the lower slot area. In some embodiments, a middle slot area is positioned between the upper slot area and the lower slot area. The slots in the middle slot area have different heights in different rows. In some embodiments, at least a portion of the slots in the upper slot area is replaced with diagonal mounting features.