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[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. 11,346,468](#) entitled “Adjustable Support Apparatus and Method of Use” issued May 31, 2022 to Innovative Steel Works & Fabrication, LLC of Rockvale, Tennessee. Invented by Greg Waltman also of Rockvale, Tennessee and William B. McDowell of Murfreesboro, Tennessee. Abstract: Apparatuses, systems, and methods for providing a support apparatus are provided. The support device may be a height-adjustable pipe support apparatus. A support apparatus may include a base having a threaded slug therein, a pad plate, a rod sleeve coupled to the pad plate, an adjustment rod coupled between the base and the rod sleeve, at least a portion of the adjustment rod being threadedly receivable by the rod sleeve and the threaded slug, the adjustment rod coupling the base and the pad plate, wherein a rotational movement of the adjustment rod is configured to adjust a distance between the base and the pad plate. A base plate may be coupled to the base and configured to couple to an external element.

[U.S. Patent No. 11,346,065](#) entitled “Self-Propelled Construction Machine and Method for Working Ground Pavements” issued May 31, 2022 to Wirtgen GmbH of Windhagen, Germany. Invented by Stefan Wagner of Bad Honnef, Germany; Markus Bach of Bonn, Germany; Axel Mahlberg of Hennef, Germany; Markus Schafer of Asbach/Hussen, Germany; and Eduard Fitz of Hennef, Germany. Abstract: A self-propelled construction machine comprises a machine frame, at least three travelling devices, at least one hydraulic drive system for driving at least two travelling devices, wherein the hydraulic drive system comprises at least one controllable hydraulic motor with variable displacement volume and at least one hydraulic pump, at least one working device (e.g. a milling drum), for working the ground pavement. A detection device detects fluctuations in the longitudinal speed of the construction machine during movement thereof, wherein a control unit alters the displacement volume of the at least one controllable hydraulic motor as a function of the detected fluctuations so that the natural frequency of the hydraulic drive system is altered, wherein the control unit adjusts the discharge volume of the pump as a function of the amount of adjustment of the displacement volume in such a fashion that the specified drive speed remains

constant.

[U.S. Patent No. 11,346,443](#) entitled “Earth Working Machine Having a Shiftable Transmission Between a Drive Motor and a Rotatable Working Apparatus” issued May 31, 2022 to Wirtgen GmbH of Windhagen, Germany. Invented by Christian Berning of Zulpich, Germany; Tobias Stinner of Weyerbusch, Germany; Cyrus Barimani of Konigswinter, Germany; and hardy Wilhelmi of Dattenberg, Germany. Abstract: An earth working machine (10), encompassing a drive motor (42) and a working apparatus (22) drivable by the drive motor (42) so as to move rotationally, the drive motor (42) being connected to the working apparatus (22), for transfer of a torque, with interposition of a shiftable transmission (50; 150) comprising at least two gearing stages having different torque transfer ratios, is characterized in that by means of a first gearing stage of the shiftable transmission (50), an input shaft (48), coupled on the input side to the drive motor (42), of the shiftable transmission (50) is connectable in torque-transferring fashion directly to an output shaft (52), coupled on the output side to the working apparatus (22), of the shiftable transmission (50) so as to rotate together at the same rotation speed; and by means of a second gearing stage of the shiftable transmission (50), the input shaft (48) is connectable in torque-transferring fashion, with interposition of a transmission assemblage (64), to the output shaft (52) so as to rotate together at different rotation speeds

[U.S. Patent No. D953,556](#) entitled “Percussive Massage Device” issued May 31, 2022 to Hyper ice, Inc., of Irvine, California. Invented by Robert Marton of Yorba Linda, California and Anthony Katz of Laguna Niguel, California. Claims: The ornamental design for a “percussive massage device,” as shown and described.

[U.S. Patent No. 11,346,062](#) entitled “Planning System and Method for Coordinating Road Milling Tasks” issued May 31, 2022 to Wirtgen, GmbH of Windhagen, Germany. Invented by Christian Berning of Zulpich, Germany; Sebastian Hofrath of Hennef, Germany; and Cyrus Barimani of Konigswinter, Germany. Abstract: The invention relates to a planning system and method for operating one or more road milling machines. In that context, material properties of a road are captured and are geographically associated with one or more roads or road segments. Based on the material properties, an expected milling output of a road milling machine is ascertained, in the context of carrying out milling tasks on the road, or an expected wear on the milling tools. An optimized sequence of milling tasks to be carried out is created on the basis of those data. Accordingly, the invention may enable optimized deployment of the one or more road milling machines and of resources necessary for carrying out the road milling tasks. Aspects of the planning system may be remotely implemented for centralized application with respect to each of the road milling machines, or locally implemented for individual road milling machines.

[U.S. Patent No. 11,345,351](#) entitled “System and Method for Adaptive PTO Droop” issued May 31, 2022 to Deere & Company of Moline, Illinois. Invented by Andy B. Appleton of Cedar Falls, Iowa. Abstract: Systems and methods are disclosed herein for adaptive power take-off (PTO) droop control for a self-propelled work vehicle having an engine and a PTO device directly mechanically coupled to the engine. The systems and methods enable user selection of at least one of a target ground speed or a target power take off (PTO) speed. The systems and methods are responsive to at least one of the selected target ground speed or the selected target PTO speed to identify a maximum transmission ground drive efficiency corresponding to an effective droop value within a defined droop range. The systems and methods control an actual engine speed and an actual transmission ratio to respective adjusted target values corresponding with the maximum transmission ground drive efficiency.