

## 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. 11,603,693](#) entitled “Furniture Hinge for Upward-Opening Cabinet Doors” issued March 14, 2023 to Samet Kalip Ve Maden Esya San. Ve Tic. A.S. of Istanbul, Turkey. Invented by Nurettin Güzeltepe of Istanbul, Turkey and Artur Hirtsiefer of Neunkirchen-Seelscheid, Germany. Abstract: The present invention determines the final opening position of the furniture door in the upward direction by means of the furniture hinge comprising an opening angle adjustment thereon. Said furniture hinge comprises a housing; a hinge arm connected axially to the furniture door from its one end and to said housing from the other end by means of a first rotating pin; a power unit that is connected axially between a lever arm and a third rotating pin and that comprises at least one spring forming a force on the hinge arm; a movement arm that is connected axially to said hinge arm from its one end and connected axially to said lever arm from the other end and that ensures the force transmission between said force unit and hinge arm; and an opening angle adjustment that allows for determining the final opening position of the furniture door in the upward direction, has an adjustment element in an axially rotatable and a damper thereon and comprises a body that may move linearly by means of the axial rotation of said adjustment element.

[U.S. Patent No. 11,603,996](#) entitled “Methods and System for Controlling a Combination Boiler” issued March 14, 2023 to Lochinvar, LLC of Lebanon, Tennessee. Invented by Curtis Gagne of Smyrna, Tennessee. Abstract: A combination boiler provides heated water to a boiler loop and domestic hot water (DHW) to a domestic water loop. The combination boiler includes a primary heat exchanger (PHE) connected to the boiler loop and a burner to provide heat to the primary heat exchanger. A secondary heat exchanger (SHE) transfers heat energy from the boiler loop to the domestic water loop. A controller monitors a PHE inlet temperature and a DHW output temperature, obtains a pre-heat initialization temperature threshold and a pre-heat cancellation temperature threshold, and detects a low temperature condition. A pre-heat operation is initiated responsive to the low temperature condition by circulating heated water from the PHE to the SHE. The burner is selectively fired at least in part according to an outlet temperature of the PHE.

[U.S. Patent No. 11,603,631](#) entitled “Self-Propelled Construction Machine and Method for Operating a Self- Propelled Construction Machine” issued March 14, 2023 to Wirtgen GmbH of Windhagen, Germany. Invented by Christian Berning of Zulpich, Germany and Cyrus Barimani of Konigswinter, Germany. Abstract: The self-propelled construction machine according to the invention, in particular road-milling machine, recycler, stabilizer or surface miner, comprises a machine frame 2, which is supported by a chassis 1, which has wheels or tracks 1A, 1B. A milling drum 4 is arranged on the machine frame. The wheels or tracks 1A, 1B and the milling drum 4 are driven by a drive unit 8. Furthermore, the construction machine comprises a control unit 19 for controlling the drive unit 8 and a signal-receiving unit 18 for detecting at least one measurement variable  $M(t)$  which is characteristic of an operating state of the milling drum 4. The construction machine is characterized in that the rotational speed of the milling drum 4 is adapted, on the basis of at least one measurement variable  $M(t)$  which is characteristic of a critical operating state of the milling drum, to the operating conditions of the construction machine in such a way that the milling drum is operated in a non-critical operating state. The adaptive open-loop control of the milling drum rotational speed allows the construction machine to be operated at an optimum operating point with respect to the milling drum rotational speed.